

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

Morton Grove Annex

FINAL

July 2019

Prepared for:



Cook County
Department of Homeland Security and Emergency Management
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Hazard Mitigation Point of Contact

Primary Point of Contact	Alternate Point of Contact
Frank Rodgers, Fire Chief 6250 Lincoln Ave. Morton Grove, IL 60053 Telephone: 847-663-3941 Email Address: frodgers@mortongroveil.org	Mike Simo, Police Chief 6101 Capulina Morton Grove, IL 60053 Telephone: 847-663-3801 Email Address: msimo@mortongroveil.org

Jurisdiction Profile

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

- Date of Incorporation: 1895
- Current Population: 22,943 as of the 2018 US Census population estimate.
- Population Growth: The Village’s population has been relatively stable with a less than 1 percent decrease from 2010 to 2018.
- Location and Description: The Village of Morton Grove is located approximately 13 miles northwest of downtown Chicago. The Village borders Niles to the west and south, Skokie to the east, and Glenview to the north. Morton Grove is approximately 5.2 square miles. The Village of Morton Grove is predominantly a residential community with some light industrial areas, mercantile, and a large forest preserve located in the center of the Village. The Village is served by a Metra rail line. The Edens expressway also runs along the eastern edge of the Village.
- Brief History: The earliest settlement of Morton Grove is recorded during the 1830s. The land was primarily settled for farming and logging use. The village is named after former United States Vice President Levi Parsons Morton, who was the driving force behind allowing the old Miller’s Mill road (now Lincoln Avenue) to pass through the upstart neighborhood, and provide goods to trade and sell. Morton Grove was incorporated in December 1895. In 1841 a sawmill was erected on the north branch of the Chicago River south of Dempster. The railway linking Chicago to Milwaukee was laid in 1872. The Village was incorporated in 1895. Morton Grove grew steadily through the 1930s. The population in 1940 was 2,010. In 1960 the population had grown to 20,533.
- Climate: Morton Grove, IL, gets an average of 32 inches of rain and 24 inches of snowfall per year. The US average is 37 and 25 inches, respectively. The number of days with any measurable precipitation is 109 and, on average, there are 188 sunny days per year in Morton Grove, IL. The July high is around 83 degrees and the January low is 11. Morton Grove's comfort index, which is based on humidity during the hot months, is a 46 out of 100, where higher is more comfortable. The US average on the comfort index is 44.
- Governing Body Format: The Village of Morton Grove is represented by a governing board consisting of a Village President and six Village Trustees. The President and Trustees are elected to four-year terms. The Village President is the presiding officer of Village Board meetings. The President is also the chief executive officer of the Village. The Village Board is the governing body of the Village and exercises all powers entrusted to it under Illinois statutes. These include police powers related to the health, safety and welfare of the community. The Village Board is responsible for the adoption of an annual budget and associated tax levies, municipal land use decisions, adoption of ordinances related to the health, safety and welfare of the community, and other legislative decisions related to the governance and operations of the Village of Morton Grove. This body of Government will assume the responsibility for the adoption and implementation of this plan. The Village is managed by a Village Administrator who oversees 6 departments: Building, Economic Development, Finance, Fire, Police, and Public Works.
- Development Trends: In 1999, the Village adopted its current comprehensive development plan. Morton Grove continues efforts to attract a diverse blend of business and residential development. In 2013, the Village has contracted with a third party vendor to develop a new comprehensive strategic plan. Development priorities are focused within our main commercial

corridors: Dempster St. and Waukegan Rd. As a result, a total of 3 Tax Increment Financing (TIF) areas have been designated. The Waukegan Road TIF has seen commercial development since the 1990s. The Lehigh/Ferris TIF was established in 2000 and has seen both residential and limited commercial redevelopment. The Dempster/ Waukegan TIF was recently established in 2010. Our Village is anticipating significant commercial redevelopment in the future.

- Additionally, In October 2008, the Village Trustees approved a strategic plan to guide the future economic development efforts of the Village. This long-term Strategic Plan recognizes that local economic development requires ongoing efforts and flexibility to adapt and respond to regional, national, and global changes. The Plan seeks to build upon the Village's existing strengths and to improve upon areas of opportunity in an effort to continue the outstanding quality of life for residents and to retain an environment where businesses can prosper.

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	In accordance with Public Act 096-0704, Illinois has adopted the IBC as its state Building Code Ord. 10-1-1 05/14/12
Zonings	Yes	No	No	Yes	Title 12, 03/26/07
Subdivisions	Yes	No	No	No	12-8-1, 03/26/07
Stormwater Management	Yes	No	Yes	Yes	State regulates industrial activity from Construction sites 1 acre or larger under section 402 CWA. 12-14 , 08/11/08 Also MWRD authority
Post Disaster Recovery	No	No	No	No	
Real Estate Disclosure	No	No	No	No	(765 ILCS 77/) Residential Real Property Disclosure Act.
Growth Management	No	No	No	No	
Site Plan Review	No	No	No	No	
Public Health and Safety	Yes	No	Yes	No	Cook County Board of Health. Title 8 01/25/85
Environmental Protection	No	No	No	No	
Planning Documents					
General or Comprehensive Plan	Yes	No	No	No	1997, updated 1999, updated in 2013
<i>Is the plan equipped to provide linkage to this mitigation plan?</i>					Yes - Land Use
Floodplain or Basin Plan	No	No	No	No	
Stormwater Plan	No	No	No	No	

Capital Improvement Plan	No	No	No	No	
<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	No	No	
Economic Development Plan	Yes	No	No	Yes	2008
Shoreline Management Plan	No	No	No	No	

Response/Recovery Planning

Comprehensive Emergency Management Plan	No	No	Yes	Yes	Cook County DHSEM
Threat and Hazard Identification and Risk Assessment	No	No	Yes	No	Cook County DHSEM Preparing THIRA
Terrorism Plan	No	No	Yes	Yes	Cook County DHSEM
Post-Disaster Recovery Plan	No	No	No	No	
Continuity of Operations Plan	No	No	Yes	No	Cook County DHSEM
Public Health Plans	No	No	Yes	No	Cook County 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	No
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	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	Village Engineer – Public Works Director of Economic Development
Engineers or professionals trained in building or infrastructure construction practices	Yes	Economic Development-Building Inspectors

Planners or engineers with an understanding of natural hazards	Yes	Village Engineer - PW
Staff with training in benefit/cost analysis	Yes	Village Administrator Director of Finance
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	GIS Consortium
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Fire Department – Fire Chief
Grant writers	Yes	3rd Party Vendor

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	Public Works
Who is your jurisdiction’s floodplain administrator? (department/position)	Building Commissioner & Village Engineer
Are any certified floodplain managers on staff in your jurisdiction?	Yes
What is the date of adoption of your flood damage prevention ordinance?	Title 12 08/11/08
When was the most recent Community Assistance Visit or Community Assistance Contact?	07/29/2005
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?	No Maybe

TABLE: COMMUNITY CLASSIFICATIONS			
	Participating?	Classification	Date Classified
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	Yes	Unknown	Unknown
Public Protection/ISO	Unknown	Unknown	Unknown
StormReady	Yes	Gold (Countywide)	2014
Tree City USA	Yes	--	2001

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: 4
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 1

Type of Event	FEMA Disaster Number (if applicable)	Date	Preliminary Damage Assessment
Flood	-	6/22/2018	-
Hail	-	7/7/2017	-
Severe Weather	-	7/23/2016	-
Severe Winter Storm	-	1/1/2014	13.8 inches of snow
Severe Storm	-	7/24/2013	3.74 inches of rain/street and basement flooding
Severe Storm	-	6/26/2013	3.75 inches of rain/street and basement flooding
Severe Storm	DR-4116	4/18/2013	4.8 inches of rain/street and basement flooding
Severe Storm	9325782	7/22/2011	4.25 inches of rain/street and basement flooding
Severe Storm	-	6/21/2011	Severe storm with wind damage to trees
Severe Storm/Thunder Storm Wind	9322464	6/21/2011	-
Illinois Severe Winter Storm and Snowstorm	DR-1960	1/31/2011	Heavy snow
Severe Storm/Thunder Storm Wind	9240525	9/21/2010	-
Illinois Severe Storms and Flooding	DR-1935	7/19/2010	-
Severe Storm	9322464	3/7/2009	2.91 inches of rain/street and basement flooding
Severe Storm	DR-1800	9/4/2008	3.05 inches of rain/street and basement flooding

Wind, Winter Weather	8867633	1/22/2008	snow removal
Severe Storm/Thunder Storm Wind	8832682	8/23/2007	Severe storm with wind damage to trees
Flooding	8827885	6/26/2007	-
Flooding	8810172	9/13/2006	4.44 inches of rain/street and basement flooding
Illinois Severe Winter Storm	EM-3161	12/11/2000	-
Illinois Winter Snow Storm	EM-3134	1/1/1999	21.6 inches of snow
Illinois Flooding	DR-1188	8/16/1997	-
Illinois Flooding, Severe Storms	DR-997	4/13/1993	-
Severe Storm/Thunder Storm Wind	9277194	6/29/1990	-
Illinois Severe Storms, Flooding	DR-798	8/13/1987	-
Illinois Severe Storms, Flooding	DR-776	9/21/1986	-

Illinois Severe Storms, Flooding, Tornadoes	DR-643	6/30/1981	-
Illinois Blizzards and Snowstorms	EM-3068	1/16/1979	18.8 inches of snow
Illinois Severe Storms, Flooding, Tornadoes	DR-509	6/18/1976	-
Illinois Severe Storms, Flooding	DR-373	4/26/1973	-
Illinois Severe Storms, Flooding	DR-351	9/4/1972	-
Severe Storm/Thunder Storm Wind	8935123	8/16/1968	-

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.

Flood: The following areas in the Village of Morton Grove are susceptible to flooding: the Sayer/Foster intersection, the National Park and Emerson/Capri neighborhoods, Oak Park cul-de-sac, as well as Dempster: Olcot- Harlem, and Dempster: N. Branch/Chicago River.

Extreme Heat: The Concrete pavement on Lincoln Ave, nursing homes, and assisted living facilities are vulnerable to extreme heat.

Lightning: Our parks and golf course are vulnerable to the impacts of lightning.

High Winds: In our Village, high winds pose a relatively higher threat to trees, blocking access for our citizens.

Extreme Cold: Extreme cold poses a high risk to our elderly population ([21% of the population](#) - with 63% of the elderly population receiving food stamps), possibly causing power outages in assisted living facilities and nursing homes.

Ice Storms: Our power lines are vulnerable to the impacts of ice storms, potentially eliminating the Village's power.

Tornado: Because our tornado sheltering is often in heavily populated buildings and complexes such as Saw Mill Station, condo complexes, assisted living facilities, and nursing homes, we are particularly vulnerable to tornadoes.

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.

Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Severe Weather	54
2	Flood	54
3	Tornado	54
4	Severe Winter Weather	39
5	Earthquake	36
6	Dam Failure	16
7	Drought	9

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)
<p>Action M8.1—Description - Northeast neighborhood sewer separation project: The project would consist of the separation of the remaining combined sewer system north of Church Street. Storm water would be conveyed to an existing Outfall #17B by way of the Church Street Storm sewer. An engineering study along with the design was completed in 1988, however a redesign would be needed in order to modernize specifications. The project would reduce the amount of storm water entering the combined sewer system thereby reducing the number of combined sewer overflows. The project would also reduce surface water flooding that leads to the street and overland flooding along with reducing the number of basement backups in the area. Preliminary engineering is anticipated to be completed by the end of 2019.</p>						
Ongoing	Flooding	1, 2, 3, 7, 9	Public Works	\$4,000,000	Enterprise fund	Short-term
<p>Action M8.2—Description - North central neighborhood sewer separation project: Project would consist of the separation of the combined sewer system from Austin Avenue to Linder Avenue and Dempster Street to Church Street. Storm water would be conveyed to two existing outfalls #13 and #14. All engineering and design work would also need to be completed for the project. The project would reduce the amount of storm water entering the combined sewer system thereby reducing the number of combined sewer overflows. The project would also reduce surface water flooding that leads to street and overland flooding along with reducing the number of basement backups in the area</p>						
Ongoing	Flooding	1, 2, 3, 7, 9	Public Works	\$11,000,000; Short-term	Enterprise Fund	Long-term

Action M8.3—Description - South central neighborhood sewer separation project:
 The project would consist of the separation of the combined sewer system from Austin Ave to Frontage Road and Main Street to Dempster Street. Storm water would be conveyed to an existing outfall #11. All engineering and design work would also need to be completed for the project.
 The project would reduce the amount of storm water entering the combined sewer system thereby reducing the number of combined sewer overflows. The project would also reduce surface water flooding that leads to the street and overland flooding along with reducing the number of basement backups in the area.

Ongoing	Flooding	1, 2, 3, 7, 9	Public Works	\$10,000,000; Medium	Enterprise Fund	Long-term
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Action M8.4—Description- Oak Park Avenue underground storm water detention:
 The project would consist of the installation of a 35’ wide by 5’ deep and 390 ‘ long underground storage chamber under a portion of Oak Park Avenue. A feasibility study has been conducted; however engineering and design work would also need to be completed for the project.
 The project would reduce or eliminate the right-of-way flooding issues on Oak Park Avenue north of Beckwith Road utilizing a underground storm water detention system that provides 1.56 Ac-ft. of storage.

Ongoing	Flooding	1, 2, 3, 7, 9	Public Works	\$983,000; Low	Enterprise Fund	Long-term
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Action M8.5—Description - Storm water storage feasibility study:
 The project would consist of a hydraulic engineering study to determine the feasibility of utilizing unimproved alley easements and other Village owned lands for the purpose of storm water detention either above or below ground.
 The project would determine if areas prone to flooding could benefit from the use of unimproved easements or other Village owned lands in the storage of storm water slowing the flow of storm water into the Village’s storm sewer system thereby reducing the occurrence of street and overland flooding.

Ongoing	Flooding	1, 2, 3, 7, 9	Public Works	\$45,000; Low	General Fund	Long-term
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Action M8.6—Description - Dempster Street relief sewer:
 The project would consist of adding additional storm water storage capacity to the Dempster Street Illinois Department of Transportation (IDOT) storm sewer running from Ozark Avenue to Waukegan Road.
 The project funding could be shared by the IDOT, the Village of Niles and the Village of Morton Grove. The project would reduce or eliminate the number of Street closures on US Route 58 caused by street flooding, which in turn causes overland flooding that causes basement flooding in the area.

Ongoing	Flooding	1, 2, 3, 7, 9	IDOT	\$5,000,000	Capital Project Fund	Short-term
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Action M8.7—Description - Sewer Lining Project:
 The project would consist lining Village sanitary sewers throughout the Village of Morton Grove over the course of a four year program.
 The project would reduce the amount of storm water infiltration that occurs in older sanitary sewers. Reducing the amount of storm water infiltration will help reduce the amount of basement flooding along with reducing the number of combined sewer overflows. (\$250,000 per year)

Ongoing	Flooding	1, 2, 3, 7, 9	Public Works	\$1,000,000; Medium	Enterprise Fund	Short-term
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Action M8.8 —Description Rain barrel project: The project would purchase approximately 500 rain barrels in order to start a self-sustaining sales and education program that would teach residents how to store and manage storm water on their own property, with projects such as rain gardens, ponds, rain barrels, etc. The project would reduce and delay the amount of storm water entering the storm and combined sewer systems. Thereby reducing the incidences of basement and street flooding along with reducing the amount of combined sewer overflows.						
Completed	Flooding	1, 2, 3, 7, 9	Public Works	\$25,000; Low	General Fund	Completed
Action M8.9 —Description – Emergency Operations Center: Morton Grove is a lead agency in the region for emergency operations responses. The project herein would be to develop a modern emergency operations center that would meet the need of the region. The current operations center is at fire station headquarters which is also used as the main fire station. The Emergency Operations Center would serve several police and fire departments in the region that serve a densely populated suburban area.						
Ongoing	All Hazards	1, 5, 8	Fire Dept.	\$1,200,000; Medium	General Fund	Short-term
Action M8.10 —Description – Generator: We are in need of back-up generation at both our South Pumping Station and at PW itself. This project would be valued at \$400,000 and take 1 yr.						
Completed	All Hazards	1, 2, 13	Public Works	\$400,000; Medium	General Fund	Completed
Action M8.11 —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	Village	High	FEMA Hazard Mitigation Grant	Long-term (depending on funding)
Action M8.12 —Continue to support the countywide actions identified in this plan.						
Removed	All	All	Village	Low	General Fund	Removed
Action M8.13 —Actively participate in the plan maintenance strategy identified in this plan.						
Removed	All	3, 4, 6	DHSEM, Village	Low	General Fund	Removed
Action M8.14 —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	Village	Low	General Fund	Long-term
Action M8.15 —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	Flooding	4, 6, 9	Public Works	Low	General Fund	Short-term and ongoing

Action M8.16—Where feasible, implement a program to record high water marks following high-water events.

Ongoing	Flooding, Severe Weather	3, 6, 9	Village	Medium	General Fund; FEMA Grant Funds (Public Assistance)	Long-term
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Action M8.17—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.

Ongoing	All	3, 4, 6, 10, 13	Village	Low	General Fund	Short-term
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Action M8.18—Install Multiple back-up generators on trailers to power areas designated as areas of refuge and areas/building with large populations. Contract with company with large power supply capabilities such as ComEd.

New	Extreme Heat, Lightning, High Wind, Blizzard, Extreme Cold, Tornado, Widespread Power Outage	1, 2, 12, 13	Public Works	\$500,000; Medium	PDM	2022
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(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	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	5	High	High	Yes	Yes	No	High
2	5	High	High	Yes	Yes	No	High
3	5	High	High	Yes	Yes	No	High
4	5	High	Medium	Yes	Yes	No	High
5	5	High	Low	Yes	Yes	No	High
6	5	High	Low	Yes	Yes	No	High
7	5	High	Medium	Yes	Yes	No	High
8	5	High	Low	Yes	Yes	No	High
9	3	High	Medium	Yes	Yes	No	High
10	3	High	Medium	Yes	Yes	No	High
11	2	High	High	Yes	Yes	No	Medium
12	13	Medium	Low	Yes	No	Yes	High
13	3	Medium	Low	Yes	Yes	Yes	High

14	9	Medium	Low	Yes	No	Yes	Medium
15	3	Medium	Low	Yes	No	Yes	High
16	3	Medium	Medium	Yes	Yes	No	Medium
17	5	Medium	Low	Yes	No	Yes	High
18	4	Medium	Medium	Yes	Yes	Unknown	Medium

(a) See Chapter 1 for explanation of priorities.

New Mitigation Actions

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

Action M-8.18

Mitigation Action	Install Multiple back-up generators on trailers to power areas designated as areas of refuse and areas/building with large populations. Contract with company with large power supply capabilities such as ComEd.
Year Initiated	2019
Applicable Jurisdiction	Entire Village of Morton Grove
Lead Agency/Organization	Public Works
Supporting Agencies/Organizations	Fire and Police
Applicable Goal	Develop and implement sustainable, cost-effective, and environmentally sound risk-reduction (mitigation) projects. Protect the lives, health, safety, and property of the citizens of Cook County from the impacts of natural hazards. Protect public services and critical facilities, including infrastructure, from loss of use during natural hazard events. Involve stakeholders to enhance the local capacity to mitigate, prepare for, and respond to the impacts of natural hazards.
Applicable Objective	Eliminate or minimize disruption of local government operations caused by natural hazards through all phases of emergency management. Increase the resilience of (or protect and maintain) infrastructure and critical facilities Reduce natural hazard-related risks and vulnerability to potentially isolated populations within the planning area. Encourage hazard mitigation measures that result in the least adverse effect on the natural environment and that use natural processes.
Potential Funding Source	PDM
Estimated Cost	\$500,000
Benefits (loss avoided)	Allows shelter in place of powering community shelter. Allows powering water supply service.
Projected Completion Date	2022
Priority and Level of Importance (Low, Medium, High)	Medium Priority
Benefit Analysis (Low, Medium, High)	Medium–Project will have 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.
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.
Actual Completion Date	

Recommended Mitigation Action/Implementation Plan and Project Description

Action/Implementation Plan and Project Description:	
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Mitigation Action and Project Maintenance

Year	Status	Comments
2019	New	
2020		
2021		
2022		
2023		

Mitigated Hazards

	All Hazards
	Dam/Levee Failure
	Drought
	Earthquake
	Flood
X	Extreme Heat
X	Lightning
	Hail
	Fog
X	High Wind
	Snow
X	Blizzard
X	Extreme Cold
	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 M-8.1

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.1	Description - Northeast neighborhood sewer separation project: The project would consist of the separation of the remaining combined sewer system north of Church Street. Storm water would be conveyed to an existing Outfall #17B by way of the Church Street Storm sewer. An engineering study along with the design was completed in 1988, however a redesign would be needed in order to modernize specifications. The project would reduce the amount of storm water entering the combined sewer system thereby reducing the number of combined sewer overflows. The project would also reduce surface water flooding that leads to the street and overland flooding along with reducing the number of basement backups in the area. Preliminary engineering is anticipated to be completed by the end of 2019.	
Status Description: No	Update existing engineering design in 2018.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action M-8.2

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.2	Action M8.2—Description - North central neighborhood sewer separation project: Project would consist of the separation of the combined sewer system from Austin Avenue to Linder Avenue and Dempster Street to Church Street. Storm water would be conveyed to two existing outfalls #13 and #14. All engineering and design work would also need to be completed for the project. The project would reduce the amount of storm water entering the combined sewer system thereby reducing the number of combined sewer overflows. The project would also reduce surface water flooding that leads to street and overland flooding along with reducing the number of basement backups in the area.	
Status Description: No	When funds become available.	X

Completion status legend:

N = New **O** = Action Ongoing toward Completion

C = Project Completed **R** = Want Removed from Annex **X** = No Action Taken

Action M-8.3

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.3	Action M8.3—Description - South central neighborhood sewer separation project: The project would consist of the separation of the combined sewer system from Austin Ave to Frontage Road and Main Street to Dempster Street. Storm water would be conveyed to an existing outfall #11. All engineering and design work would also need to be completed for the project. The project would reduce the amount of storm water entering the combined sewer system thereby reducing the number of basement backups in the area.	
Status Description: No	When funds become available.	X
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action M-8.4

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.4	Action M8.4—Description- Oak Park Avenue underground storm water detention The project would consist of the installation of a 35’ wide by 5’ deep and 390 ‘ long underground storage chamber under a portion of Oak Park Avenue. A feasibility study has been conducted; however engineering and design work would also need to be completed for the project. The project would reduce or eliminate the right-of-way flooding issues on Oak Park Avenue north of Beckwith Road utilizing a underground storm water detention system that provides 1.56 Ac-ft. of storage.	
Status Description: No	When funds become available.	X
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action M-8.5

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.5	Action M8.5—Description - Storm water storage feasibility study The project would consist of a hydraulic engineering study to determine the feasibility of utilizing unimproved alley easements and other Village owned lands for the purpose of storm water detention either above or below ground. The project would determine if areas prone to flooding could benefit from the use of unimproved easements or other Village owned lands in the storage of storm water slowing the flow of storm water into the Village’s storm sewer system thereby reducing the occurrence of street and overland flooding.	
Status Description: No	No current stormwater detention required in Village right-of-way.	X
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action M-8.6

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.6	Action M8.6—Description - Dempster Street relief sewer: The project would consist of adding additional storm water storage capacity to the Dempster Street Illinois Department of Transportation (IDOT) storm sewer running from Ozark Avenue to Shermer Avenue. The project funding could be shared by the IDOT, the Village of Niles and the Village of Morton Grove. The project would reduce or eliminate the number of Street closures on Illinois Route 58; caused by street flooding, which in turn causes overland flooding that causes basement flooding in the area.	
Status Description: Yes	IDOT has completed preliminary engineering. This project may be considered for construction in 2019.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action M-8.7

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.7	Action M8.7—Description - Sewer Lining Project: The project would consist lining Village sanitary sewers throughout the Village of Morton Grove over the course of a four year program. The project would reduce the amount of storm water infiltration that occurs in older sanitary sewers. Reducing the amount of storm water infiltration will help reduce the amount of basement flooding along with reducing the number of combined sewer overflows. (\$250,000 per year)	
Status Description: Yes	This is an annual project that continues throughout designated locations in the Village.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action M-8.9

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.9	Action M8.9—Description – Emergency Operations Center : Morton Grove is a lead agency in the region for emergency operations responses. The project herein would be to develop a modern emergency operations center that would meet the need of the region. The current operations center is at fire station headquarters which is also used as the main fire station. The Emergency Operations Center would serve several police and fire departments in the region that serve a densely populated suburban area.	
Status Description: No	In accordance with the current Village Strategic Plan, this action would coincide with the construction of a new police facility. Although land has been acquired that has been "banked" for this purpose, the actual construction of the facility will continue to be subject to the availability of capital funds	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action M-8.11

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.11	Action M8.11—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	Demolition operations are currently ongoing at 8700 Waukegan and 8800 Waukegan. Additional sewer work has been accomplished at Site J and is associated with a private redevelopment agreement.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action M-8.14

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.14	Action M8.14—Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.	
Status Description: Yes	Additional lightning detection has been installed by the Park District. The Village continues to monitor monthly testing and supports an ongoing preventative maintenance program of outdoor warning siren infrastructure.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action M-8.15

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.15	Action M8.15—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 supports the National Flood Insurance Program and maintains floodplain mapping providing public information on floodplain requirements and impacts.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action M-8.16

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.16	Action M8.16—Where feasible, implement a program to record high water marks following high-water events.	
Status Description: Yes	The Village maintains and monitors all Village stormwater outfalls along the North Branch of the Chicago River.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action M-8.17

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.17	Action M8.17—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.	
Status Description: Yes	Commercial redevelopment agreements continue to stress the desire to separate sewers in appropriate locations. The Village continues to support and fund the residential overhead sewer installation program as demand dictates.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Completed Mitigation Actions

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

Action M-8.8

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.8	Action M8.8—Description Rain barrel project The project would purchase approximately 500 rain barrels in order to start a self-sustaining sales and education program that would teach residents how to store and manage storm water on their own property, with projects such as rain gardens, ponds, rain barrels, etc. The project would reduce and delay the amount of storm water entering the storm and combined sewer systems. Thereby reducing the incidences of basement and street flooding along with reducing the amount of combined sewer overflows.	
Status Description: No	The Village supports the Rain Barrel program offered through the MWRD. Various forms of Village media (local access TV, newsletters, website, etc.) continue to market this program.	C
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action M-8.10

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# M-8.10	Action M8.10—Description – Generator - we are in need of back-up generation at both our South Pumping Station and at PW itself. This project would be valued at \$400,000 and take 1 yr. New All Hazards 1, 2, 13 Public Works 400,000, Medium General Fund Short term	
Status Description: Yes	A back-up generator was installed at the south pumping station in October of 2016. Actions to install a similar generator at the PW facility are ongoing and subject to available capital funds.	C
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Future Needs to Better Understand Risk/Vulnerability

No needs have been identified at this time.

Additional Comments

As shown in the Action Plan Matrix, Arlington Heights has been dealing with its urban flooding issues for many years. Lake Arlington, the Wilke-Kirchoff detention basins, and the Weller Creek flood control projects have provided exceptional flood prevention and control. Arlington Heights is a partner in the MWRD – TARP, better known as the “Deep Tunnel Project.” Since the completion of the Gloria Alitto Majewski Reservoir in 1998 along with the aforementioned projects, flooding in the village has been greatly reduced.

The severity of flood damage within the village depends on topography, stormwater control measures, sewer capacity, etc. In some of the older parts of the village, built prior to 1975, there are combined sewer systems. Catch basin flow restrictors installed intentionally pond water in the streets in order to reduce the flow into the sewer system, thereby reducing basement flooding/backup.

Paved roads, parking lots, sidewalks, and buildings all reduce the amount of land which can absorb water and can lead to increased urban flooding issues without sufficient regulations. Arlington Heights requires on site stormwater detention systems with flow restrictors for various sites by ordinance.

HAZUS-MH Risk Assessment Results

MORTON GROVE EXISTING CONDITIONS	
2010 Population	23,270
Total Assessed Value of Structures and Contents	\$6,375,614,688
Area in 100-Year Floodplain	176.97 acres
Area in 500-Year Floodplain	188.82 acres
Number of Critical Facilities	54

HAZARD EXPOSURE IN MORTON GROVE						
	Number Exposed		Value Exposed to Hazard			% of Total Assessed Value Exposed
	Population	Buildings	Structure	Contents	Total	
Dam Failure						
Buffalo Creek	0	0	\$0	\$0	\$0	0.00%
U. Salt Cr. #2	0	0	\$0	\$0	\$0	0.00%
Touhy	0	0	\$0	\$0	\$0	0.00%
U. Salt Cr. #3	0	0	\$0	\$0	\$0	0.00%
U. Salt Cr. #4	0	0	\$0	\$0	\$0	0.00%
Flood						
100-Year	0	0	\$0	\$0	\$0	0.00%
500-Year	10	3	\$5,843,582	\$2,921,791	\$8,765,372	0.14%
Tornado						
100-Year	—	—	\$408,327,945	\$289,551,921	\$697,879,867	10.95%
500-Year	—	—	\$1,142,665,855	\$878,176,774	\$2,020,842,629	31.70%

ESTIMATED PROPERTY DAMAGE VALUES IN MORTON GROVE				
	Estimated Damage Associated with Hazard			% of Total Assessed Value Damaged
	Building	Contents	Total	
Dam Failure				
Buffalo Creek	\$0	\$0	\$0	0.00%
U. Salt Cr. #2	\$0	\$0	\$0	0.00%
Touhy	\$0	\$0	\$0	0.00%
U. Salt Cr. #3	\$0	\$0	\$0	0.00%
U. Salt Cr. #4	\$0	\$0	\$0	0.00%
Earthquake				

1909 Historical Event	\$22,159,649	\$4,915,969	\$27,075,619	0.42%
Flood				
10-Year	\$0	\$0	\$0	0.00%
100-Year	\$0	\$0	\$0	0.00%
500-Year	\$108,521	\$72,001	\$180,522	0.00%
Tornado				
100-Year	\$40,832,795	\$28,955,192	\$69,787,987	1.09%
500-Year	\$166,829,215	\$128,213,80	\$295,043,024	4.63%

Hazard Mapping





