

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

Glenview 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
Ralph Ensign, Fire Chief 1215 Waukegan Road Glenview, IL 60025 847-657-6785 rensign@glenview.il.us	Jeff Brady, Director of Community Development 2500 East Lake Avenue Glenview, IL 60025 847-904-4306 jeffb@glenview.il.us

Jurisdiction Profile

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

- Date of Incorporation: June 20, 1899
- Current Population: 46,740
- Population Growth: Population growth occurred slowly up to 1950 when the Census recorded 6,142 residents. Spurred by the opening of the Edens Expressway (Chicagoland's first expressway to the northern suburbs) along the eastern boundary of the Village, the population increased to 18,132 at the 1960 Census and to 37,093 at the 1990 Census. The 2000 Census recorded a population of 41,847 up 12.8% from the 1990 Census within the Village's 13.5 square miles. A Special Census was conducted in 2005 to account for growth within Glenview resulting in a population of 44,443. The Village's population at the 2010 Census was 44,692 and the current population estimate is 46,740 - an increase of around 6 percent.
- Location and Description: Glenview is located approximately 18 miles north of downtown Chicago in Cook County, Illinois. Glenview is approximately 6 miles west of Lake Michigan. Roughly 14 square miles, Glenview is boarded by the Edens Expressway (I-94) to the east, the Tri-State Tollway (I-294) to the west, Willow Road to the North, and Golf road to the south. Glenview borders the communities of Northbrook Northfield, Wilmette, Skokie, Morton Grove, Niles, Des Plaines, and Prospect Heights. Glenview's jurisdiction includes the portions of the Des Plaines River, the West Fork North Branch Chicago River, and the North Branch Chicago River. There are large sections of Forest Preserve lands on both the east and west sides of the Village.
- Brief History: The entire Northfield Township originally was known as the town of Northfield. There were different names for various areas within the community. The Post Office demanded that an official name be selected, whereupon a special meeting of the villagers was called. Various names were suggested such as Rugenville, Glenvarr, Glendale, Glengrove, Glen Hollow, Oak View, and Glenview; the name Glenview won the majority vote on May 7, 1895. Glenview was incorporated as a village in 1899 with Hugh Burnham as its first mayor and had an adult population of 325. The Village remained primarily a farming community, and as late as 1930 had fewer than 2,000 residents. The population grew slowly until 1950, when the census recorded 6,142 residents. Spurred by the opening of the Edens Expressway, the population of the Village expanded to 18,132 in a land area of 5.1 square miles, according to the 1960 Census. Nationally, Glenview is identified with the Glenview Naval Air Station, located directly in the heart of the Village. The Navy had been present in Glenview since 1937, when an airstrip was implemented at what was then the Curtiss-Reynolds Airport, to handle new, high-speed aircraft. The base consists of 1,288 acres of land, annexed into the corporate limits of the Village of Glenview in June 1971. In 1993 the Department of Defense announced the closure of the Glenview Naval Air Station.
- Climate: Glenview's climate is typical for the Midwestern region and suburban Chicago area. On average, the July high is around 83 degrees with the January low being 17 degrees. Glenview averages about 36 inches of rain and 36 inches of snow per year. On average, there are 186 sunny days per year in Glenview. The number of days with any measurable precipitation is 125 per year, on average. The comfort index, which is based on humidity during the hot months, is 48 out of 100. Glenview has a continental climate, with summers generally wetter than the

winters. The highest recorded temperature was 104 °F (40 °C) in June 1988; the lowest recorded temperature was –25 °F (–32 °C) in January 1982.

- **Governing Body Format:** Glenview operates under a council-manager form of government. The Village President and six Trustees are elected at-large. This body of Government will assume the responsibility for the adoption and implementation of this plan. The President, with the concurrence of the Trustees, appoints the Village Manager, responsible for implementing Board policies and handling day-to-day operations through the seven municipal departments: Planning/Economic Development, Fire, Capital Projects/Inspectional Services, Manager’s Office, Police, Public Works and Administrative Services.
- **Development Trends:** Anticipated development levels for Glenview are low to moderate, consisting primarily of residential development and redevelopment of commercial parcels along main corridors. The Village of Glenview downtown had a revitalization project recently completed, which began in 2006, and there are few undeveloped sites left in the Village. Housing trends are somewhat competitive and there is steady growth within the Village of Glenview.

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	Ord. #5879 (2014)
Zonings	Yes	No	No	Yes	Ord. #4512 (2003)
Subdivisions	Yes	No	No	No	Ord. #1159 (1959/2005)
Stormwater Management	Yes	No	MWRD	Yes	State regulates industrial activity from Construction sites 1 acre or larger under section 402 CWA. Res. #10-123 (2010)
Post Disaster Recovery	No	No	No	No	
Real Estate Disclosure	No	No	Yes	Yes	(765 ILCS77/) Residential Real Property Disclosure Act
Growth Management	Yes	No	No	No	Comprehensive Plan
Site Plan Review	Yes	No	No	No	Ord. #1159 (1959/2010)
Public Health and Safety	Yes	No	Yes	Yes	Ord. #1159 (1959/2012)
Environmental Protection	Yes	No	No	No	
Planning Documents					
General or Comprehensive Plan	Yes	No	No	No	Res. #04-042 (2004)
<i>Is the plan equipped to provide linkage to this mitigation plan?</i>					N/A
Floodplain or Basin Plan	Yes	No	IEMA	No	Ord. #5127 (2008)
Stormwater Plan	No	No	Yes	No	MWRD Detailed Watershed Plan for the North Branch Chicago River Watershed
Capital Improvement Plan	Yes	No	No	No	
<i>What types of capital facilities does the plan address?</i>					N/A

How often is the plan revised/updated?					N/A
Habitat Conservation Plan	Semi	No	IEPA	No	Advisory Plan (2008)
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	
Response/Recovery Planning					
Comprehensive Emergency Management Plan	Yes	No	Yes	Yes	Glenview EM
Threat and Hazard Identification and Risk Assessment	Yes	No	Yes	Yes	Glenview EM
Terrorism Plan	No	No	Yes	Yes	Cook County DHSEM
Post-Disaster Recovery Plan	Yes	No	Yes	Yes	Glenview EM
Continuity of Operations Plan	Yes	No	Yes	No	Glenview EM
Public Health Plans	No	No	Yes	No	CCDPH

TABLE: FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	No
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	Annexation fee

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	Community Development Dept - multiple
Engineers or professionals trained in building or infrastructure construction practices	Yes	Community Development Dept - multiple
Planners or engineers with an understanding of natural hazards	Yes	Community Development Dept - multiple
Staff with training in benefit/cost analysis	No	
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	GIS Consortium (Contracted)
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	
Grant writers	Yes	Village of Glenview - multiple

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	Community Development Department
Who is your jurisdiction’s floodplain administrator? (department/position)	Community Development Department/Village Engineer
What is the date of adoption of your flood damage prevention ordinance?	August 3, 2010
When was the most recent Community Assistance Visit or Community Assistance Contact?	Community Assistance Visit - October 12, 2010
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? (If no, please state why)	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Does your jurisdiction participate in the Community Rating System (CRS)? If so, is your jurisdiction seeking to improve its CRS Classification? If not, is your jurisdiction interested in joining the CRS program?	Yes, Yes

TABLE: COMMUNITY CLASSIFICATIONS

	Participating?	Classification	Date Classified
Community Rating System	Yes	5	10/1/2017
Building Code Effectiveness Grading Schedule	Yes	3/3	2014
Public Protection/ISO	Yes	2	2018
StormReady	Yes	Gold (Countywide)	2014
Tree City USA	Yes	N/A	Annual (since 1985)

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: 38
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 15

Type of Event	FEMA Disaster Number (if applicable)	Date	Preliminary Damage Assessment
Heavy Rain	-	8/7/2018	-
Heavy Rain	-	6/9/2018	-
Heavy Rain	-	5/3/2018	-
Hail	-	7/12/2017	-
Flooding	-	6/23/2016	-
Hail	-	4/26/2016	-
Rain/Flooding	-	6/26/2013	-
Severe Storms, Straight-line Winds and Flooding	DR-4116	4/16/2013 - 5/5/2013	Approximately 200 residents reported home flooding, yard flooding, sewer backup, and/or property damage in initial damage assessment survey. Village responded to more than 300 service requests from residents. Village overtime, equipment, and materials cost to respond to event was approximately \$54,800.
Storms and Flooding	-	7/22/2011 - 7/23/2011	6.25 inches of rain, basement and street flooding reported
Storm and High Winds	-	7/11/2011	60 mph wind gusts; trees and limbs down, blocked roadways.
Severe Thunderstorms	-	6/30/2011	50 mph wind gusts; trees and limbs down, blocked roadways

Severe Thunderstorms	-	6/21/2011	70 mph wind gusts; more than 80 trees taken down, blocked roadways
Storms and Flooding	-	5/28/2011	Village responded to 55 service requests.
Storms and Flooding	-	5/25/2011	Village responded to 68 service requests.
Severe Winter Storm and Snowstorm	DR-1960	1/31/2011-2/3/2011	Village incurred approximately \$397,000 in costs responding to the blizzard. Village Board of Trustees issued disaster declaration.
Storms and Flooding	-	7/24/2010	Village responded to 32 service requests
Severe Storms and Flooding	DR-1935	7/19/2010-8/7/2010	-
Storm	-	6/18/2010	-
Storms and Flooding	-	5/13/2010	Village responded to 58 service requests.
Storms and Flooding	-	6/19/2009	Village responded to 94 service requests related to storm and/or flooding.
Severe Storms and Flooding	DR-1800	9/13/2008 - 10/5/2008	-
Storm	-	8/4/2008	Village incurred \$267,813.26 in costs approved by FEMA.
Severe storms, Hail, and Flooding	DR-1729	8/20/2007 - 8/31/2007	Village incurred \$1,206,908.60 in costs approved by FEMA.
Severe Weather	-	9/22/2006	-
Hail	-	5/1/2006	-

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/Severe Weather: Substantial flooding has occurred in the area and is primarily triggered by severe storms. In addition to damage, service requests are prevalent following an event.

Hail: This event occurs during thunderstorms, which often cause flooding and severe wind events. Power line, structures, and trees are frequently damaged.

Tornado/High Winds: High winds have historically affected residential areas, causing downed trees and downed electrical lines.

Snow: Senior citizens and individuals with functional and access needs in the community have historically had issues when there is a large amount of snow or severe winter weather. Winter weather events have also caused home damage in the area.

Extreme Heat: Strains infrastructure, such as the rail system, and cause extensive impact to the community.

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	Severe Winter Weather	54
3	Earthquake	32
4	Tornado	27
5	Flood	27
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)
Action 2.1—Maintain Cost-Sharing Resident Programs.						
Ongoing	Multi-hazard	1, 6, 8, 11, 13	Glenview	\$50,000; Low	General Fund	Ongoing
Action 2.2—Participate in Clean Water Program (National Pollutant Discharge Elimination System).						
Ongoing	Flood	3, 4, 6, 13	Glenview	\$75,000; Medium	General Fund	Ongoing
Action 2.3—East of Harms Regional Stormwater Project.						
Completed	Flood	1, 2, 7, 8, 9	Glenview MWRD	\$7,100,000; High	MWRD Phase II	Completed
Action 2.4—Dewes/Henley/Harlem Stormwater Conveyance and Detention.						
Completed	Flood	1, 2, 8, 9	Glenview FEMA/IEMA	\$3,712,000; High	FEMA-PDM	Completed
Action 2.5—Glenview Park Golf Club Stormwater Detention.						
Completed	Flood	1, 2, 8, 13	Glenview Park District	\$4,200,000; High	General Fund	Completed
Action 2.6—Navy Bypass Sewer.						
Completed	Flood	1, 2, 9	Glenview	\$2,000,000; High	Tax Increment Financing Funds	Completed
Action 2.7—West Fork of the North Branch of the Chicago River Floodplain.						

Ongoing	Flood	1, 2, 3, 4, 7, 8, 9, 13	MWRD	\$25,000,000; High	MWRD Funds	2016 or when available, Long-term
Action 2.8 —Local Stormwater Implementation Plan 2014-2018 (\$2.5 million per year).						
Completed	Flood	1, 2, 9	Glenview	\$12,500,000; High	General Funds	Completed
Action 2.9 —Update building and fire codes including expanded fire sprinklers.						
Completed	Multi-hazard	4, 6, 10	Glenview	\$10,000; Low	General Funds	Completed
Action 2.10 —Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties to repetitive losses.						
Completed	All	7, 13	Glenview	High	FEMA Hazard Mitigation Grant	Completed
Action 2.11 —Continue to support the countywide actions identified in this plan.						
Ongoing	All	All	Glenview	Low	General Fund	Short- and long-term
Action 2.12 —Actively participate in the plan maintenance strategy identified in this plan.						
Ongoing	All	3, 4, 6	DHSEM (Glenview)	Low	General Fund	Short-term
Action 2.13 —Maintain or enhance the Village's status under the Community Rating System (CRS) program.						
Completed	All	3, 4, 5, 6, 7, 9, 10, 11, 13	Glenview	Low	General Fund	Completed
Action 2.14 —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	Glenview	Low	General Fund	Short-term and ongoing
Action 2.15 —Where feasible, implement a program to record high water marks following high-water events.						
Ongoing	Flooding, Severe Weather	3, 6, 9	Glenview	Medium	General Fund; FEMA Grant Funds (Public Assistance)	Long-term
Action 2.16 —Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.						
Completed	All	3, 4, 6, 10, 13	Glenview Community Development Department	Low	General Fund	Completed
Action 2.17 —Coordinate with School District 34 to construct regional detention at Lyon School site to benefit Bonnie Glen-area residents (340 homes).						

Completed	Flood	9	Glenview and School District 34	\$3,000,000	Glenview	Complete
Action 2.18 —Develop "quick-win" projects for areas impacted by July 23, 2016 storm including (potentially) Golfview, north of Cole Park, Woodlawn and Longvalley/Culver.						
Ongoing	Severe Weather	2	TBD	TBD	TBD	Ongoing
Action 2.19 —Comply with MWRD's countywide sanitary sewer backup initiatives including 2017 smoke testing in high-priority areas.						
Ongoing	Flood	9	Glenview	\$125,000	Gen Fund	Ongoing
Action 2.20 —East of Harms Phase II project to install stormwater improvements benefiting 20 properties in the neighborhood.						
Ongoing	Flood	9	Glenview	\$2,406,000	Glenview, MWRD (\$500K)	Ongoing
Action 2.21 —Wagner Farm neighborhood stormwater improvements benefiting 30 adjacent properties.						
Completed	Flood	9	Glenview	\$200,000	Glenview	Complete
Action 2.22 —Run a community risk reduction program						
New	Hazardous Materials Incident	6	Glenview Fire	\$10,000 to \$20,000 - staffing; Medium	Village	2024
Action 2.23 —Implement the Flood Control Project for the West Fork of the North Branch of the Chicago River						
New	Flood	9	MWRD	\$6,600,000	MWRD	TBD
Action 2.24 —Implement the Central Road Flood Control Project						
New	Flood	9	MWRD	TBD	MWRD	TBD
Action 2.25 —Implement the East of Harms Road Drainage Improvements						
New	Flood	9	MWRD	TBD	MRWD	TBD
Action 2.26 —Implement the North Glen Oak Acres Drain and Sewer Improvement Project with the Army Corps of Engineers						
New	Flood	9	ACoE; MWRD	\$1,700,000	ACoE; MWRD	TBD
(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	Medium	Low	Yes	No	Yes	Medium
2	4	Medium	Medium	Yes	No	Yes	High

3	5	High	High	Yes	Yes	Yes	High
4	4	High	High	Yes	Yes	Yes	High
5	4	High	High	Yes	Yes	No	High
6	3	High	High	Yes	No	Yes	High
7	8	High	High	Yes	Yes	Yes	High
8	3	High	High	Yes	No	Yes	High
9	3	High	Low	Yes	No	Yes	High
10	2	High	High	Yes	Yes	Yes	Medium
11	13	Medium	Low	Yes	No	Yes	High
12	3	Medium	Low	Yes	Yes	Yes	High
13	9	Medium	Low	Yes	No	Yes	Medium
14	3	Medium	Low	Yes	No	Yes	High
15	3	Medium	Medium	Yes	Yes	No	Medium
16	5	Medium	Low	Yes	No	Yes	High
17	1	High	High	Yes	No	Yes	High
18	1	TBD	TBD	TBD	TBD	TBD	TBD
19	1	Medium	Medium	TBD	No	Yes	Medium
20	1	High	High	Yes	Yes	Yes	High
21	1	Medium	Low	Yes	No	Yes	Medium
22	1	Medium	Medium	Yes	Yes	Yes	High
23	1	High	High	Yes	Yes	Yes	High
24	1	High	High	Yes	Yes	Yes	High
25	1	High	High	Yes	Yes	Yes	High
26	1	High	High	Yes	Yes	Yes	High

(a) See Chapter 1 for explanation of priorities.

New Mitigation Actions

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

Action 2.22

Mitigation Action	Run a community risk reduction program.
Year Initiated	2019
Applicable Jurisdiction	Glenview Fire (Village of Glenview), Glenbrook Fire District
Lead Agency/Organization	Glenview Fire
Supporting Agencies/Organizations	Glenview Inspection Services, Planning, GIS
Applicable Goal	Develop and implement sustainable, cost-effective, and environmentally sound risk-reduction (mitigation) projects. Protect public services and critical facilities, including infrastructure, from loss of use during natural hazard events.
Applicable Objective	Use the best available data, science and technologies to educate the public and to improve understanding of the location and potential impacts of natural hazards, the vulnerability of building types and community development patterns, and the measures needed to protect life safety.
Potential Funding Source	Village
Estimated Cost	\$10,000 to \$20,000 - staffing
Benefits (loss avoided)	Complete update of pre-plans, assigning risk to each structure
Projected Completion Date	2024
Priority and Level of Importance (Low, Medium, High)	High Priority
Benefit Analysis (Low, Medium, High)	Medium- Project will have a long-term impact on the reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure for property.
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:	

Mitigation Action and Project Maintenance		
Year	Status	Comments
2019	New	Community safety enhancement
2020		
2021		

2022		
2023		

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

Action 2.23

Mitigation Action	Implement the Flood Control Project for the West Fork of the North Branch of the Chicago River
Year Initiated	2019
Applicable Jurisdiction	Glenview
Lead Agency/Organization	MWRD
Supporting Agencies/Organizations	Glenview
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 and potential damage from such activities.
Applicable Objective	Provide or improve flood protection on a watershed basis with flood control structures and drainage maintenance plans.
Potential Funding Source	MWRD
Estimated Cost	\$6,600,000
Benefits (loss avoided)	TBD
Projected Completion Date	TBD
Priority and Level of Importance (Low, Medium, High)	High
Benefit Analysis (Low, Medium, High)	High
Cost Analysis (Low, Medium, High)	High
Actual Completion Date	

Recommended Mitigation Action/Implementation Plan and Project Description	
Action/Implementation Plan and Project Description:	ID: WF-06 Contract: 16-IGA-18 Watershed: North Branch Location: Glenview, IL Construct 80 acre-feet of storage, a floodwall, pump station, and a new storm sewer.

Mitigation Action and Project Maintenance		
Year	Status	Comments
2019	New	Village of Glenview is collaborating with the U.S. Army Corps of Engineers on a feasibility study.
2020		
2021		
2022		
2023		

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

Action 2.24

Mitigation Action	Implement the Central Road Flood Control Project
Year Initiated	2019
Applicable Jurisdiction	Glenview
Lead Agency/Organization	MWRD
Supporting Agencies/Organizations	Glenview
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 and potential damage from such activities.
Applicable Objective	Provide or improve flood protection on a watershed basis with flood control structures and drainage maintenance plans.
Potential Funding Source	MWRD
Estimated Cost	TBD
Benefits (loss avoided)	TBD
Projected Completion Date	TBD
Priority and Level of Importance (Low, Medium, High)	High
Benefit Analysis (Low, Medium, High)	High
Cost Analysis (Low, Medium, High)	High
Actual Completion Date	

Recommended Mitigation Action/Implementation Plan and Project Description	
Action/Implementation Plan and Project Description:	ID: IDOT-17 Contract: 14-065-5C Watershed: Lower Des Plaines Location: Unincorporated Northfield, Maine Township, and Glenview, IL Analysis of new conveyance improvements along Central Road and possible detention facilities.

Mitigation Action and Project Maintenance		
Year	Status	Comments
2019	New	Ongoing coordination with the Illinois Department of Transportation.
2020		
2021		
2022		
2023		

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

Action 2.25

Mitigation Action	Implement the East of Harms Road Drainage Improvements
Year Initiated	2019
Applicable Jurisdiction	Glenview
Lead Agency/Organization	MWRD
Supporting Agencies/Organizations	Glenview
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 and potential damage from such activities.
Applicable Objective	Provide or improve flood protection on a watershed basis with flood control structures and drainage maintenance plans.
Potential Funding Source	MWRD
Estimated Cost	\$3,860,000; MWRD Contribution: \$500,000
Benefits (loss avoided)	TBD
Projected Completion Date	TBD
Priority and Level of Importance (Low, Medium, High)	High
Benefit Analysis (Low, Medium, High)	High
Cost Analysis (Low, Medium, High)	High
Actual Completion Date	

Recommended Mitigation Action/Implementation Plan and Project Description	
Action/Implementation Plan and Project Description:	ID: Glenview Contract: 18-IGA-27 Watershed: North Branch Location: Glenview, IL Upsize nearly 3,500 linear feet of storm sewers in the drainage area east of Harms Road to provide flood reduction benefits to 20 residential structures.

Mitigation Action and Project Maintenance		
Year	Status	Comments
2019	New	Drafting intergovernmental agreement
2020		
2021		
2022		
2023		

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

Action 2.26

Mitigation Action	Implement the North Glen Oak Acres Drain and Sewer Improvement Project with the Army Corps of Engineers
Year Initiated	2019
Applicable Jurisdiction	Glenview
Lead Agency/Organization	Army Corp of Engineers; MWRD
Supporting Agencies/Organizations	Glenview
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 and potential damage from such activities.
Applicable Objective	Provide or improve flood protection on a watershed basis with flood control structures and drainage maintenance plans.
Potential Funding Source	MWRD
Estimated Cost	\$3,860,000; MWRD Contribution: \$500,000
Benefits (loss avoided)	TBD
Projected Completion Date	TBD
Priority and Level of Importance (Low, Medium, High)	High
Benefit Analysis (Low, Medium, High)	High
Cost Analysis (Low, Medium, High)	High
Actual Completion Date	

Recommended Mitigation Action/Implementation Plan and Project Description	
Action/Implementation Plan and Project Description:	ID: Glenview Contract: 18-IGA-27 Watershed: North Branch Location: Glenview, IL Upsize nearly 3,500 linear feet of storm sewers in the drainage area east of Harms Road to provide flood reduction benefits to 20 residential structures.

Mitigation Action and Project Maintenance		
Year	Status	Comments
2019	New	Drafting intergovernmental agreement
2020		
2021		
2022		
2023		

Mitigated Hazards	
	All Hazards
	Dam/Levee Failure
	Drought
	Earthquake
X	Flood
	Extreme Heat
	Lightning
	Hail
	Fog
	High Wind
	Snow
	Blizzard
	Extreme Cold
	Ice Storms
	Tornado
	Epidemic or pandemic
	Nuclear Power Plant Incident
	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 2.1

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.1	Maintain Cost-Sharing Resident Programs	
Status Description: Yes		O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.2

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.2	Participate in Clean Water Program (National Pollutant Discharge Elimination System)	
Status Description: Yes		O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.7

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.7	West Fork of the North Branch of the Chicago River Floodplain	
Status Description: Yes	Coordination ongoing with MWRD and a feasibility study with ACE (Section 205).	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.11

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.11	Continue to support the countywide actions identified in this plan.	
Status Description: Yes		O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.12

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

Action 2.4

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.14	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		O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.15

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

Action 2.18

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.18	Develop "quick-win" projects for areas impacted by July 23, 2016 storm including (potentially) Golfview, north of Cole Park, Woodlawn and Longvalley/Culver.	
Status Description: Yes	In development, with some projects included in 10-yr CIP.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.19

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.19	Comply with MWRD's countywide sanitary sewer backup initiatives including 2017 smoke testing in high-priority areas.	
Status Description: Yes	Smoke testing has been completed and the Village continues to monitor and implement the infiltration and inflow program through sewer lining.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.20

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.20	East of Harms Phase II project to install stormwater improvements benefiting 20 properties in the neighborhood.	
Status Description: Yes	Currently programed for 2019.	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 2.3

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.3	East of Harms Regional Stormwater Project	
Status Description: Yes	Project completed benefitting 1,100 homes.	C
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.4

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.4	Dewes/Henley/Harlem Stormwater Conveyance and Detention	
Status Description: Yes	Project completed benefitting 200 homes.	C
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.5

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.5	Glenview Park Golf Club Stormwater Detention	
Status Description: Yes	Project complete benefitting 130 homes.	C
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.6

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.6	Navy Bypass Sewer	
Status Description: Yes	Project complete.	C
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.8

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.8	.Local Stormwater Implementation Plan 2014-2018 (\$2.5 million per year)	
Status Description: Yes	Awarded all projects briefed with funding.	C
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.9

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.9	Update building and fire codes including expanded fire sprinklering	
Status Description: Yes	Updated all local building and fire codes.	C
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.10

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.10	Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties to repetitive losses	
Status Description: Yes	Purchased/razed 17 floodway homes.	C
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.13

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.13	Maintain or enhance the Village's status under the Community Rating System (CRS) program.	
Status Description: Yes	Just had last CRS coordination with FEMA/ISO and out rating was upgrading to a 5.	C
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.16

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.16	Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.	
Status Description: Yes	Included coordination with Village's Comp Plan update.	C
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.17

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.17	Coordinate with School District 34 to construct regional detention at Lyon School site to benefit Bonnie Glen-area residents (340 homes).	
Status Description: Yes	An additional 4 acre feet of storage was constructed.	C
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action 2.21

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# 2.21	Wagner Farm neighborhood stormwater improvements benefiting 30 adjacent properties.	
Status Description: Yes	This quick win project was constructed in 2018.	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

None at this time.

Additional Comments

None at this time.

HAZUS-MH Risk Assessment Results

GLENVIEW EXISTING CONDITIONS	
2010 Population	44,692
Total Assessed Value of Structures and Contents	\$10,153,576,431
Area in 100-Year Floodplain	375.51 acres
Area in 500-Year Floodplain	576.15 acres
Number of Critical Facilities	85

HAZARD EXPOSURE IN GLENVIEW						
	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	319	98	\$45,272,775	\$29,278,170	\$74,550,945	0.73%
500-Year	1,099	338	\$182,309,721	\$124,490,698	\$306,800,419	3.02%
Tornado						
100-Year	—	—	\$395,393,817	\$227,349,810	\$622,743,626	6.13%
500-Year	—	—	\$1,241,824,895	\$743,525,420	\$1,985,350,315	19.55%

ESTIMATED PROPERTY DAMAGE VALUES IN GLENVIEW				
	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	\$19,554,220	\$3,697,244	\$23,251,464	0.23%
Flood				
10-Year	\$127,638	\$172,543	\$300,181	0.00%
100-Year	\$6,794,585	\$11,196,938	\$17,991,523	0.18%
500-Year	\$17,247,018	\$17,875,069	\$35,122,088	0.35%
Tornado				
100-Year	\$39,539,382	\$22,734,981	\$62,274,363	0.61%
500-Year	\$181,306,435	\$108,554,711	\$289,861,146	2.85%

Hazard Mapping





