

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

South Chicago Heights 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
William E. Joyce, Chief of Police 2729 Jackson South Chicago Heights, IL 60411 Telephone: 708-755-3520 Email Address: bjoyce@southchicagoheights.com	Nora Martinez-Gomez, Village Administrator 3317 Chicago Road South Chicago Heights, IL 60411 Telephone: 708-755-1880 Email Address: nmartinez@southchicagoheights.com

Jurisdiction Profile

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

- **Date of Incorporation:** 1907
- **Current Population:** 4,042 as of the 2018 US Census population estimates.
- **Population Growth:** South Chicago Heights has experienced a rate of growth of a 4.7 percent from 2000 to 2010. A flat rate of growth has occurred recently, with estimates of population increase less than 1 percent from 2010 to 2016.
- **Location and Description:** South Chicago Heights is located in the southeastern edge of Cook County, 28 miles S of the Loop. South Chicago Heights borders Chicago Heights to the north, Steger to the south, Park Forest to the west, and Sauk Village to the east. The village has a total land area of 1.58 square miles. The village grew around the intersection of the Sauk and Hubbard's Trails, which is now U.S. Route 1. Both had existed for hundreds of years as major routes for native peoples and early traders. The Sauk Trail ran from Detroit to the Mississippi River, and the Hubbard's Trail, from Vincennes, Indiana, to Chicago.
- **Brief History:** In 1833, Adam and Phoebe Brown, from Ohio, settled in what is now South Chicago Heights with their young son Christopher. They eventually had nine children and operated a general store and inn on the northwest corner of the intersection of the two trails. The intersection remained in family hands for 70 years. Local traditions suggest that Brown's Corner was a stop on the Underground Railroad. Brown's Corner remained well known. By the end of the nineteenth century, the trails were wagon and coach roads, with Hubbard's Trail now better known as Chicago Road. In 1906, the Browns sold their inn to the Burgel family, who maintained it until 1968. In 1907, residents in the immediate area joined with commercial interests around the old intersection and, meeting in the depot of the Chicago & Eastern Illinois Railroad, voted to become the village of South Chicago Heights. The first year's budget was \$3,800, which was met by property taxes and three saloon licenses at \$500 each. By 1910, the village had its own volunteer fire department and its first policeman. From 1913 into 1928, the original route of the Lincoln Highway came into the village from the east on Sauk Trail and then north on Chicago Road. The section along Chicago Road also was designated as part of the Dixie Highway in 1915. In 1926, this became Illinois State Route One. This famous intersection had four gas stations, including the first in the region to sell "Gasoline." The last of the four replaced the old inn demolished in 1968. This was the "landmark" service station, which is now gone, along with the other three. The village is landlocked, with Chicago Heights to the north and east, Steger to the south, and forest preserve land to the west. Housing is predominantly for workers in nearby business and industries, with the neighborhoods originally home for those of Italian, Polish, and German ancestry who worked in Chicago Heights. Today there is an area of newer, more expensive housing adjacent to the forest preserve land and strip commercial properties developed along Chicago Road.
- **Climate:** The Village of South Chicago Heights climate closely resembles that of the City of Chicago Heights and related weather patterns south of Interstate 80 and East of Interstate 57. On average the warmest month is July. The highest recorded temperature was 103°F in 1988.

The coolest month is January. The lowest recorded temperature was -27°F in 1985. The most precipitation, on average, occurs in June.

- **Governing Body Format:** South Chicago Heights has a village president and 6 elected trustees that govern the village. This body will assume the responsibility for the adoption of this plan and the Chief of Police will oversee its implementation. The village operates four departments including the Police Department, Fire Department, Public Works Department, and Building Department.
- **Development Trends:** Development trends are low in the Village of Chicago Heights and are not expected to increase in the near future other than minor residential development. The Department of Planning & Zoning is responsible for maintaining the City's comprehensive department plan, administering and enforcing zoning resolutions and carrying out local zoning ordinances. Specifically, the development involves the analysis of a given section of land and determines the limits of how that land can be developed and utilized according to local regulations. A referendum was passed to fund building a new police facility and renovation of the existing fire facility. These projects are expected to be completed by mid- 2015.

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	IRC/IBC 2006 Adopted Nov 2007 Village Ordinance #2007-11
Zonings	Yes	No	No	Yes	Village Zoning Board and Planning Committee CHCO, Chapter 33, 3/24/2014
Subdivisions	Yes	No	No	No	Village Zoning Board and Planning Committee CHCO, Chapter 33, 3/24/2014
Stormwater Management	Yes	No	Thorn Creek	Yes	Thorn Creek Basin 708 754 0525
Post Disaster Recovery	No	No	No	No	
Real Estate Disclosure	Yes	No	Yes	Yes	(765 ILCS 77/) Residential Real Property Disclosure Act.
Growth Management	No	No	No	No	Comprehensive Plan and TOD study

Site Plan Review	Yes	No	No	No	Building Department/Tech 3
Public Health and Safety	Yes	No	Yes	Yes	Police, Fire and Public Health departments
Environmental Protection	Yes	No	No	No	Cook County/IEPA CHCO, Chapter 21, 3/24/2014 CHCO, Chapter 36 1/2, 3/24/2014
Planning Documents					
General or Comprehensive Plan	Yes	No	No	No	Village Comprehensive Plan
<i>Is the plan equipped to provide linkage to this mitigation plan?</i>					Yes
Floodplain or Basin Plan	Yes	No	No	No	Thorn Creek
Stormwater Plan	Yes	No	No		Thorn Creek
Capital Improvement Plan	Yes	No	No	No	
<i>What types of capital facilities does the plan address?</i>					Village owned facilities and infrastructure.
<i>How often is the plan revised/updated?</i>					Reviewed annually
Habitat Conservation Plan	No	No	No	No	
Economic Development Plan	Yes	No	Yes	Yes	Village President and Finance Director
Shoreline Management Plan	No				N/A
Response/Recovery Planning					
Comprehensive Emergency Management Plan	Yes				Police, Fire, Public Works, Village Administrator, and Building Department

Threat and Hazard Identification and Risk Assessment	No	No	Yes	No	Cook County DHSEM Preparing THIRA
Terrorism Plan	Yes				Police, Fire, Public Works, Village Administrator, and Building Department
Post-Disaster Recovery Plan	Yes				Police, Fire, Public Works, Village Administrator, and Building Department
Continuity of Operations Plan	Yes				Mayor, Village Administrator, and Finance Director
Public Health Plans	Yes				Village Health Inspector

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	By referendum only
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	By referendum only
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No

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	Tech 3 Engineering (708) 672 4994
Engineers or professionals trained in building or infrastructure construction practices	Yes	Tech 3 Engineering (708) 672 4994
Planners or engineers with an understanding of natural hazards	Yes	Tech 3 Engineering (708) 672 4994
Staff with training in benefit/cost analysis	Yes	SCH Finance Director John Dolasinski (708) 755 1880
Surveyors	Yes	Tech 3 Engineering (708) 672 4994
Personnel skilled or trained in GIS applications	Yes	Cook County GIS Consortium
Scientist familiar with natural hazards in local area	Yes	Tech 3 Engineering (708) 672 4994
Emergency manager	Yes	Police Chief William Joyce Building Director Nicholas Goncher
Grant writers	Yes	Police, Fire, and Administration

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

What department is responsible for floodplain management in your jurisdiction?	Building Department
Who is your jurisdiction’s floodplain administrator? (department/position)	Nicholas Goncher Building Department Director
Are any certified floodplain managers on staff in your jurisdiction?	No
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?	8/30/2007
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 FEMA provided maps

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?	Training would be welcomed
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	N/A
Public Protection/ISO	Yes	ISO 4	May 1, 2014
StormReady	Yes	Gold (countywide)	2014
Tree City USA	No	N/A	N/A

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: None
- Number of FEMA-Identified Severe Repetitive Loss Properties: None
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: None

Type of Event	FEMA Disaster Number (if applicable)	Date	Preliminary Damage Assessment
Severe Storms	DR-4116	2013	-
Severe Winter Storms	DR-1960	2011	-
Severe Storms/Flooding	DR-1935	2010	-
Severe Storms/Flooding	DR-1800	2008	-
Severe Storms/Flooding	DR-1729	2007	-
Severe Winter Storm	EM-3161	2000	-
Winter Snow Storm	EM-3134	1999	-
Flooding	DR-1188	1997	-
Flooding	DR-1129	1996	-
Severe Storms/Flooding	DR-997	1993	-
Severe Storms/Flooding	DR-798	1987	-
Severe Storms/Flooding	DR-776	1986	-

[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: In the Village, 30th Street, Chicago Road, East End Ave., and Sauk Trail are flood-prone.

Extreme Heat: The Village's senior center (3140 Enterprise Park Ave) serves as a cooling center, but does not have a generator. Also, Village Hall (3317 Chicago Road) does not have a generator.

Extreme Cold: The Pumphouse on State St. needs a generator (operated manually). The Village's senior center (3140 Enterprise Park Ave) serves as a cooling center, but does not have a generator. Also, Village Hall (3317 Chicago Road) does not have a generator.

Hazard Risk Ranking

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

TABLE: HAZARD RISK RANKING		
Rank	Hazard Type	Risk Rating Score (Probability x Impact)
1	Severe Weather	54
2	Severe Winter Weather	54
3	Flood	36
4	Earthquake	28
5	Tornado	18
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 S6.1 —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.						
Complete	All	7, 13	Village	High	FEMA Hazard Mitigation Grants	Completed
Action S6.2 —Continue to support the countywide actions identified in this plan.						
Ongoing	All	All	Village	Low	General Fund	Short- and long-term
Action S6.3 —Actively participate in the plan maintenance strategy identified in this plan.						
Ongoing	All	3, 4, 6	DHSEM, Village	Low	General Fund	Short-term
Action S6.4 —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 S6.5 —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	Building Department	Low	General Fund	Short-term and ongoing
Action S6.6 —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
Action S6.7 —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
Action S6.8 —Weather related impact of Village infrastructure.						
Ongoing	Dam/Levee Failure, Flood	1, 2, 3, 7	Village	TBD	Grants, Local Funds	Ongoing
Action S6.9 —Roads are needed to get people and goods from place to place. In addition to planning for traffic control during floods, there are various construction and placement factors to consider when building roads.						
New	Dam/Levee Failure, Flood	1, 2, 3	Village	TBD; High	Grants	TBD
Action S6.10 —Provide a public education program to inform residents about mitigation measures and means for them to protect themselves and their property during a flood.						
New	All	6, 12	Village	TBD; Low	Grants, Local Funds	Ongoing
Action S6.11 —Land with structures may be purchased by and titled in the name of a local governing body that can remove structures and enforce permanent restrictions on development.						
New	All	3, 4, 7, 10	Village	TBD; High	Grants, Local Funds	TBD
Action S6.12 —Storm Drainage Systems						

New	Dam/Levee Failure, Flood	1, 9	Village	TBD; High	Grants, Local Funds, Others as identified	Ongoing
Action S6.13—Drainage System Maintenance						
New	Dam/Levee Failure, Flood	1, 9	Village	TBD; Medium	Grants, Local Funds, Others as identified	Ongoing
Action S6.14—Multi-Jurisdiction Cooperation Within Watershed						
New	All	1, 8, 9	Village	TBD; Low	Local Funds, Grants	TBD
Action S6.15—Post-Disaster Recovery Ordinance						
New	All	1, 3, 4, 10	Village	TBD; Low	Local Funds	TBD
Action S6.16—Back-up Generators						
New	All	2, 12	Village	TBD; Medium	Grants, Local Funds	TBD
Action S6.17—Basement Backflow Prevention						
New	Dam/Levee Failure, Flood	3, 10	Village	TBD; High	Grants, Local Funds, Others as identified	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	2	High	High	Yes	Yes	No	Medium
2	13	Medium	Low	Yes	No	Yes	High

3	3	Medium	Low	Yes	Yes	Yes	High	
4	9	Medium	Low	Yes	No	Yes	Medium	
5	3	Medium	Low	Yes	No	Yes	High	
6	3	Medium	Medium	Yes	Yes	No	Medium	
7	5	Medium	Low	Yes	No	Yes	High	
8	4	High	Unknown	Yes	Yes	Yes	High	
9	3	High	High	Yes	Yes	Unknown	High	
10	2	Medium	Low	Yes	Yes	Unknown	Medium	
11	4	Medium	High	No	Yes	Unknown	Medium	
12	2	High	High	Yes	Yes	Unknown	High	
13	2	Medium	Medium	Yes	Yes	Unknown	High	
14	3	Medium	Low	Yes	Yes	Unknown	Medium	
15	4	Medium	Low	Yes	Unknown	Unknown	Medium	
16	2	Medium	Medium	Yes	Yes	Unknown	Medium	
17	2	Medium	High	No	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 S6.9

Mitigation Action	Roads are needed to get people and goods from place to place. In addition to planning for traffic control during floods, there are various construction and placement factors to consider when building roads.
Year Initiated	2019
Applicable Jurisdiction	Village
Lead Agency/Organization	Village
Supporting Agencies/Organizations	
Applicable Goal	<ul style="list-style-type: none"> • 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. • Develop, promote, and integrate mitigation action plans. • Promote public understanding of and support for hazard mitigation.
Applicable Objective	<ul style="list-style-type: none"> • 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. • Consider the impacts of natural hazards on future land uses in the planning area, including possible impacts from climate change.
Potential Funding Source	Grants
Estimated Cost	TBD
Benefits (loss avoided)	Ensure accessibility, continuity of operations, service delivery and life safety.
Projected Completion Date	TBD
Priority and Level of Importance (Low, Medium, High)	High Priority
Benefit Analysis (Low, Medium, High)	High—Project will provide an immediate reduction of risk exposure for life and property.
Cost Analysis (Low, Medium, High)	High—Existing funding will not cover the cost of the project; implementation would require new revenue

	through an alternative source (for example, bonds, grants, and fee increases).
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	
2020		
2021		
2022		
2023		

Mitigated Hazards	
	All Hazards
X	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 S6.10

Mitigation Action	Provide a public education program to inform residents about mitigation measures and means for them to protect themselves and their property during a flood.
Year Initiated	Ongoing
Applicable Jurisdiction	South Chicago Heights
Lead Agency/Organization	Village
Supporting Agencies/Organizations	
Applicable Goal	<ul style="list-style-type: none"> • 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. • Involve stakeholders to enhance the local capacity to mitigate, prepare for, and respond to the impacts of natural hazards. • Develop, promote, and integrate mitigation action plans. • Promote public understanding of and support for hazard mitigation.
Applicable Objective	<ul style="list-style-type: none"> • 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. • Reduce natural hazard-related risks and vulnerability to potentially isolated populations within the planning area.
Potential Funding Source	Grants, Local Funds
Estimated Cost	TBD
Benefits (loss avoided)	Enhanced public awareness, engagement and outreach; reduction in loss of life and property.
Projected Completion Date	Ongoing
Priority and Level of Importance (Low, Medium, High)	Medium 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)	Low—The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program.

Actual Completion Date	
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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

X	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 S6.11

Mitigation Action	Land with structures may be purchased by and titled in the name of a local governing body that can remove structures and enforce permanent restrictions on development.
Year Initiated	2019
Applicable Jurisdiction	South Chicago Heights
Lead Agency/Organization	Village
Supporting Agencies/Organizations	
Applicable Goal	<ul style="list-style-type: none"> • 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. • Involve stakeholders to enhance the local capacity to mitigate, prepare for, and respond to the impacts of natural hazards.
Applicable Objective	<ul style="list-style-type: none"> • Consider the impacts of natural hazards on future land uses in the planning area, including possible impacts from climate change. • Integrate hazard mitigation policies into land use plans in the planning area. • Retrofit, purchase, or relocate structures in high hazard areas, including those known to be repetitively damaged. • Strengthen codes and land use planning and their enforcement, so that new construction or redevelopment can avoid or withstand the impacts of natural hazards
Potential Funding Source	Grants, Local Funds
Estimated Cost	TBD
Benefits (loss avoided)	Response and recovery costs abated, vital public sector resources avoid diversion to address issues, ensure life safety
Projected Completion Date	TBD
Priority and Level of Importance (Low, Medium, High)	Medium 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)	High—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).

Actual Completion Date	
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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

X	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 S6.12

Mitigation Action	Storm Drainage Systems
Year Initiated	Ongoing
Applicable Jurisdiction	South Chicago Heights
Lead Agency/Organization	Village
Supporting Agencies/Organizations	
Applicable Goal	<ul style="list-style-type: none"> • 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.
Applicable Objective	<ul style="list-style-type: none"> • Increase the resilience of (or protect and maintain) infrastructure and critical facilities. • Provide or improve flood protection on a watershed basis with flood control structures and drainage maintenance plans.
Potential Funding Source	Grants, Local Funds, Others as Identified
Estimated Cost	TBD
Benefits (loss avoided)	Avoid loss of property and life, ensure accessibility.
Projected Completion Date	Ongoing
Priority and Level of Importance (Low, Medium, High)	High Priority
Benefit Analysis (Low, Medium, High)	High—Project will provide an immediate reduction of risk exposure for life and property.
Cost Analysis (Low, Medium, High)	High—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases)
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	
2020		

2021		
2022		
2023		

Mitigated Hazards	
	All Hazards
X	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 S6.13

Mitigation Action	Drainage System Maintenance
Year Initiated	Ongoing
Applicable Jurisdiction	South Chicago Heights
Lead Agency/Organization	Village
Supporting Agencies/Organizations	
Applicable Goal	<ul style="list-style-type: none"> • 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 eve
Applicable Objective	<ul style="list-style-type: none"> • Increase the resilience of (or protect and maintain) infrastructure and critical facilities. • Provide or improve flood protection on a watershed basis with flood control structures and drainage maintenance plans.
Potential Funding Source	Grants, local funds, other as identified
Estimated Cost	TBD
Benefits (loss avoided)	Avoid damage and destruction of property, degradation of infrastructure, life safety
Projected Completion Date	Ongoing
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	
2020		
2021		
2022		
2023		

Mitigated Hazards	
	All Hazards
X	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 S6.14

Mitigation Action	Multi-Jurisdiction Cooperation Within Watershed
Year Initiated	2019
Applicable Jurisdiction	South Chicago Heights
Lead Agency/Organization	Village
Supporting Agencies/Organizations	
Applicable Goal	<ul style="list-style-type: none"> • 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. • Involve stakeholders to enhance the local capacity to mitigate, prepare for, and respond to the impacts of natural hazards. • Develop, promote, and integrate mitigation action plans. • Promote public understanding of and support for hazard mitigation.
Applicable Objective	<ul style="list-style-type: none"> • Eliminate or minimize disruption of local government operations caused by natural hazards through all phases of emergency management. • Establish partnerships among all levels of local government, the private sector, and/or nongovernmental organizations to improve and implement methods to protect people and property. • Provide or improve flood protection on a watershed basis with flood control structures and drainage maintenance plans.
Potential Funding Source	Local Funds, Grants
Estimated Cost	TBD
Benefits (loss avoided)	helps bring together resources for comprehensive analysis, planning, decision-making, and cooperation
Projected Completion Date	Ongoing
Priority and Level of Importance (Low, Medium, High)	Medium 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)	Low—The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program.

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	
2020		
2021		
2022		
2023		

Mitigated Hazards	
--------------------------	--

X	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 S6.15

Mitigation Action	Post-Disaster Recovery Ordinance
Year Initiated	2019
Applicable Jurisdiction	South Chicago Heights
Lead Agency/Organization	Village
Supporting Agencies/Organizations	
Applicable Goal	<ul style="list-style-type: none"> • 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. • Develop, promote, and integrate mitigation action plans. • Promote public understanding of and support for hazard mitigation.
Applicable Objective	<ul style="list-style-type: none"> • Eliminate or minimize disruption of local government operations caused by natural hazards through all phases of emergency management. • Consider the impacts of natural hazards on future land uses in the planning area, including possible impacts from climate change. • Integrate hazard mitigation policies into land use plans in the planning area. • Strengthen codes and land use planning and their enforcement, so that new construction or redevelopment can avoid or withstand the impacts of natural hazards.
Potential Funding Source	Local Funds
Estimated Cost	TBD
Benefits (loss avoided)	Regulates repair activity, generally depending on property location
Projected Completion Date	TBD
Priority and Level of Importance (Low, Medium, High)	Medium 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)	Low—The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program.
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	
2020		
2021		
2022		
2023		

Mitigated Hazards

X	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
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Action S6.16

Mitigation Action	Back-up Generators
Year Initiated	2019
Applicable Jurisdiction	South Chicago Heights
Lead Agency/Organization	Village
Supporting Agencies/Organizations	
Applicable Goal	<ul style="list-style-type: none"> • 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.
Applicable Objective	<ul style="list-style-type: none"> • 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.
Potential Funding Source	Grants, Local Funds
Estimated Cost	TBD
Benefits (loss avoided)	Ensures continuity of operations, ensures life safety and avoids property loss
Projected Completion Date	TBD
Priority and Level of Importance (Low, Medium, High)	Medium 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	
2020		
2021		
2022		
2023		

Mitigated Hazards	
X	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 S6.17

Mitigation Action	Basement Backflow Prevention
Year Initiated	2019
Applicable Jurisdiction	South Chicago Heights
Lead Agency/Organization	Village
Supporting Agencies/Organizations	
Applicable Goal	<ul style="list-style-type: none"> • 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. • Promote public understanding of and support for hazard mitigation.
Applicable Objective	<ul style="list-style-type: none"> • Consider the impacts of natural hazards on future land uses in the planning area, including possible impacts from climate change. • Strengthen codes and land use planning and their enforcement, so that new construction or redevelopment can avoid or withstand the impacts of natural hazards.
Potential Funding Source	Grants, local funds, others as identified
Estimated Cost	TBD
Benefits (loss avoided)	Prevents loss of property, ensure continuity of operations, preserves life safety
Projected Completion Date	TBD
Priority and Level of Importance (Low, Medium, High)	Medium 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)	High—Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).
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	
2020		
2021		
2022		
2023		

Mitigated Hazards	
	All Hazards
X	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 S6.2

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# S6.2	Continue to support the countywide actions identified in this plan.	
Status Description: Yes	In 2015, amendments to the Illinois Emergency Telephone System Act required many Illinois municipalities to consolidate their emergency call answering and dispatch facilities with those of other communities. In June 2017, the Village of South Chicago Heights entered in an intergovernmental agreement with the Laraway Communication Center (LCC), supported by Will County 911. In December 2017, LCC became operational serving 31 entities of Police and Fire operations. This supports identified countywide coordination efforts, identifying South Chicago Heights effort to ensure whole community efforts around preparing for, preventing, protecting against, mitigating the effects of, responding to and recovering from incidents. South Chicago Heights remains engaged with the County, and is available to support county-wide actions identified in the Hazard Mitigation Plan - within the personnel and resource limitations present - however possible.	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action S6.3

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# S6.3	Actively participate in the plan maintenance strategy identified in this plan.	
Status Description: Yes	The completion of this report, as well as ongoing progress with action items, is demonstrative of efforts to actively participate in the plan maintenance strategy; South Chicago Heights is available to participate - within the personnel and resource limitations present - in the plan maintenance strategy identified in the plan	O
Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken		

Action S6.4

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# S6.4	Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.	
Status Description: Yes	South Chicago Heights looks forward to receiving more information as well as researching opportunities to participate in incentive-based programs.	O
<p align="center">Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken</p>		

Action S6.5

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# S6.5	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: Action Taken?	South Chicago Heights remains engaged in maintaining its standing in the relevant programs.	O
<p align="center">Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken</p>		

Action S6.6

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# S6.6	Where feasible, implement a program to record high water marks following high-water events.	
Status Description: No		X
<p align="center">Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken</p>		

Action S6.7

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# S6.7	Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.	
Status Description: Yes	The design, development and opening of the new public safety facility is an example of this. Moreover, the Village of South Chicago Heights is constantly updating orders, plans, programs and other planning documents, taking into consideration any impact this plan may have on the same. Efforts related to dispatch, while not directly related to land use, were undertaken with the goal of increasing coordination with respect to disaster and incident management/response.	O
<p align="center">Completion status legend: N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken</p>		

Action S6.8

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# S6.8	Weather related impact of Village infrastructure	
Status Description: Yes	During significant incidents of heavy rainfall Illinois Route 1, Chicago Road, floods at the lowest point in the village, 30th Street. At that location, there is a water detention trench which flows west to east. The sidewalk on the east side of Chicago Road at 30th Street has washed out in the past causing the sidewalk to collapse. The village engineers are researching options to prevent a washout under Chicago Road. During the 2017-2018 winter, the village suffered substantial water loss due to water main breaks.	O
<p>Completion status legend:</p> <p>N = New O = Action Ongoing toward Completion C = Project Completed R = Want Removed from Annex X = No Action Taken</p>		

Completed Mitigation Actions

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

Action S6.1

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# S6.1	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	Giving priority to properties with exposure to repetitive losses, the Village of South Chicago Heights opened its new Public Safety Center, a newly designed and relocated state-of-the-art consolidated facility that is located in an area which will prevent future structure damage. The new facility and its location will better ensure the ability of the Village of South Chicago Heights to respond to police and fire emergencies	C
<p>Completion status legend:</p> <p>N = New O = Action Ongoing toward Completion</p> <p>C = Project Completed R = Want Removed from Annex X = No Action Taken</p>		

Future Needs to Better Understand Risk/Vulnerability

No needs have been identified at this time.

Additional Comments

No additional comments at this time

HAZUS-MH Risk Assessment Results

SOUTH CHICAGO HEIGHTS EXISTING CONDITIONS	
2010 Population	4,139
Total Assessed Value of Structures and Contents	\$2,948,984,093
Area in 100-Year Floodplain	35.34 acres
Area in 500-Year Floodplain	35.34 acres
Number of Critical Facilities	11

HAZARD EXPOSURE IN SOUTH CHICAGO HEIGHTS						
	Number Exposed		Value Exposed to Hazard		Total	% of Total Assessed Value Exposed
	Population	Buildings	Structure	Contents		
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	0.0%

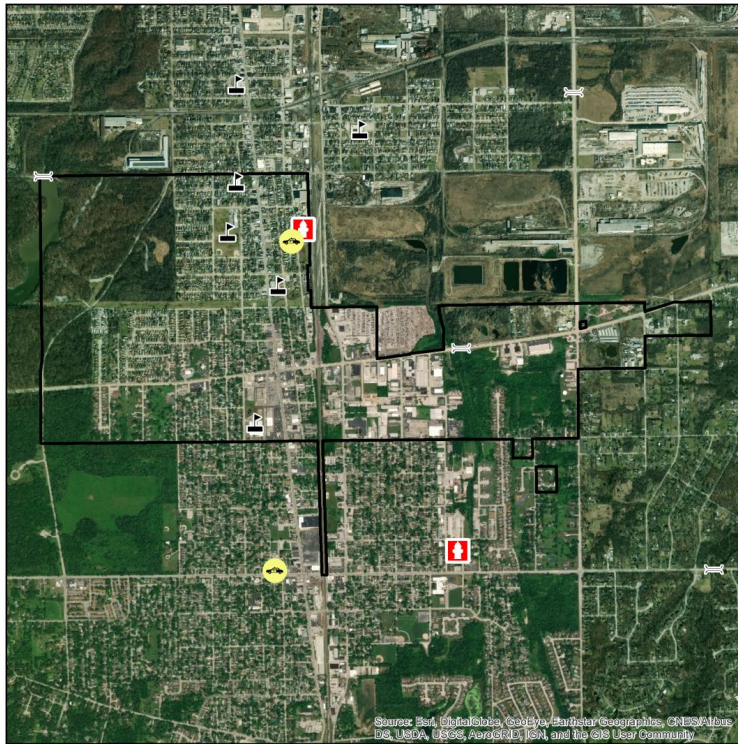
500-Year	0	0	\$0	\$0	\$0	0.0%
Tornado						
100-Year	—	—	\$917,184,725	\$850,954,273	\$1,768,138,998	59.96%
500-Year	—	—	\$991,400,718	\$912,201,668	\$1,903,602,386	64.55%

ESTIMATED PROPERTY DAMAGE VALUES IN SOUTH CHICAGO HEIGHTS

	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	\$8,037,321	\$2,187,946	\$10,225,267	0.35%
Flood				
10-Year	\$0	\$0	\$0	0.00%
100-Year	\$0	\$0	\$0	0.00%
500-Year	\$0	\$0	\$0	0.00%

Tornado				
100-Year	\$91,718,472	\$85,095,427	\$176,813,900	6.00%
500-Year	\$144,744,505	\$133,181,443	\$277,925,948	9.42%

Hazard Mapping

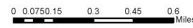


VILLAGE OF SOUTH CHICAGO HEIGHTS

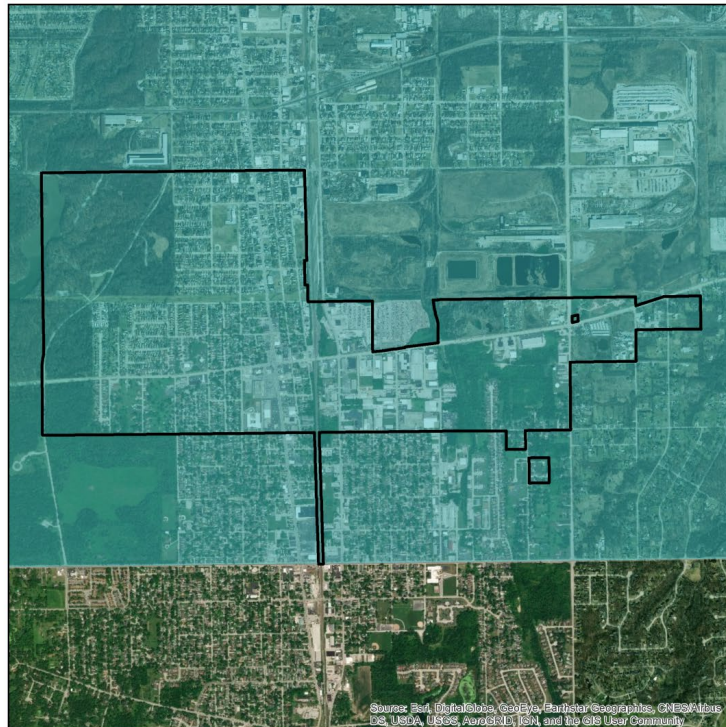
CRITICAL INFRASTRUCTURE

- 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 SOUTH CHICAGO HEIGHTS

PEAK GROUND ACCELERATION FOR A 100 YEAR EARTHQUAKE EVENT

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

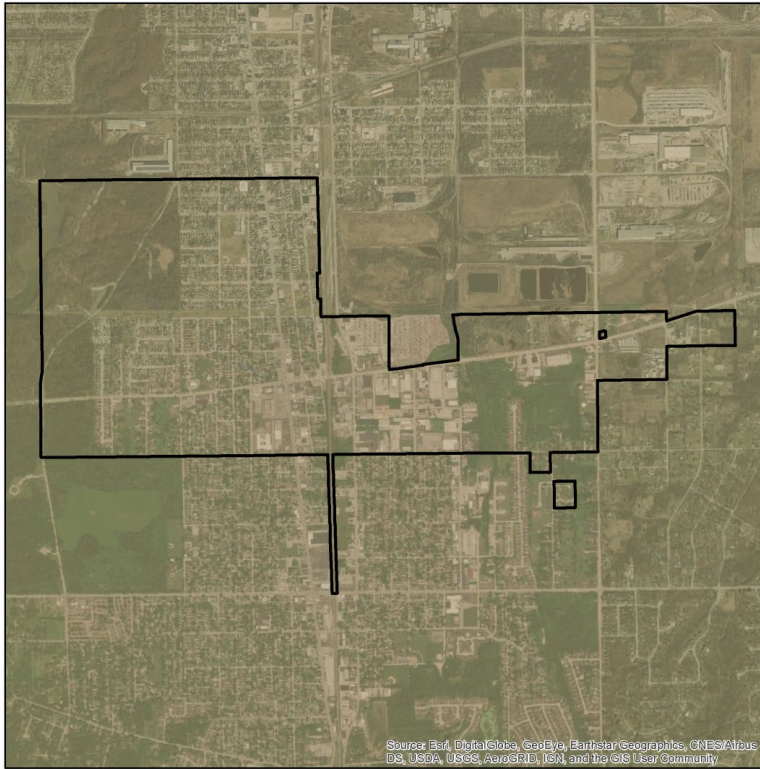
Data provided by the USGS Earthquake Hazards Program and Cook County.

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 100 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 combined 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 Hazard 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 SOUTH CHICAGO HEIGHTS

NATIONAL EARTHQUAKE HAZARD REDUCTION PROGRAM (NEHRP) SOIL CLASSIFICATION

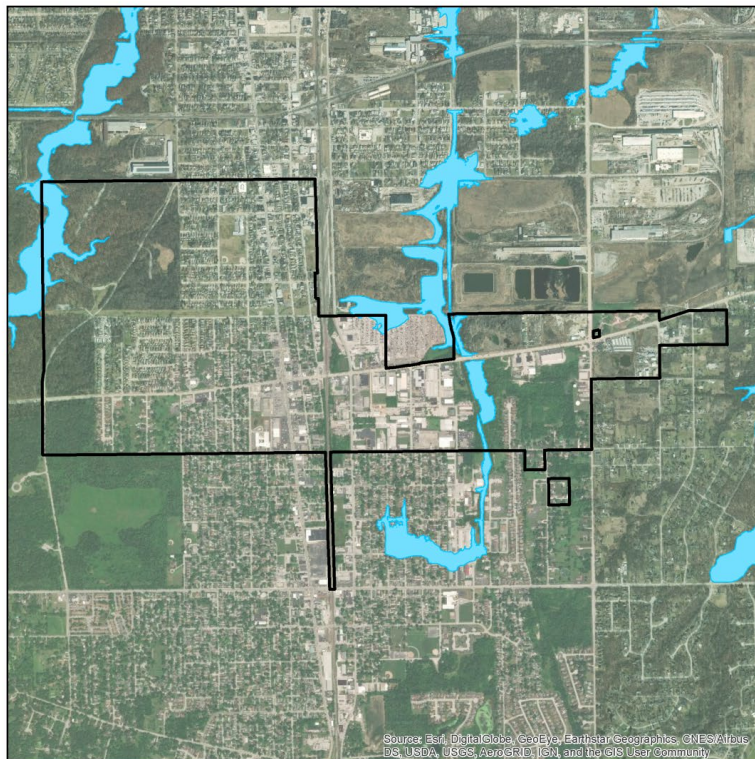
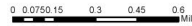
TYPE

- 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 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. Ferrell (2003) was the base map used for this work. Each State Geological Survey produced its own state map version of the Soil Site Class and Liquefaction Susceptibility maps. The procedures outlined in the NEHRP provisions (Building Seismic Safety Council, 2004) and the 2003 International Building Codes (International Code Council, 2002) were followed to produce the soil site class maps. CUSEC State Geologists used the entire column of soils material down to bedrock and did not include any bedrock in the calculation of the average shear wave velocity for the column, since it is the soil column and the difference in shear wave velocity of the soils in comparison to the bedrock which influences much of the amplification.

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VILLAGE OF SOUTH CHICAGO HEIGHTS

COOK COUNTY MWRDGC 100-YEAR INUNDATION AREA

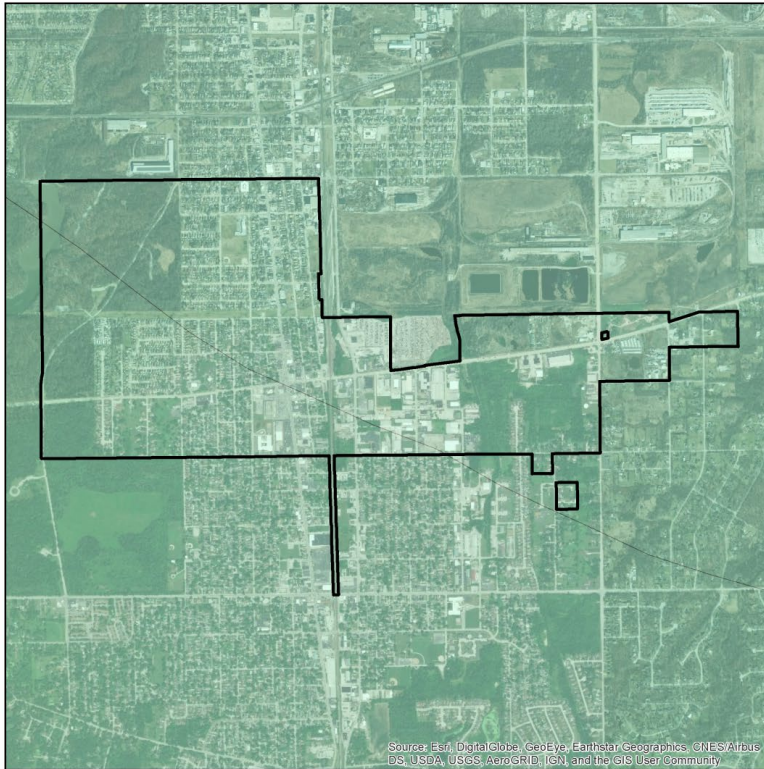
- 100-year Inundation Area

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

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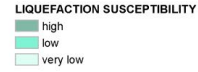
DISCLAIMER: The Cook County MWRDGC 100-year Inundation Map is provided to show general flood risk information regarding floodplains and inundation areas. This map is not regulatory. Official FEMA Flood Insurance Study information and regulatory maps can be obtained from <http://www.fema.gov>.





VILLAGE OF SOUTH CHICAGO HEIGHTS

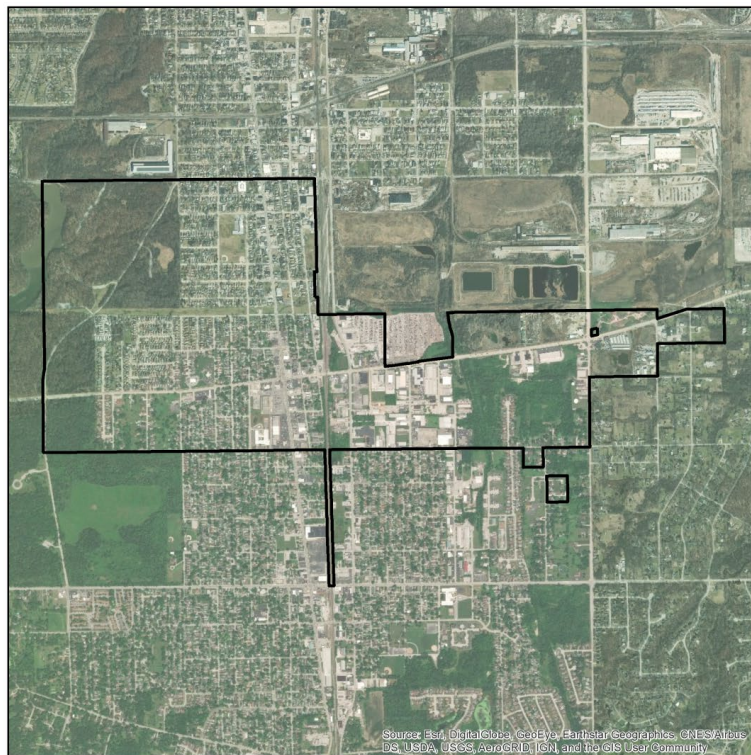
LIQUEFACTION SUSCEPTIBILITY



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

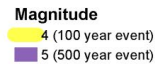
The Central United States Earthquake Consortium (CUSEC) State Geologists produced a regional Soil Site Class map (NEHRP Soil Profile Type Map), a Liquefaction Susceptibility Map and a Soil Response Map for the 8 states to be used in the FEMA New Madrid Catastrophic Planning Initiative Phase II work. The USGS Geologic Investigation Series I-2789 Map of Surficial Deposits and Materials in the Eastern and Central United State (East of 102 degrees West Longitude) by David S. Fullerton, Charles A. Bush and Jean H. Pennell (2003) was the base map used for this work. Each State Geological Survey produced its own state map version of the Soil Site Class and Liquefaction Susceptibility maps. The procedures outlined in the NEHRP provisions (Building Seismic Safety Council, 2004) and the 2003 International Building Codes (International Code Council, 2003) 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 SOUTH CHICAGO HEIGHTS

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.

