

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

Justice 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 1	Alternate Point of Contact 2
Matthew Zarebczan Director of Economic Development 8748 W. 82nd Place Justice, IL 60458 Telephone: 708-458-2130 Email Address: mzarebczan@villageofjustice.org	Kraig McDermott Chief of Police 7800 Archer Road, Justice, IL 60458 Telephone: 708-458-2191 Email Address: kmcdermott@justicpolice-il.org	Krzysztof Wasowicz Village President 7800 Archer Road, Justice, IL 60458 Telephone: 708-458-2520 Email Address: kwasowicz@villageofjustice.org

Jurisdiction Profile

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

- **Date of Incorporation:** 1911
- **Current Population:** 12,710 as of the 2018 US Census population estimate.
- **Population Growth:** Population has increased from between 5 and 9 percent between 1980 to 2010. From 2010 to 2016 the population was relatively stable.
- **Location and Description:** The Village of Justice, is a suburban community, bounded by the Village of Willow Springs, the City of Bridgeview, the City of Hickory Hills, and the Village of Bedford Park, all located in Cook County Illinois, approximately 15 miles South and West of the Chicago Loop. The Village has local access to I-294 and I-55.
- **Brief History:** The Village of Justice, incorporated in October, 1911, is a suburban community located in Cook County, Illinois. The Village grew along the route of Archer Avenue, which began as an Indian trail and is one of the oldest roads in Cook County and remains a key regional arterial roadway connecting Chicago to multiple surrounding communities. Justice began as a bedroom community with little or no business establishments. However, we are a growing community. The Village of Justice is now home to over 200 small businesses. Although there are no major industries in the Village we have several truck repair shops and body shops in our industrial park. Justice is widely known for Resurrection Mary - the ghost that inhabits Resurrection Cemetery located in the center of the Village. In addition, Resurrection Cemetery's Monument Building has the most stained glass of any building in the world.
- **Climate:** The Village of Justice is in a climatic region typified by large seasonal temperature differences, with warm to hot (and often humid) summers and cold (sometimes severely cold) winters. On average, the warmest month is July with the highest recorded temperature of 107 degrees in 1934. January is the average coldest month, with the lowest recorded temperature of -25 degrees in 1985. Precipitation is relatively well distributed year-round. Although snowfall is often deep, the most precipitation occurs from thunderstorms in May. The Village is in a tornado alley that is most active spring through fall.
- **Governing Body Format:** The Village is a non-home rule community that operates under a President/Trustee form of government with an elected Village President, Village Clerk and 6 Trustees. The Village has 6 departments including Administration, Finance, Police, Building, Public Works and Economic Development. Fire services are provided by the Roberts Park Fire Protection District and water is contracted from the West Suburban Water Commission. The Village of Justice's Board of Trustees assumes the responsibility for the adoption of this plan and will oversee its implementation.
- **Development Trends:** In recent years, development was limited to three Tax Increment Financing (TIF) districts where over 500 single family and townhomes were built and currently a new 10,000 square foot commercial building is being constructed. In 2009, the Village enlisted the assistance of a private firm to create the "Justice Vision Plan 2030" and in 2016 the Village Board adopted the 2016-2020 Economic Development Strategic plan to develop the Village into

the future. The plan describes the condition of the Village and suggests a development plan for the future. Existing properties available for development are sectioned into TIF districts for commercial development. Land use, planning, annexations, zoning, permitting, and ordinance review are being streamlined to facilitate development. A new Economic Planning Board has been created to pursue new development.

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	2012 IBC with amendments, 2016 Chicago Electric Code; 2011 Chicago Plumbing Code with local amendments; 2012 National Fire Protection Association with local amendments; adopted ordinance #2013-01 dated 2/11/2013.
Zonings	Yes	No	No	Yes	Municipal Code, Chapter 12
Subdivisions	Yes	No	No	No	Municipal Code, Chapter 12
Stormwater Management	Yes	No	Yes	Yes	NPDES permit Resolution 2003-04 dated 2/24/2003; modified 2/17/2012.

Post Disaster Recovery	Yes	No	No	No	Emergency Operations Plan (EOP), revised 2009
Real Estate Disclosure	No	No	Yes	Yes	(765 ILCS 77/) Residential Real Property Disclosure Act
Growth Management	No	No	No	No	
Site Plan Review	Yes	No	No	No	Performed by Village Engineer
Public Health and Safety	Yes	No	Yes	Yes	Cook County Board of Health
Environmental Protection	No	No	No	No	
Planning Documents					
General or Comprehensive Plan	Yes	No	No	Yes	Zoning districts only, ordinances 2004-24 dated 10/25/2004; 2005- 13 dated 5/23/2005; 2010-04 dated 2/22/2010); 2017-09 dated 03/27/2017
<i>Is the plan equipped to provide linkage to this mitigation plan?</i>					No
Floodplain or Basin Plan	Yes	No	No	No	Special Flood Hazard Areas Code of the Village of Justice ordinance #2008-28 dated 8/11/2008
Stormwater Plan	Yes	No	Yes	No	MWRD Detailed Watershed Plan NPDES permit Resolution 2003-04 dated 2/24/2003; modified 2/17/2012.

Capital Improvement Plan	No	No	No	No	
<i>What types of capital facilities does the plan address?</i>					N/A
<i>How often is the plan revised/updated?</i>					N/A
Habitat Conservation Plan	No	No	No	No	
Economic Development Plan	Yes	No	Yes	Yes	Justice Vision Plan 2030 and 2016-2020 Economic Development Strategic Plan (both in progress)
Shoreline Management Plan	No	No	No	No	
Response/Recovery Planning					
Comprehensive Emergency Management Plan	Yes	No	Yes	Yes	EOP, revised August 2009
Threat and Hazard Identification and Risk Assessment	No	No	Yes	No	Cook County DHSEM Preparing THIRA
Terrorism Plan	Yes	No	Yes	Yes	EOP Annex H
Post-Disaster Recovery Plan	Yes	No	Yes	Yes	EOP Annex A (Direction and control)
Continuity of Operations Plan	No	No	Yes	No	Cook County DPH
Public Health Plans	Yes	No	No	No	EOP Annex H (Health and Medical)

TABLE: FISCAL CAPABILITY	
Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants	Yes

Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes/with referendum
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes/with referendum
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	Unknown
State Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Other: Federal Sponsored Grant Programs	Yes

TABLE: ADMINISTRATIVE AND TECHNICAL CAPABILITY

Staff/Personnel Resources	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Building & Economic Development Departments/Village Engineer
Engineers or professionals trained in building or infrastructure construction practices	Yes	Building Department/ Hoefflerle Butler Engineering (Village Engineer)/ Don Morris Architects (Structural Engineer)
Planners or engineers with an understanding of natural hazards	Yes	Building Department/Public Works Department/ Economic Development Department/ Hoefflerle Butler Engineering (Village Engineer)
Staff with training in benefit/cost analysis	Yes	Economic Development Department/ Village Treasurer
Surveyors	Yes	Building Department/ Village Engineer
Personnel skilled or trained in GIS applications	Yes	Cook County GIS Consortium/ Village Engineer
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Bridgeview Justice Emergency Service & Disaster Agency
Grant writers	Yes	Director of Economic Development and Chief of Police

TABLE: NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE	
What department is responsible for floodplain management in your jurisdiction?	Building Department/Village Engineer
Who is your jurisdiction’s floodplain administrator? (department/position)	Building Department/Building Commissioner
Are any certified floodplain managers on staff in your jurisdiction?	Yes – Village Engineer
What is the date of adoption of your flood damage prevention ordinance?	The Special Flood Hazard Areas Code of the Village of Justice ordinance #2008-28 dated 8/11/2008
When was the most recent Community Assistance Visit or Community Assistance Contact?	April 10, 1996
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are.	Unknown
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?	Yes – Overall review of flood plain management issues including building and waterproofing requirements.
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 participation at this time. See Action Plan #5

TABLE: COMMUNITY CLASSIFICATIONS			
	Participating?	Classification	Date Classified
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	Yes	4/4	11/14/2005
Public Protection/ISO	Yes	3	Unknown
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: 0
- Number of FEMA-Identified Severe Repetitive Loss Properties: 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated: 0

TABLE: NATURAL HAZARD EVENTS			
Type of Event	FEMA Disaster # (if applicable)	Date	Preliminary Damage Assessment
Flash Flood	-	8/22/2014	\$50,000,000 in property damage.
Severe Weather	-	5/20/2014	\$50,000 in property damage.
Snowstorm	DR-1960	1/31/2011	\$44,454.41
Flooding	DR-1935	7/19/2010	\$250,000
Flooding	DR-1800	9/13/2008	\$175,000
Flooding	-	2/17/1997	\$250,000
Flooding	DR-1129	7/17/1996	\$250,000
Flooding	DR-997	4/13/1993	\$1,200,000

Jurisdiction-Specific Hazards and Impacts

Hazards that represent a county-wide risk are addressed in the Risk Assessment section of the 2019 Cook County Multi-Jurisdictional Hazard Mitigation Plan Update. This section only addresses the hazards and their associated impacts that are **relevant** and **unique** to the municipality.

Flood: The following areas within the Village are prone to flooding: 75th and Cork, Marion Drive, 71st St. ditch, IML canal, 90th St. ditch (in conjunction with Hickory Hills), 80th St., and Roberts Rd. to 82nd Ave (with Bridgeview).

Extreme Heat: The Village remains vulnerable to the impacts of extreme heat despite experiencing cold weather.

High Winds: The Village is susceptible to the impacts of high winds. Accordingly, the community would benefit from dead tree removal throughout the Village.

Snow: The whole Village is susceptible to the impacts of snow,

Blizzards: The whole Village is susceptible to the impacts of blizzards.

Extreme Cold: Currently, the Village has one (1) stock heating and cooling center for overnight and extended stays. The Village also has a power supply to shelters located at the Lipinski Center/School District and emergency centers.

Ice Storms: The whole Village is susceptible to the impacts of ice storms.

Tornado: The whole Village is susceptible to the impacts of tornadoes. The Village would benefit from relocating sirens.

Severe Weather: A semi was overturned on I-294 near the 82nd Street Toll Plaza. Scattered severe thunderstorms developed across northern Illinois producing mainly large hail with a few sporadic areas of wind damage. One storm in particular became quite intense as a right-moving supercell that tracked across the western and southern suburbs of Chicago. (5/20/2014)

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	Tornado	18
4	Flood	51
5	Earthquake	16
6	Drought	1
7	Dam Failure	0

Note: The ranking of hazards was subjectively changed based on past experience.

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 J1.1 —Modify landscape ordinance to encourage appropriate plantings within ComEd guidelines for planting near or under overhead power, phone, and cable lines.						
Ongoing	All	4, 10	Justice Bldg. Dept.	Low	General Fund	Short-term
Action J1.2 —Equip vital facilities with emergency power sources.						
Ongoing	All	1, 2	Justice Bldg. Dept.	High	Grant	Long-term
Action J1.3 —Enforce ordinances concerning snow removal and parkway maintenance requirements.						
Completed	Severe Winter Weather	1, 10	Justice Public Works	Low	General Fund	Completed
Action J1.4 —Upgrade Building Code Effectiveness Schedule.						
Ongoing	All	10, 11	Justice Bldg. Dept.	Low	General Fund	Short-term

Action J1.5 —Join Community Rating System.						
Ongoing	Flood, Severe Weather	10, 11	Justice Bldg. Dept.	High	Grants/Loans	Short-term
Action J1.6 —Obtain training for Building Department and Public Works in flood plain management.						
Completed	Flood, Severe Weather	1, 6	FEMA/Justice Bldg. Dept.	Low	General Fund	Completed
Action J1.7 —Partner with Cook County to build storm water projects.						
Ongoing	Flood, Severe Weather	1, 8	Cook County, Village of Justice	High	Grants	Long-term
Action J1.8 —Increase stormwater management training at residential levels.						
Completed	Flood, Severe Weather	1, 6	Justice Public Works	Low	General Fund	Completed
Action J1.9 —Upgrade and relocate tornado warning siren.						
Ongoing	Tornado, Severe Weather	1, 5	Justice Public Works	Medium	Grants	Short-term
Action J1.10 —Update Emergency Operations Plan post-disaster recovery plan for tornado and all severe weather events.						
Ongoing	All	1, 5	Justice Emergency Service & Disaster Agency	Medium	General Fund	Short-term
Action J1.11 —Where appropriate, support retrofitting, purchase, or relocation of structures in hazard areas to prevent future structure damage. Give priority to properties with exposure to repetitive loss.						
Ongoing	All	7, 13	Village of Justice	High	FEMA Hazard Mitigation Grants	Long-term (depending on funding)
Action J1.12 —Continue to support the countywide actions identified in this plan.						
Ongoing	All	All	Village of Justice	High	General Fund	Short- and long-term

Action J1.13 —Actively participate in the plan maintenance strategy identified in this plan.						
Ongoing	All	3, 4, 6	DHSEM Village of Justice	Low	General Fund	Short-term
Action J1.14 —Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.						
Ongoing	All	3, 4, 5, 6, 7, 9, 10, 11, 13	Village of Justice	Low	General Fund	Long-term
Action J1.15 —Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.						
Ongoing	Flooding	4, 6, 9	Village of Justice	Low	General Fund	Short-term and ongoing
Action J1.16 —Where feasible, implement a program to record high water marks following high-water events.						
Ongoing	Flooding, Severe Weather	3, 6, 9	Village of Justice	Medium	General Fund; FEMA Grant Funds (Public Assistance)	Long-term
Action J1.17 —Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or development.						
Completed	All	3, 4, 6, 10, 13	Justice Building Department	Low	General Fund	Completed
Action J1.18 —Consider the development and implementation of a Capital Improvements Program (CIP) to increase the Village’s regulatory, financial and technical capability to implement mitigation programs.						
Ongoing	All	1, 2, 7	Public Works/Economic Development	High	CIP component of general fund (if implemented)	Long-term
Action J1.19 —90th Avenue Ditch Storm Water/Flooding Project consists of tubing the 90th Ave ditch to provide erosion control, reduce flooding, consists of total roadway construction with guard rails. To be done in conjunction with Hickory Hills.						
New	Flood, Erosion	1, 2, 3, 9, 12	Justice/Hickory Hills	\$800,000; High	MWRD	TBD

Action J1.20—Justice Flood Control Program Project						
New	Flood, Snow, Ice Storms, Erosion, Secondary Impacts from Mass Influx of Evacuees	1, 2, 3, 7	TBD	\$5,000,000; High	Grants	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 #	# 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	Medium	Low	Yes	No	Yes	High
2	2	High	High	Yes	Yes	No	Medium
3	2	Low	Low	No	No	Yes	Low
4	2	Medium	Low	No	No	Yes	High
5	2	High	High	Yes	Yes	No	High
6	2	High	Low	Yes	Yes	Yes	Medium
7	2	High	High	Yes	Yes	No	Medium
8	2	Medium	Low	Yes	Yes	Yes	High
9	2	High	Medium	Yes	Yes	No	High
10	2	Medium	Low	Yes	Yes	Yes	High
11	2	High	High	Yes	Yes	No	Medium
12	13	Medium	Low	Yes	No	Yes	High
13	3	Medium	Low	Yes	Yes	Yes	High
14	9	Medium	Low	Yes	No	Yes	Medium
15	3	Medium	Low	Yes	No	Yes	High

16	3	Medium	Medium	Yes	Yes	No	Medium
17	5	Medium	Low	Yes	No	Yes	High
18	3	High	High	Yes	No	No	Medium
19	5	High	High	Yes	Yes	Yes	High
20	4	High	High	Yes	Yes	Yes	High

New Mitigation Actions

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

Action J1.19

<p><u>Mitigation Action</u></p>	<p>90th Avenue Ditch Storm Water/Flooding Project consists of tubing the 90th Ave ditch to provide erosion control, reduce flooding, consists of total roadway construction with guard rails. To be done in conjunction with Hickory Hills.</p>
<p>Year Initiated</p>	<p>2019</p>
<p>Applicable Jurisdiction</p>	<p>Village of Justice</p>
<p>Lead Agency/Organization</p>	<p>Justice/Hickory Hills</p>
<p>Supporting Agencies/Organizations</p>	<p>Hickory Hills</p>
<p>Applicable Goal</p>	<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.
<p>Applicable Objective</p>	<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. • Provide or improve flood protection on a watershed basis with flood control structures and drainage maintenance plans.

	<ul style="list-style-type: none"> Reduce natural hazard-related risks and vulnerability to potentially isolated populations within the planning area.
Potential Funding Source	MWRD
Estimated Cost	\$800,000
Benefits (loss avoided)	Reduce flooding and erosion for both the Village of Justice and Hickory Hills.
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
	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
X	Erosion
	Secondary Impacts from Mass Influx of Evacuees
	Hazardous Materials Incident

Action J1.20

Mitigation Action	Justice Flood Control Program Project
Year Initiated	2019
Applicable Jurisdiction	Village of Justice
Lead Agency/Organization	Village of Justice
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.
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. • Provide or improve flood protection on a watershed basis with flood control structures and drainage maintenance plans.
Potential Funding Source	Grants
Estimated Cost	\$5,000,000.00
Benefits (loss avoided)	Reduce and mitigate flooding for the Village of Justice
Projected Completion Date	TBD
Priority and Level of Importance (Low, Medium, High)	High Priority
Benefit Analysis (Low, Medium, High)	High Priority
Cost Analysis (Low, Medium, High)	High

Actual Completion Date	TBD
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Recommended Mitigation Action/Implementation Plan and Project Description	
Action/Implementation Plan and Project Description:	<p>This project is five part and all parts of equal importance:</p> <p>1-provide a new lift station with power back-up generators at 75th Street and Cork Avenue and the addition of a new forced main line storm sewer on 75th Street from Cork Avenue to Garden Lane.</p> <p>2-New storm sewers and underground storm water storage on Marion Drive from 82nd Avenue to Roberts Road. Project includes total road reconstruction with curb and gutter replacement.</p> <p>3-Improvements to the Justice Overland Flood Route Ditch which include the cleaning, deepening and widening of the ditch and securing the banks of the ditch to prevent erosion control.</p> <p>4-Improvements to the 71st Street Ditch which include the cleaning, deepening and widening, and erosion prevention of the ditch and creating a secondary culvert outlet under the railway for storm water to drain to the I&M Canal.</p> <p>5-Improvements to the Justice Ditch from 72nd Street to the 71st Street Ditch which include cleaning, the widening and erosion prevention.</p>

Mitigation Action and Project Maintenance		
Year	Status	Comments
2019	New	Village is currently seeking grant funding for project
2020		
2021		
2022		
2023		

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

X	Ice Storms
	Tornado
	Epidemic or pandemic
	Nuclear Power Plant Incident
	Widespread Power Outage
X	Erosion
X	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 J1.1

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.1	Modify landscape ordinance to encourage appropriate plantings with the ComEd guidelines for planting near or under overhead power, phone, and cable lines.	
Status Description: Yes	The Village of Justice has created an Ordinance Review Committee who has made modifications to the current municipal code and is awaiting board action to complete this task.	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 J1.2

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.2	Equip vital facilities with emergency power sources.	
Status Description: Yes	The Village has recently added additional emergency battery backup devices in the Building, Public Works and Police Departments.	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 J1.4

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.4	Upgrade Building Code Effectiveness Schedule.	
Status Description: Yes	The Village is still working towards completing this goal in order to measure the quality of local government building code enforcement and the quality of new construction. The Village of Justice has updated codes for new construction but is still working to complete this goal.	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 J1.5

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.5	Join Community Rating System	
Status Description: Yes	The Village is still working towards this goal.	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 J1.7

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.7	Partner with Cook County to build storm water projects.	
Status Description: Yes	The Village and Cook County have made improvements on Roberts Road in Justice by adding larger Storm Sewers in conjunction with road improvements to assist with flooding in this area. The Village used CDBG funding administered by the county to make storm water improvements with the reconstruction of roads. The action is completed but the village is seeking additional opportunities to work with Cook County.	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 J1.9

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.9	Upgrade and relocate tornado warning siren.	
Status Description: Yes	The Village is working to upgrade current infrastructure to new modernized smart city infrastructure which includes upgrading the tornado siren. The village has recently signed a contract with a vendor to work towards these improvements.	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 J1.10

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.10	Update Emergency Operations Plan post-disaster recovery plan for tornado and all severe weather events.	
Status Description: Yes	The Village is working with all local entities including the Police Department and Emergency Services the emergency plans and educates residents on the importance of emergency preparedness.	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 J1.11

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.11	Where appropriate, support retrofitting, purchase, or relocation of structures in hazard areas to prevent future structure damage. Give priority to properties with exposures to repetitive loss.	
Status Description: No	The Village has had no current reports of these structures but will take appropriate measures to fulfill this goal as necessary.	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 J1.12

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.12	Continue to support countywide actions identified in this plan.	
Status Description: Yes	The Village works closely with the county to support all countywide actions identified in this plan.	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 J1.13

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.13	Actively participate in the plan maintenance strategy identified in this plan.	
Status Description: Yes	The Village is constantly active in the plan maintenance strategy.	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 J1.14

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.14	Consider participation in incentive-based programs such as the Community Rating System, Tree City and Storm Ready.	
Status Description: Yes	The Village is exploring options based on funding capability to participate in the above mentioned programs. The village does promote programs for residents that are of no cost.	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 J1.15

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.15	Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements.	
Status Description: Yes	The Village of Justice currently follows the rules and regulations enforced through the MWRD and the I&I program. The public works department in conjunction with the village engineer are constantly working towards making improvements and providing public assistance and information on floodplain requirements.	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 J1.16

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.16	Where feasible, implement a program to record high water marks following high-water events.	
Status Description: Yes	The Village documents this information when feasible or contacted by the public of the issue.	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 J1.18

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.18	Consider the development and implementation of a Capital Improvement Program (CIP) to increase the Village's regulatory, financial and technical capability to implement mitigation programs.	
Status Description: Yes	The Village has established a short-term plan for capital improvements.	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>		

Completed Mitigation Actions

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

Action J1.3

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.3	Enforce ordinances concerning snow removal and parkway maintenance requirements.	
Status Description: Yes	The police, public works and code enforcement departments work in conjunction to enforce all ordinances concerning snow removal and parkway maintenance. Additionally, a deputy code enforcement officer has been added to ensure compliance. This action is completed, but will continue to be an ongoing goal.	C
<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 J1.6

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.6	Obtain training for Building Department and Public Works in flood plain management.	
Status Description: Yes	The Director of Public Works, Building Commissioner and Director of Economic Development attend seminars hosted by FEMA and the MWRD and the Public Works Director has become a certified storm water inspector. This action has been completed but is an ongoing goal.	C
<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 J1.8

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.8	Increase storm water management training at residential levels.	
Status Description: Yes	The Village joined the MWRD's rain barrel program and constantly provides information online and in the village newsletter to increase residential knowledge of good storm water practices and flood prevention. This is completed but will continue as an ongoing goal.	C
<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 J1.17

TABLE: ACTION PLAN MATRIX		
Action Number Action Taken Y/N	Action Item Description	Status (X, O, C, R, N)
# J1.17	Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or development.	
Status Description: Yes	The Village follows all FEMA regulations when it comes to building in a flood plain or flood way. These regulations have been adopted into the Village code.	C
<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>		

Future Needs to Better Understand Risk/Vulnerability

No needs have been identified at this time.

Additional Comments

Risk ranking (Table 1-7) ranks floods at 18% probability. This is based only on information reported to FEMA during events in our floodway area. However, it does not take into consideration unreported events in or out of our floodway areas and the costs associated with these events. Therefore, even though Table 1-7 reflects a 18% risk ranking for floods, it is more likely to flood in the Village than the probability of having an earthquake doing damage at 100% as the County estimates. The Hazard Mitigation Action Plan will include a higher ratio of issues for flooding than the table suggests are necessary. Please review the village area map where flood issues exist.

Hazard Areas, not included in the mapped floodway areas are shown on Figure 50-1. Flooding occurs in each of these locations upon normal rainfalls. The highest rate of incidences occur at 75th & Cork Avenue; along 73rd Place between Cork Avenue and 86th Avenue; and on Roberts Road at 83rd Street.

HAZUS-MH Risk Assessment Results

JUSTICE EXISTING CONDITIONS	
2010 Population	12,926
Total Assessed Value of Structures and Contents	\$1,403,688,542
Area in 100-Year Floodplain	182.04 acres
Area in 500-Year Floodplain	203.73 acres
Number of Critical Facilities	21

HAZARD EXPOSURE IN JUSTICE						
	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	692	213	\$50,742,176	\$25,371,088	\$76,113,26	5.42%

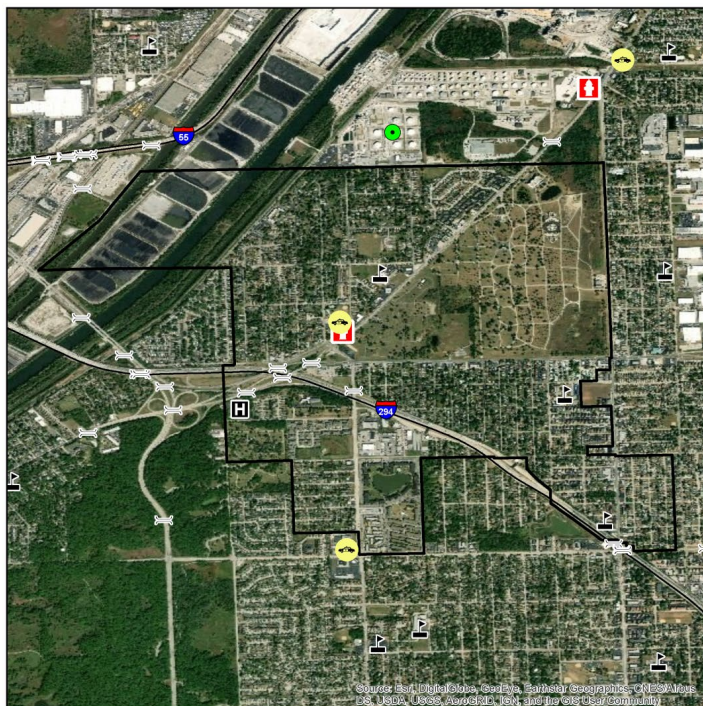
500-Year	790	24	\$69,575,410	\$34,787,705	\$104,363,116	7.43%
Tornado						
100-Year	—	—	\$252,431,443	\$132,342,606	\$384,774,049	27.41%
500-Year	—	—	\$374,297,464	\$257,111,896	\$631,409,359	44.98%

ESTIMATED PROPERTY DAMAGE VALUES IN JUSTICE

	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	\$20,866,495	\$6,430,931	\$27,297,426	1.94%
Flood				
10-Year	\$399,032	\$180,471	\$579,503	0.04%
100-Year	\$1,327,234	\$593,090	\$1,920,324	0.14%
500-Year	\$3,536,691	\$1,690,369	\$5,227,060	0.37%

Tornado				
100-Year	\$25,243,144	\$13,234,261	\$38,477,405	2.74%
500-Year	\$54,647,430	\$37,538,337	\$92,185,766	6.57%

Hazard Mapping



VILLAGE OF JUSTICE

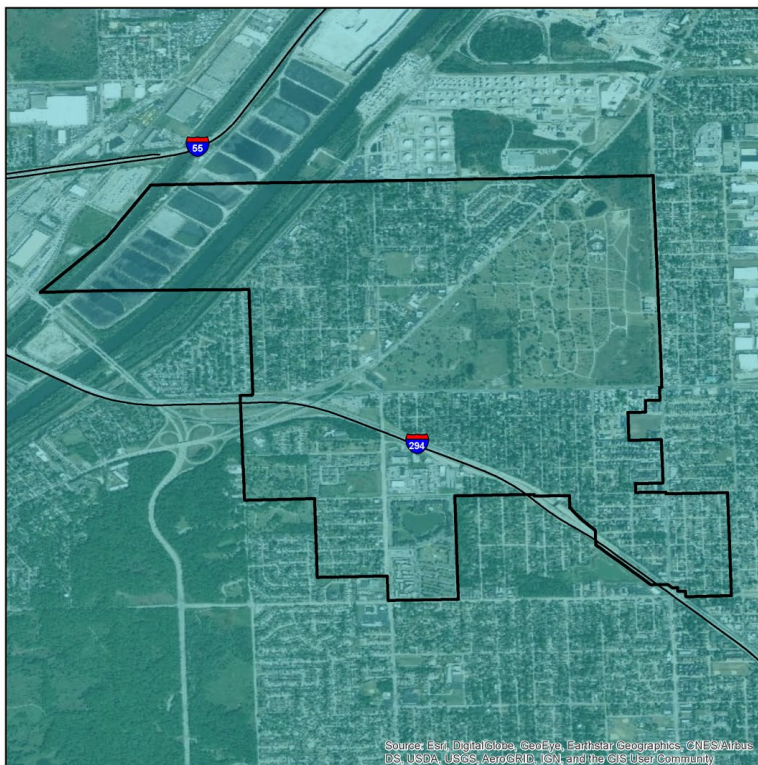
CRITICAL INFRASTRUCTURE

- 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 JUSTICE

PEAK GROUND ACCELERATION FOR A 100 YEAR EARTHQUAKE EVENT

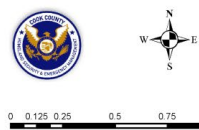
Mercalli Scale, Potential Shaking

II-III Weak

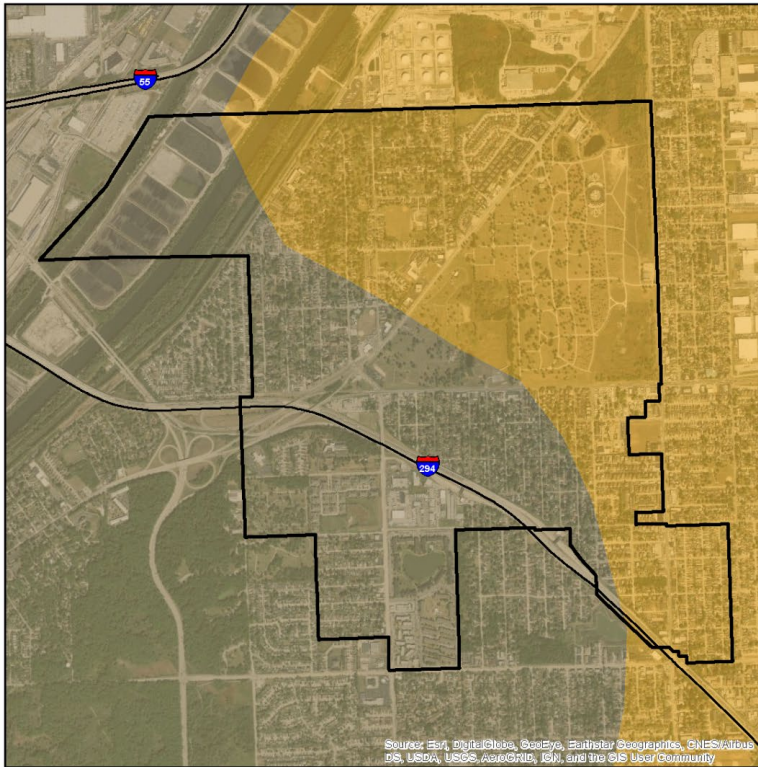
Data provided by the USGS Earthquake Hazards Program and Cook County.

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

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



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

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

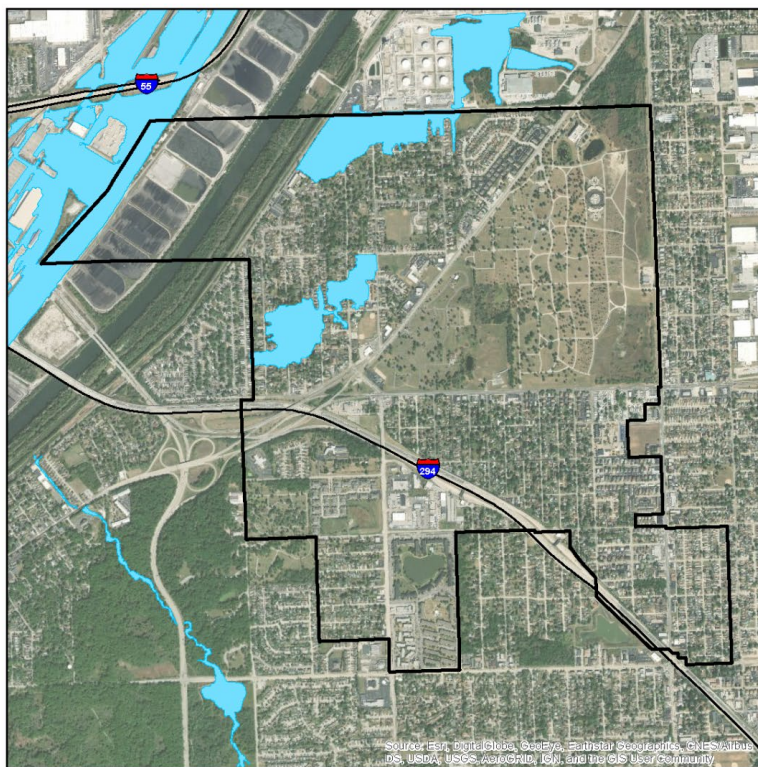
Data provided by the Illinois State Geological Survey and Cook County.

The Central United States Earthquake Consortium (CUSEC) State Geologists produced a regional Soil Site Class map (NEHRP Soil Profile Type Map), a Liquefaction Susceptibility Map and a Soil Response Map for the 8 states to be used in the FEMA New Madrid Catastrophic Planning Initiative Phase I work. The USGS Geologic Investigation Series I-2789 Map of Surficial Deposits and Materials in the Eastern and Central United States (East of 112 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, 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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COOK COUNTY MWRDGC 100-YEAR INUNDATION AREA

- 100-year Inundation Area

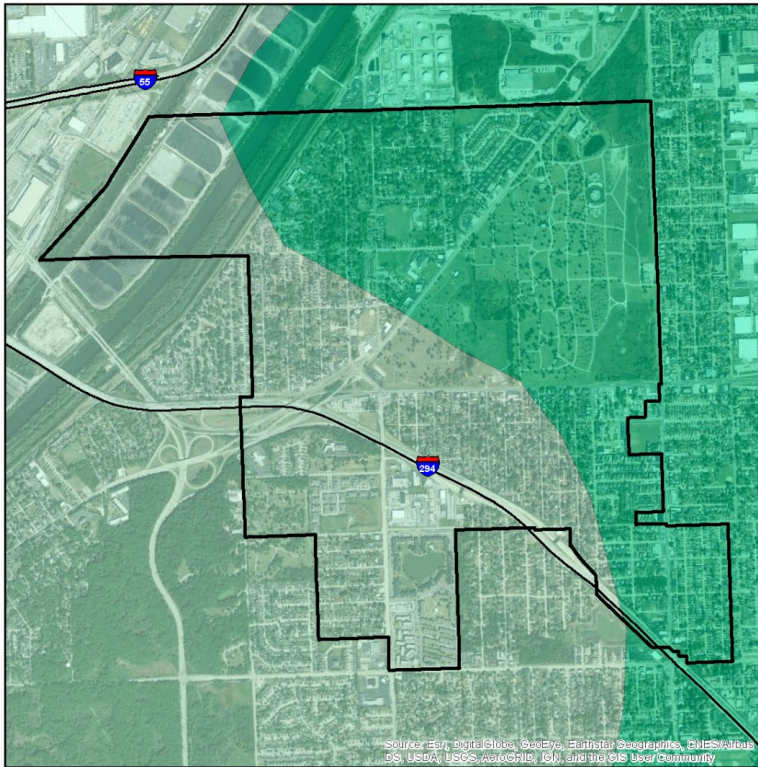
MWRDGC Data provided by Metropolitan Water Reclamation District of Greater Chicago and Cook County.

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



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



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LIQUEFACTION SUSCEPTIBILITY

- LIQUEFACTION SUSCEPTIBILITY**
- high
 - low
 - very low

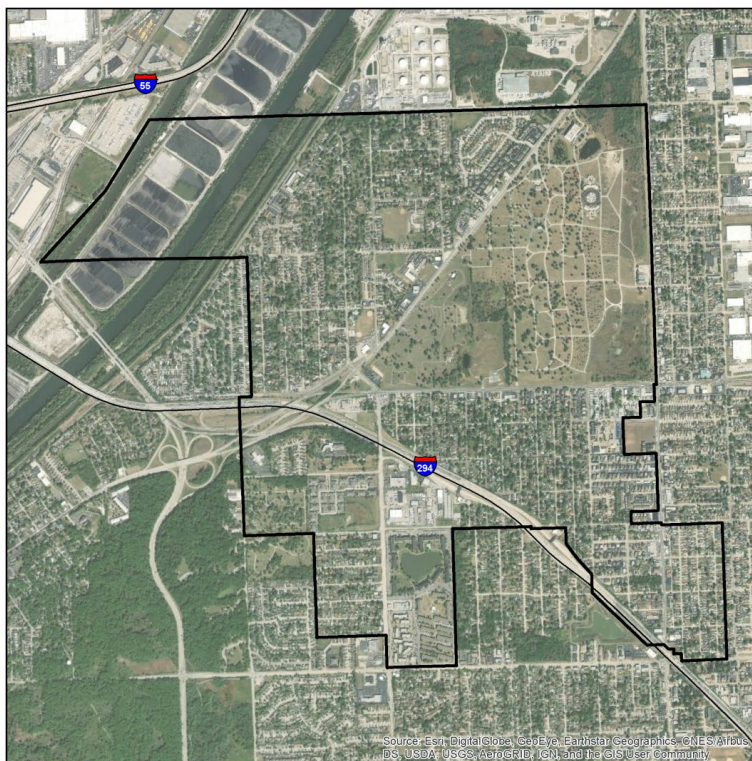
Data provided by the Illinois State Geological Survey and Cook County.

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

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VILLAGE OF JUSTICE

100- AND 500- YEAR TORNADO EVENTS

Magnitude

- 4 (100 year event)
- 5 (500 year event)

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



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