OFFICE OF THE MAYOR

CITY OF CHICAGO

LORI E. LIGHTFOOT
MAYOR

October 16, 2019

TO THE HONORABLE, THE CITY COUNCIL OF THE CITY OF CHICAGO

Ladies and Gentlemen:

At the request ofthe Executive Director of Emergency Management and-Communications, I transmit herewith a resolution authorizing adoption ofthe Cook County Multi-jurisdictional Hazard Mitigation Plan.

Your favorable consideration of this resolution will be appreciated.

Very truly yours,

RESOLUTION

WHEREAS, the City of Chicago (the "City") is a home rule unit of government under Article VII, Section 6(a) of the Constitution of the State of Illinois and, as such, may exercise any power and perform any function pertaining to its government and affairs; and

WHEREAS, The federal Disaster Mitigation Act of 2000 (the "Act") requires jurisdictions to adopt a hazard mitigation plan on a form approved by the Federal Emergency Management Agency ("FEMA") to enable local eligibility for future hazard mitigation grant funds; and

WHEREAS, The Hazard Mitigation Grant Program ("HMGP") is a program managed by the State of Illinois to administer funds from FEMA; and

WHEREAS, The intent of the HMGP is to reduce the risk of future damage, hardship, loss, or suffering caused by natural hazards by providing financial support to carry out cost-effective hazard mitigation projects and plans as required of state and local governments as a condition of receiving federal disaster and emergency management assistance; and

WHEREAS, proactive mitigation of known natural hazards before a disaster event occurs can reduce or eliminate long-term risk to life and property; and

WHEREAS, to maintain continued eligibility for FEMA mitigation grant assistance programs, the Act requires that a hazard mitigation plan be updated every five years; and

WHEREAS, in accordance with the Act's requirements, 121 Cook County jurisdictions engaged in the FEMA-prescribed mitigation planning process to prepare the 2019 Cook County Multi-Jurisdictional Hazard Mitigation Plan ("2019 County HMP") and its associated local hazard mitigation plan annexes; and

WHEREAS, the 2019 County HMP has been approved by the Illinois Emergency Management Agency and by FEMA's Region V, pending Cook County adoption; and

WHEREAS, pursuant to the Act, the City is required to adopt by resolution (i) the entirety of Volume 1 of the 2019 County HMP and the "Countywide Mitigation Actions" portion of Volume 2 of the 2019 County HMP, and (ii) the 2019 City of Chicago jurisdictional annex document ("2019 City of Chicago Annex") to the 2019 County HMP; now, therefore,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF CHICAGO.

The City:

1.) Adopts (i) the entirety of Volume 1 - Planning-Area-Wide Elements of the 2019 County HMP and (ii) the "Countywide Mitigation Actions" portion of Volume 2 of the 2019 County HMP, all attached hereto as Exhibit A, effective immediately.

2.) Adopts the 2019 City of Chicago Annex, attached hereto as Exhibit B, as the City's annex to Volume 2 ofthe 2019 County HMP, effective immediately.

3.) Will use the adopted and approved portions of the 2019 County HMP and the 2019 City of Chicago Annex to guide pre- and post-disaster mitigation of the natural hazards identified therein.

Exhibit A

Volume 1 ofthe 2019 County HMP

[see attached Executive Summary] The entirety of Volume 1 can be located on the

internet at: <https://www.cookcountyhomelandsecurity.org/2019-volume-1>

The "Countywide Mitigation Actions" portion of Volume 2 of the 2019 County HMP

This document can be located on the internet at:

<https://www.cookcountyhomelandsecurity.org/2019-volume-2-annexes>

Executive Summary

Published 7/15/2019 20 59 by Daiko Abe

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Hazard mitigation is the use of long-term and short-term policies, programs, projects, and other activities to alleviate the death, injury, and property damage that can result from a disaster. Cook County and a coalition of 121 municipal planning partners prepared and updated the 2019 Cook County Multi-Jurisdictional Hazard Mitigation Plan (MJ-HMP) in order to identify the risks posed by hazards and find ways to reduce their impacts. The plan reduces risk for those who live in, work in,"and visit the County.

Exhibit B 2019 City of Chicago Annex

[see attached]

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4.4 Chicago 2019 MJ-HMP Jurisdictional Annex

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Cook County Department of Homeland Security and Emergency Management (DHSEM) Website

4.4.1 Hazard Mitigation Plan Point of Contact

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Primary Point of Contact

Matthew Doughtie
Sr. EM Coordinator Chicago OEMC

1411 W. Madison St.
Chicago. IL 60607
Telephone 312-746-9462
Email Address mdoughtie@cityofchicago org
Alternate Point of Contact

David R Ramos
Deputy Director, EM Chicago OEMC 1411 W Madison St Chicago. 'L 60607 Telephone 312-746-9233 Email Address
david ramos2@cityofchicago org

4.4.2 Jurisdiction Profile

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

Date of Incorporation: 1837

• Current Population: 2,705,994 as of 2018

Population Growth: While Chicago experienced a population decline of over 200,000 persons between 2000 and 2010, the City's population has increased by .003% from 2010 to 2016.

Location and Description: The City of Chicago is located in northeastern Illinois at 41°59 N and 86°54 W, and at an altitude of 578.5 feet above sea level. It is the third-most populous city in the United States and is the county seat of Cook County. Chicago has often been called a global architecture capital and is considered one ofthe most important business centers in the world Positioned along Lake Michigan, the City is an international hub for finance, commerce, industry, technology, telecommunications, and transportation. O'Hare International Airport is the second-busiest airport in the world when measured by aircraft traffic, the region also has the largest number of U S highways and railroad freight. In 2012, Chicago was listed as an alpha global city by the Globalization and World Cities Research Network, and ranked seventh in the world in the 2016 Global Cities Index Chicago has the third-largest gross metropolitan product in the United States-about $640 billion according to 2015 estimates. The City has one ofthe world's largest and most diversified economies, with no single industry employing more than 14% ofthe workforce.

Brief History: Chicago's recorded history begins with the arrival of French explorers, missionaries and fur traders in the late 17th century and their interaction with the local Potawatomi Native Americans. The modern city was incorporated in 1837 by Northern businessmen and grew rapidly from real estate speculation and the realization that it had a commanding positorhn the emerging inland transportation network, based on lake traffic and railroads, controlling access from the Great Lakes into the Miss^rppi'Rtver basin. Despite the Great Chicago Fire in 1871, the city grew exponentially, becoming the nation's rail center and the dominant Midwestern center for manufacturing, commerce, finance, higher education, religion, broadcasting, sports, jazz, and high culture. Chicago is npy/ia highly uroanize&'area and much of its natural environment has been altered since its early development >^

Climate: The climate ofChicago is classified as humid continental, with alK6ur,seasons distinctly represented' wet springs, variably hot, humid summers; pleasantly mild autumns; and cold winters. Temperatures are at theNbvyest in the months of January and February, and the highest during the months of July and August. Chicago's weather has thelj^sence of LakeMichigan which influences the weather throughout the year. The highest official temperature ever recorded in Chicago was 105.°F"6h^uly,24^ 1934. The coldest official temperature ever recorded was -27°F on January 20, 1985. The yearly precipitation average is 36.89^inche^'Stiicago is prone to thunderstorms from spring to early fall. Heavy rainfall events can occur with thunderstorms and occasjpnal,,prolong^ed^sy'sterns. The average Chicago winter season produces 36.7 inches of snow, but these tend to vary. /{y^^^I
Governing Body Format: Chicago City government is diwdjed-intp executive and legislative branches. The mayor is the chief executive while the City Council, elected from 50 wards, is the legi^^^iD^y^^vSmment priorities and activities are established in a budget ordinance usually adopted in November of each year^jThe City'takes official action through the passage of ordinances and resolutions. In addition to the Mayor, Chicago's two other city-wide elecHe'd^fficials are'the City Clerk and the City Treasurer. The Chicago Police Department provides law enforcement and the Chicago Fire^Bepartment pfqyides fife)suppression and emergency medical services for the City and its residents Civil and criminal law cases are heard injhe Cook Countj^pircuit Court ofthe State of Illinois court system, or in the Northern District of Illinois, in the federal system. In the state court, the"pubHc prosecutor is the Illinois State's Attorney; and, in the Federal court, it is the United States Attorney

Development Trends: Chicago is a heavilyjurbariized city, with only 7.1% of its total land area classified as open space. The City has seen a large increase in its Central Business Distric^(SBD) population over the last 20 years. The CBD and adjacent neighborhoods are currently undergoing a building boom, with over $20 billion in "megaprojects" currently underway or in the planning stages. The Chicago Sustainable Development Policy has been continuously implemented since 2004. The goal of the policy is to enhance the sustainable performance of projects receiving City assistance. It requires development projects that are receiving financial assistance or special approvals from the City to include sustainable elements. The Policy has been a driving force in making Chicago a global leader in the green roof movement as well as the number of LEED certified projects. As of 2013, the City of Chicago had more than 500 green roofs totaling nearly 5.6 million square feet. More than 500 development projects have been LEED certified, which equates to roughly 180 million square feet. The City and its surrounding metropolitan area contain the third-largest labor pool in the United States with about 4.63 million workers. Illinois is home to 66 Fortune 1000 companies, including those in Chicago. The City ofChicago also hosts 12 Fortune Global 500 companies and 17 Financial Times 500 companies. The City claims three Dow 30 companies: aerospace giant, Boeing, which moved its headquarters from Seattle to the Chicago Loop in 2001, McDonald's, and Kraft Heinz. According to Site Selection magazine, the Chicago area has seen the most corporate headquarters relocation or expansion projects in the U S. for each of four consecutive years from 2013 to 2016.

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4.4.3 Capability Assessment

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The assessment of the jurisdiction's legal and regulatory capabilities is presented in the Legal and Regulatoiy 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 beiow. Infonnation 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

S tate o r ' ipyohibitipris;

Other Jurisdictional Authority

^^State^ftj

■V-?^5i.*""-'*':tyJ-!

Codes, Ordinances & Requirements

Municipal Code of Chicago - adopted 1939

In accordance with Public Act 096-0704, Illinois has adopted the IBC as its state Building Code

Municipal Code of Chicago - adopted 1939

65 ILCS 5/ Illinois Municipal Code.

765 ILCS 205/PLAT ACT as passed by Illinois State General Assembly

Municipal Code ofChicago, Chapter 11-18 (Stormwaier Ordinance) - adopted 1939

State regulates industrial activity from Construction sites 1 acre or larger under section 402 CWA.

Post Disaster Recovery

t?65ite^^^-ResideTTtiat-Rea1-Propertr Disclosure Act.

Municipal Code ofChicago - adopted 1939 (Chicago Zoning Ordinance, MCC § 17-1-0100 et seq , controls development in Chicago)

Municipal Code of Chicago - adopted 1939

Municipal Code of Chicago - adopted 1939

Municipal Code of Chicago - adopted 1939

Planning Documents

Chicago Central Area Action Plan

Chicago Sustainable Development Policy

CMAP ON TO 2050 Comprehensive Regional Plan

Yes

Floodplain or Basin Plan

Regional stormvvater planning is managed by MWRD.

Chicago Capital Improvement Program

What types of capital facilities does the plan address?					Transportation, parkland, lakefront/shoreline, municipal facilities, neighborhood infrastructure, sewer infrastructure, water infrastructure
How often is the plan revised/updated?					Annually
Habitat Conservation Pla	Yes	No	Chicago Mayor's Office	No	2011 Chicago Nature and Wild Chicago Wilderness Biodiversi Plan
Economic Development	Yes	No	Yes	•. Yes	The Chicago City Council revie development related programs incentives including tax incenti through the Cook County 6b P
Shoreline Management P	Yes	No	No		Lake Michigan and Chicago La Protection Ordinance, Municip Chicago § 16-4-010, et seq. ar Municipal Code of Chicago- ac (Chicago Zoning Ordinance, M 0100 et seq)
Response/Recovery Planning			. \		
Comprehensive Emerge Plan	Yes	:\VxNo?' xv	Yes		2018 City ofChicago Emergen Plan
Threat and Hazard Ident Assessment	Yes		■V Yes/>		2018 Chicago Urban Area THI
Terrorism Plan	No		/'No A •v >■ ^ v.\ /:'■;■>'	No	2018 City ofChicago EOP - Hu Hazards Annex
Post-Disaster Recovery	No	x!.Na:x ■/	no ,;	No	
Continuity of Operations	No	X\\-ii No	. . Yes	No ^xx	
Public Health Plans	Yes	;<^x/:-,,:>		■ ;':'.v:'-No-	Chicago Public Health Emerge Operations Plan

\\„<<v' **^ . STABLE: FISCAL CAPABILITY ^Xi-XX X.'X.**

Financial Resources C	**Accessible or Eligible**
Community Development Block Grants I-:I *y.}*	
Capital Improvements Project Funding X3".. /'/	
Authority to Levy Taxes for Specific Purposes ~ly	;'.y ■:T':.V':;-.; '-X'.■
User Fees for Water, Sewer, Gas or Electric Service	
Incur Debt through General Obligation Bonds	
Incur Debt through Special Tax Bonds	
Incur Debt through Private Activity Bonds	
Withhold Public Expenditures in Hazard-Prone Areas	*:' fi iM ■ j t ::'Mmi0^S*
State Sponsored Grant Programs	
Development Impact Fees for Homebuyers or Developers	

Other

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TABLE: ADMINISTRATIVE AND TECHNICAL CAPABILITY

Staff/Personnel Resources	Available?	Department/Agency/Position
Planners or engineers with knowledge of land deve	Yes	Planning and Development
Engineers or professionals trained in building or inf. ..	Xes	Buildings
Planners or engineers with an understanding of naf .	Yes . ; ■	Transportation, Buildings, Water Management
Staff with training in benefivcost analysis	*y^'Yei;^;:.*	Budget and Management
Surveyors	:)? ᵣ YS5-N.: ^	Transportation
Personnel skilled or trained in GIS applications (a)	tX'.Y^T'X	Innovation and Technology, Police Department, Planning and Development
Scientist(s) familiar with natural hazards in the locai	§:ˉYrj|;;|	
Emergency manager (b)	V-p^... ■ . v;J	Office of Emergency Management and Communications
Grant writers	*A /:-V*	Office of Emergency Management and Communications

a. All partners have access to Cook County GIS Consortium as a technical resource. b If your jurisdiction does not have an emergency manager, Cook C

/y

TABLE: NATIONAL FLOOD INSURANGE,PRg6rAM COMPLIANCE

What department is responsible for floodplain management in your jurisdiction? ^S^.C	.DepLof Buildings••:
Who is your jurisdiction's floodplain administrator? (department/position) ^i^jv^ Nt?	•AndrewBjljing.-PE^ *^Dep &rt^"*
Are any certified floodplain managers on staff in your junsdjctipn? l,;/	
What is the date of adoption of your flood damage prevention orc|inance?N^	
When was the most recent Community Assistance vljsjtjor Co^r^n^vr^s|jstance Contact?	
Does your jurisdiction hav tti-^' "1 . ■ ■ •-^£ ^- ■	
so,please-state what-they are. ---y<^--^^^- -	
Do your flood hazard maps adequately address the flood'Visk within your jurisdiction? (If no, please state why) ^1	*Yes ./'•••: ■^^-■■rZA'^y*
Does your floodplain management staff neecVariy assistance or training to support its floodplain management program? If so, v	
Does your jurisdiction participate in the Community Rating System (CRS)? If so, is your junsdiction seeking to improve its CRS	'N62ChicagO;is;interested CRSjiprog^

TABLE: COMMUNITY CLASSIFICATIONS

	Classification	*ft-D'ate;CiassTfie^ ft*
Community Rating System	*;^.^'-•j^^:•^;»;jV^^^<!'*■':■;* *"wz*	
Building Code Effectiveness Grading S	■ ;':.;,wNo v	
Public Protection/ISO	1	

StormReady

Tree City USA

Gold (Countywide)

*yvy-^0^3^y^*

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4.4.4 Jurisdiction-Specific Natural Hazard Event History-

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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 60 (Non-Mitigated) 37 (Single- Family), 15 (Other Residential), 8 (2^t Family)
- Number of FEMA-Identified Severe Repetitive Loss Properties 0
- Number of Repetitive Flood Loss/Severe Repetitive Loss Properties That Have Been Mitigated 2 (1 Other Residential, 1 Single-Family)

TABLE: NATURAL HAZARD EVENTS

Type of Event	r:FEMA·pisaster Number (if applicable	Date	^i'rpreiimiharyS^
Severe Weather		7/24/2016	
Flash Flood	;:.v.'. ■ ,•■,.,.'%?{	7/24/2016	
Severe Weather		6/22/2016	><fa.-i,ar;.j.iM?.-T!.,[.SL wtf[~w3f. :- •.: • am/\
Hail		4/25/2016	' !'A '.,'£-.l?':*i"~>y'. ■ ^.'t-/.■■.r.^i',.-5.'.'•'<:.-'? ■'.■(. ;..^--.. - '■' -.i-.-^-j-^^.^c^,v.^ -^".^;'.i::-. ^.. .-.i.',,i:y
Severe Storms, Straight-Line Winds and Flooding	·'y0&0£y'-· DR-41.V6 --x X ■	4/16/2013 ,->	
Extreme heat		7/4/2012^	{'.■ ' t ■; 'Of* V.i':· ■■ ':V.·i<·-:
Severe Winter Storm and Snowstorm			' ·£-^R'·::\^;-i";'v^xvx^-;
Severe Storms and Flooding		/<' 7/19/2010	
Severe Storms and Flooding	■-•/v..;,. iDt- J.x .vs.. . :. a&zw'l <:■."'^9/-1,3/2008 V.\		
Severe Storms and Flooding		^^720/20007	
Severe Winter Storm	, 7Vx ... Eiyi-3^^%	Y 12/11/2000	
Winter Snow Storm		1/1/1999	
Flooding		8/16/1997	
Flooding		7/17/1996	
Extreme Heat		7/12/1995	
Flooding and Severe Storms		4/13/1993	
Severe Storms and Flooding		8/13/1987	
Severe Storms and Flooding	::,.Xx/\/n	9/21/1986	· '\A;>;·: ■■'r.v'fi?'i^^j'^i;;'.;-- "^■i[i]?-/®·r
Severe Storms, Flooding, and Tornadoes		6/30/1981	
Blizzards and Snowstorms		1/16/1979	
Severe Storms, Flooding, and Tornadoes		6/18/1976	

Jurisdiction-Specific Hazards and Impacts - Chicago Dept. of Aviation

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.

- Dam/Levee Failure: Dam failure concerns at Touhy Ave.

- Flood: Tunnels and I-90 are susceptible to flooding

The following capabilities may be needed to further mitigate the impacts of these hazards:

- Lightning: Lightning detection system DRAFT
- Hail: Emergency notifications

° Extreme Cold: Back up of all heating systems
ˢ Tornado: Siren system upaates PA system upgraae Visual alert system

Jurisdiction-Specific Hazard sand Im pa c.ts_^_C D P H _

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

- Flood: Limitations with sewer system size and capacity for water runoff Lakefront erosion, and potential loss of East N/S evacuation road ci <;n\
- Extreme Heat: Long-term care ana senior living facilities lack eiectnc panel conversions to receive external power source/generator power
- Drought: There may be a need to enhance water distribution networks
- Extreme Cold: Lack of overnight housing for the homeless population or sustained sheltering

= Disease Transmission: Chicago has a very transient visitor population There is a greater need for a global early warning system to mitigate/prevent infectious disease transfer (Aviation, Rail, etc) Lack of isolation/quarantine housing for patients under investigation (PUI) for high consequence disease exposures (SARS, Pandemic, Ebola, etc)

Jurisdiction-Specific Hazards and Impacts - DWM

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

- *Flood: Flooding certainly has been a problem and mosi likely will continue in the future DWM resources have been maximized to provide mitigation for communities that are flooded. jfy*
- Extreme Heat: Historically, prolonged extreme heat incidents has severely impacted the senior/elderly population in the City
- High Winds: High winds have made many households vulnerable to power outages.^^^
- Snow: Snow and extreme cold have historically affected the City; and depending qr£the seventy, has even shut down the City.
- Extreme Cold: Extreme cold incidents uniquely impact the City. Recent extrerne^cold indderiferesulted in water services being frozen throughout the City. DWM and private contractors continued to abate the probjem.

Jurisdiction-Specific Hazards and Impacts - Dept. of Water Manaqemert^^^^^^

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

ᶜ Flood: The wards in the southeast side of the City often struggle tjyrecw.e^fcjrnjproperty damage. Non-English speakers have a harder time getting information regarding basement flooding initiatives^ "Alert^Ghrgago". Sewers can be impacted by urban flooding and overflow.
- Extreme Heat: Hydrants being utilized during an extreme*heat incident'could adversely affect the City from suppressing and managing fires
- Snow, Blizzards, Extreme Cold, Ice Storms: Those dependent on^ublic transportation are at greatest risk (food, work, appointments, medical, etc.). Senior citizens in the City are alsp^very vulnerable.^esiijents in Chicago may be susceptible to frozen pipes during an extreme cold incident. Response times for maintenance cre^s^ighl'b^orjgeP

JadLaacWighJWindsyQisss^CMiaf^^ - *- Lightning and Severe Sforms–Loss,oT/p6wef.˙could"affect the~operational viability of pumping stations

Jurisdiction-Specific Hazards and Impacts - PWIW | |

Hazards that represent a county-wide risk are^addressedfin the Risk Assessment section ofthe 2019 Cook County Multi-Jurisdictional Hazard Mitigation Plan Update. This section only addresses thC/tiazards and their associated impacts that are relevant and unique to the municipality.

° Extreme Cold: During an Extreme Cold incident, many in the City may not have access to water if water services are adversely impacted by the cold (i.e. frozen lines, etc.).
• Tornado: During a tornado or other severe events that result in a loss of power, may be unable to treat and pump water to citizens

4.4.5 Hazard Risk Ranking

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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		Risk Rating Score (Probability x Impact)
1		54
2		54
3	■;■ c'.yTornadq v„-'; ■:.	•36
4	■:'.>■ '^jEarthcj uake^^f..;.',:; .•	18
5		18
6		18
7	.: ; "• .v , "^Dam-i^ajiQr^	6

DR.AF[T]

A 4 6 MitiCj3tlG[1]"! >T3 t3Q i^S 3nci A~^mC^S

The heart o[f] the mitigation pian is the mitiganon 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

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 (he 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

Estimated Cost
Timeline/Projected Completion Date (a)

'Actiqn-C/rt.^Vyh'ere^
damage:; Gi^ repetit'^ V:Vi^^i-"--'^

FEMA Haz Mitigation Grants

Short- and long-term

Actibn C.34^ctively :p

ChicagoOEMC

J^jtibjn^.:'4^ jree'City.vand Stpr^

5. 6. 7. 9. 10. 11. 13

\;\ Sf City of„G|iicago

Action Cifc^oritiriue to rhaintairi.the minimum iNatiQ.gaf Fjobdd^u'raneel^gl'am^articip^t mapped:-- ;' ;

-Short^errti and Ongoing

^ctipn C:.6^lrite.gfafe';th

!>.£, 6, 10, 13'7

Actibn C.T^T^qmplet^

Complete

■Attioh^

MWRD

^c^idn C:9^^bntiriu

Hooding, Severe Weather
Buildings, Planning & Development
Long-term and Ongoing

!Actipn-:p:4^ oftlTe-'Gree'h.Stomvvafe
^conserving,wafe/\;greening ^er'operations,^an^'^statr^bVlHtlni^ir^itprrfjivaterV•>:«>;.:i;;^.'f-Xi.■ v'. ^^:^-^ ■ ^■ ■•;';^,;-;' ;;":';V

Buildings, Water Management

■Action':'^
intothe;'sewer'system. ' ' • ' _ -X •'.:'•': ■'■^■."■'^^-■■?vXx;:S:^-:.'-"V ■ ■U'.'!o>Vrr-:'\^V.;-':.:?':;X:^'V':i'-

Dept of Water Management

Action G;12-^^o.ntinue implemeh $<i'$ iMi^igaasfibVeline and

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Ongoing	Flooding	2. 3. 4. 8 9. 13	USACE, Park District	Medium	USCAE, IL Dept of Natural Resources	Long-term/Ongoing
Action C.13-Continue implementation ofthe RainReady Program, which provides individualized services to help homes and communities reduce their flood risks.						
Ongoing	Flooding	2, 3, 6. 8. 9, 10	Center for Neighborhood Technology	Low	CNT	Long-term/Ongoing
:Ac|i<6^ implementation ofthe Metropolitan Water Reclamation District of'Greater.C Rc's'e^ . . ' :'„.■;■,...".. . •.■ . ';.' :'. v...:- V..^t^:^						
Ongoing	Flooding	1, 2, 3, 6, 9, 12, 13	MWRDGC	Medium	MWRDGC, ACOE	Long-term/Ongoing
^^^^\^^'^gye'itb expand,,the u sage and .capabilities of the Cityjsj^^ ^!:?;vjs|?^^^^^						
Ongoing	All	4, 5, 6, 12	OEMC	Low	Corporate	Long-term/Ongoing
^^fiir^n^SB^Gp^ usage and-capabilities!pf the dty^^ev^se^						
Ongoing	All	4, 5, 6, 12	OEMC	Low	Corporate	Long-term/Ongoing
Abtjpl^Ml^^ ' :-:::X^'i^!d|%^'|^^						
Ongoing	All	4, 5, 6, 12	OEMC	Low	Corporate	Long-term/Ongoing
Ongoing	All	4, 5, 6, 12	OEMC	/■Low	Corporate	Long-term/Ongoing

^b^brijii.l 9^0b'htin

Ongoing	Flooding	2, 3, 4, 9, 12, 13	CDOT^I^'	^L0W	^General Obligation Bond	Long-term/Ongoing
A,ction'l6i;20^ ^aridMnfiltratip'n.bf-stbrmw^ ^^j'^^^^^yy'/fr&ii.'-'-'":'v ^				aifcgariaehsVthro^		
Ongoing	Flooding	2, 3,4,9, 12, 13	DM^/eDl&T^	yX/ Low	Corporate	Long-term/Ongoing
Action'.e^						
Ongoing	All	2, 4, 8, 12//-'		Low	Corporate	Long-term/Ongoing
New	Flooding	9	^ ItflWRD	TBD	TBD	TBD
•ActipJi'Cx??^^ X;;X"vX rieighborhop^ J'X':v -:'/■.X-VMAX			.'• '"Vi- :- ■'■'v'.'.:', "/X^ V" »--^V-X:			
Ongoing	Flooding	'^,<3, 6, 8, 9, 1'p j	DWM	Low	Corporate	Long-term/Ongoing
-A'c-^rf^ri^^hcpurage the development^ *headquartered in Chicago.-.':y/'y^'^^fc'*		*r:/V^;^.,:->v'JX*	the-Cihjeagp-area's la^ *companies fr---rXv>H&v'.,:>*	:- . *^KyA'y^if^*		
Ongoing	All	1	OEMC	Low	Corporate	Long-term/Ongoing
Ongoing	Flooding	2, 3,4, 9, 10, 11, 12	Buildings	Low	Corporate	Long-term/Ongoing
•A'cijbrf^.'^						
New	All	5	Aviation	$250,000 per year; Low	Aviation Funding	2021
•/Vcitidj^						
New	Extreme heat, lightning, fog, high wind, widespread power outage	13	City ofChicago, Chicago Department of Public Health	High	Grants	TBD
ii^ip^-i^ii^^iilife^ ;^;X :-?^JK";.~Z V:fesV:J^-:5";;,'v^			r"-^:1^^'- ■■^ :			
New	Flood	8	Illinois Section AWWA	Low	Existing budget, TBD	Ongoing
;ftpti^|;&9i^r^						
New	Widespread Power Outage	2	DrWT	Low	Capital funding	2019/2020

Action C.30-hnhance Storm Water Management through the installation of bioinfiltration systems.

New	| Flooding	0 Low	] Chicago Housing	| Varies per j	Authority	Grants, capital budget j 2020

Action C.31-Install a solar PV system connected to ComEd's Bronzeville Microgrid.

New	Widespread power outage	1. 2, 12	Chicago Housing Authority	$3,000,000, Low	Grants	2019
■Action)^ ■^yiyypy			*";* , :	*XX"-%>-v;-- .y$£j ■*		
New	Flood	9, 13	DHSEM	TBD, Medium	Grant Funds	TBD
Action'®;??^ *fire'hquse.* ;		generators that: cpuid-prpyiSe'po *indude.qjJick co -V.^:;VV;;-:^v ."Ai^'T^^i-:^'^S'i..^^i^y y^S^:-" y.§§^:]>*				
New	' All	1, 2, 12	Chicago Fire Department	$250,000 or more; High	Grants	2021
New	Extreme Heat, Widespread Power Outage	12	Chicago Fire Department	Less than $100,000; High	Grants	Unsure
Actip'ri'C^ii^						
New	Hail, High Wind. Snc Blizzard, . Extreme Cold, Ice Storms, Widespread Power Outage	12	*Chicago Fire Department .*	// yf^boye <pioo^®o. • High^	Grants	2021
New	All	1,2	Chicago Fire N^. < Department^ ^	f Greater than v $300,000; High	Grants	2019

'•^ctip'mC^f^'rn^ Ra"rtc>Stsimy#afeV^^

Completed	Flood	*g /v"~ //*	>v WX SA MWR	$70,655,320	MWRD Contnbution. $25,920,000	Completed 4/25/18
New	Flood	13XS>v	I\ MWRD	MWRD Max -Contribution (through 2022), $16,000,000	TBD	TBD
^tiori&VSfeLaii^^ >'i				:"f;iJ&yv- S<-> t^>'^.-t^%		
New	Widespread Power Outage	8	MWRD	MWRD Contribution; $400,000	MWRD	TBD
^tjbr^^jrj^^ace						
New	Flood	13	MWRD	TBD; MWRD (Max Contribution: $16,000,000)	MWRD, Chicago Public Schools, City of Chicago Department of Water Management Hc-rX 'i	2022
-Action ;C^4l4^Pre^ iC'^V: ; ;						
New	Flood	13	MWRD	TBD	TBD	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.

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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 ' r
2	13 . ' -	Medium	Low	Yes	No	Yes	High./.- . •
3	V.Tv/;3.	Medium	Low	Yes	Yes	Yes	, :HjghV^_;
4	m ?.;v., a'-.'..	Medium	"."Low "^f!	Yes	I>No*'v;..;	Yes	■' >~iVi ↓v
5		Medium	Low.	Yes		Yes	,:V-\S' * "WKt7'. '• ^; High;?;.v;.
6		Medium	Medium;.;:..;	Yes		No	Medium'.:.:
7	•!^S^;:5	Medium		Yes	"•:-.-rKNb"'^;V; '-.'7-..«%/..;!-■. -jv.v: ■ s- -	Yes	
8		High	;:,; -p. M ediu m:>%*	Yes	'^.•. :^■.'■'.M'f<"pl'*'•^».•"■ ■■■ ■■	Yes	
g		High	.Lpw.!>.:.:;.r;	Yes		Yes	
10		Medium	' . ^ JLows'/'H'	Yes		Yes	. Medium^-ft
11		High	'§$1111 1	Yes		Yes	^^Mediumffin:S
12		Medium	VV ■.-"!ir'~;fT·.r'".rTri't	Yes		No	•i.n;-I^w$_{i>·)}$.
13		High	.' II7; v	Yes		Yes	•High-". . "" ■
14		Medium		Yes	^^./J'v^es^-^;.:	Yes	
15		Medium	*iLovv'. -i^i* v .-I"-.,		'·.AW-' si.rwit,--I.'.	Yes	-'■ ^Medium'L·'-
16		Medium				Yes	■. Medium
17		Medium	Low!.: \	Yes '\ x		Yes	,: : ;-Med|um: '. ':

18		Medium	! ᵛLpVH"^		.;K. ⁵'Vgs";	Yes	v.;.:;Me^iSm.<'':
19	-^..'•.•6.:; :vx'-»	Medium	V ;'-:.'^W |c|?::	1.	;;g'^Nb:::-r;.:	Yes	
20		Medium		ffYes	;;^^?Nbv: V;.-':	Yes	. iMeSium-
21		Medium				Yes	. Me&ium■.:;.•>■•
22		TBD		igC^TBD		TBD	
23		Mediujrr^		Yes	5!^^NolP^	Yes	ᵢMed!_urn^,,
24		TBD'		TBD	^fiv'3p3:.i;-: :">'	TBD	"TB^T:'"
25		' TBD		TBD		TBD	... ..fBg^}, .
26		Hign>ₓ		Yes	' :-ᴵ'^viNo,:- ^/	Yes	
27		High \£	|F ^ig^r;';;	Yes		No	
28		Medium	:;:P-;':5iL0W^;';	Yes		Yes	••.'tLoWfc,'; r'
29		Low	LOW. ■.	Yes		Yes	: r.:m:,V
30		Medium	. . ..-..:••• ••.< Low':>••:•••-.	Yes		Yes	
31		Medium	:>;r.-\ ■ :<;. ~.,v.n,.: c:, :V: f'.-;;:;.MowJ	Yes		Yes	
32		Medium	.-i.-:-.:. .Mediiifn.; ";^;	Yes		Yes	.Medium.'.'.
33		High	r;;;7:'r|gh^g-	Yes		No	" 'Mlaiufn;^:,'.:.'
34		Medium	: ,^t" ■ . , High	Yes		No	
35		High	" ' * HjghV'V "	Yes		No	' Medjum' '
36		Medium		Yes	■;:iiwiv	No	■ : :jr|kjh"/
37		TBD	:-V.-:t§P ,7:;.'	TBD	;" ^i.flO): ? :V	TBD	
38		TBD		TBD	, TiBD ;. '	TBD	
39	^■■/' ¡:; '?V^	TBD	L'_ •.tbFⱼK :.	TBD	' /'•TBD'-;.'	TBD	.V;.v5iB|nJ:t 3
40		TBD		TBD	'v'.'^fBpi ;;V;,	TBD	' ■ \-T;b1;?;-P:
41		TBD		TBD		TBD	

(a) See Chapter 1 for explanation of priorities.

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4.4.6.1 New Mitigation Actions

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The following are new mitigation actions created during the 2019 update

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jMitigation Action	Implement the Green Infrastructure Project. Barbara Vick Outdoor Classrooms
Year Initiated	2019
Applicable Jurisdiction	City of Chicago
Lead Agency/Organization	MWRD

Supporting Agencies/Organizations	Chicago Public Schools - Barbara Vick Early Childhood and Family Center .
Applicable Goal	• Develop and implement sustainable, cost-effective, and environmentally sound risk-reduction (mitigation) projects
Applicable Objective	• Encourage hazard mitigation measures that result in the least adverse effect on the natural environment and that \ use natural processes i
Potential Funding Source	TBD
Estimated Cost	TBD |
Benefits (loss avoided) [1]	*TBD <*
Projected Completion Date	Tqn j
Priority and Level of Importance (Low, Medium, High)	TBD <^
Benefit Analysis (Low, Medium, High)	
Cost Analysis (Low, Medium, High)	TBD W ;
Actual Completion Date ;	TBD VV-CT^ 'Ox !

Action/Implementation Plan and Project Description:	*ID CPS-Barbara Vick // jj* II

Year::.j..iy::';'Y'J;;!^	stMisv,-.;^^:---•'.• f^mmcrits' ■ 'r'Tyyr"";:• ... •'"•>:./' ;yp~y::y ^;;]r7™j
201S |	New \\ \ \ :|
2020	\^ // 3
2021	
2022 !	**v**
2023	

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|...;-.:.;:,:^,^

1 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 j
	Nuclear Power Plant Incident
	Widespread Power Outage
	*Coastal Erosion As*C*|
	Secondary Impacts from Mass Influx of Evacuees
	Hazardous Materials Incident

4 4 6.1.2 Action C.22

[Implement the Chicago Ward Green Alley Project

IYear Initiated

City of Chicago (18tn, 28th, and 47tn Ward)

Lead Agency/Organization	
Supporting Agencies/Organizations	City of Chicago
Applicable Goal	• Involve stakeholders to enhance the local capacity to mitigate, prepare for, and respond to the impacts of natural hazards
Applicable Objective	« Provide or improve flood protection on a watershed basis with flood control structures and drainage maintenance plans
Potential Funding Source	TBD
Estimated Cost	TBD . - ... - -
Benefits (loss avoided)	TBD
Projected Completion Date	*TBD /■; f/*
Priority and Level of Importance (Low, Medium, High)	TBD <^ Ni\ AY \\ !
Benefit Analysis (Low, Medium, High)	£ /> ^ i
Cost Analysis (Low, Medium, High) j	***TBD ^***
Actual Completion Date	TBD YSN^. i

-RecpmmendedlMitJgation^

Action/Implementation Plan and"PrbjecT Description:

j Project Title: ***j& p***

|Chicago-18th Ward
City ofChicago - 18th War^80Q& SHolmaTvGreen Alley
Chicag6-^8thWai^\^ _ v\ _ City of Chicag6>2"8'th Ward 725 S. Laflin Green Alley Chicago-47th Ward N^S
City of Chicago - 47th Ward :1900 W Eddy-Addison Green Alley

/Yeair-;¨y %ry ^yWy'Ai	***Status _,V V'■■/;"£'1*** ;	Comment^	'il ^"V^Vffi;: :.V^.^T/; .^-^'c-
2019 i	**New**		
2020 j			
2021 !			
2022			
2023			

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All Hazards

Dam/Levee Failure

DRAFT

Drought

Earthquake

X Flood

Extreme Heat 1

Lightning :

Hail ;

Fog

High Wind

Snow j

Blizzard

Extreme Cold

Ice Storms !

Tornado !

Epidemic or pandemic j

Nuclear Power Plant Incident „s !

Widespread Power Outage J;;'1'

Coastal Erosion

Secondary Impacts from Mass Influx of Evacuees & \?K

Hazardous Materials Incident \<\ J

Mitiqation Action	Evaluate existing notification systems for airport coverage and integrate all systems into single deployment method
Year Initiated	2019
Appiicabie Jurisdiction	Cny of Chicago
Lead Agency/Organization	Aviation
Supporting Agencies/Organizations , Applicable Goal	• Protect the lives, health, safety, and property of the citizens of Cook County from the impacts of natural hazards :
Applicable Objective	Objective 5 Develop, improve, and protect systems that provide early warnings, emergency response ; communications, an
Potential Funding Source :	Aviation Funding j
Estimated Cost	$250,000 per year ' ,
Benefits (loss avoided)	Integrated emergency notification to simultaneously warn the public on multiple methods j
Projected Completion Daie	2021 '
Priority and Level of Importance (Low, Medium, High)	/.y \ High Priority A/ ;
Benefit Analysis (Low, j Medium, High) 1	High - Project will provide an immediate r isX.. .. .. -
Cost Analysis (Low, j Medium, High)	*Low - The project could be funded under the existingbudgeLvThe projectWpart of or can be part of an ongoing existing pro*
Actual Completion Date	TBD

SRecommended:MitigationAction/Impleme^

Action/Implementation Plan and Project Description:

Year	*V :l:'.y.[:i iygil*	**Status** ; ; .,^^sir;.:- >.-	Comments • - .'/;A">-it'i!'--^-:-;
2019		***New //***	
2020		**, ¥>**	

2021 ^| 3

2022 !

2023 V

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C- A:-v r-yy-^;:^:;- ;;vx;-:;. \ -;:':>. ■ MitigatedHazards 4: ■/rx-:/^::^:Xv;^

X All Hazards

Dam/Levee Failure

Drought

Earthquake

Flood

Extreme Heat

Lightning

Hail

Fog

High Wind I

Snow

Blizzard

Extreme Cold

Ice Storms

Tornado j

Epidemic or pandemic !

Nuclear Power Plant Incident

Widespread Power Outage /'■

Coastal Erosion /v^.'\

Secondary Impacts from Mass Influx of Evacuees <A

Hazardous Materials Incident f~f ^X&s.

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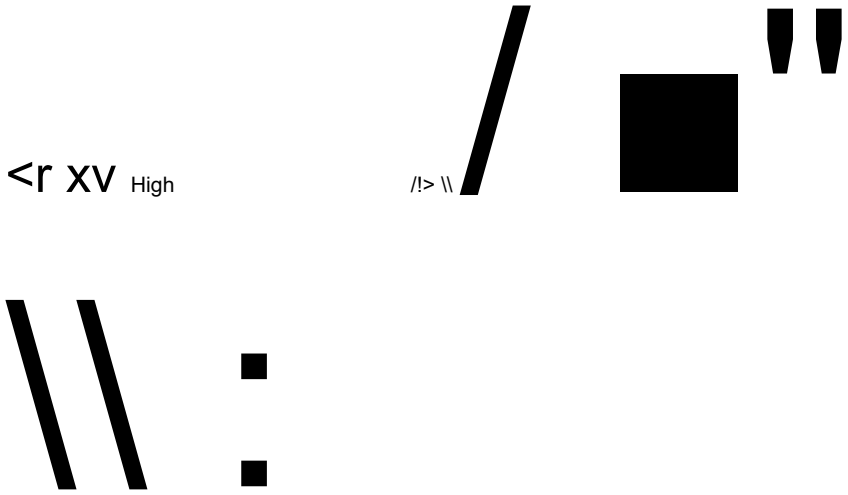
Mitiqation Action	Implement Long-term Care and Senior Housing Retrofits to Electric Panels to Allow for Exterior Power Connection/Generators j
Year Initiated	2019
Applicable Jurisdiction	City of Chicago
Lead ■Agency/Organization	r,t.-nf Ph.^^n r*n.~n~n r\~~^r+~^ .ui.~ i_j~-.uu <http://i_j~-.uu>y u _ i nociy w ucpai liiioiii ui i uuiiv. < icai .. - - - - - 1
Supporting Agencies/Organizations	
Applicable Goal	• Protect the lives, health, safety, and property of the citizens of Cook County from the impacts of natural hazards • Protect public including infrastructure, from loss of use during natural hazard events j Objective 13 Reduce natural hazard-related risks and vulnerability to potentially isolated populations with
Potential Funding Source	Grants I
Estimated Cost	TBD
Benefits (loss avoided)	Avoid the necessity of evacuating this vulnerable population during.power failures ;
Projected Completion Date	*Long-term* */?/* I /vv\ i

Priority and Level of Importance (Low, Medium,



Benefit Analysis (Low, ! Medium, High)	High - Project will provide an immediate redudiori^f^risjc.,exposure for life and property i
Cost Analysis (Low, Medium, High) i	High - Existing funding will not cover the cost of the project, implementation would require new revenue t source (for example, bonds,(graQts,.and fee increases) i
Actual Completion Date	TBD

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Action/Implementation Plan and Project Description:

on: Action' aridTBr^ i-;^.^:;:^

Year:y LX;.:v::r			Cbmments.,ᵛ;' .. .■' '^'-i.. ■. xHᵎvX;;X..V"/'vX;;; \tvᵎᵎ.C.VSf>;
2019	*]New*	|| *Jff*	
2020	*j*	|^/y		
2021	**;**	**ᵛ/ |**	
2022 |			
2023	**:		**	

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-.'--:..::,^ ,r,./:s
U;i,^:H^,i;v,..:;,;
. •..
^Mitigated
Hazards :
:.;V^-|:-- ,-r-
*■A^y^yy-:-;^*
*y^:^:-, '^^^*

i	All Hazards	
i	Dam/Levee Failure	
	Drought	
	Earthquake	
	Flood	
X	Extreme Heat	
X	Lightning	
	Hail	
X	Fog	
X	High Wind j	
	Snow ;	
	Blizzard	
	Extreme Cold	
	Ice Storms 1	
	Tornado !	
	Epidemic or pandemic	
	Nuclear Power Plant Incident	....
x	Widespread Power Outage i	
	Coastal Erosion .,'X\	
	Secondary Impacts from Mass Influx of Evacuees	Cf XX
	Hazardous Materials Incident />	/ XX

4.4.5.1.5 Action C 28

Mitiaation Action	Utithze ILWARN utility-to-utility network for flooding emergencies
jYear Initiated	2019
[Applicable Jurisdiction	Chicago
Lead Agency/Organization	Illinois Section AWWA
[Supporting jAgencies/Organizations	DWN, IL water utilities
i {Applicable Goal i	• Protect the lives, health, safety, and property of citizens of Cook County from the impacts of natural hazards
Applicable Objective	Objective 8 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 :
Potential Funding Source	TBD
Estimated Cost	LOW ;
Benefits (loss avoided)	Increased coordination and partnerships
Projected Completion Oate	Ongoing ;
Priority and Level of Importance (Low, Medium, High)	Low priority y ■
Benefit Analysis (Low, Medium, High)	Medium-Project will have a long-term impact on the reduction of nsfcexposure for life and property, or project will provide an immediate reduction in the risk exposure^fo/'property. ^XX

Cost Analysis (Low, Medium, High)	*Low-The project could be funded under the existirtcfbudget|The projects part of or can be part of an ongoing existing program.*	*XX /ty*
Actual Completion Date	*Ongoing*	*V; / |*

ecommejidediMltlga

Action/Implementation Plan and Project Description:

	«-e# *^*3mro«3 ^Mitigatii	sn ActionrandrPrbjectMa^htenance^>w-^^-"-rt-M;,^#-^-^.A
Year...: '. v; v;;.;	Status	(S^mmerits ~.v;.: V;';XS.:'.-..i;--J :;:_:-.r: :-;\-.v-:;.'r.^-_'.>^-^..^..-;.-<; ^/.'i."-r^^-ttJ :j
2019	New //' \\ |	XX
2020	«>X V;	
2021	xx. /y	
2022 i	■ XX/y"	
2023	*V* |	

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I i L	
	All Hazards
	Dam/Levee Failure
	Drought
	Earthquake
X	Flood
	Extreme Heat

Lightning
Hail
Fog
High Wind
Snow |
Blizzard
Extreme Cold •
Ice Storms j
Tornado
Epidemic or pandemic j
Nuclear Power Plant Incident A |
Widespread Power Outage ■
Coastal Erosion y x'Co\
Secondary Impacts from Mass Influx of Evacuees Of "S,
Hazardous Materials Incident /P? \\

4 4.6 1.6 Action C 29

Mitiaation Action	Build a new backup generator facility for Jardine Water Plant
Year Initiated	2019
A>x„l;^nUi o l. .,.^H:-t- -- n|jpuw.OulC julioUiuuuii	ChiCSy 0
Lead Agency/Organization	DWM
Supporting Agencies/Organizations	
Applicable Goal	• Protect the lives, health, safety, and property of the citizens of Cook Couty from the impacts of natural hazards.
Applicable Objective	Objective 2 Increase resilience of (or protect and maintain) infrastructure and critical facilities
Potential Funding Source	Capital funding
Estimated Cost	Low j
Benefits (loss avoided) |	Increased redundancy of a key lifeline j
Projected Completion Date	2019/2020 i

Priority and Level of Importance (Low, Medium, High)	*High Priority //* M
Benefit Analysis (Low, | Medium, High) ;	Low-Project will provide an immediate reduction of risk eyposureifpr life and property.
Cost Analysis (Low, Medium, High) j	*Low-The project could be funded under the existinglbudget. The projects part of or can be part of an ongoing | existing program.* J>> ^■
Actual Completion Date	TBD XX

r:Refcbmmended ⁝Mrtigatro
Action/Implementation Plan and Project Description:

M

2019 New - - -'\X.

2020 //_ X\. X>

2021 |

2022 *XX M|*

2023 X>-^ .

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All Hazards
Dam/Levee Failure
Drought
¡ Earthquake
Flood
Extreme Heat
Lightning
Hail
Fog
High Wind

	Snow	
	Blizzard	
	Extreme Cold j	
	Ice Storms j	
	Tornado	
	Epidemic or pandemic	
'	Nuclear Power Plant Incident	^ ' !
X '	*Widespread Power Outage*	*/V* I
	Coastal Erosion	.-OvJ\ i
	Secondary Impacts from Mass Influx of Evacuees	<y I
	Hazardous Materials Incident	

4 4.6.1.7 Action C 30

jMitigation Action	Enhance Storm Water Management through the installation of bioinfiltration systems
jYear Initiated	2019
[Applicable Jurisdiction	Chicago Housing Authority
Lead Agency/Organization	Chicago Housing Authority
Supporting Agencies/Organizations	

j Applicable Goal	• Develop and implement sustainable, cost-effective, and environmentally sound risk-reduction (mitigation) , projects
Applicable Objective	Objective 2: Increase resilience of (or protect and maintain) infrastructure and critical facilities
Potential Funding Source	Grants, capital budget

c:*;™ -.-j -^r*c* U9UIIICILCU OUOL	Varies per project
Benefits (loss avoided)	Decreases combined sewer system overflow j
Projected Completion r.-.*-. '	2020 !
Priority and Level of Importance (Low, Medium, High)	*Low Priority* /' |^
Benefit Analysis (Low, Medium, High)	Medium-Project will have a long-term impact on the reduction of risklexposure for life and property, or project will provide an immediate reduction in the risk exposure^fgr property.
Cost Analysis (Low, j Medium, High) !	Low-The project could be funded under the existing budget\The projecf'is part of or can be part of an ongoing j existing program. Xo\ /%/ I
Actual Completion Date	TBD \TX

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Action/Implementation jPlan and Project | Description:

The Chicago Housing Authority*(GHA) willVrhstall bioinfiltration systems that promote the absorption and infiltration of stormwater runoff, where appNcabie^pn CHA-pwned properties throughout the City.

4K Mr-^. V

i>ri;Actiqn.^

IYear _ j	*Status*	*■y^msQ*?' "?*	^.mments	:' .' . ••... \,i^jy,'..:\.' \>>\..'X;.X.*lo:-;X-;-i„;-.-^
2019	New	/,/'	X\ : \N !	
2020				
2021	*' XX M*			
2022				
2023	V j			

|Ail Hazards

|Dam/Levee Failure

j jDrought

i Earthquake

Flood '

Extreme Heat

Lightning j

Hail

Fog

jHigh Wind

jSnow ;

jBlizzard

i|Extreme Cold

Jlce Storms

!|Tornado

Epidemic or pandemic

Nuclear Power Plant Incident ,., '

Widespread Power Outage /■'■/

Coastal Erosion I

fSecondary Impacts from Mass Influx of Evacuees \>\ j

Hazardous Materials Incident j

4.4.5.1.8 Action C.31

Mitigation Action	Install a solar PV system connected to ComEd's Bronzeville Microgrid.
Year Initiated	2019
Applicable Jurisdiction	Chicago Housing Authority
Lead Agency/Organization	Chicago Housing Authority
Supporting Agencies/Organiz	ComEd :
Appiicabie Goal	• Protect public services and critical facilities, including infrastructure, from loss of use during natural hazard events.
A n r\ 1 i r a h 1 o Ohio/	• Objective 1: Eliminate or minimize disruption of local government operations caused by natural hazards through j all phases of emergenc facilities j • Objective 12 Reduce natural hazard-related risks and vulnerability to potentially isolated populations within the planning area
-3 *~ t r> r~ t i -1 1 CiinHin/l Cnnrco	Grants ■
Estimated Cost	*$3,000,000* // I
Benefits (loss avoided)	Redundant power source, job creation, and reduced utility costf^-- j
Projected Completion Date	2019 /X^^^^xX
Priority and Level of Importan j	Af ^X> i *High Priority* . A?~ X'I /-/ I
Benefit Analysis (Low, j Mediu	Medium-Project will have a long-term impact on the^duction of risk exposure for life and property, or project will | provide an immediate reduction in the risk-exposure foriprgperty
Cost Analysis (Low, Medium,	Low-The project could be funded undetthe^e^is%ig.budgeii>The project is part of or can be part of an ongoing j existing program. Af%*^& j
Actual Completion Date	TBD W !

JiV Y-:i W

*J Recommended Mitigatjoh Ac^* *PlahVnd Project Description* . ;. :.;:: '~'~:y-

The CHA had a unique o^Sp^rtriprfy to p7loTtrie- first smart renewable energy system in public housing at Dearborn

ActloTfflrriTilemeTTtation Plan and Project Description:	Homes. CpnnecUng:iyearPoni!Hpmes to Comhd s Bronzeville Microgrid will provide resiliency to Dearborn Homes residents by^aHe^iatir^g^tjie^mpaets$_N$of disruptive events to the existing electrical grid The Bronzeville Microgrid will sectionalize;power delivery/into smaller segments and use localized control to provide continuous energy supply to critical facilities and customers.

\X J.i

y^:^-AA XSMitigati *on Actioa andj?^* *^?!*r^;VV,v-'^££r';.:,V.i*

Comments

2019 New

202G

2021

2022

2023

DRAFT

1

i L ._ Dam/Levee Failure

1

i Extreme Heat

x I

All Hazards

Drought

Earthquake

Flood

Lightning

Hail

Fog

High Wind

Snow

Blizzard

Extreme Cold

Ice Storms

Tornado I

Epidemic or pandemic .'

Nuclear Power Plant Incident

Widespread Power Outage //

Coastal Erosion

Secondary Impacts from Mass Influx of Evacuees (

Hazardous Materials Incident

4 4.6.1 9 Action C 32

Mitigation Action	Implement a Green Infrastructure program for the County as a whole
Year Initiated	2019
Applicable Jurisdiction	County
Lead Agency/Organization	DHSEM
Supporting Agencies/Organiz	MWRD
Applicable Goal	• Develop and implement sustainable, cost-effective, and environmentally sound risk-reduction (mitigation) i projects
Applicable Obj	• Objective 9 - Provide or improve flood protection on a watershed basis with flood control structures and drainage! maintenance plans. • C environment and that use natural processes
Potential Funding Source	Grant Funds
Estimated Cost ,	TBD !
Benefits (loss avoided)	Mitigation of water flow to reduce urban flooding yy i
Projected Completion □ate |	
Priority and Level of Importan	*Medium Priority f^?^* /?' y> ^ !
Benefit Analysis (Low, Mediur	Medium-Project will have a long-term impact oi^trie^duction of risk exposure for life and property, or project will ; provide an immediate reduction in the risk exposure foriproperty
Cost Analysis (Low, Medium,	Medium-The project could be implementedwith existing?funding but would require a re-apportionment of the budget j or a budget amendment, or the cost of theNprojeqtwould haye" to be spread over multiple years. j
Actual Completion Date j	v\ yy ^ j

^iRecommejidedlM

Action/Implementation Plan and Project Description':

Develop a Countywide pr^gr^r^o^dueateiarid assist municipalities in the use of green infrastructure to mitigate

flooding-a«i^cierU4at^rant^ppo4unitie ■-

yy

Year :J-;'\:i V:yy ■ v.. i vIsS';^ "i		Commentsw:,y^/Py:..';:-.':'■'\-y-&h' :^jy > ■&-y
2019	*New W //*	
2020	*sy*	
2021		

2022

2023 ||

DRAFT

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 /y"
Coastal Erosion
Secondary Impacts from Mass Influx of Evacuees ^/ N-\
Hazardous Materials Incident /f-f

4.4.6 1.10 Action C.33

Mitigation Action Purchase deployable portable generators that can provide power to firehouses that are impacted by long-term power ' outages. Should include quick connect hookups at each fire house.

Year Initiated 2019

[Applicable Jurisdiction Chicago Fire Department

[Lead iAgency.Organization Chicago Hre Department

[Supporting Agencies/Organiz

Applicable Goal » Protecr public services and critical facilities, including infrastructure, from loss of use during natural hazard events

Applica• Objective 1 Eliminate or minimize disruption of local government operations caused by natural hazards through all phases of emergency manag

Potential Funding Source *Grants .-.y*

Estimated Cost ' Moderate ($250,000 or more) /'/ j

Benefits (loss avoided) Allow doors to open and close and refrigeration units to wgrtc!-. Provide heating and cooling ofthe building.

Projected Completion Date 2021 ^\

Priority and Level of j Importa Medium Priority Ni X XV I • \V> !

Benefit Analysis (Low, Mediur High-Project will provide an immediateireauction of nsk;e><Dosure for life and property.

Cost Analysis (Low, Medium, High-Existing funding will not cover the c^st oyrfe'project; implementation would require new revenue through an alternative source (for examplerbonds, grarits,,and fee increases).

Actual Completion Date TBD .//" YI V\

M j£U.. ^

^Recbmmehded MHiqation Actidriyi'm **-'",.'."■■„ ■'.'.":. . .. ~"**

Action/Implementation Plan and Project | Description:

Mrtigatiort Actldnihtf Pr^

	Status	Cqmmenti' -.T:.."y\v "';■ . :'u.:■' ^;V'i.v^^
2019	**New**	
2020		
2021		
2022		
2023		

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; 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 I

Nuclear Power Plant Incident

Widespread Power Outage j(y

Coastal Erosion

Secondary Impacts from Mass Influx of Evacuees Nyj\

Hazardous Materials Incident

V

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Mitigation Action	Portable High Capacity Air Conditioners
Year Initiated	2019
Applicable Jurisdiction	Chicago Fire Department
Lead Agency/Organization	Chicago Fire Department
Supporting Agencies/Organiz	
Applicable Goa	• Protect public services and critical facilities, including infrastructure, from loss of use during natural hazard events. • Involve stakeholders
Applicable Objective	• Objective 12 Reduce natural hazard-related risks and vulnerability to potentially isolated populations within the planning area
Potential Funding Source	Grants i
Estimated Cost	Less than $100,000
Benefits (loss avoided)	*Provide CFD cooling units for extreme heat emergencies*
Projected Completion Date	Ongoing/TBD
Priority and Level of Importan	Medium Pnonty
Benefit Analysis (Low, Mediur	Medium-Project will have a long-term impact on-the reducfion of risk exposure for life and property, or project will I provide an immediate reduction in the risk exposure-fpr;property. !
Cost Analysis (Low, Medium,	High-Existing funding will not cover the .eost-c-f the projectV.implementation would require new revenue through an j alternative source (for example, bonds, gra^s?a^?,fee increases). !
Actual Completion Date j	TBD

^Recommended ^

Action/Implementation Plan and Project Description:

Units can provide additibr^)^dling[c]rapabiti.ties that can be deployed or used by CFD buildings, rehab units, high bu'ldiFigsT-er^ethefiiSites- in-ea%e^f-an-exteB^e-^eat-emergeney^Hivhen-there^~~rc power out~~ages:

	v		
			ort-ActioffandlProj^ ^^^P'^^y"-^ 7:^.
		Status" "K^^^'lv - ■ . •' M	Comments; y -j.:v'>.\^';*Vi'!iW::S""-.vv-vX'v-:.<
2019		**New**	**\'K //'**
2020		N/ i	
2021			
]2022			
2023			

DRAFT

All Hazards
Dam/Levee Failure
Drought
Earthquake

Flood '
X Extreme Heat ' ;
Lightning [1]
Hail
Fog

	High Wind	
	Snow i	
	Blizzard	
	Extreme Cold	
	Ice Storms I	
	Tornado	
	Epidemic or pandemic j	
	Nuclear Power Plant Incident	^ j
x !	Widespread Power Outage	/[/ j
	Coastal Erosion	y&sX i
	Secondary Impacts from Mass Influx of Evacuees	$f XX i
	Hazardous Materials Incident	/fff XX

X?

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4.4.6.1.12 Action C.35

Mitigation Action	Purchase high capacity portable heaters
Year Initiated	2019
Applicable Jurisdiction	Chicago Fire Department
Lead Agency/Organization	Chicago Fire Department
Supporting Agencies/Organizations	
Applicable Goal	• 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	• Objective 12. Reduce natural hazard-related risks and vulnerability to potentially isolated populations within the planning area.
Potential Funding Source	Grants
Estimated Cost	Above $100,000
Benefits (loss avoided)	Provide heating units to protect structures, First Responder vehicles'! and equipment from damage due to excessive cold weather ,.<f*>;'
Projected Completion Date	2021 \;x !

Priority and Level of Importance (Low, Medium, High)	/./ ""€S. j Medium Priority / / /y I
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 fte|bsVb'f4§&^ would require new revenue through an j alternative source (for example, bonds, grants, and feelXncreases)
Actual Completion Date	*tbd y¨jy>'.. yyy*
Action/Implementation ' Plan alid'~Pr6ject i Description: j	*gtjii&o^^ '■■';^'^y^yy^y^^y\^^* This project would allow WeJCFp'to be'abTe'to deploy or use these heaters to protect CFD structures and to protect ! their vehicles. Also, they can be.used in rehab areas for first responders during cold weather.events. They can also be '■ deployed to protect citizens during-cold weather-related power outages. Nursing homes, etc. j

Year'':':';;;';' '■:	*Status P'jvP'l*	Comments ;- ; .■:;; :	'.'A'N'
2019	*New* I		
2020			
2021			
2022			
2023			

DRAFT

•	All Hazards
i i	Dam/Levee Failure
	Drought
	Earthquake
	Flood
	Extreme Heat
	Lightning
X	Hail
	Fog '
X	High Wind
X	Snow
X	Blizzard
X j	Extreme Cold
X	Ice Storms !

	Tornado
	Epidemic or pandemic ;
	Nuclear Power Plant Incident ;
X	*Widespread Power Outage yty*
	Coastal Erosion
	Secondary Impacts from Mass Influx of Evacuees XX
	Hazardous Materials Incident /Z-f XX

4.4.6.1.13 Action C.36

[Mitigation Action	Purchase Mass Decontamination Apparatus
Year Initiated	2019
'Applicable Jurisdiction	Chicago Fire Department
Lead Agency/Organization	*Chicago Fire Department* I
Supporting Agencies/Organiz:	
Applicable Goal	• Protect the lives, health, safety, and property of the citizens of Cook County from the impacts of natural hazards. : • Involve stakeho
A nr.1 ir»3 Kl A	• Objective 1 Eliminate or minimize disruption of local government operations caused by natural hazards through , all phases of emergency ma
Potential Funding Source i	Grants
Estimated Cost	Greater than $300,000 [1]
Benefits (loss avoided)	*Removal of contaminants for large amounts of people yy '*
Projected Completion Date	|
Priority and Level of Importan	yy \k j High Priority // \£v j yy /> ᵛ !
Benefit Analysis (Low, i Mediu	Medium-Project will have a long-term impact on-tfie. reduction of risk exposure for life and property, or project will provide an immediate reduction in the risk exposure'fprVpVoperty. !
Cost Analysis (Low, Medium,	High-Existing funding will not cover thecjo^&ofjthe projVr^implementation would require new revenue through an j alternative source (for example, bonds, grants>aiid:fe j
Actual Completion Date j	TBD ^kJ/' i

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Action/Implementation Plan and Project ijD esc ripti on: j	Mass Decontamination^hits arefctesigT^jtoj'rbvide a solution to removing hazardous materials from large amounts of contaminated people. Th^-vvpuTo^efrc^m chemical releases, sewage, etc. We need to have them staged on various sides gf- the~city,.to be jhpst effective The current vehicle is aged and falling into disrepair.

- i *Status; A ' f'i'ff*

2019 *New* \X /Y I

2020 i

2021

2022 I

2023 |

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am Hazards

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

4.4.5.1 14 Action C.38

Mitigation Action	Implement Green Infrastructure at Chicago Public Schools, Space 2 Grow
Year Initiated	2018
Applicable Jurisdiction	City of Chicago
Lead Agency/Organization	MWRD
Supporting Agencies/Organizations	City of Chicago

Applicable Goal i	• 1. Develop and implement sustainable, cost-effective, and environmentally sound risk-reduction (mitigation) projects
Applicable Objective	• Objective 13 Encourage hazard mitigation measures that result in the least adverse effect on the natural environment and that use natural processes
Potential Funding Source	TBD i
Estimated Cost	MWRD Max Contribution (through 2022) $16,000,000
Benefits (loss avoided)	TBD !
Projected Completion Date	//
Priority and Level of Importance (Low, Medium, High)	TBD
Benefit Analysis (Low, Medium, High)	£' A ^
Cost Analysis (Low, Medium, High)	\\.// ! TBD >■,./ ! \' s
Actual Completion Date	TBD WQ>r^ V\ i

~^f^rr>nfiM)d.ed --y v^:^ ..v.

Action/Implementation	ID: Multiple Locations ^).»» *X Contract: 15-IGA-20 \X ^.fcr-r>:r-_V Watershed: Chicago n^v^"^
Plan and Project Description:	Location: Multi^le;Locatjons^(i\^ MWRD, the'Chicago Depa^ment'efA/Vater Management, and the Chicago Public Schools are partnering to design and install playgrounds at various Chicago Elementary Schools utilizing Green Infrastructure. The projects will reduce flooding, reduce,the load on ,the combined sewer system, and educate students and neighbors about Green Infrastructure technic]ues,and purpose.

-- --* yy "'Mitigation-Action and Project^aihtenance 'Zy~7Zz?:l^J?: ~ 7 ^.., ,
"It T.'^:

	S$tu£$;;p¥^	Comriferi^
2018	New	6 playgrounds were transformed capacity are as follows: John W. Nathan S. Davis Elementary Sch School 10041 S. Union Avenue 1 Ashland Avenue 422,169 Gal Mo James B. Farnsworth Elementary Retention Capacity for 2018 CPS
20i9	Ongoing	
2020		
2021		
2022		
2023		

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All Hazards

Dam/Levee Failure

Drought

	Earthquake
X	Flood
	Extreme Heat
	Lightning ■
	Hail
	Fog i
	High Wind
	Snow ;
	Blizzard
	Extreme Cold]
	Ice Storms
1	Tornado i
	Epidemic or pandemic ;
	Nuclear Power Plant Incident ^ j
	Widespread Power Outage *A/* I
	Coastal Erosion />-x'\ I
	Secondary Impacts from Mass Influx of Evacuees \^ ^StN.
	Hazardous Materials Incident /$/ N?!\

4.4.6.1 15 Action C.39

jMitigation Action	Launch Pilot Study for Investigating Technology to Address Basement Backups
[Year Initiated	2019
[Applicable Jurisdiction	City of Chicago
Lead Agency/Organization	MWRD
Supporting Agencies/Organizations	City of Chicago
Applicable Goal	• 2 Protect the lives, health, safety, and property of the citizens of Cook County from the impacts of natural hazards.
Applicable Objective	• Objective 8 - Establish partnerships among all levels of local government, the private sector, and/or nongovernmental orga
Potential Funding Source	MWRD Contribution S400.000
Estimated Cost	TBD
Benefits (loss avoided)	TBD
Projected Completion Date	TBD ,/f ;
Priority and Level of Importance (Low, Medium, High) j	TBD ;
Benefit Analysis (Low, Medium, High)	
Cost Analysis (Low, Medium, High) j	\\// TBD \:V .... ,-. . ·
Actual Completion Date j	tbd V$H£>^ \>\

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Trn^Recommen

. . - .„•.ik;^*.-.-..«-
Action/Implementation

ID: N/A */^^il || Contract: 16-IGA-20 <»x ^^fes^V W*

Vlan-and Project -Description:

Location: ChicagoT"tL--^. .'v Description:?ihtergovernment research pilot study on the south sidetot\Chicago to gain insig reducing basement backups. "xv\

Comj^ritf^

2019	New	Intergovernmental agreement being executed. [
2020		
2021		
2022		
2023		

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--yK :cr:^-:
^v:>v'v; .-l : :-xl.:
::-;

Dam/Levee Failure
Drought
Earthquake
Flood
Extreme Heat ,
Lightning
Hail !
Fog i
Snow
Blizzard
Extreme Cold ;
Ice Storms
Tornado !
Epidemic or pandemic 1
Nuclear Power Plant Incident A !
Widespread Power Outage y(/
Coastal Erosion XxN.
Secondary Impacts from Mass Influx of Evacuees 4ff
Hazardous Materials Incident jf#? X^S.

x !

4.4.6.1 16 Action C.40

Mitigation Action	Space to grow partnered schools
Year Initiated	2018
Applicable Jurisdiction	City of Chicago
[Lead Agency/Organization	- .... - .... -. MWRD
Supporting Agencies/Organizations	City of Chicago
Applicable Goal	1. Develop and implement sustainable, cost-effective, and environmentally sound risk-reduction (mitigation) projects.
Applicable Objective	Objective 13 Encourage hazard mitigation measures that result in the least adverse effect on the natural environment and t
Potential Funding Source	MWRD (Max Contribution $16,000,000), Chicago Public Schools, and the City of Chicago Department of Water Manageme
Estimated Cost	TBD
Benefits (loss avoided)	Unkown
Projected Completion j Date	2022
Priority and Level of Importance (Low, Medium, High)	*JL* |
Benefit Analysis (Low, Medium, High)	TBD j^T ^\
Cost Analysis (Low, | Medium, High)	
Actual Completion Date '	TBD \'<(j

11IIIIIfl HI lll hi t II I I

ID. Multiple Locations \ " ! Contract 15-IGA-20 /y~\\ \'\ '■■ Watershed- Chicago ‹/v^
J.£ v\ Location: Multiple Lorattj^re^^siSJ^^T |

Action/Implementation PlarDescription- MWRgnthe Chicago Department of Water Management, and the Chicago Public Schools are partnering to design and'iristall piaygrounds\at various Chicago Elementary Schools utilizing green infrastructure. The projects will reduce flooding, reduce the.load orv'the combined sewer system, and educate students and neighbors about green Infrastructure'techniques ancllpurpose. : JJ I The existing intergovernmental agreement between MWRD and Chicago Public Schools will be amended to extend the timeline for the*remaining projects through 2022. MWRD plans to invest $1 million to fund ten school designs, with the remaining school'Sesigns to be funded by Chicago Public Schools and the City of Chicago Department of Water Management.

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2018	New	Status: 15 of a total up to 30 schools have been completed through 2018. 6 playgrounds were transformed in 2018
^019	Ongoing	An additional 5 schools have been designed and are planned for construction in 2019. j They are as follows: Arthur R. Ashe Elementary School 8505 S. Ingleside Avenue Ninos Heroes Elementary Academic Center 8344 S. Commercial Avenue Henry H. Nash Elementary School 4837 W Erie Street Daniel Webster Elementary School 4055 W. Arthington Street Oliver S. Weseott Elementary School 409 W. 80th Street j
[2020		
[2021		
[2022		
2023		

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yy:):;y;x<':::-^_v
*yy^*
Mitigated
Hazards
•...:;;--cv-^j:^r-;-;
; v--r-~;.:
-.^vO^.V:|Vv.
7yv

	All Hazards
	Dam/Levee Failure
	Drought
	Earthquake
X	Flood
	Extreme Heat
	Lightning
	Hail
	Fog
	High Wind
	Snow
	Blizzard
	Extreme Cold
	Ice Storms j
	Tornado
	Epidemic or pandemic 1
	Nuclear Power Plant Incident yy i
	Widespread Power Outage /• / j
	Coastal Erosion /A\
	Secondary Impacts from Mass Influx of Evacuees _ W "'xil
	Hazardous Materials Incident Af \y\

4.4.6 1.17 Action C.41

Mitigation Action	Prevent Stonnwater Infiltration through the Establishment of Native Habitat at 3 Chicago Parks
Year Initiated	2019
Applicable Jurisdiction	City of Chicago
Lead Agency/Organization	MWRD
Supporting Agencies/Organizations	City of Chicago
Applicable Goal	• 1 Develop and implement sustainable, cost-effective, and environmentally sound risk-reduction (mitigation) projects i
Applicable Objective	• Objective 13. Encourage hazard mitigation measures that result in the least adverse effect on the natural environment and that use natural processes
Potential Funding Source	TBD
Estimated Cost	TBD
Benefits (loss avoided)	TBD
Projected Completion Date	*TBD* *i y^y*
Priority and Level of Importance (Low, Medium, High)	TBD |
Benefit Analysis (Low, Medium, High)	£ A ^ !
Cost Analysis (Low, Medium, High)	
Actual Completion Date !	TBD \\ ;

^Recommended ***PlanandPrbjVct Description - w- ,***

Action/Implementation Plan and Project Description: **Project Title CPD 18-IGA^'^ly** **^\ j**

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status [-/ff yy%

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2019 **New \£;**

2020

2021
2022
2023

V

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

4 4 6.2 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

4.4.6.2.1 Action C.1

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HAZARD MITIGATION ACTION PLAN MATRIX

Hazards Mitigated

Objectives Met

Lead Agencies

Sources of Funding
Timeline/Projected Completion Date (a)

Dept of Buildings

FEMA Haz . Mitigation Grants

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

4 4.6 2.2 Action C.2

HAZARD MITIGATION ACTION PLAN MATRIX

Status	Hazards Mitigated	Objectives Met	Lead Agencies	Estimated Cost	Sources of Funding	Timeline/Projected Completion Date (a)
Ongomg	All	A||	City of Chicago	Low	General Fund	Short- and long-term

(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

4.4.6.2.3 Action C.3

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HAZARD MITIGATION ACTION PLAN MATRIX

DRAFT

(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

4.4.5.2.4 Action C.4

HAZARD MITIGATION ACTION PLAN MATRIX

Hazards Mitigated	Objectives Met	Lead Agencies	Sources of Funding Timeline/Projected Completion Date (a)
	3. 4, 5, 6. 7, 9, 10, 11, 13	City of Chicago	

(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

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4.4.6.2.5 Action C.5

HAZARD MITIGATION ACTION PLAN MATRIX

Hazards Mitigated	**Objectives Met**	**Lead Agencies**	**Sources of Funding** **:sV; ii""ii.V';r^;s;. rt2V.T:,v:.xi i'-<i v::'r.^iK^«Vi'£n.Mt::v?-:T;:** **Timeline/Projected Completion Date (a)**

Dept of Buildings

Short-term and Ongoing

DRAFT

(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

4 4.6.2.6 Action C.6

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HAZARD MITIGATION ACTION PLAN MATRIX

Status	Hazards Mitigated	Objectives Met	Lead Agencies	Estimated Cost	Sources of Funding	Timeline/Projected Completion Date (a)
■Actjb^C;6p^lr^g fede^opmenf:':[1] '■, [5]AAi:- ■■■■',);A ojthenpjaris;;pTpgramS^						
Ongoing	All	**3.4,6, 10, 13**	City of Chicago	**Low**	General Fund	Short-term

(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

4.4.6.2.7 Action C.9

^Shsnoa ?"S/20-9 o- 2' oy Vamaroei Warfw

Hazards Mitigated

Objectives Met

HAZARD MITIGATION ACTION PLAN MATRIX
Estimated Cost
'1

Sources of Funding

Timeline/Projected Completion Date (a)

Action.OJ9j^
receiving ⁝City'^^^ ;. ;;.7;:.^^Wr^

Flooding, Severe Weather

3, 4, 7, 10, 13

Buildings, Planning & Development

Long-term and Ongoing

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

4.4 5.2.8 Action C.10

HAZARD MITIGATION ACTION PLAN MATRIX

Hazards Mitigated

Objectives Met

Sources of Funding ■

Timeline/Projected Completion Date (a)

*Action.£*1fe£^nfanue<impteme water'infrastructure.vr'*

;conserving.-water,.::greeningwaterjoperations,^ana,sustainably«m . - •>„••:: vy>uv,.: >^.-.t.•-. ■ • ••■ si

Buildings, Water Management
□ RAFT

(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.

4.4.6.2.9 Action C.11

HAZARD MITIGATION ACTION PLAN MATRIX

Hazards Mitigated

Objectives Met

Sources of Funding

Timeline/Projected Completion Date (a)

Actjon^S^
Low
Dept of Water Management
iftTto'tfesewe^ A-.AA <v,; :A^^;*v-A'^•'^^Av'^AAi;?^-^

Ongoing Flooding 4,9,13
DRAFT

(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

4.4.6.2.10 Action C.12

DRAFT

HAZARD MITIGATION ACTION PLAN MATRIX

Status	Hazards Mitigated	Objectives Met	Lead Agencies	Estimated Cost	Sources of Funding	Timeline/Projected Completion Date (a)
:$ctibn'?G^^ 'Michlg^nfs^^ A.^■"■^■X^-^y-^^fC \'Av;£p£'■'■:-^A						
Ongoing	Flooding	2, 3, 4, 8, 9. 13	USACE, Park District	Medium	USCAE, IL Dept of Natural Resources	Long-term/Ongoing

(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

4.4.6.2.11 Action C.13

"uoiisraa 7/1S/2019 01 23 by Nathaniel Vfartetr

HAZARD MITIGATION ACTION PLAN MATRIX

Hazards Mitigated

Objectives Met

Sources of Funding

Timeline/Projected Completion Date (a)

Center for Neighborhood Technology
DRAFT

(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.

4.4.6.2.12 Action C.14

HAZARD MITIGATION ACTION PLAN MATRIX

Hazards Mitigated	Objectives Met	Lead Agencies	Sources of Funding	Timeline/Projected Completion Date (a)
Actiofr;^^ AS Triese1voiK:£ianf^	vA'AAv.r■' A'.':.^^B'^i^A^	MWRDGC, ACOE		..Av
1, 2, 3, 6, 9, 12, 13				

DRAFT

(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.

4.4.6.2.13 Action C.15

z>-joiiShed rnsno'9 V 22 3/ Wumi Wenirse

HAZARD MITIGATION ACTION PLAN MATRIX

Hazards Mitigated	Objectives Met	Lead Agencies	Sources of Funding	Timeline/Projected Completion Date (a)
ActibrV^				
Ongoing DRAFT	All	4,5,6,12 OEMC		

(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.

4.4.6.2.14 Action C.16

DRAFT

HAZARD MITIGATION ACTION PLAN MATRIX

Status	Haza rds Mitigated	Objectives Met	Lead Agencies	Estimated Cost	Sources of Funding	Timeline/Projected Co
|^||ion;C^ AAA Ai;						
Ongoing	All	| 4, 5, 6, 12	OEMC	Low	Corporate	Long-term/Ongoing

(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

4.4.6.2.15 Action C.17

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HAZARD MITIGATION ACTION RLAN MATRIX

Hazards Mitigated

Objectives Met

Lead Agencies	Sources of Funding	Timeline/Projected Completion Date (a)
ActioriiC:'T7:i^6ritihue;to\exp ..		
Corporate Long-term/Ongoing DRAFT		

(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.

4.4.5.2.18 Action C.18

HAZARD MITIGATION ACTION PLAN MATRIX

Status	Hazards Mitigated	Objectives Met	Lead Agencies	Estimated Cost	Sources of Funding	Timeline/Projected Completion Date (a)
Ongoing	All	| 4, 5. 6, 12	OEMC	Low	Corporate	Long-term/Ongoing

(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

DRAFT

4.4.6.2.17 Action C.19

Published 7/16/2010 0? 24 by Nathaniel Ma'lalle

HAZARD MITIGATION ACTION PLAN MATRIX

Hazards Mitigated

Objectives Met

Lead Agencies

Sources of Funding

Timeline/Projected Completion Date (a)

being aliowe'^ .

Acji^n'^ raihwateXpein

p.e^eab1e:Mvemeri^ .'■■;A%/<S^AA^ '■• AA.A: A

2, 3, 4, 9, 12, 13
General Obligation Bond

DRAFT

(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

4.4.6.2.18 Action C.20

HAZARD MITIGATION ACTIC^
Lead Aoencies
Status
Estima

Sources of Funding

ted Cost

Timeline/Projected Completion Date (a)

'Action\ei26Afeontinue;the!installation>and:maintenancB!ofpbiQinfi
gbso^tiqn'andPinM^ jA'":..:';',>*: v;"A. :'>';^;.--'tV;;^^

Long-term/Ongoing
m indicates implementation within five years Long-term indicates

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

DRAFT

4.4.6.2.19 Action C.21

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HAZARD MITIGATION ACTION PLAN MATRIX

Hazards Mitigated

Objectives Met

Lead Agencies

Sources of Funding

Timeline/Projected Completion Date (a)

Corporate Long-term/Ongoing
DRAFT

(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.

4.4 6.2 20 Action C 23

HAZARD MITIGATION ACTION PLAN MATRIX

Hazards Mitigated	Objectives Met	Lead Agencies	Sources of Funding	Timeline/Projected Completion Date (a)
jActi^				

Long-term/Ongoing
DRAFT

(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

4.4.6.2.21 Action C.24

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HAZARD MITIGATION ACTION PLAN MATRIX

Hazards Mitigated	Objectives Met

Lead Agencies

Sources of Funding
Timeline/Projected Completion Date (a)

Action ;0;24XEri'cpur^ th[e]).Chiragb;area's .largest empjoyers and ,
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OTmpariies headqua'iier£^ A.■. .⁚ AJ^-^^jV^AiA⁚:'■ -:■ AA;$AA-|A:;. ■ A;⁚'^?&A; AAjAiAivAA' "■■'⁚ AAW
Corporate Long-term/Ongoing
DRAFT

(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.

4.4.6.2.22 Action C.25

HAZARD MITIGATION ACTION PLAN MATRIX

Hazards Mitigated

Objectives Met

Lead Agencies

Sources of Funding
Timeline/Projected Completion Date (a)

Acli^?6&5^ AAlA;⁚,

Long-term/Ongoing
DRAFT

(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

4.4.6.3 Completed Mitigation Actions

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

4.4.6.3.1 Action C.7

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TABLE: ACTION PLAN MATRIX

Hazards Mitigated

Objectives Met

Lead Agencies

Sources of Funding
Timeline/Projected Completion Date (a)

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Complete Flooding 3, 4, 9
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(a) Ongoing indicates continuation of an action that is already in place. Short-term indicates implementation withm five years Long-term indicate implementation after five years

4.4.6.3.2 Action C.37

Puoiisnso V15/2019 S' 27 o>- Naljtajvsl Marietle

Mitigation Action	Albany Park Stormwater Diversion Tunnel
Year Initiated	
Applicable Jurisdiction	City of Chicago
Lead Agency/Organization	MWRD
Supporting Agencies/Organizations	City of Chicago
Applicable Goal	• Develop and implement sustainable, cost-effective, and environmentally sound risk-reduction (mitigation) projects.
Applicable Objective	• Objective 9 - Provide or improve flood protection on a watershed basis with flood control structures and drainage maintenance plans
Potential Funding Source	MWRD and Unknown
Estimated Cost	$70,655,320; MWRD Contribution: $25,920,000
Benefits (loss avoided)	Unknown
Projected Completion Date	*Unknown* *yf'/ I*

Priority and Level of Importance (Low, Medium, High)	Unknown ^^^N^A
Benefit Analysis (Low, Medium, High)	Unknown ^jj/ ^p. ^ j
Cost Analysis (Low, j Medium, High) j	Unknown
Actual Completion Date	4/25/18 VAAA.\ \>\ i

'Recommended Mitigation Action/ImplementationPlan and Project Description"-:A.A:. 'A';,.'A~ ••• -'-A.... :..

Action/Implementation Plan and Project Description: id. ms-07 /y ffl m Contract: 14-066-3F yfe&^v | Watershed: North B:ancn^$_{s>i}$0^'^^^!t^ Location: Albany«P,ark,JL A cost sharing'agreemeritiwith tn"e^6ity of Chicago. Constructed by the Chicago Department of Transportation. 5,800 j feet of 18-foptdiameter rock tunnel with inlet and out shaft facilities protecting approximately 336 structures from j overbank flooding in the Albany Park neighborhood in Chicago.

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-: :?'A:7: :•' 7.Ai Mitigation Actioriland'P

2019

2020

2021

2022

2023

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1 1 i _ All Hazards

Dam/Levee Failure

Drought

1 Earthquake

X Flood

Extreme Heat

j i Li

Hail

Fog

High Wind

Snow

Blizzard

Extreme Cold

Ice Storms

Tornado

Epidemic or pandemic	
Nuclear Power Plant Incident	
Widespread Power Outage	> >'
Coastal Erosion	,.<:•'Ox j
Secondary Impacts from Mass Influx of Evacuees	^ / A:?\
Hazardous Materials Incident	/../ \¡N. j

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4.4.7 Future Needs to Better Understand Risk/Vulnerability

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No needs have been identified at this time

4.4.8 Additional Comments

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No additional comments at this time

4.4.9 HAZUS-MH Risk Assessment Results

Pvolisnec 7/13/2019 13 21 by <im Pleva-BerKa

CHICAGO EXISTING CONDITIONS

2010 Population	2,704,958
Total Assessed Value of Structures and	$579,392,639,428
Area in 100-Year Floodplain '	5,223 88 acres
Area in 500-Year Floodplain	5,664 46 acres
Number of Critical Facilities	3,642

HAZARD EXPOSURE IN CHICAGO

	Number Exposed		**Value Exposed to Hazard**			% of Total Assessed Value Exposed
	Population	Buildings	**Structure**	Contents	**Total**	
Buffalo Creek	**0**	**0**	**$0**	SO /A	**$0**	0 00%
Plum Grove	**0**	**0**	**$0**		**$0**	0 00%
Touhy	**3**	**1**	**$13,035,000**	**$13,035^000^ />-**	**\s $26,070,000**	0 00%
St. Michael	**0**	**0**	**$0**		**AAx $0**	0.00%
Twin Lakes	**0**	**0**	**$0 <**	**r se»**	**$0**	0.00% [1]
100-Year	**653**	**201**	**$452,655>25**	**$455,^42,279**	**$907,797,704**	0.16%
500-Year	**991**	**305**	**$485,87^440****		**$957,620,226**	0.17%
100-Year	**-**		**' $676l044,430**	**$515,681,760**	**$1,191,726,200**	21%
500-Year	**-**		§^^279;35,0[J]	**$1,570,940,430**	**$3,373,119,780**	.58%

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ESTIMATED PROPERTY DAMAGE VALUES IN CHICAGO

	Estimated Damage Associated with Hazard			% cf Total Assessed Value Damagea
	Building	Contents	Total	
Dam Failure,. , . ';, [■-.yy,' ■■■■■.'X--. . i i'.; '-'-s/'l . ■ ..- ■				
Buffalo Creek	SO	SO	**$0**	0 00%
Plum Grove	SO	SO	**$0**	0.00%
Touhy	SO	$0	**$0**	0 00%
St. Michael	$0	$0	**$0**	0 00%
Twin Lakes	$0	$0	**$0**	0.00% ■
1909 Historical Event	$2,854,751,334	$759,966,776	**$3,614,718,109**	0 62%
jFJop^A-^^				
10-Year	$20,941,832	$52,361,673	**c-7i mo cnc**	0 01%
100-Year	$31,363,512	$71,466,941	**$102,830,453**	0.02%
500-Year	$485,870,440	$471,749,787	**^$957,620,226**	0 17%
*/^||^fl^*			*/ 1,917,261,Sou* *W0yyz, |'WM&'&;^$:*	
100-Year	$6,760,444,340	$5,156,817,620 <C		2 06%
500-Year	$12,343,694,180	$10,759,865,97^0^	**$23^03,560,150**	3 99%

4.4.10 Hazard Mapping

*Pubiisnoa 7*9/2019 15 '2 oy Nathaniel Madeite*

CITY OF CHICAGO

CRITICAL INFRASTRUCTURE

0 Oil Facilities

Transit Centers

Military Facilities

Pokcc Stations EJj Fire Stations ^ Hazardous Waste Q Airports

Hospitals -■ Highway 3ndges O Warming Centers O Cooling Centers _L Schools EI Railroad Stations

Base Map Data Sources Cook County. ESRI

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CITY OF CHICAGO

CRITICAL INFRASTRUCTURE

© Oil Facilities Tiansrt Centers Military Facilities Police Stations Fire Stations

fl'li Hazardous Waste

Q

Hos pilars >-■■■. Highway Bridges © Warming Centers 0 Coofrng Centers Sm Schools El Railroad Stations

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Base Map Data Sources Cook County. ESRI

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CITY OF CHICAGO

CRITICAL INFRASTRUCTURE

© Oil Facilities

Transft Centers .Ct.' Military Facilities Polico Stations

U Fire Stations

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""i Hazaidous Waste

☐ Airports

Hospitals Highway Bridges

Warming Conters

O Cooling Centers

JL Schools

Railroad Stations

Base Map Data Sources Cook County, ESRI

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CITY OF CHICAGO

CRITICAL INFRASTRUCTURE

© Oil Facilities

Transit Centers !J«2j Militwiy Facilities "** Police Stations O Fire Stations il^I Hazardous Waste Airports

Hospitals - Highway Bridges 6 Warming Confers O Cooling Centers X Schools

Railroad Stations

Base Map Data Sources' Cook County. ESRI

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CITY OF CHICAGO

CRITICAL INFRASTRUCTURE

Oil Facilities E3 Transit Centers .0,1 Military Facilities

Pofice Stations D Fire Stations I^J Hazaidous Waste

Airports

Hospitals " Highway Bridges © Warming Centers O Coohng Centers ^ Schools Q Railroad Stations

Base Map Data Sources Cook County, ESRI

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CITY OF CHICAGO

CRITICAL INFRASTRUCTURE

Oil Facilities fa Transit Centers ..O.f Military Facilities

Police Stations t3 Fire Stations

Hazardous Waste Q Airports

Hospitals

Highway Bridges © Warming Centers 0 Cooling Centers m Scnools

Railroad Stations

Base Map Data Sources' Cook County, ESRI

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CITY OF CHICAGO

CRITICAL INFRASTRUCTURE

© Oil Facilities B Transit Centers .£?_! Military Facilities **"• Police Stations Fire Stations Hazardous Waste Airports

Hospitals ■■=--*.' Highway Bndges 0 Warming Centers O Cooling Centers . Schools E3 Railroad Stations

Base Map Data Sources Cook County, ESRI

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CITY OF CHICAGO

COOK COUNTY MWRDGC 100-YEAR INUNDATION AREA

I ' ■} lOU-year Inundalnn Area

MWRDGC Data provided ay Metropolitan. Wjter Reclamation Hisfjict ot Greater Chicago and Cook County

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