

SUMMARY NOTES OF THE JUNE 28, 2018 MEETING OF THE CITY OF MILWAUKEE HAZARD MITIGATION PLAN LOCAL PLANNING TEAM

INTRODUCTION

The June 28, 2018 meeting of the City of Milwaukee Hazard Mitigation Plan Local Planning Team was convened at the Frank P. Zeidler Municipal Building at 9:10 a.m. The meeting was called to order by Kurt Sprangers, Stormwater Manager, City of Milwaukee Department of Public Works. Attendance was taken by circulating a sign-in sheet.

In attendance at the meeting were the following individuals:

Local Planning Team Members

Kurt Sprangers, Chair	Stormwater Manager, City of Milwaukee Department of Public Works
Joseph E. Boxhorn, Secretary	Senior Planner, Southeastern Wisconsin Regional Planning Commission
Kristin Connelly	Principal Planner, City of Milwaukee Department of City Development
Jeffrey Cross	Engineering Assistant, Southeastern Wisconsin Regional Planning Commission
Laura Herrick	Chief Environmental Engineer, Southeastern Wisconsin Regional Planning Commission
Leah Redding	Emergency Management Coordinator, Milwaukee County Office of Emergency Management
Jose Rivera	Emergency Response Planning Coordinator, Milwaukee Health Department
Michael Schaefer	Water Security Manager, Milwaukee Water Works
Tim Thur	Infrastructure Administration Manager, City of Milwaukee Department of Public Works

Mr. Sprangers welcomed all attendees to the meeting. He stated that this was the third meeting of the Local Planning Team for the second update to the original plan. He informed attendees that the purpose of the meeting was to review Chapters III and IV of the draft plan.

CONSIDERATION OF SUMMARY NOTES OF SEPTEMBER 13, 2017, LOCAL PLANNING TEAM MEETING

Mr. Sprangers introduced Joseph Boxhorn, Senior Planner, Southeastern Wisconsin Regional Planning Commission (SEWRPC). At Mr. Spranger's request, Mr. Boxhorn reviewed the summary notes from the September 17, 2017, meeting of the Local Planning Team. He stated that the summary notes documented updates that were made to Chapters I and II of the plan based upon discussion that occurred at the prior Team meeting.

Ms. Connelly noted that a Harbor District plan was added to the City of Milwaukee Comprehensive Plan, and that several of the neighborhood plans listed as pending adoption in Table I-1 of Chapter I were adopted by the City. Mr. Boxhorn replied that Table I-1 will be updated to include the changes that occurred to the comprehensive plan. No further comments were provided on the summary notes.

[Secretary's Note: Table I-1 of Chapter I was revised to include the Harbor District Water and Land Use Plan. This table was also revised to show the adoption by the City of the North 27th Street Corridor Strategy on January 29, 2017; the South 27th Street Strategic Action Plan on June 15, 2017; and the Aerotropolis Development Plan on November 7, 2017. A copy of the revised table is attached herein as Exhibit A.]

CONSIDERATION OF CHAPTER III, “ANALYSIS OF HAZARD CONDITIONS,” OF SEWRPC COMMUNITY ASSISTANCE PLANNING REPORT NO. 282 (3RD EDITION), CITY OF MILWAUKEE ALL HAZARD MITIGATION PLAN UPDATE

At Mr. Spranger’s request, Mr. Boxhorn reviewed the preliminary draft of Chapter III of the plan report. Mr. Boxhorn indicated that he would display copies of the maps from Chapter III on the projection screen in the meeting room during discussion of the chapter.

[Secretary’s Note: A copy of Mr. Boxhorn’s presentation is attached herein as Exhibit B.]

Mr. Boxhorn stated that Chapter III does three things: 1) it documents how the hazards that are addressed in the plan were identified, 2) it briefly describes how the risks and vulnerabilities associated with the hazards were assessed, and 3) it presents a profile of each hazard addressed by the plan. He noted that material in the draft chapters that is either new or revised has been highlighted blue in the text. He explained that this was done to assist readers in reviewing the chapter. He indicated that the highlighting will be removed prior to publication of the final report.

Mr. Boxhorn reviewed the section of the draft chapter on hazard identification. No questions or comments were offered on this section.

Mr. Boxhorn reviewed the section of the draft chapter on vulnerability assessment methods. In reference to the subsection on assessments of potential future changes in hazard conditions relative to climate change, Mr. Thur asked whether the projected increase in average temperatures in the City of Milwaukee will lead to an increase in average precipitation during winter months and what impact this might have on the potential for stormwater flooding in the City. Mr. Boxhorn replied that the projected increase in temperatures in the City will likely lead to more rain and freezing rain in winter months and less snow. He added that an increase in average precipitation will likely lead to an increase in the frequency and severity of flooding events that impact the City.

Mr. Boxhorn reviewed the section on flooding and associated stormwater drainage problems. Mr. Sprangers commented that the estimated number of structures in the floodplain appeared to be low. Mr. Thur concurred with Mr. Sprangers’ comment. Mr. Boxhorn replied that most of the numbers came from the Milwaukee Metropolitan Sewerage District’s (MMSD) recent Kinnickinnic River watershed flood management plan. Ms. Herrick asked whether a list is available that provides a more accurate number of structures in the floodplain. Mr. Sprangers replied that no such list is available. He suggested that the structures identified in the Milwaukee Harbor estuary study might be missing from the draft Chapter. Ms. Herrick replied that SEWRPC staff will review the estimate and make any necessary changes.

[Secretary’s Note: SEWRPC staff reviewed the estimated numbers of structures in the floodplain in the City of Milwaukee. A breakdown of the revised count is attached herein as Exhibit C. Chapter III was revised accordingly.]

Mr. Boxhorn introduced Jeffrey Cross of the SEWRPC staff and asked him to review several sections of the draft chapter. Mr. Cross reviewed the section on thunderstorms and related hazards. Mr. Cross stated that a discussion of the vulnerability of mobile and manufactured homes to high winds from thunderstorms was added to this section. He explained that there are currently five mobile home parks located in the City and that installing community saferooms in such parks has been a recent priority for the Wisconsin Division of Emergency Management (WEM). Mr. Thur asked who is responsible for constructing such shelters. Mr. Boxhorn replied that the Federal Emergency Management Agency (FEMA) provides some funding, but the mobile home parks may provide the local match through setting aside land for the shelter. Mr. Thur asked whether the City Department of Community Development was interested in pursuing the installation of such shelters. Ms. Connelly replied that mobile home parks are currently a prohibited land use under the City’s ordinances. She added that the City is seeking to phase out existing mobile home parks.

Mr. Cross reviewed the section of the draft chapter on tornadoes. No questions or comments were offered.

Mr. Cross reviewed the section of the draft chapter on extreme temperatures. He noted that more detailed discussion of extreme cold was added to the chapter. He added that the discussion of extreme heat includes a map showing a geographical analysis of vulnerability to extreme heat that was developed by the Wisconsin Department of Health Services. Mr. Rivera noted that he anticipates that a new map of heat vulnerability based upon additional data will become available next year. Mr. Boxhorn replied that this map will not be available soon enough to use for this update, but that it could be incorporated into the next edition of the hazard mitigation plan.

Mr. Cross reviewed the section of the draft chapter on Lake Michigan coastal hazards. Mr. Sprangers stated that FEMA is conducting studies of velocity zones along the Lake Michigan coast. Ms. Herrick responded that we are currently still awaiting the issuance of preliminary Lake Michigan maps from FEMA. Mr. Sprangers noted that these maps may have V zones showing areas subject to high velocity hazards from coastal flooding. He listed areas along Lincoln Memorial Drive and Jones Island as potential V zone locations. Ms. Herrick replied that she would check the status of this mapping effort.

[Secretary's Note: SEWRPC staff consulted staff from the Wisconsin Department of Natural Resources (WDNR) regarding the status of coastal flood hazard mapping for Wisconsin. WDNR staff anticipate that preliminary digital flood insurance rate maps for the southern counties along Lake Michigan will be released in 2020. In addition, WDNR staff indicated that they are currently working on the development of a model coastal flood-plain ordinance.]

Mr. Cross reviewed the section of the draft chapter on winter storms. No questions or comments were offered.

Mr. Boxhorn reviewed the section of the draft chapter on contamination or loss of water supply. He noted that discussion was added to this section on water main breaks, cross connections, and lead water service lines. He indicated that the hazard involving lead in drinking water would be better addressed in a separate planning effort from the City's hazard mitigation plan and suggested removing the related discussion from the draft chapter and adding a brief explanation as to why the hazard mitigation plan is not addressing it. Mr. Schaefer stated that the Water Works would support removing the issue of lead water service lines from the hazard mitigation plan. Mr. Boxhorn asked Local Planning Team members whether there was a consensus on removing the lead hazard from the plan. The consensus of the Local Planning Team was to remove the lead hazard from the plan.

[Secretary's Note: The last paragraph on page 67 and the first four paragraphs on page 68 were removed from the draft chapter. The following paragraph was added after the last paragraph on page 8:

“Lead Water Service Lines

One hazard addressed by this hazard mitigation plan is the contamination and/or loss of the City's water supply. Lead is one of several potential contaminants that could affect potable water in the City. Lead is a toxic metal that can cause health impacts that result in damage to peoples' nervous systems, kidneys, red blood cells, and reproductive systems. Children are especially sensitive to toxic effects of lead.

“Release of lead from lead water service lines and lead-containing plumbing fixtures and fittings constitute the major sources of lead in drinking water in the City. Most homes in the City that were built prior to 1951 have lead service lines. In addition, plumbing installed prior to 1986 may include fixtures, fittings, and solder containing lead. To reduce the release of lead from plumbing, the Milwaukee Water Works adds anticorrosion agents to municipal water supplies as part of its treatment process.

“People can be exposed to lead from sources other than drinking water. The greatest potential for human exposure to lead results from two of its former uses, as an additive to gasoline and a pigment in paints.

“The Milwaukee Water Works is currently conducting efforts related to addressing lead water services. In addition, the City of Milwaukee Health Department is conducting broader efforts related to lead poisoning within the City. The comprehensive approach required to address the sources and impacts of lead place this issue beyond the scope of what can be accomplished in a hazard mitigation plan. Because of this, the City of Milwaukee all hazard mitigation plan will not address lead in drinking water.”]

Mr. Schaefer suggested revisions to several numbers shown in the vulnerability assessment for contamination or loss of water supply regarding water usage and water main breaks in the City of Milwaukee.

[Secretary’s Note: The first sentence in the last paragraph on page 66 was revised to read (text in bold is included here, and in similar subsequent Secretary’s Notes, to indicate language changed or added onto the text. Text will not be bold in the report):

“As noted in Chapter II, **approximately 94** million gallons per day (mgd) of Lake Michigan surface water are utilized as the source of supply by all water users in the City of Milwaukee.”

The third sentence in the second full paragraph on page 67 was revised to read:

“The Milwaukee Water Works reported experiencing an average of **537** water main breaks per year over the period from 2008 through 2017.”

The second sentence in the third full paragraph on page 67 was revised to read:

“During the months of January through March 2014, the utility had 553 breaks.”]

Mr. Boxhorn reviewed the section of the draft chapter on hazardous material incidents. Mr. Sprangers commented that the Port of Milwaukee has begun transporting shipments of crude oil. Mr. Boxhorn replied that discussion of this would be added to the draft chapter.

[Secretary’s Note: The following paragraph was added after the first partial paragraph on page 75:

“In September 2017, The City of Milwaukee amended its lease agreement with U.S. Oil, a fuel storage and distribution company that has storage facilities and conducts business at the Port of Milwaukee. The amended lease agreement prohibits the storage of crude oil or shipping of crude oil through the port. The lease does not prohibit storage or shipping of some other flammable substances. U.S. Oil began shipping ethanol through the Port of Milwaukee in spring 2018. The size of the first shipment was about 100,000 barrels. The company anticipates that it will make three to five ethanol shipments through the port per year.”]

Mr. Boxhorn reviewed the section of the draft chapter on medical and health risks. No questions or comments were offered on this section.

Mr. Boxhorn reviewed the section of the draft chapter on terrorism. Mr. Rivera asked whether the plan will address cyberattacks. Mr. Boxhorn replied that the consensus of the Local Planning Team at a prior meeting was that the mitigation options available to local governments for addressing cyberattack were limited and consequently this plan will not address this hazard.

Mr. Boxhorn reviewed the section of the draft chapter on fire and emergency medical incidents. No questions or comments were offered on this section.

CONSIDERATION OF CHAPTER IV, “HAZARD MITIGATION GOALS AND OBJECTIVES,” OF SEWRPC COMMUNITY ASSISTANCE PLANNING REPORT NO. 282 (3RD EDITION) CITY OF MILWAUKEE ALL HAZARD MITIGATION PLAN UPDATE

At Mr. Sprangers’ request, Mr. Cross reviewed the preliminary draft of Chapter IV of the plan report. Mr. Cross stated that Chapter IV outlines the desired goals and objectives of the hazard mitigation plan. He indicated that no changes were made to the chapter other than to update and revised several references. No questions or comments were offered on this chapter.

DISCUSSION OF FUTURE PUBLIC MEETINGS

Mr. Boxhorn told the Local Planning Team that FEMA requires that at least two public meetings be held during the planning process to give the public an opportunity to comment on the plan. He indicated that this would be a good time to hold the first of these meetings. He explained that he anticipates that this meeting would cover the purpose and scope of the plan updating effort, review progress to date, and provide members of the public with an opportunity to ask questions and offer comments about the plan. He noted that members of the Local Planning Team are welcome to attend the meeting, but their attendance is not required.

Mr. Sprangers asked when the meeting should be held. Mr. Boxhorn replied that it should be held within the next month or so, but that he and Mr. Sprangers could discuss potential dates after the meeting.

[Secretary’s Note: In consultation between City and SEWRPC staffs, it was decided to hold the public meeting on November 7, 2018.]

ADJOURNMENT

There being no further business, the meeting was adjourned by unanimous consent at 10:44 a.m.

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- Exhibit A: Table I-1 from Docs # 239983
- Exhibit B: Boxhorn presentation (Docs #242605)
- Exhibit C: Revised structure count (Docs #243480)

Table I-1

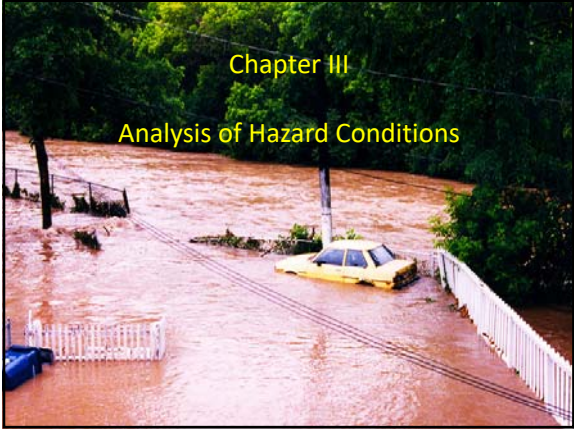
**CITY OF MILWAUKEE COMPREHENSIVE PLAN:
CITYWIDE POLICY PLAN, AREA PLANS, AND RELATED ACTION PLANS**

Area	Plans	Adoption and Amendment Dates
Citywide	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: Citywide Policy Plan</i> , March 2010	Adopted on March 2, 2010
Downtown	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: Downtown—A Plan for the Area</i> , October 2010	Adopted on October 12, 2010
Fond du Lac and North	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: Fond du Lac and North—A Plan for the Area</i> , March, 2004	Adopted on March 19, 2004
Harbor District	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: Harbor District Water and Land Use Plan</i> , December 2017	Adopted on February 6, 2018
Menomonee Valley	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: Menomonee Valley 2.0—A Plan for the Area</i> , June 2015	Adopted on June 2, 2015
Near North	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: Near North Side—A Plan for the Area</i> , December 2009	Adopted on December 22, 2009
Near South	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: Near South Side—A Plan for the Area</i> , May 2009, amended June 23, 2015 and March 1, 2016	Adopted on May 27, 2009; amended on June 23, 2015 and March 1, 2016
	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: Walker's Point Strategic Action Plan—A Plan for the Area</i> , June 2015	Adopted on June 23, 2015
	City of Milwaukee Department of City Development, Walker Square Neighborhood Association, <i>Milwaukee Comprehensive Plan: Walker Square Strategic Action Plan—A Part of the Near South Side Area Plan</i> , December 2015	Adopted on March 1, 2016
Near West	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: Near West Side—A Plan for the Area</i> , March 2004, amended March 3, 2009	Adopted on March 19, 2004 and amended on March 3, 2009
	City of Milwaukee Department of City Development, Near West Side Partners, <i>Milwaukee Comprehensive Plan: North 27th Street Corridor Strategy—A Part of the Near West Side Area Plan</i> , January 2018	Adopted January 29, 2017
Northeast	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: Northeast Side—A Plan for the Area</i> , July 2009	Adopted on September 1, 2009
	City of Milwaukee Department of City Development, Riverworks Development Corporation, Riverworks Business Improvement Districts 25 and 36, <i>Milwaukee Comprehensive Plan: Riverworks Strategic Action Plan</i> , Summer 2012	Plan in final draft stage, pending adoption
Northwest	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: Northwest Side—A Plan for the Area</i> , December 2007, amended September 26, 2017	Adopted on February 5, 2008 and amended on September 26, 2017
	City of Milwaukee Department of City Development, Granville Business Improvement District, <i>Milwaukee Comprehensive Plan: Granville Strategic Action Plan and Land Use Study—A Part of the Northwest Side Area Plan</i> , October 2017	Adopted on September 26, 2017
Southeast	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: An Area Plan for the Southeast Side</i> , October 2008	Adopted on October 29, 2008

Area	Plans	Adoption and Amendment Dates
Southeast (continued)	City of Milwaukee Department of City Development, South 27th Street Business Improvement District, <i>Milwaukee Comprehensive Plan: South 27th Street Strategic Action Plan—A Part of the Southeast and Southwest Side Area Plans</i> , March 2017	Adopted on June 15, 2017
	City of Milwaukee Department of City Development, Aerotropolis Milwaukee, The Gateway to Milwaukee Improvement District, <i>Milwaukee Comprehensive Plan: Milwaukee Aerotropolis Development Plan Summary—A Part of the Southeast Side Area Plan</i> , August 2017	November 7, 2017
Southwest	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: Southwest Side—A Plan for the Area</i> , December 2009	Adopted on December 22, 2009
	City of Milwaukee Department of City Development, South 27th Street Business Improvement District, <i>Milwaukee Comprehensive Plan: South 27th Street Strategic Action Plan—A Part of the Southeast and Southwest Side Area Plans</i> , March 2017	Adopted on June 15, 2017
Third Ward	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: The Third Ward—A Plan for the Neighborhood</i> , May 2005, amended July 12, 2006	Adopted on May 20, 2005 and amended on July 12, 2006
Washington Park	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: Washington Park—A Plan for the Area</i> , June 2006	Adopted on June 20, 2006
West	City of Milwaukee Department of City Development, <i>Milwaukee Comprehensive Plan: West Side—A Plan for the Area</i> , December 2009	Adopted on December 1, 2009

Source: City of Milwaukee Department of City Development and SEWRPC.

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Chapter III Overview

- Documents the identification of the hazards that the plan addresses
 - This includes brief descriptions of hazards that are not addressed but were considered for inclusion during the planning process
- Describes how risks and vulnerabilities were assessed
- Gives a profile of each hazard addressed by the plan

Hazard Identification

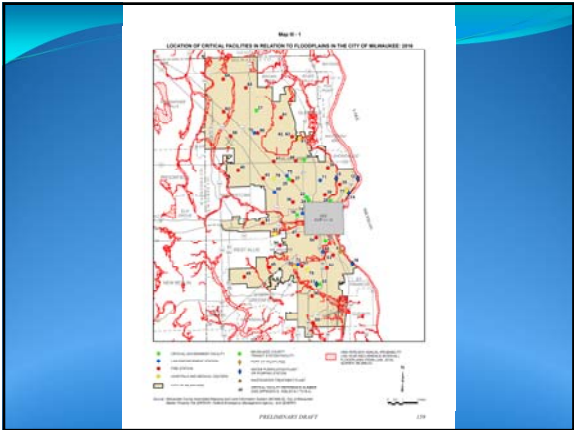
Table III-8
SUMMARY OF HAZARDS TO BE CONSIDERED IN THE CITY OF MILWAUKEE HAZARD MITIGATION PLAN

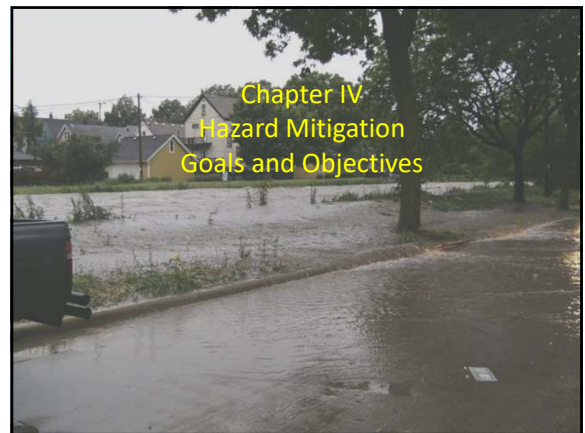
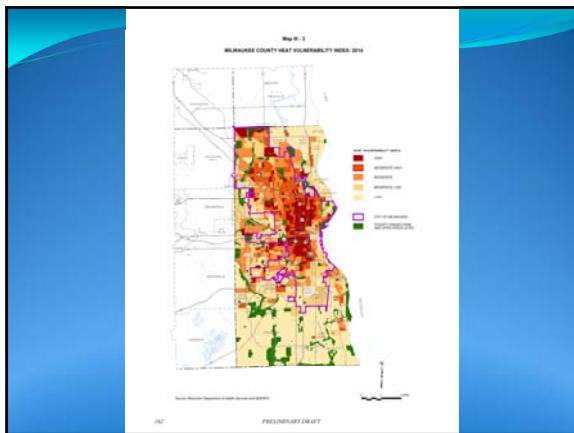
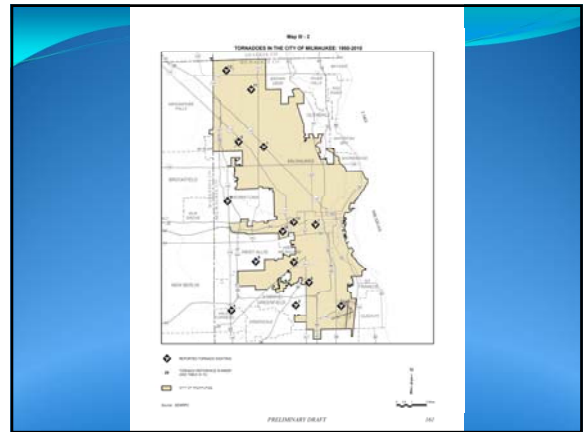
Hazard	Risk of Occurrence (high, medium, or low)	Warning Time (short, medium, or long)	Damage to Property (high, moderate, or low)	Threat to Life Safety (high, moderate, or low)	Duration of Impact (long, moderate, or short)	Size of Affected Area (large, medium, or small)
Natural Hazards						
Flooding	High	Medium	High	Low	Moderate	Large
Thunderstorms, High Wind, Hail, Lightning	High	Short	High	High	Long	Large
Winter storms	Medium	Medium	Low	Medium	Moderate	Large
Tornadoes	Low	Short	High	Medium	Short	Small
Temperature Extremes	Medium	Long	Low	High	Long	Large
Coastal Erosion	Low	Long	Medium	Low	Long	Small
Other Hazards						
Contamination or Loss of Water Supply	Low	Short	Moderate	Medium	Moderate	Medium
Hazardous Materials Incident	High	Short	Low	Medium	Moderate	Small
Medical/Health Risks	Low	Short	Low	High	Moderate to long	Small to large
Terrorist Incident	Low	Short	Moderate to high	High	Short	Small to medium
Major Fire and Emergency Incident	Low	Short	Low	High	Moderate to long	Small to large

Source: City of Milwaukee Hazard Mitigation **Local Planning Team** and SEWRPC.

Hazard Profiles

- Most profiles follow a similar format
 - Definition and description of the hazard
 - Description of notable historical events that affected the City
 - Description of some notable recent events that affected the City
 - Assessment of vulnerabilities to the hazard and community impacts from the hazard
 - Description of potential future changes in impacts
 - Discussion of any differences among communities in risks





Hazard Mitigation Goals

1. A spatial distribution of the various land uses that minimizes hazards and dangers to health, welfare, and safety as well as further enhancing the economic base of the City, and which will result in a compatible arrangement of land uses properly related to the existing and proposed supporting transportation, utility, public safety, and public facility systems.
2. A spatial distribution of the various land uses which maintains biodiversity and which will result in the protection and wise use of the natural resources of the City, including its soils, inland lakes and streams, groundwater, wetlands, woodlands, and natural areas and critical species habitats.

Hazard Mitigation Goals

3. The provision of facilities necessary to maintain a high quality of fire and police protection and emergency medical services throughout the City.
4. The development of a stormwater management system, floodplain management system, and sanitary sewer systems which reduce the exposure of people to drainage- and flooding-related inconvenience and to health and safety hazards and which reduces the exposure of real and personal property to damage through inundation and basement backup resulting from flooding, inadequate stormwater drainage, or sewerage system capacity.

Hazard Mitigation Goals

5. The identification of high erosion risk Lake Michigan shoreline areas and the development of a coastal erosion management program which reduces the exposure of people and real and personal property to shoreline erosion and bluff erosion.
6. The identification and **development of programs which complement emergency operations plans from the County and adjacent municipalities, to mitigate the potential exposure to health and safety and the exposure of real and personal property** resulting from a broad range of hazards which are unpredictable and not geographically specific in nature.

Public Meetings on Hazard Mitigation Plan

- Times and locations to be determined
- Review progress on the plan update to date
- Seek public input
 - Problem areas relative to hazards
 - Potential mitigation measures and projects
 - Comments on draft plan

Project Web Site

- <http://www.sewrpc.org/HMP>
 - Agendas and other meeting materials
 - Summary notes from meetings
 - Presentations
 - Draft chapters as they are completed
 - Comment screen
 - Other ways to send a comment
- Email to jboxhorn@sewrpc.org

City of Milwaukee Hazard Mitigation Plan (#243480.docx)

2018

Number of structures in the 100-year floodplain (City of Milwaukee only)

Watershed	Stream	100-yr Floodplain Source	Number of Structures in the Floodplain for City	Notes	
Milwaukee (subtotal = 19)	Milwaukee River	FEMA	16	*13 downstream of former North Ave dam, 3 homes upstream of dam	
	Lincoln Creek	FEMA	2	One at Custer & 60 th , one at mouth	
	Brown Deer Park Creek	MCAMLIS	0		
	Beaver Creek	FEMA (2017 LOMR)	1		
Menomonee River (subtotal = 52)	Menomonee River	CLOMR (North Ave to Mouth)	43	Note – CLOMR includes the Western Milwaukee Phase 2B levee which is a future condition, 4 at 45 th St, * 39 at mouth. {Note - An additional 43 structures are in current floodplain without WM Phase 2B project (map attached). With the hanging levee alternative in the WM Phase 2B project, 6 additional structures adjacent to Hwy 175 would remain in the floodplain. So add 43 to take WM P2B out, add 6 to update to latest proposed P2B design}	
		MCAMLIS (upstream of North Ave	0		
		MCAMLIS	1		
		MCAMLIS	1		
		MCAMLIS	7		
		Oak Creek	FEMA	6	2 on North Branch, 4 on GMIA
		Kinnickinnic River and Tributaries	MCAMLIS	734	688 is MIMSD count plus *46 at mouth
		TOTAL	811		

* Estuary counts all based on maps attached – which match source listed above for the three rivers

LKH/RJP/JAM 6/29/18