SUMMARY NOTES OF THE OCTOBER 23, 2015 MEETING OF THE KENOSHA COUNTY HAZARD MITIGATION PLAN LOCAL PLANNING TEAM

INTRODUCTION

The October 23, 2015, meeting of the Kenosha County Hazard Mitigation Plan Local Planning Team was convened at the Kenosha County Center at 9:02 a.m. The meeting was called to order by Lieutenant Gil Benn, Director of the Kenosha County Division of Emergency Management. Attendance was taken by circulating a sign-in sheet.

In attendance at the meeting were the following individuals:

Local Planning Team Members

Lt. Gil S. Benn, Chair	Director, Kenosha County Division of Emergency Management
Joseph E. Boxhorn, Secretary	Senior Planner, Southeastern Wisconsin Regional Planning Commission
Ray Arbet	Director, Kenosha County Department of Public Works
Michael Blodgett	Assistant Communications Manager, Kenosha Joint Services
Robert Grieshaber	Safety-Risk Manager, University of Wisconsin-Parkside
Matthew N. Haerter	Battalion Chief, City of Kenosha Fire Department
William Hoare	Associate Vice President, Carthage College
Laura Kletti	Chief Environmental Engineer, Southeastern Wisconsin Regional Planning Commission
Dave Lewis	Assistant General Manager, Kenosha Water Utility
Dennis Linn	Captain, Twin Lakes Police Department
John Meland	Principal Specialist, Southeastern Wisconsin Regional Planning Commission
Mark Melotik	Director of Environmental Health, Kenosha County Department of Health
Aaron Owens	Planner, Southeastern Wisconsin Regional Planning Commission
Tim Popanda	Administrator, Village of Paddock Lake
Peter Parker	Fire Chief, Village of Bristol
Nakeisha N. Payne	Public Involvement and Outreach Specialist, Southeastern Wisconsin Regional Planning Commission
Leigh Presley	Agriculture Educator for Kenosha and Racine Counties, University of Wisconsin-Extension
Tom Shircel	Assistant Village Administrator, Village of Pleasant Prairie
Mike Slover	Chief, Salem Fire and Rescue
David Smetana	Chief of Police, Village of Pleasant Prairie
Dan Treloar	Conservationist, Kenosha County Department of Planning and Development
Capt. Ken Weyker	Commander of Field Operations, Kenosha County Sheriff's Department

Lt. Benn welcomed all attendees to the meeting. He noted that the Kenosha County hazard mitigation plan is required to be updated every five years, and that this would be the second update to the original plan. At the request of Lt. Benn, the team members introduced themselves.

Lt. Benn introduced Nakeisha Payne, Public Involvement and Outreach Specialist, Southeastern Wisconsin Regional Planning Commission (SEWRPC). Ms. Payne announced that the fourth round of public workshops for VISION 2050, the updating for the regional land use and transportation plans, will be held in November 2015. She indicated that these workshops will present the alternative plans that have been developed. She added that one

of the workshops will be held at 5:00 pm on November 12, 2015, in the Madrigrano Auditorum at Gateway Technical College in Kenosha.

[Secretary's Note: Additional information on the VISION 2050 planning effort can be found on its website at: http://vision2050sewis.org/Vision2050]

CONSIDERATION OF THE SUMMARY NOTES OF THE APRIL 22, 2015, LOCAL PLANNING TEAM MEETING

Lt. Benn introduced Joseph Boxhorn, Senior Planner, Southeastern Wisconsin Regional Planning Commission (SEWRPC). At Lt. Benn's request, Mr. Boxhorn reviewed the summary notes from the April 22, 2015, meeting of the Local Planning Team. No questions or comments were offered on the summary notes. Mr. Boxhorn indicated that the Local Planning team members could send him any comments or corrections to the summary notes by electronic mail or through the comments screen on the project webpage. He stated that if he receives no comments within a week, he will consider the summary notes to present an accurate reflection of what transpired at the April 22, 2015, meeting.

CONSIDERATION OF CHAPTER I, "INTRODUCTION AND BACKGROUND," OF SEWRPC COMMUNITY ASSISTANCE PLANNING REPORT NO. 278 (3RD EDITION), *KENOSHA COUNTY HAZARD MITIGATION PLAN UPDATE: 2016-2020*

At Lt. Benn's request, Mr. Boxhorn reviewed the preliminary draft of Chapter I of the plan report. Mr. Boxhorn indicated that he would display copies of the maps from Chapters I and II on the projection screen in the meeting room during discussion of these chapters.

[Secretary's Note: Mr. Boxhorn's presentation is attached herein as Exhibit A.]

Lt. Benn noted that a portion of the Town of Somers has recently incorporated as a village. He asked whether the remnant portion of the Town will be covered under the plan. Mr. Boxhorn answered that the Towns are covered under the plan once it is adopted by the County.

In reference to recent plan maintenance and implementation activities, Lt. Benn noted that the Kenosha County Land Information Office created a flood inundation tool for a section of the Fox River. He asked whether this tool is discussed in Chapter I. Mr. Boxhorn replied that his understanding is that the tool is available to County departments. He indicated that it is discussed in the subsection on implementation activities in Chapter I.

Mr. Meland asked that Kenosha County be added to the funding agencies listed in the description of the Kenosha County Fox River Flood Mitigation Program. Mr. Treloar added that the County budget dedicates $75,000 for purchasing property in the project area, should it become available. Mr. Arbet noted that these funds are not restricted to the purchase of properties with flood prone structures.

[Secretary's Note: The sixth and seventh sentences in the second paragraph on page 9 of the draft chapter were revised to read as follows (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):

"Funding for this program has been obtained from several sources, including **Kenosha County,** FEMA, the Wisconsin Division of Emergency Management, the Wisconsin Department of Natural Resources, and Federal Community Development Block Grants. **In addition, Kenosha County has dedicated funding to this program through its budget.** The program is administered by the Kenosha County Housing Authority, with staff support provided by SEWRPC."]

Mr. Boxhorn asked whether there were any additional corrections or comments to Chapter I. None were offered. He indicated that members of the Local Planning Team could submit additional comments to him via the project website or electronic mail.

CONSIDERATION OF CHAPTER II, "BASIC STUDY AREA INVENTORY AND ANALYSIS," OF SEWRPC COMMUNITY ASSISTANCE PLANNING REPORT NO. 278 (3RD EDITION), *KENOSHA COUNTY HAZARD MITIGATION PLAN UPDATE: 2016-2020*

At Lt. Benn's request, Mr. Boxhorn reviewed the preliminary draft of Chapter II of the plan report.

In reference to the dams shown on Map II-6, Mr. Popanda asked where dam number 25 is located. Mr. Arbet replied that this dam is located in a park. Lt. Benn asked whether some of the dams shown on Map II-6 are privately owned. Mr. Boxhorn replied that some of them are privately owned. Mr. Arbet asked whether dam number 26 on Map II-6 is the dam located along the Pike River, noting that such a dam near the location shown was recently removed. Mr. Boxhorn replied that this is not the same dam and that the dam removal Mr. Arbet referred to is discussed in the text.

> [Secretary's Note: Dam number 26 on Map II-6 is Marescalo Dam, which is located on an unnamed tributary to the Pike River. The removal of the dam along the Pike River at Petrifying Springs Park is discussed on page 10 of preliminary draft Chapter I of the plan report.]

Mr. Treloar asked whether the dam on Lake Shangri-La is rated as having a high hazard potential. Ms. Kletti replied that Table II-8A indicates that it is so rated.

In reference to Lake Michigan shoreline erosion hazard areas, Mr. Hoare stated that Carthage College has completed a bluff study for its shoreline. He offered to provide the data from the study.

> [Secretary's Note: no data had been provided.]

Mr. Treloar commented that the Lake Michigan shoreline erosion study should be updated. Lt. Benn noted that some land was lost to erosion in the City of Kenosha as a result of wave run-up. Mr. Haerter added that the City has performed some repair work and indicated that he would forward contact information for the appropriate City department to SEWRPC staff. Mr. Lewis noted that the parks department may have information on this.

> [Secretary's Note: Subsequent to the meeting of the Local Planning Team, Mr. Haerter provided SEWRPC staff with contact information for the City of Kenosha Department of Public Works via electronic mail. SEWRPC staff contacted the Department and as of the date of distribution of these summary notes, no data had been provided.]

In reference to Map II-10. Mr. Owens noted that Batten International Airport in Racine is privately owned.

> [Secretary's Note: Map II-10 was revised to indicate that Batten Airport is privately owned.]

In reference to utilities, Mr. Arbet noted that some private data storage facilities are located in Kenosha and asked whether they should be inventoried. Mr. Boxhorn asked if it was the role of local government to try to mitigate threats to private data. Mr. Arbet replied that if these archives do not contain public data, then this probably is not something for local government to address. He added that loss of the data at these facilities could cause major economic problems and that it is important that someone address this issue.

Lt. Benn commented that trains carrying oil from the Bakken Fields pass through the County on the Canadian Pacific tracks. He expressed concerns about the alerts and notifications that are sent over the State's E-Sponder system prior to a train carrying oil passing through the County. He noted that while a general alert is sent, it does not include the scheduled date and time that the train is anticipated to pass through the County nor does it give

any details regarding the train's cargo. Mr. Boxhorn responded that we may be able to document this in the discussion on hazardous materials.

Mr. Treloar commented that the locations of cellular communication towers should be documented on Map II-14. He indicated that the County has geographic information system shapefiles that indicate these locations. Mr. Boxhorn replied that these locations could be added if the County were to provide the data, noting that the data SEWRPC has is about 10 years out of date. Mr. Blodgett stated that if the data were provided by the companies for the 911 dispatch center, it may be subject to nondisclosure agreements that would preclude publishing it in a public document.

[Secretary's Note: Mr. Treloar provided these shape files. According to the County staff, the data were provided in support of the communication companies cell tower permits, and not subject to nondisclosure agreements.]

In reference to the section on law enforcement, Mr. Smetana indicated that there is only one special weapons and tactics team in the County, noting that it is a joint team between the Sheriff's Department and the City of Kenosha Police Department. He stated that the Village of Pleasant Prairie also has a canine unit. Lt. Benn indicated that the Sheriff's Department also has a snowmobile unit.

[Secretary's Note: The last three sentences in the first paragraph on page 15 of the draft chapter were revised to read as follows:

"The Sheriff's Department also has canine, all-terrain vehicle, **snowmobile,** and marine units. The City of Kenosha Police Department's special teams include a bike patrol and a canine unit. **The Village of Pleasant Prairie also has a canine unit.** There **is one** special weapons and tactics (SWAT)-type **team** within the County **which is jointly operated by** the Sheriff's Department and **the** City of Kenosha Police Department."]

Mr. Smetana noted that the Village of Pleasant Prairie on the insets to several maps is mislabeled as the Village of Mt. Pleasant.

[Secretary's Note: The label for the Village of Pleasant Prairie was corrected on Maps II-19a, II-20a, II-22a, II-23a, and II-24a.]

Mr. Blodgett said that the locations shown for several fire stations on Map II-16 are incorrect. He noted that several fire and EMS service areas have recently changed or will change effective January 1, 2016. He indicated that he would provide updated information.

[Secretary's Note: At Mr. Blodgett's request, the Kenosha County Division of Land Information provided updated shapefiles showing service area boundaries for police, fire, and EMS services in the County. These were used to revise Maps II-16, II-17, and II-18.]

Mr. Boxhorn asked whether there were any additional corrections or comments to Chapter II. None were offered. He reminded the Local Planning Team that they could submit additional comments to him via the project website or electronic mail.

REVIEW OF RESULTS FROM HAZARD AND VULNERABILITY EXERCISE

Mr. Boxhorn reviewed the results of the hazard and vulnerability assessment tool (HVA) which the Local Planning Team completed at its April 22, 2015, meeting. He briefly explained how the data were analyzed. He noted that the 10 highest-ranked hazards identified by the tool were all related to severe storms or winter weather. He added that other notable hazards identified by the tool were related to automobile accidents and hazardous

material incidents. He noted that a table and text were attached to the agenda for this meeting that summarized the results of the HVA. He indicated that this table and text will be included in Chapter III of the plan report.

DISCUSSION OF HAZARDS TO BE ADDRESSED BY THE KENOSHA COUNTY HAZARD MITIGATION PLAN UPDATE

Mr. Boxhorn stated that as part of the updating process for the hazard mitigation plan, it is important to review the set of hazards that the plan addresses. He explained that this review should make two determinations: 1) whether there are additional hazards that the plan should address and 2) whether current circumstances are such that there is no longer a need for the plan to profile some currently addressed hazards. He noted that factors to consider in making these determinations are the results from the HVA tool and the County's historical experience with hazards. Mr. Boxhorn distributed a handout to the Local Planning Team that contains tables with preliminary data related to the Kenosha County's historical experience with several hazards. He added that these data will be refined as the risk analysis is revised.

[Secretary's Note: A copy of the handout distributed by Mr. Boxhorn is attached hereto as Exhibit B.]

Mr. Boxhorn reviewed the preliminary damage estimates on the handout. He stated that on an average annual basis automobile accidents are responsible for the highest amount of damages to property and crops and account for at least $60 million of damages per year in Kenosha County. He noted that flooding is responsible for at least $1.2 million of damages per year and several types of severe storm events, drought, and railway accidents each account for over $100 thousand of damages per year. Mr. Boxhorn stated that on an average annual basis automobile accidents have the highest impact on human life and account for over 1,950 fatalities and injuries per year in Kenosha County. He noted that there are several hundred cases of sexually transmitted diseases and communicable diseases in the County each year. He added that railway accidents cause about 1.6 deaths and injuries each year and that all other hazards for which he could find data cause less than one death or injury per year. Mr. Boxhorn noted that there were a few hazards for which he could find confirmed incidences but no data on damages and several others for which he could find no data on incidences or damages.

Mr. Boxhorn proposed that this plan update address the set of hazards that were addressed in the previous plan update. Lt. Benn indicated that he feels that the current plan addresses an appropriate set of hazards. Lt. Benn added that the plan should focus on larger hazards.

Mr. Meland asked whether dam failure should be added to the hazards that the plan addresses. Mr. Boxhorn noted that the dam on Vern Wolf Lake failed recently and was rebuilt. Lt. Benn added that this dam had also failed once before. Mr. Arbet commented that the risk of damages in the County from dam failure is not as severe as with some other hazards. Mr. Boxhorn noted that the main impact from dam failure is likely to be flooding downstream of the dam. He suggested that this issue could be addressed in the flooding section of the plan.

Mr. Haerter commented that loss of water supply has been an ongoing issue for the City of Kenosha. He explained that water main breaks during periods of intense cold last winter led to loss of service, noting that at one point about 100,000 people were without water. Lt. Benn noted that the cost of repairing these mains was over $1 million. He added that the City applied to the Federal Emergency Management Agency for funding to address this, but the application was denied. Mr. Haerter added that the City also experienced problems due to water intakes freezing. Mr. Lewis stated that the Kenosha Water Utility has two large water intakes in Lake Michigan and a third intake in the harbor. He noted that the third intake is used during winter to supplement the supply from the other intakes. Mr. Boxhorn indicated that the section of the plan addressing contamination and loss of water supply could be expanded to discuss these cold-weather issues.

Mr. Arbet noted that blooms of toxic algae have been a problem for the City of Toledo which draws its water from Lake Erie. He asked whether this is an issue for the Kenosha Water Utility. Mr. Lewis replied that Kenosha's situation is different, noting that these sorts of algal blooms are not seen in Lake Michigan. He added that discharge limits for phosphorus should reduce phosphorus levels in the Lake, making blooms even less likely.

Mr. Boxhorn asked whether there were other hazards that the Local Planning Team would like to consider either adding to the plan or removing from the plan. None were offered. The consensus of the Team was to address the impact of dam failure in the flooding section of the plan and to expand the section of the plan that addresses contamination and loss of water supply with respect to the impacts of cold weather on water utilities.

OTHER BUSINESS

Lt. Benn noted that there are still homes at risk from flooding along the Fox River, especially near Silver Lake. He asked what progress has been made, especially in the southern part of the project area. Mr. Meland replied that there are still 72 homes left in the corridor. He noted that these are scattered throughout the project area and explained that this is a voluntary buyout program. Mr. Meland indicated that currently no funding is available for acquiring parcels and that funding probably would not become available until there is another disaster.

NEXT MEETING OF THE LOCAL PLANNING TEAM

Mr. Boxhorn reminded the Team that they can submit any additional questions or comments that they may have regarding Chapters I and II to him either through the website or electronic mail. He indicated that at the Team's next meeting, they will review the risk assessment and goal chapters. He stated that this meeting will be scheduled once he finishes updating these chapters. Mr. Boxhorn noted that following that meeting of the Team, a meeting will be scheduled to present the first four chapters to the public and get public input.

ADJOURNMENT

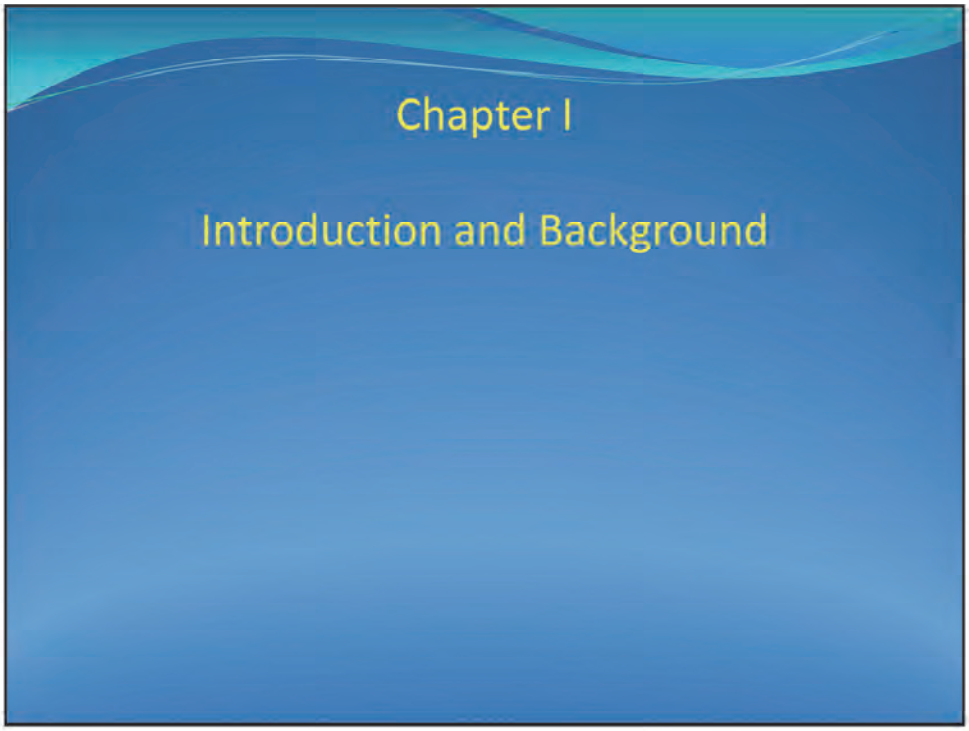
There being no further business, the meeting was adjourned by unanimous consent at 10:41 a.m.

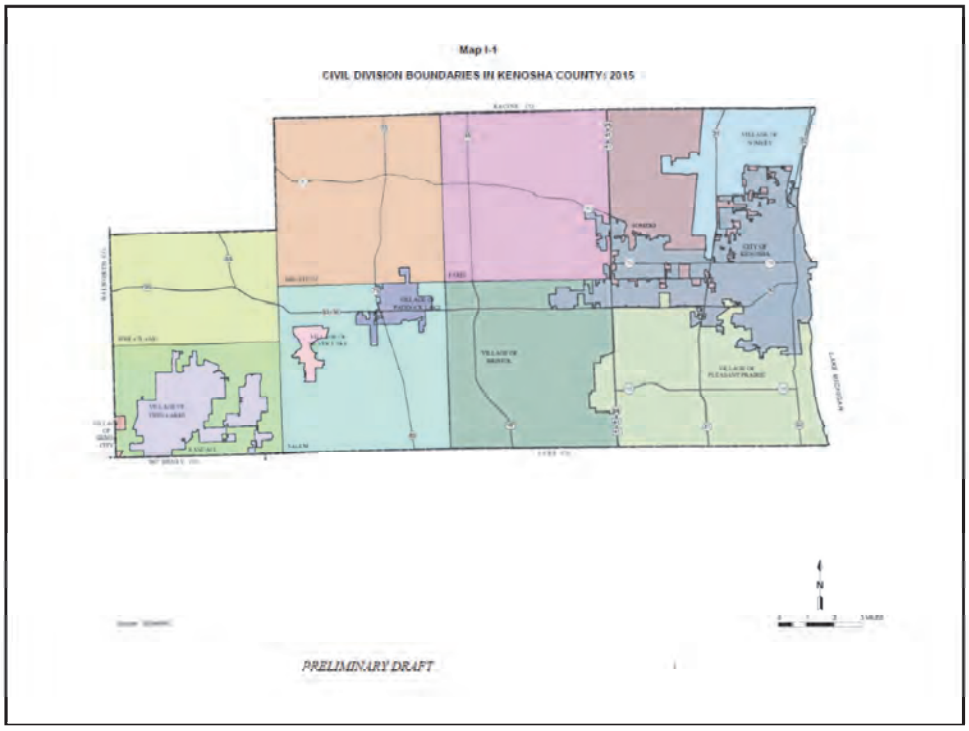
CAPR-278-3 SUMMARY NOTES KENOSHA CTY HMP LPT MTG OCTOBER 23 2015 (00228583).DOC
500-1112
LLK/JEB
2/23/16

Exhibit A: Boxhorn Presentation (#228395)
Exhibit B: Hazard Experience Handout (#228411)

Exhibit A

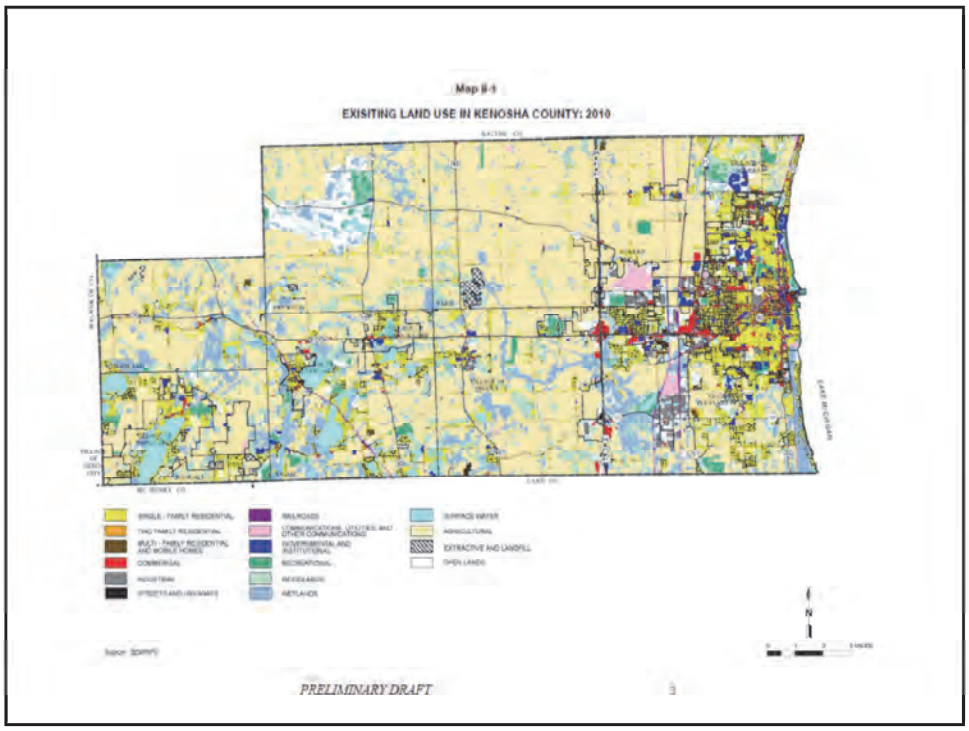

Kenosha County Hazard Mitigation Plan:
Local Planning Team Meeting
October 23, 2015
SEWRPC
Serving the counties of
Kenosha, Milwaukee,
Ozaukee, Racine, Walworth,
Washington, and Waukesha
Joseph E. Boxhorn, Ph.D., Senior Planner
Southeastern Wisconsin Regional Planning Commission
228395

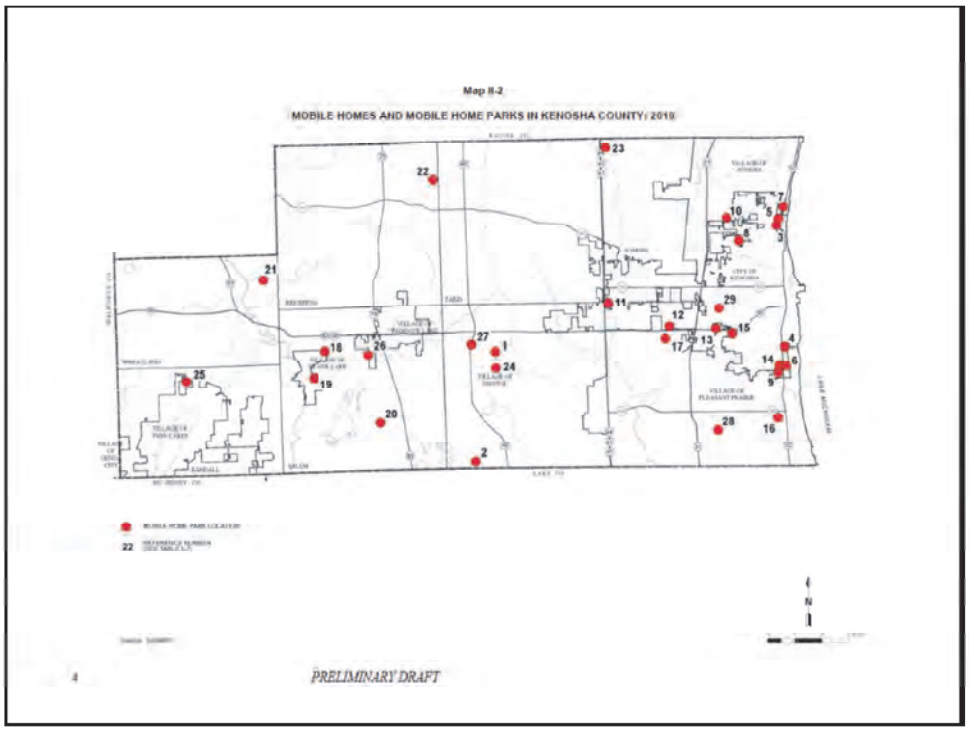

Chapter I
Introduction and Background



Chapter II

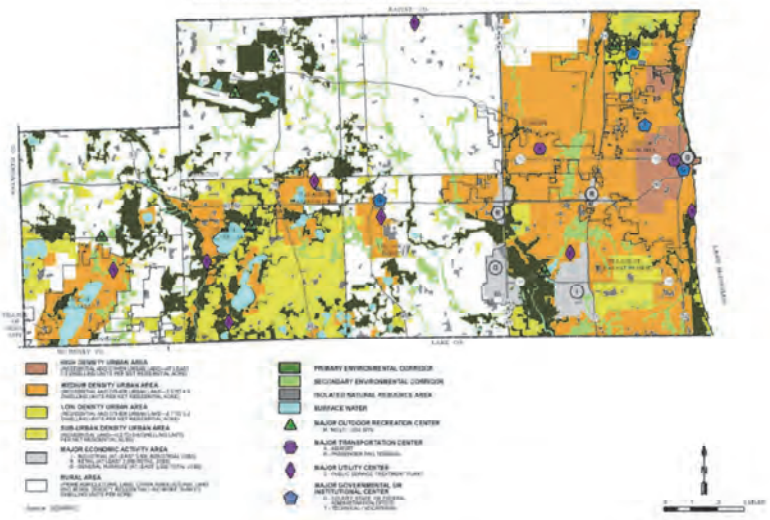
Basic Study Area Inventory and Analysis


Map II-1
EXISITING LAND USE IN KENOSHA COUNTY: 2010
PRELIMINARY DRAFT


Map II-2
MOBILE HOMES AND MOBILE HOME PARKS IN KENOSHA COUNTY: 2019
PRELIMINARY DRAFT

Map II-3

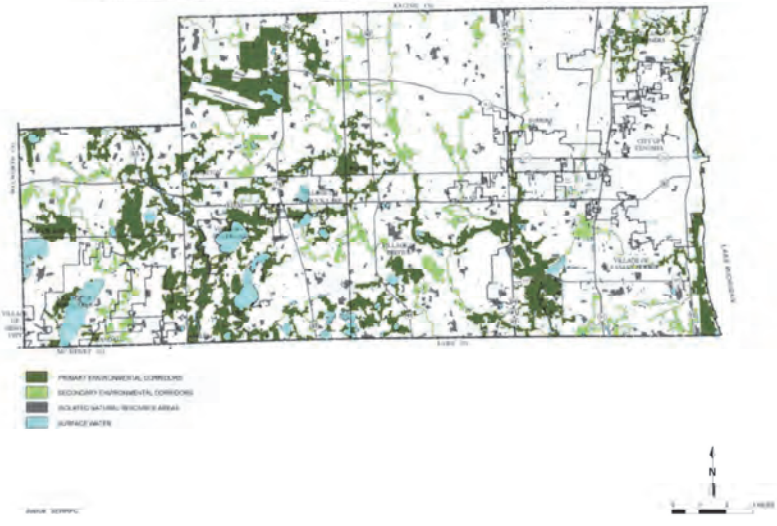
2035 REGIONAL LAND USE PLAN AS IT PERTAINS TO KENOSHA COUNTY



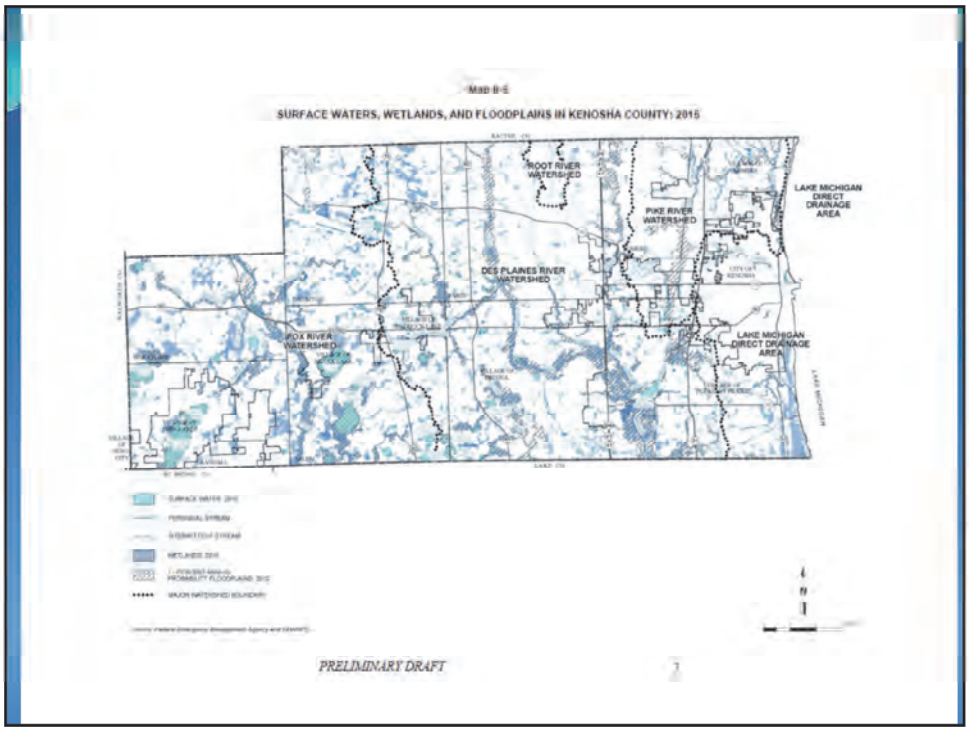
PRELIMINARY DRAFT

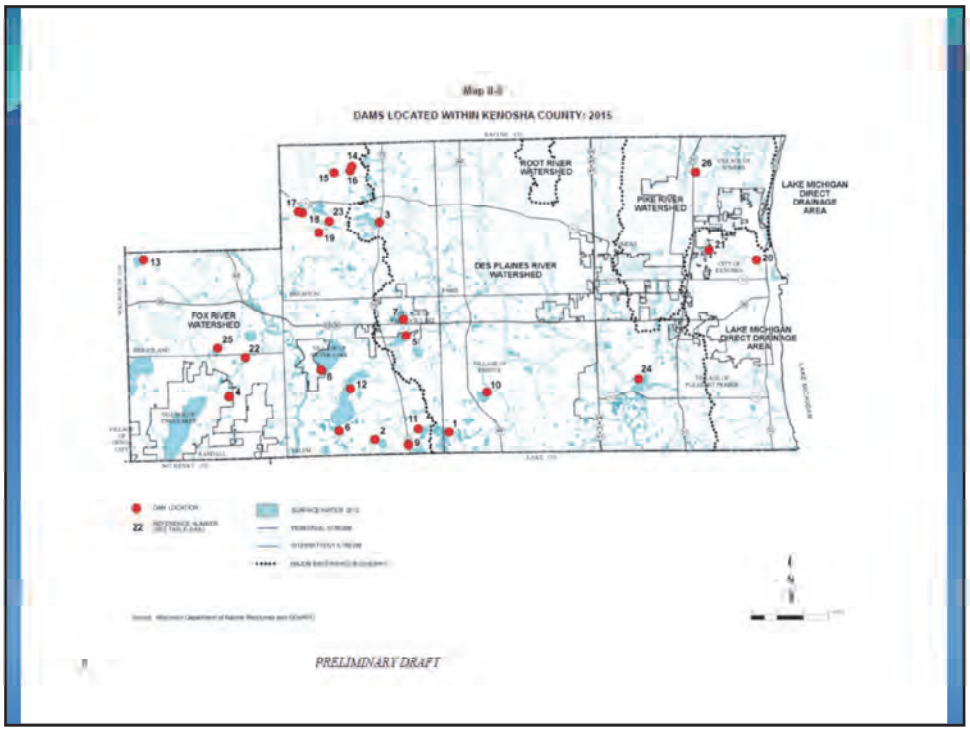
Map II-4

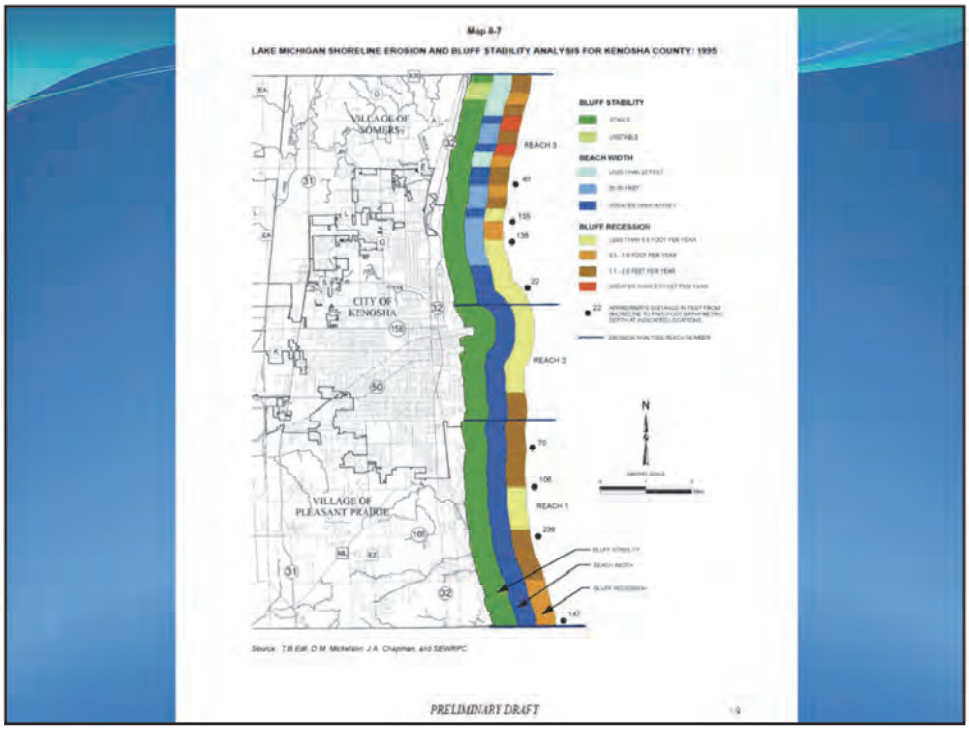
ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS IN KENOSHA COUNTY: 2010

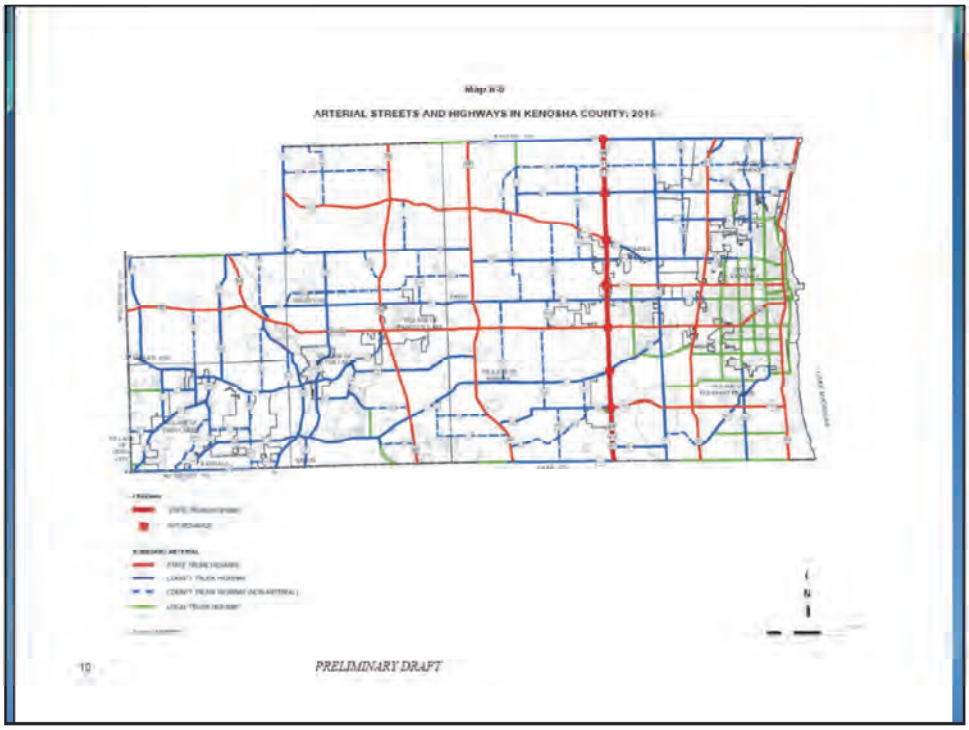


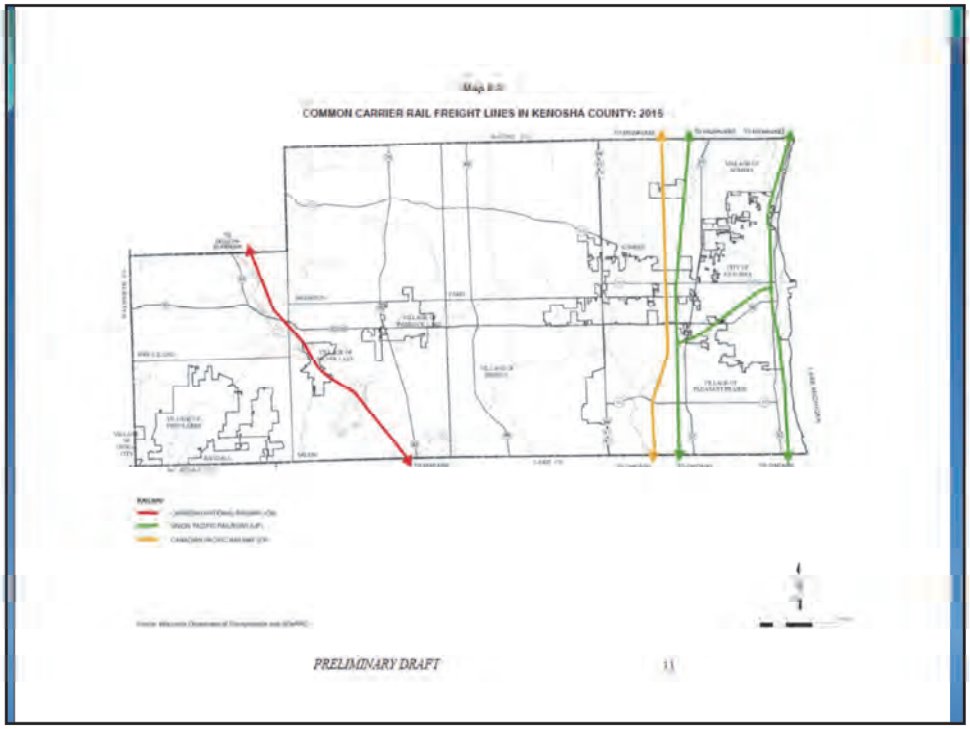
PRELIMINARY DRAFT

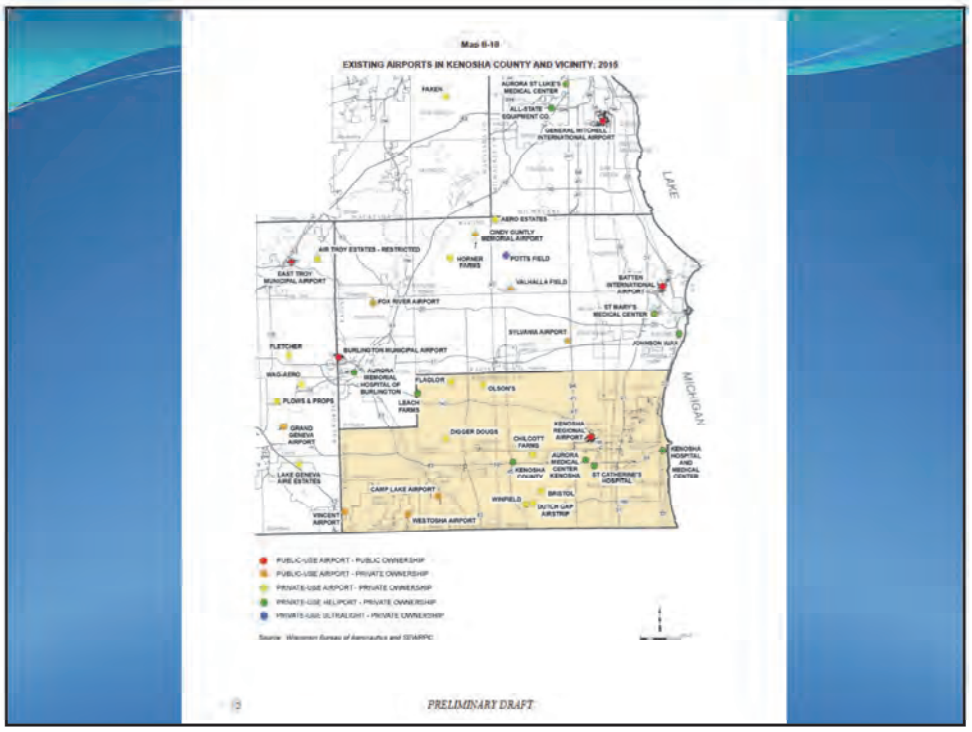

Map II-5
SURFACE WATERS, WETLANDS, AND FLOODPLAINS IN KENOSHA COUNTY: 2015
ROOT RIVER WATERSHED
PIKE RIVER WATERSHED
LAKE MICHIGAN DIRECT DRAINAGE AREA
DES PLAINES RIVER WATERSHED
FOX RIVER WATERSHED
LAKE MICHIGAN DIRECT DRAINAGE AREA
PRELIMINARY DRAFT


Map II-6
DAMS LOCATED WITHIN KENOSHA COUNTY: 2015
ROOT RIVER WATERSHED
PIKE RIVER WATERSHED
LAKE MICHIGAN DIRECT DRAINAGE AREA
DES PLAINES RIVER WATERSHED
FOX RIVER WATERSHED
LAKE MICHIGAN DIRECT DRAINAGE AREA
PRELIMINARY DRAFT


Map II-7
LAKE MICHIGAN SHORELINE EROSION AND BLUFF STABILITY ANALYSIS FOR KENOSHA COUNTY: 1995
VILLAGE OF SOMERS
CITY OF KENOSHA
VILLAGE OF PLEASANT PRAIRIE
REACH 3
REACH 2
REACH 1
BLUFF STABILITY
BEACH WIDTH
BLUFF RECESSION
N
PRELIMINARY DRAFT

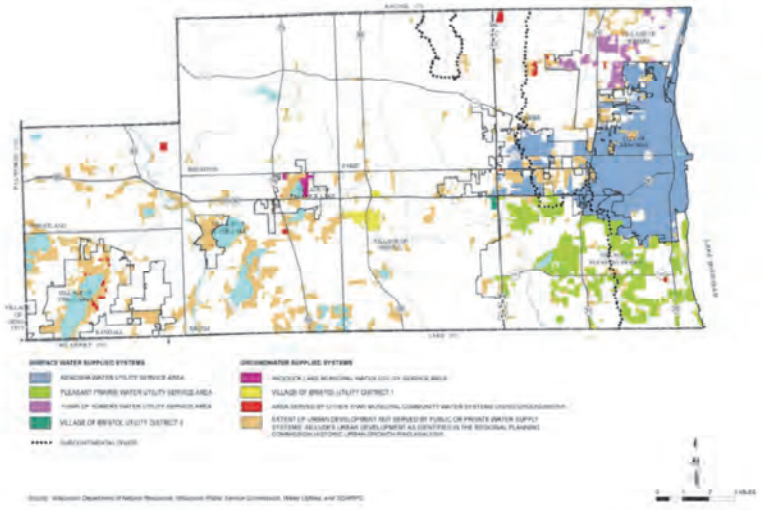

ARTERIAL STREETS AND HIGHWAYS IN KENOSHA COUNTY: 2015
N
10
PRELIMINARY DRAFT


COMMON CARRIER RAIL FREIGHT LINES IN KENOSHA COUNTY: 2015
PRELIMINARY DRAFT


Map 6-10
EXISTING AIRPORTS IN KENOSHA COUNTY AND VICINITY: 2015
LAKE
MICHIGAN
PRELIMINARY DRAFT

Map II.11

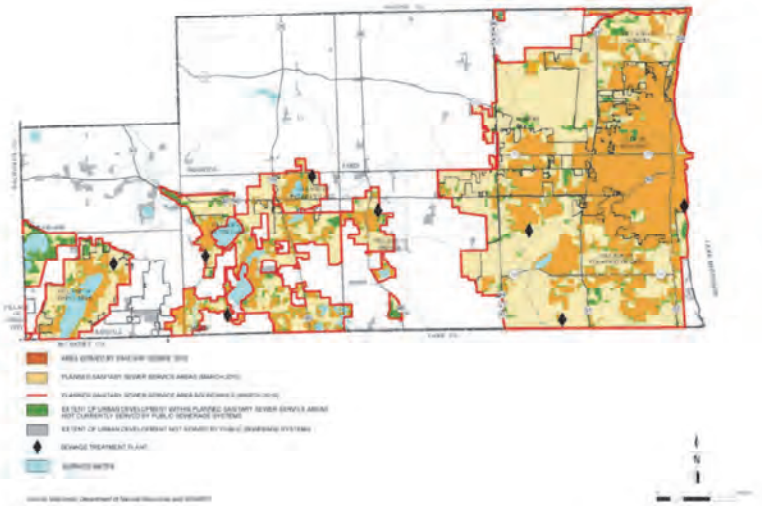
AREAS SERVED BY PUBLIC AND PRIVATE WATER SUPPLY IN KENOSHA COUNTY: 2015



PRELIMINARY DRAFT

Map # 12

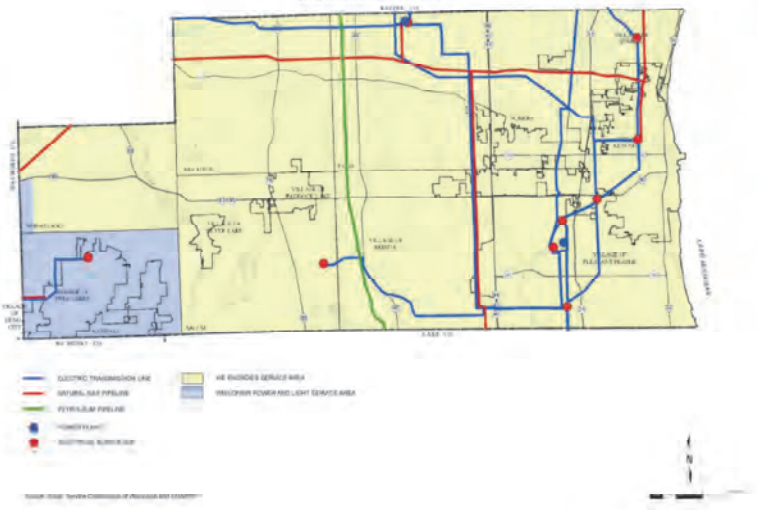
PLANNED SANITARY SEWER SERVICE AREAS AND AREAS SERVED BY SEWER IN KENOSHA COUNTY



PRELIMINARY DRAFT

Map #-13

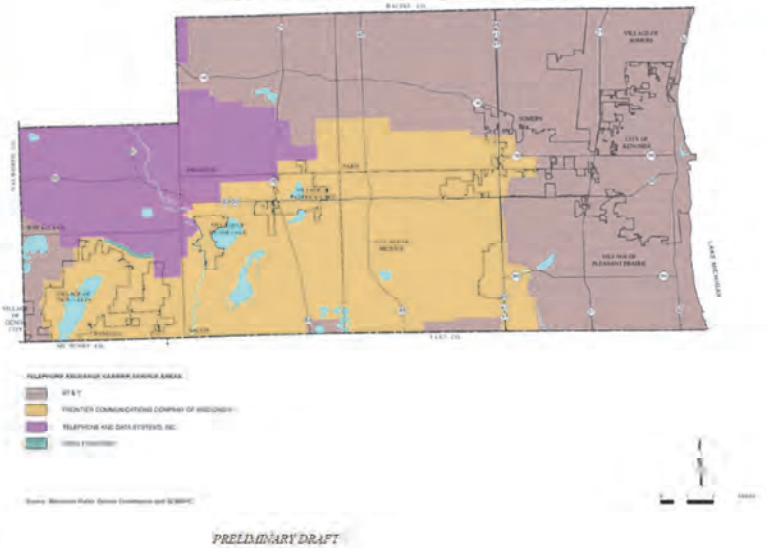
ELECTRIC SERVICE PROVIDERS, ELECTRIC TRANSMISSION LINES, NATURAL GAS PIPELINES, AND PETROLEUM PIPELINES IN KENOSHA COUNTY: 2015



PRELIMINARY DRAFT

Map #-14

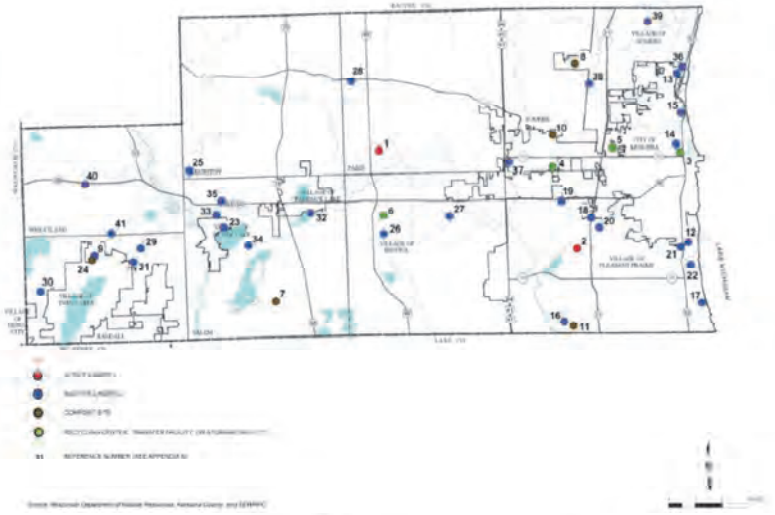
TELEPHONE EXCHANGE CARRIER SERVICE AREAS IN KENOSHA COUNTY: 2011



PRELIMINARY DRAFT

Map II-15

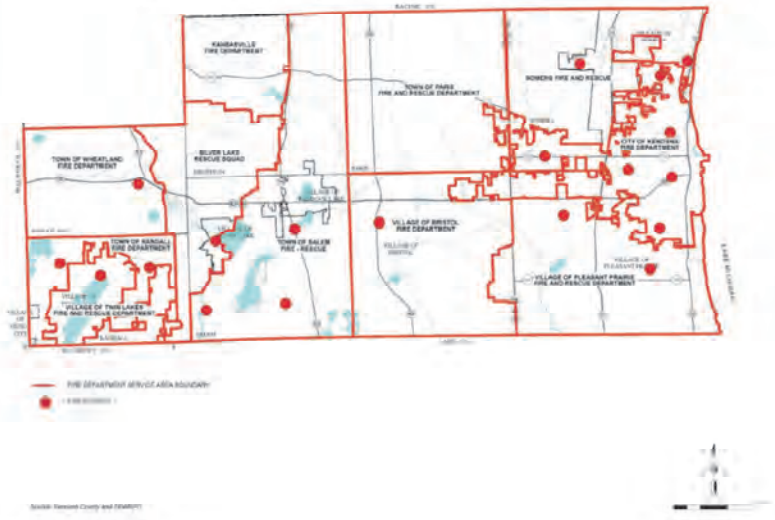
SOLID WASTE DISPOSAL SITES IN KENOSHA COUNTY: 2015



PRELIMINARY DRAFT

Map II-16

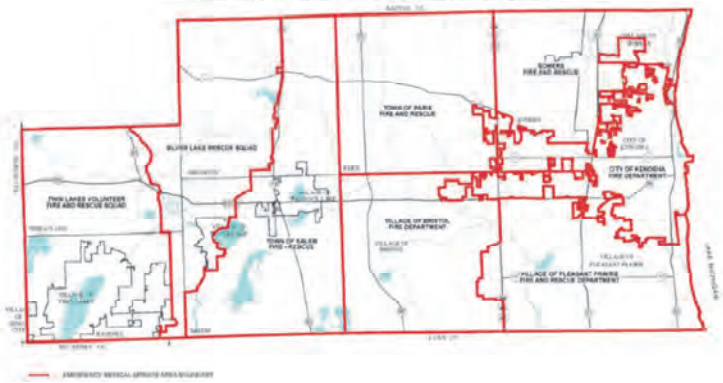
FIRE STATIONS AND FIRE DEPARTMENT SERVICE AREA BOUNDARIES IN KENOSHA COUNTY: 2015



PRELIMINARY DRAFT

Map II-17

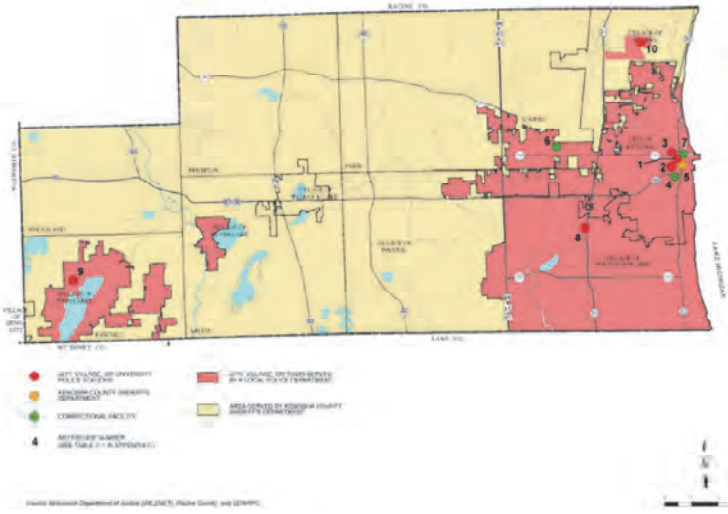
EMERGENCY MEDICAL SERVICE AREAS IN KENOSHA COUNTY: 2015



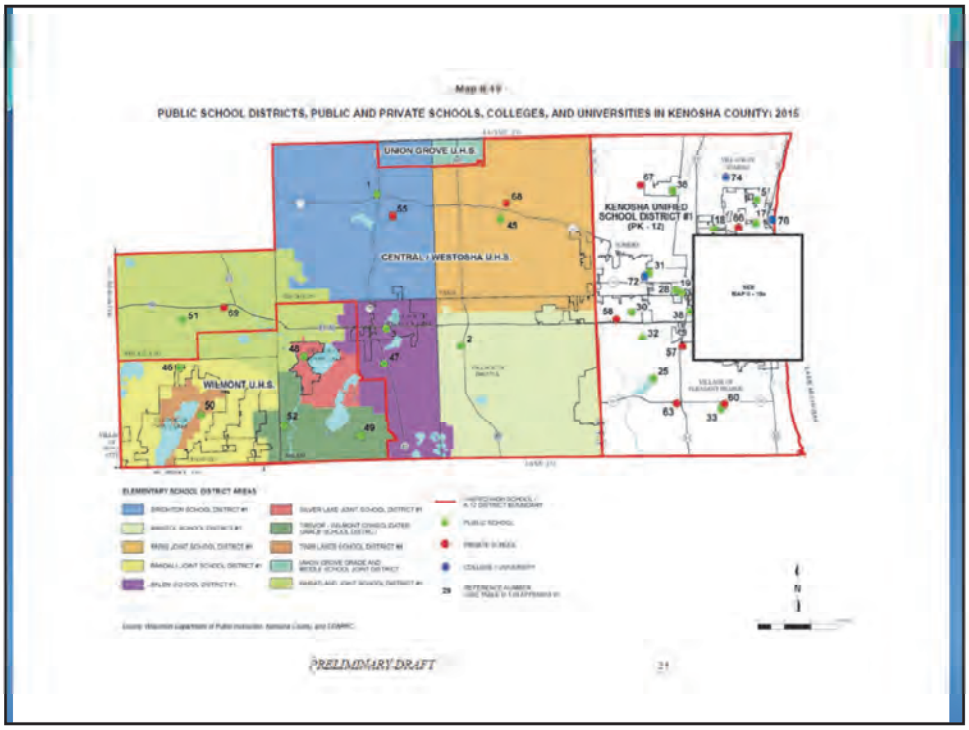
PRELIMINARY DRAFT

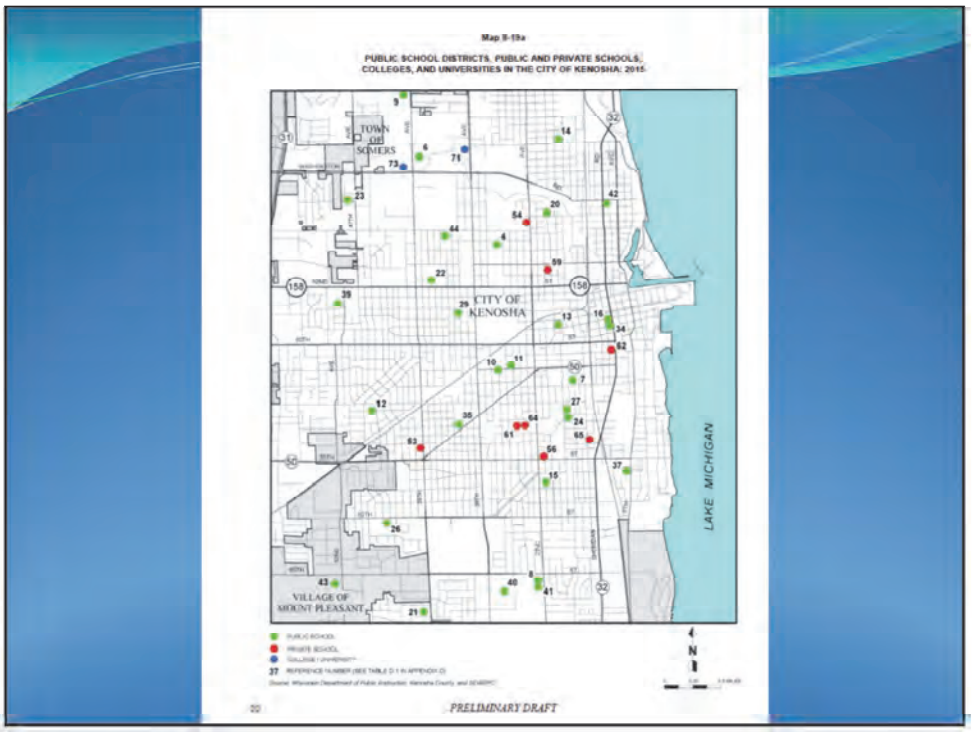
Map II-18

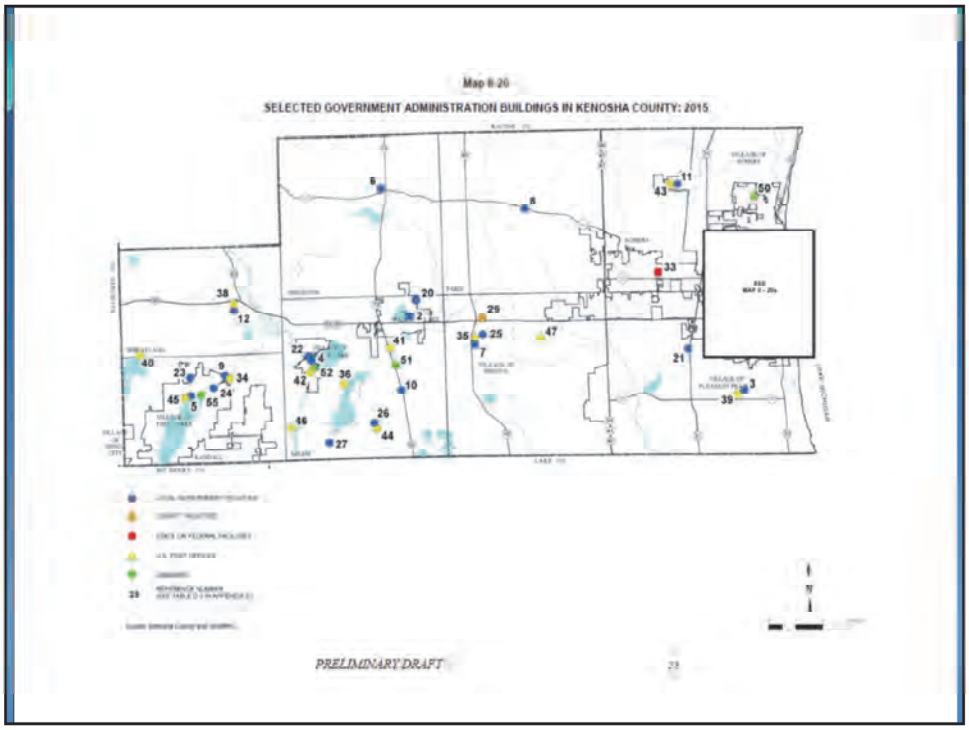
LAW ENFORCEMENT STATIONS AND SERVICE AREAS IN KENOSHA COUNTY: 2015



PRELIMINARY DRAFT


Map II-19
PUBLIC SCHOOL DISTRICTS, PUBLIC AND PRIVATE SCHOOLS, COLLEGES, AND UNIVERSITIES IN KENOSHA COUNTY: 2015
UNION GROVE U.H.S.
CENTRAL / WESTOSHA U.H.S.
KENOSHA UNIFIED SCHOOL DISTRICT #1 (PK - 12)
WILMOT U.H.S.
ELEMENTARY SCHOOL DISTRICT AREAS
PRELIMINARY DRAFT

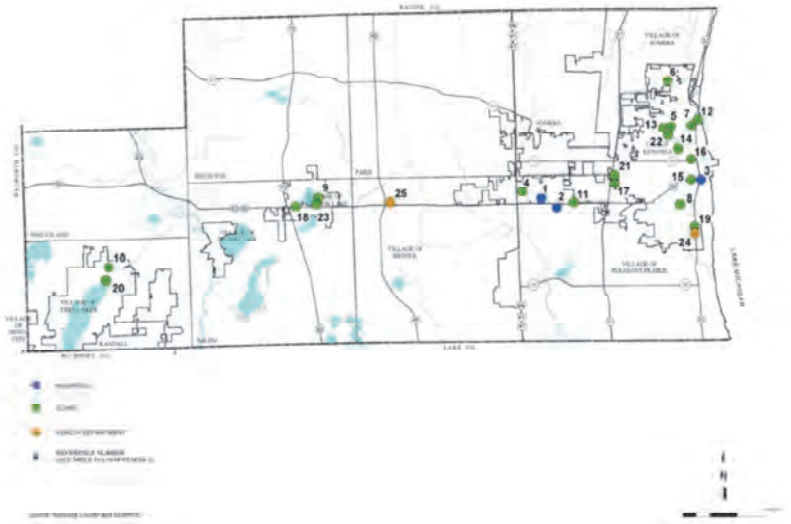

Map II-19a
PUBLIC SCHOOL DISTRICTS, PUBLIC AND PRIVATE SCHOOLS, COLLEGES, AND UNIVERSITIES IN THE CITY OF KENOSHA: 2015
TOWN OF SOMERS
CITY OF KENOSHA
VILLAGE OF MOUNT PLEASANT
LAKE MICHIGAN
PRELIMINARY DRAFT


Map II-20
SELECTED GOVERNMENT ADMINISTRATION BUILDINGS IN KENOSHA COUNTY: 2015
PRELIMINARY DRAFT


Map II-20a
SELECTED GOVERNMENT ADMINISTRATION BUILDINGS IN THE CITY OF KENOSHA: 2015
TOWN OF SOMERS
CITY OF KENOSHA
VILLAGE OF MOUNT PLEASANT
LAKE MICHIGAN
24
PRELIMINARY DRAFT

Map II-21

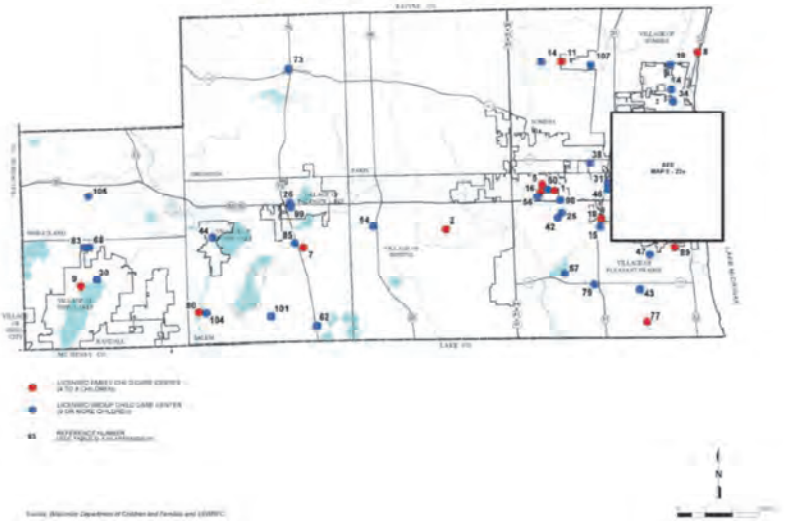
HOSPITALS, MAJOR CLINICS, AND HEALTH DEPARTMENTS IN KENOSHA COUNTY: 2015



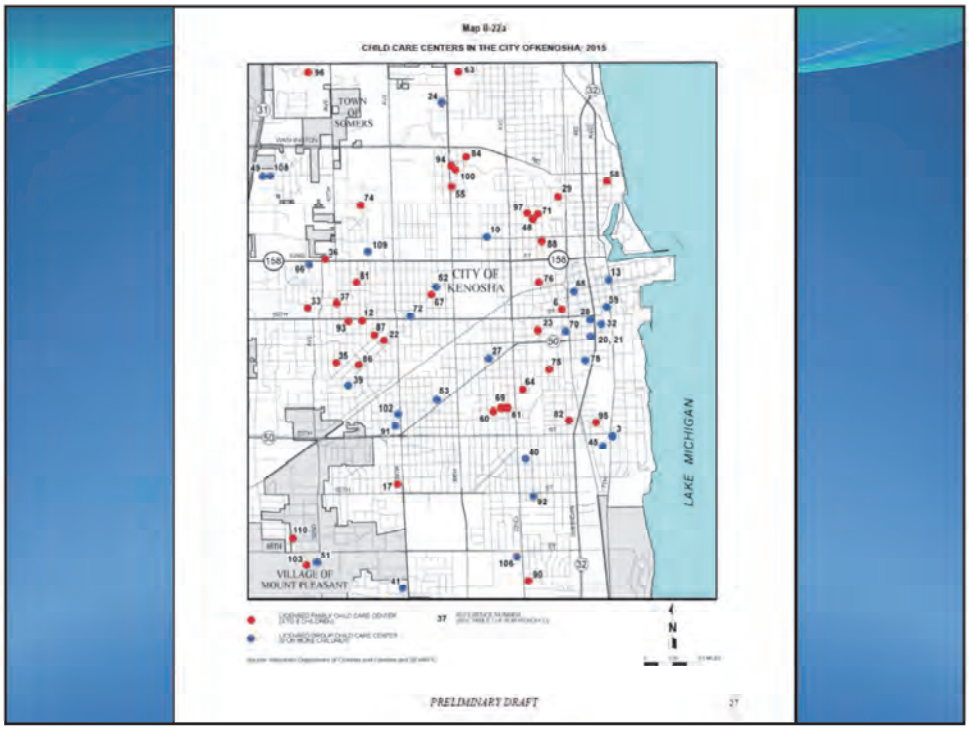
PRELIMINARY DRAFT 25

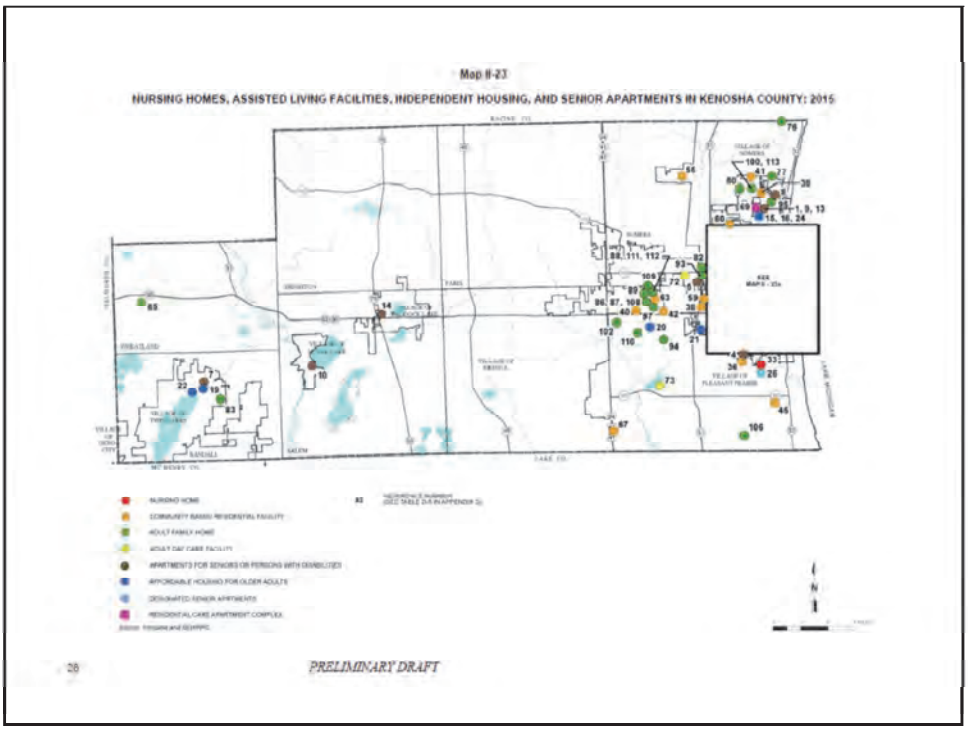
Map II-22

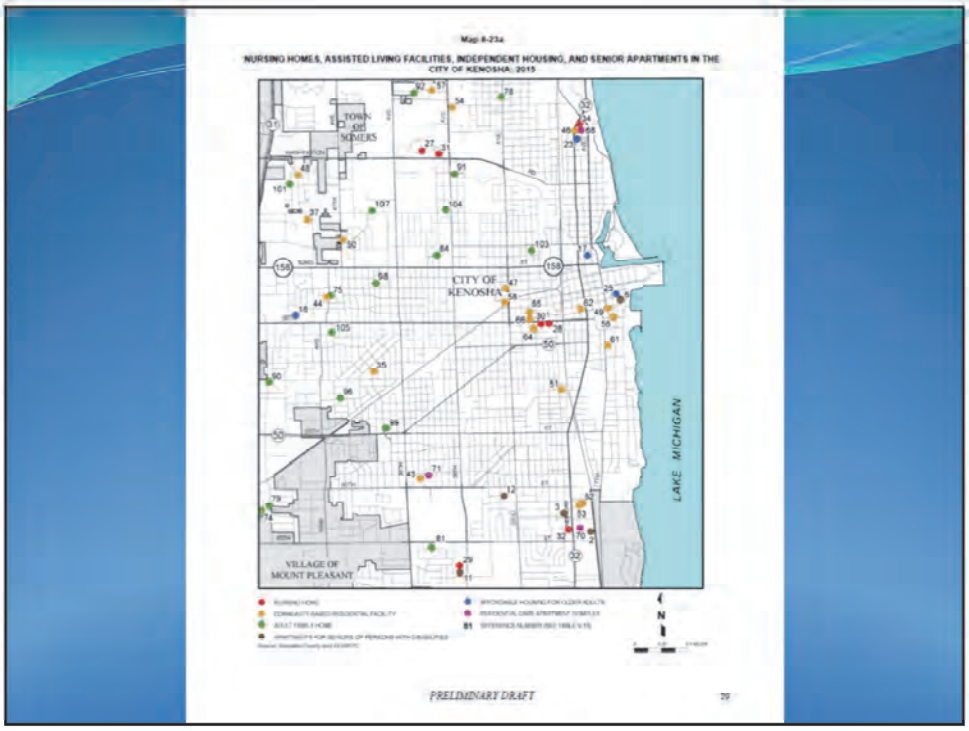
CHILD CARE CENTERS IN KENOSHA COUNTY: 2015

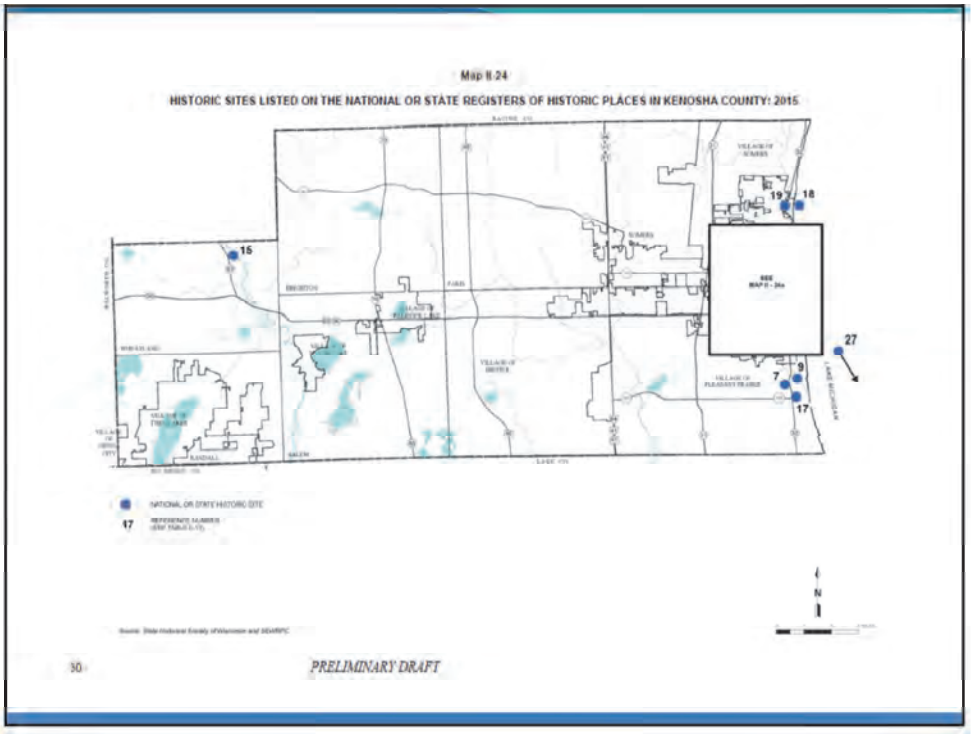


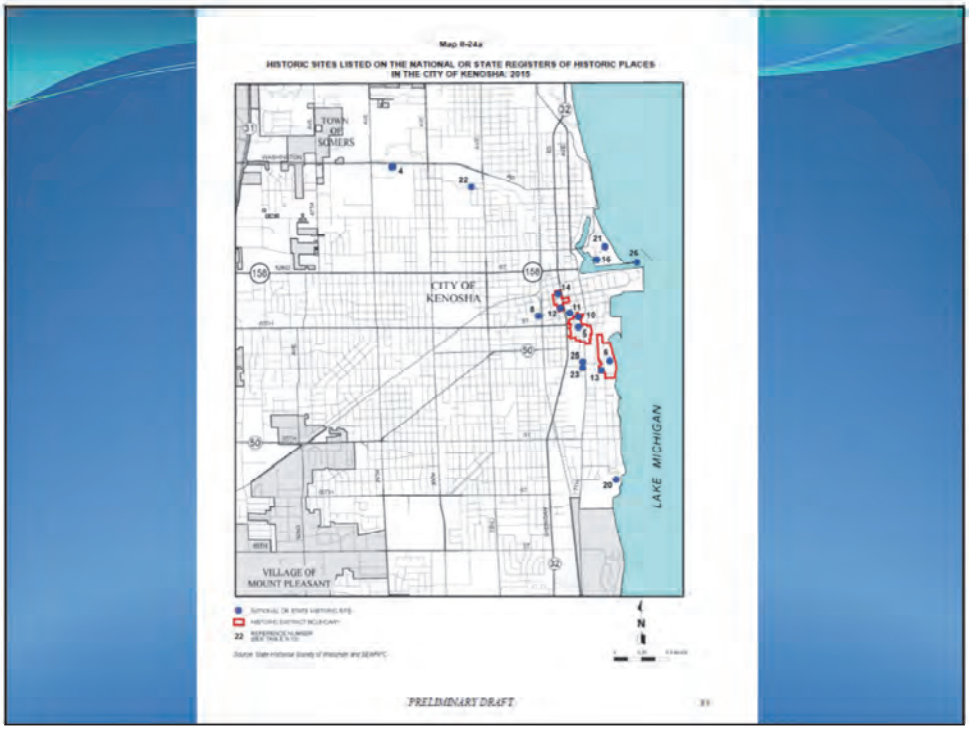
26 PRELIMINARY DRAFT

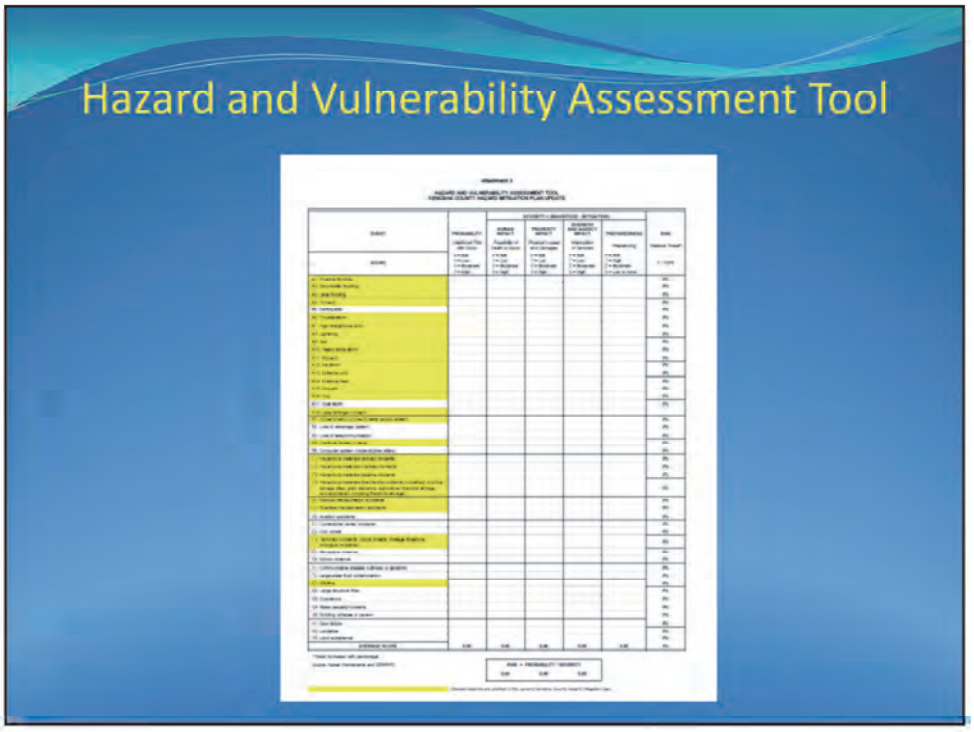

Map II-22a
CHILD CARE CENTERS IN THE CITY OFKENOSHA: 2015
TOWN OF SOMERS
CITY OF KENOSHA
VILLAGE OF MOUNT PLEASANT
LAKE MICHIGAN
PRELIMINARY DRAFT
27


Map II-23
NURSING HOMES, ASSISTED LIVING FACILITIES, INDEPENDENT HOUSING, AND SENIOR APARTMENTS IN KENOSHA COUNTY: 2015
PRELIMINARY DRAFT
28


Map II-23a
NURSING HOMES, ASSISTED LIVING FACILITIES, INDEPENDENT HOUSING, AND SENIOR APARTMENTS IN THE CITY OF KENOSHA: 2015
TOWN OF SOMERS
CITY OF KENOSHA
VILLAGE OF MOUNT PLEASANT
LAKE MICHIGAN
N
PRELIMINARY DRAFT
29


Map II-24
HISTORIC SITES LISTED ON THE NATIONAL OR STATE REGISTERS OF HISTORIC PLACES IN KENOSHA COUNTY: 2015
15
19
18
27
9
7
17
N
30
PRELIMINARY DRAFT


Map II-24a
HISTORIC SITES LISTED ON THE NATIONAL OR STATE REGISTERS OF HISTORIC PLACES IN THE CITY OF KENOSHA: 2010
TOWN OF SOMERS
CITY OF KENOSHA
VILLAGE OF MOUNT PLEASANT
LAKE MICHIGAN
PRELIMINARY DRAFT


Hazard and Vulnerability Assessment Tool

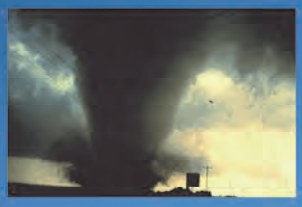
Hazard and Vulnerability Assessment Tool

1. Risk assessment based determined by

Risk = 100 x [(probability/3) x
(Human impact + Property impact + Business impact + Preparedness)/(4 x3)]

2. Percent risk (0 to 100 percent)
3. Relative measure → Higher indicates greater perceived risk
4. Interquartile range is the range of the middle half of responses
5. Smaller interquartile range indicates greater agreement among team members → used to break ties

HVA Results – Top 10 Perceived Risks



1. Tornadoes

2. Heavy snow

3. Thunderstorms

4. Lightning

5. High straight-line wind

HVA Results – Top 10 Perceived Risks

6. Extreme cold

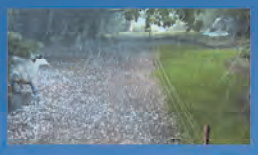
7. Blizzard

8. Stormwater Flooding

9. Riverine Flooding

10. Ice Storm

HVA Results – Other Notable Risks



Thunderstorm-related

11. Hail

Hazard Material Incidents

14. Railroads

15. Fixed Facilities

18. Roadways

36. Pipelines

Transportation-related

12. Roadway Accidents

HVA Results – Bottom Ten Perceived Risks

36. Loss of sewerage system
37. Aviation accidents
38. Large-scale food contamination
39. Dam failure
40. Civil unrest
41. Correctional center incidents
42. Earthquake
43. Land subsidence
44. Landslide
45. Dust storm

Hazard Identification

- FEMA requires the plan to address natural hazards
  - Examples:
    - Drought, Flooding, Thunderstorms, Tornadoes
- The plan can also address human-induced or technological hazards
  - Examples
    - Hazardous Material Incidents, Transportation Accidents

Damage Totals

Hazard	Years	Incidents	Property Damages	Crop Damages	Total Damages
Automobile Accidents	15	53,241	910,728,500	0	910,728,500
Flood	52	50	30,777,884	31,634,644	62,412,528
Thunderstorms/Wind	51	185	27,534,248	5,021,965	32,556,213
Tornadoes	51	13	25,386,789	0	25,386,789
Lightning	51	16	18,201,588	0	18,201,588
Railway Accidents	40	212	4,780,633	0	4,780,633
Drought	25	17	0	3,757,011	3,757,011
Pipeline Hazmat	39	5	3,018,699	0	3,018,699
Hail	51	51	244,327	61,204	305,531
Temperature Extremes	21	51	16,163	81,526	97,526
Winter Storms	21	105	42,762	0	42,762

Note: All damages are in 2014 dollars

Annual Damages

Hazard	Years	Incidents per Year	Annual Property Damages	Annual Crop Damages	Total Annual Damages
Automobile Accidents	15	3,549.14	60,715,233	0	60,715,233
Flood	52	0.96	591,882	608,359	1,200,241
Thunderstorms/Wind	51	3.63	539,887	98,470	638,357
Tornadoes	51	0.25	488,207	0	488,207
Lightning	51	0.31	356,894	0	356,894
Drought	25	0.68	0	150,280	150,280
Railway Accidents	40	5.30	119,516	0	119,516
Pipeline Hazmat	39	0.13	77,403	0	77,403
Hail	51	1.00	4,791	1,200	5,991
Temperature Extremes	21	2.43	770	3,874	4,644
Winter Storms	21	5.00	2,036	0	2,036

Fatality and Injury Totals

Hazard	Years	Incidents	Fatalities	Injuries	Total
Automobile Accidents	15	53,241	316	29,074	29,390
Sexually-Transmitted Diseases	*9*	*7,686*	*0*	*7,686*	*7,686*
Communicable Diseases	*9*	*3,114*	*0*	*3,114*	*3,114*
Railway Accidents	40	212	15	49	64
Thunderstorms/Wind	51	185	6	60	36
Aviation Accidents	*51*	*144*	*11*	*11*	*22*
Temperature Extremes	21	51	4	11	15
Tornadoes	52	13	0	15	15
Pipeline Hazmat Accidents	39	5	3	4	7
Lightning	51	16	1	5	6
Winter Storms	21	105	0	1	1
Land Subsidence	*15*	*1*	*0*	*1*	*1*
Dam Failure	*1*	*1*	*0*	*1*	*1*

Annual Fatalities and Injuries

Hazard	Years	Incidents per Year	Fatalities per Year	Injuries per year	Annual Total
Automobile Accidents	15	3,549.40	21.07	1,938.27	1,959.34
Sexually-Transmitted Diseases	*9*	*854.00*	*0.00*	*854.00*	*854.00*
Communicable Diseases	*9*	*346.00*	*0.00*	*346.00*	*346.00*
Railway Accidents	40	5.30	0.38	1.23	1.61
Dam Failure	*1*	*1.00*	*0.00*	*1.00*	*1.00*
Temperature Extremes	21	2.43	0.19	0.52	0.71
Thunderstorm/Wind	51	3.63	0.12	0.59	0.71
Tornadoes	52	0.25	0.00	0.29	0.29
Aviation Accidents	*51*	*2.88*	*0.22*	*0.22*	*0.44*
Pipeline Hazmat	39	0.13	0.08	0.10	0.18
Lightning	51	0.31	0.02	0.10	0.12
Land Subsidence	*15*	*0.06*	*0.00*	*0.06*	*0.06*
Winter Storms	21	5.00	0.00	0.05	0.05

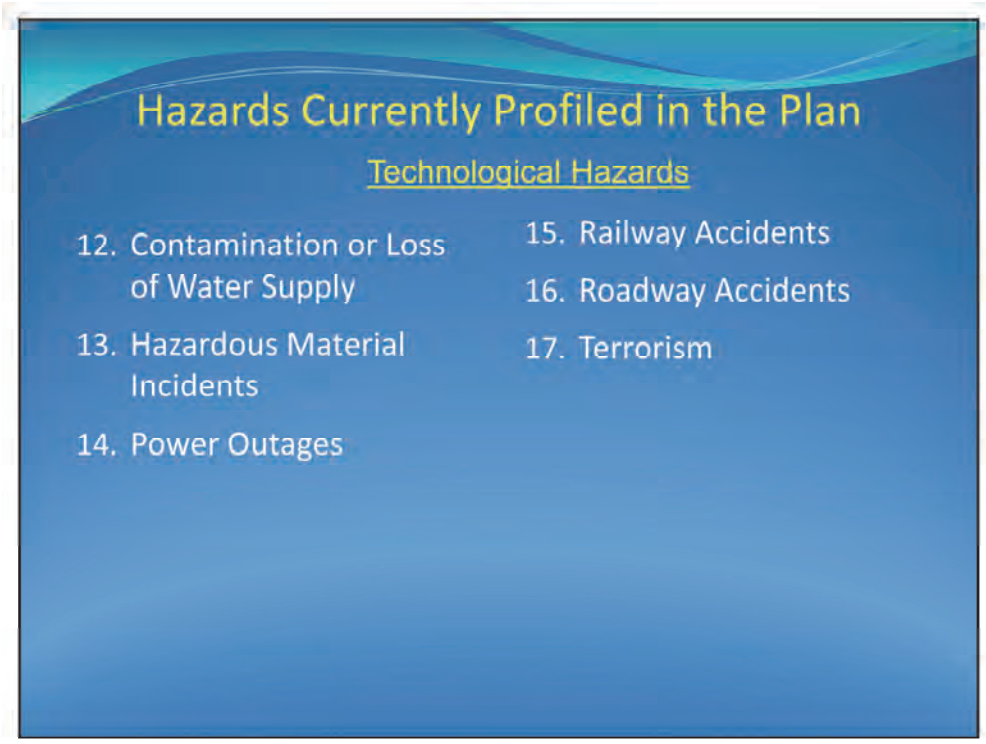
Hazard Identification

- Hazards with confirmed incidences, but no confirmed damage estimates
  - *Earthquake*, Fog
- Hazards no confirmed incidences
  - *Dust Storms, Landslides, Nuclear Power Plant Incidents,* Terrorism , Wild Fire
- Hazards without data on incidences or damages
  - *Correctional Center Incidents, Loss of Sewerage System,* Power Outages, *School Violence*, Transportation Hazmat, *Workplace Violence*

Hazards Currently Profiled in the Plan

Natural Hazards

1. Drought
2. Flooding
3. Fog
4. Hail
5. Lake Michigan Coastal Hazards
6. Lightning
7. Temperature Extremes
8. Thunderstorms/Wind
9. Tornadoes
10. Wild Fires
11. Winter Storms


Hazards Currently Profiled in the Plan
Technological Hazards
12. Contamination or Loss of Water Supply
13. Hazardous Material Incidents
14. Power Outages
15. Railway Accidents
16. Roadway Accidents
17. Terrorism


Hazards Not Profiled by the Plan
Natural Hazards
1. Agricultural Pests
2. Dam Failure
3. Dust Storms
4. Earthquake
5. Land Subsidence
6. Landslide

Hazards Not Profiled by the Plan

Technological Hazards

7. Aviation Accidents
8. Civil Unrest
9. Communicable Disease Outbreak
10. Communication Outage
11. Correctional Center Incident
12. Dirty Bomb
13. Fuel Shortage
14. Landfill Incidents
15. Loss of Sewerage System
16. Nuclear Power Plant Incident
17. Power Plant Incident
18. School Violence
19. Waterway Transportation Accident
20. Workplace Violence

Project Web Site

- http://www.sewrpc.org/SEWRPC/communityassistance/Hazard-Mitigation-Planning.htm
  - 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

Exhibit B

Table 1

PRELIMINARY ESTIMATES OF HAZARD INCIDENTS AND DAMAGES AFFECTING KENOSHA COUNTY

Hazard[a]	Period	Incidents	Fatalities	Injuries	Property Damages (2014 dollars)	Crop Damages (2014 dollars)
Natural Hazards						
Drought	**1980-2014**	**17**	**0**	**0**	**0**	**3,757,011**
Flood	**1963-2014**	**50**	**0**	**0**	**30,777,884**	**31,634,644**
Fog	**1999-2014**	**76**	**0**	**0**	**0**	**0**
Hail	**1964-2014**	**51**	**0**	**0**	**244,327**	**61,204**
Lake Michigan Coastal Hazards	**No Data**	**- -**	**- -**	**- -**	**- -**	**- -**
Lightning	**1964-2014**	**16**	**1**	**5**	**18,201,588**	**0**
Temperature Extremes	**1994-2014**	**51**	**4**	**11**	**16,163**	**81,363**
Thunderstorms/High Winds	**1964-2014**	**185**	**6**	**30**	**27,534,248**	**5,021,965**
Tornadoes	**1963-2014**	**13**	**0**	**15**	**25,386,789**	**0**
Water Supply Loss or Contamination	**No Data**	**- -**	**- -**	**- -**	**- -**	**- -**
Winter Storms	**1994-2014**	**105**	**0**	**1**	**42,762**	**0**
Wild Fires	**1994-2014**	**0**	**0**	**0**	**0**	**0**
Dam Failure	*2014*	*1*	*0*	*1*	*0*	*0*
Dust Storms	*1959-2014*	*0*	*0*	*0*	*0*	*0*
Earthquake	*1957-2014*	*15*	*0*	*0*	*0*	*0*
Land Subsidence	*2000-2014*	*1*	*0*	*1*	*0*	*0*
Landslides	*2000-2014*	*0*	*0*	*0*	*0*	*0*
Human-Induced Hazards						
Automobile Accidents	**1999-2013**	**53,241**	**316**	**29,074**	**910,728,500**	**0**
Pipeline Hazmat Accidents	**1976-2014**	**5**	**3**	**4**	**3,018,699**	**0**
Power Outages	**No Data**	**- -**	**- -**	**- -**	**- -**	**- -**
Railway Accidents	**1975-2014**	**212**	**15**	**49**	**4,780,633**	**0**
Terrorism	**1970-2014**	**0**	**0**	**0**	**0**	**0**
Transportation Hazmat Accidents	**No Data**	**- -**	**- -**	**- -**	**- -**	**- -**
Aviation Accidents	*1965-2015*	*144*	*11*	*11*	*0*	*0*
Communicable Diseases	*2005-2013*	*3,114*	*- -*	*- -*	*- -*	*- -*
Sexually-Transmitted Diseases	*2005-2013*	*7,686*	*- -*	*- -*	*- -*	*- -*
Correctional Center Incident	*No Data*	*- -*	*- -*	*- -*	*- -*	*- -*
Loss of Sewerage System	*No Data*	*- -*	*- -*	*- -*	*- -*	*- -*
Nuclear Power Plant Incident	*2000-2014*	*0*	*0*	*0*	*0*	*0*
School Violence	*No Data*	*- -*	*- -*	*- -*	*- -*	*- -*
Waterway Transportations	*No Data*	*- -*	*- -*	*- -*	*- -*	*- -*
Workplace Violence	*No Data*	*- -*	*- -*	*- -*	*- -*	*- -*

[a]Hazards in bold are currently profiled in the Kenosha County hazard mitigation plan. Hazards in italics are not currently profiled in the plan.

Source: SEWRPC.

Table 2

ANNUAL INCIDENCE OF HAZARDS AND DAMAGES AFFECTING KENOSHA COUNTY

Hazard[a]	Years of Record	Incidents per Year	Fatalities per Year	Injuries per Year	Annual Property Damages (2014 dollars)	Annual Crop Damages (2014 dollars)
Natural Hazards						
Drought	**25**	**0.68**	**0.00**	**0.00**	**0**	**150,280**
Flood	**52**	**0.96**	**0.00**	**0.00**	**591,882**	**608,359**
Fog	**16**	**4.75**	**0.00**	**0.00**	**0**	**0**
Hail	**51**	**1.00**	**0.00**	**0.00**	**4,791**	**1,200**
Lake Michigan Coastal Hazards	**No Data**	**- -**	**- -**	**- -**	**- -**	**- -**
Lightning	**51**	**0.31**	**0.02**	**0.10**	**356,894**	**0**
Temperature Extremes	**21**	**2.43**	**0.19**	**0.52**	**770**	**3,874**
Thunderstorms/High Winds	**51**	**3.63**	**0.12**	**0.59**	**539,887**	**98,470**
Tornadoes	**52**	**0.25**	**0.00**	**0.29**	**488,207**	**0**
Water Supply Loss or Contamination	**No Data**	**- -**	**- -**	**- -**	**- -**	**- -**
Winter Storms	**21**	**5.00**	**0.00**	**0.05**	**2,036**	**0**
Wild Fires	**11**	**0.00**	**0.00**	**0.00**	**0**	**0**
Dam Failure	*1*	*1.00*	*0.00*	*1.00*	*0*	*0*
Dust Storms	*56*	*0.00*	*0.00*	*0.00*	*0*	*0*
Earthquake	*58*	*0.22*	*0.00*	*0.00*	*0*	*0*
Land Subsidence	*15*	*0.06*	*0.00*	*0.06*	*0*	*0*
Landslides	*15*	*0.00*	*0.00*	*0.00*	*0*	*0*
Human-Induced Hazards						
Automobile Accidents	**15**	**3,549.40**	**21.07**	**1,938.27**	**60,715,233**	**0**
Pipeline Hazmat Accidents	**39**	**0.13**	**0.08**	**0.10**	**77,403**	**0**
Power Outages	**No Data**	**- -**	**- -**	**- -**	**- -**	**- -**
Railway Accidents	**40**	**5.30**	**0.38**	**1.23**	**119,516**	**0**
Terrorism	**45**	**0.00**	**0.00**	**0.00**	**0**	**0**
Transportation Hazmat Accidents	**No Data**	**- -**	**- -**	**- -**	**- -**	**- -**
Aviation Accidents	*51*	*2.88*	*0.22*	*0.22*	*0*	*0*
Communicable Diseases	*9*	*346.00*	*- -*	*- -*	*- -*	*- -*
Sexually-Transmitted Diseases	*9*	*854.00*	*- -*	*- -*	*- -*	*- -*
Correctional Center Incident	*No Data*	*- -*	*- -*	*- -*	*- -*	*- -*
Loss of Sewerage System	*No Data*	*- -*	*- -*	*- -*	*- -*	*- -*
Nuclear Power Plant Incident	*15*	*0.00*	*0.00*	*0.00*	*0*	*0*
School Violence	*No Data*	*- -*	*- -*	*- -*	*- -*	*- -*
Waterway Transportations	*No Data*	*- -*	*- -*	*- -*	*- -*	*- -*
Workplace Violence	*No Data*	*- -*	*- -*	*- -*	*- -*	*- -*

[a]Hazards in bold are currently profiled in the Kenosha County hazard mitigation plan. Hazards in italics are not currently profiled in the plan.

Source: SEWRPC.

Table 3

HAZARDS CURRENTLY PROFILED IN THE KENOSHA COUNTY HAZARD MITIGATION PLAN

Natural Hazards	Human-Induced Hazards
Drought	Contamination or Loss of Water Supply
Flooding	Hazardous Material Incidents
Fog	Power Outages
Hail	Railway Accidents
Lake Michigan Coastal Hazards	Roadway Accidents
Lightning	Terrorism
Temperature Extremes	
Thunderstorms/High Winds	
Tornadoes	
Wild Fires	
Winter Storms	

Source: SEWRPC.

Table 4

HAZARDS THAT WERE CONSIDERED BUT ARE NOT PROFILED IN THE KENOSHA COUNTY HAZARD MITIGATION PLAN

Natural Hazards	Human-Induced Hazards
Agricultural Pests	Aviation Accidents
Dam Failure	Civil Unrest
Dust Storms	Communicable Disease Outbreak
Earthquake	Communication Outage
Land Subsidence	Correctional Center Incident
Landslide	Dirty Bomb
	Fuel Shortage
	Landfill Incidents
	Loss of Sewerage System
	Nuclear Power Plant Incident
	Power Plant Incident
	School Violence
	Waterway Transportation Accident
	Workplace Violence

Source: SEWRPC