OFFICE OF THE COUNCIL

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PATRICK BROCKWAY, Vice President
CARRIE BUDZINSKI
BRANDON MCCULLOUGH
EILEEN MCDONNELL
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33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2250
citycouncil@livonia.gov

OFFICE OF THE COUNCIL

MEETING PACKET FOR THE STUDY MEETING OF WEDNESDAY APRIL 8, 2026

8:00 P.M.*

***The start time of the Study Meeting may be delayed if the 7:00 PM Regular Meeting has not yet adjourned.**

The electronic agenda is compiled, produced and distributed by the City Council Staff.
(734) 466-2250

The official documents are on file in the City Clerk's office.

Study Meeting of the Council of the City of Livonia
Wednesday, April 8, 2026

*8:00 p.m. - City Hall Auditorium
33000 Civic Center Drive, Livonia, Michigan
View meeting packet here: https://livoniami.portal.civicclerk.com/

AUDIENCE COMMUNICATION

NEW BUSINESS

External Requests

1. REQUEST TO WAIVE THE CITY'S NOISE ORDINANCE: Wafi Barshini, Festival Chairperson, The Basilica of St. Mary Antiochian Orthodox Church, in order to host a festival with live music in the rear parking lot at 18100 Merriman Road on Friday, August 14, 2026, from 5:00 p.m. to 11:00 p.m., Saturday, August 15, 2026, from 12:00 p.m. to 11:59 p.m. and Sunday, August 16, 2026, from 12:00 p.m. to 10:00 p.m.

2. REQUEST FOR PROCLAMATION TO DESIGNATE MAY AS ALS AWARENESS MONTH: Marcia Miller, to raise awareness and honor those affected by the disease.

Planning Commission

3. WAIVER PETITION 2026-02-02-06: submitted by Capital Grille Holdings, Inc., requesting waiver use approval to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises), and an S.D.M. liquor license (sale of packaged beer and wine for consumption off the premises) in connection with a full-service restaurant (Capital Grille) at 17117 North Laurel Park Drive, located on the north side of Six Mile Road between North Laurel Park Drive and the I-275 Expressway in the Southeast ¼ of Section 7.

4. WAIVER PETITION 2026-02-02-09: submitted by C3 Michigan, LLC on behalf of The Axe Parlor, requesting waiver use approval to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises) at 15970 Middlebelt Road, located on the east side of Middlebelt Road between Sunnydale Street and Terrence Avenue in the southwest 1/4 of Section 13.

5. WAIVER PETITION 2026-03-02-10: submitted by Wade Shows, Inc. requesting waiver use approval to conduct a carnival in the parking lot of the former Sears department store, sponsored by the Livonia AM Rotary Club, consisting of amusement rides, games, and food concessions from May 18, 2026, through June 1, 2026, on the property at 29500 Seven Mile Road, located at the northwest corner of Seven Mile and Middlebelt Roads in the southeast 1/4 of Section 2.

6. SITE PLAN PETITION 2025-12-08-10: submitted by Charlie Bazzi on behalf of 36300 5 Mile Investment, LLC, requesting site plan approval to demolish the existing gas station and fuel pumps at 36300 Five Mile Road, and construct a new gas station convenience store and fuel pumps, located the northeast corner of Levan Road and Five Mile Road in the Southeast ¼ of Section 17.

Department of Civil Service

7. REQUEST TO ESTABLISH A NEW CLASSIFICATION: for the position of Assistant Library Director.

8. REQUEST FOR AN ADDITIONAL BENEFIT: for non-represented City of Livonia employees, non-appointed department heads and appointed department heads for the period of December 1, 2025, through November 30, 2028.

Department of Emergency Preparedness

9. REQUEST ADOPTION OF A RESOLUTION APPROVING THE WAYNE COUNTY HAZARD MITIGATION AS APPROVED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY ON FEBRUARY 20, 2026: for a period of five (5) years in order to receive funds made available through certain mitigation grant programs, pursuant to the Code of Federal Regulations, Title 44, Chapter 1, Subchapter D, Part 201, Section 201.6.c.5 which has been approved for implementation from the Federal Emergency Management Agency (FEMA).

Department of Parks and Recreation

10. AWARD OF BID AND REQUEST FOR BUDGET AMENDMENT: for bridge repairs at Idyl Wyld Golf Course, from the Unexpended 409 Golf Course Capital Account.

Department of Public Works

11. AWARD BID: for the replacement of the HVAC and boiler system at Sandburg Library, from budgeted funds.

12. REQUEST TO WAIVE THE FORMAL BIDDING PROCESS AND AWARD OF CONTRACT: to replace the temperature controls and building automation at the City Hall Annex, from budgeted funds.

Engineering Division

13. AWARD OF CONTRACT: for the 2026 Sidewalk and Pavement Replacement Program — Water Main Breaks (Contract 26-F)

14. AWARD OF CONTRACT: for the Myrna Avenue Water Main Replacement (Hubbard Road to Merriman Road)

City Council

15. REQUEST FOR PROCLAMATION TO DESIGNATE APRIL AS AUTISM AND HASHIMOTO'S THYROIDITIS DISEASE AWARENESS MONTH: in order to bring civic awareness to these topics and foster better understanding within the community.

AUDIENCE COMMUNICATION

For the Regular Meeting of April 20, 2026.

NOTICE(S)

In accordance with Title II of the American with Disabilities Act as it pertains to access to Public Meetings, the City of Livonia Clerk's Office, upon adequate notice, will make reasonable accommodations for persons with disabilities. Please call 734-466-2236 or email clerk@livonia.gov for assistance. Council agendas are available on the City's website, www.livonia.gov (Your Government, City Council, Agendas & Minutes).

LETTER TO THE LIVONIA CITY COUNCIL

Council Office
March 16, 2026

MEETING DATE	PRESENTED BY
S050725/R051925	

AGENDA ITEM

REQUEST TO WAIVE THE CITY'S NOISE ORDINANCE: Wafi Barshini, Festival Chairperson, The Basilica of St. Mary Antiochian Orthodox Church, in order to host a festival with live music in the rear parking lot at 18100 Merriman Road on Friday, August 14, 2026, from 5:00 p.m. to 11:00 p.m., Saturday, August 15, 2026, from 12:00 p.m. to 11:59 p.m. and Sunday, August 16, 2026, from 12:00 p.m. to 10:00 p.m.

BACKGROUND DETAILS

Cr Proposal for St. Mary's Dormition Annual Festival
Dear Council Members:
We are pleased to inform you that Fr. George Shalhoub and The Basilica of St. Mary would like to host a church gathering from August 13, 2026, through August 16th, 2026.
The gathering will take place in a 40 feet ×100 feet tent on the Church Property and be open to church members.
The gathering will include live music, Middle Eastern food, bounce houses.
The proposed location for the gathering is in the rear parking lot at 18100 Merriman Road, Livonia MI 48152. The hours of operation will be as follows:
Thursday August 13, 2026 soft opening celebration of the Dormition
Friday, August 14, 2026 - from 5:00 p.m. until 11:00 p.m.
Saturday, August 15,, 2026 - from 12:00 p.m. until 11:59 p.m.
Sunday, August 16, 2026 - from 12:00 p.m. until 10:00 p.m.
take down on August 17, 2026
Pursuant to Section 8.32.070 of the City Code, St. Mary's Church requests a special permit be granted which would waive the noise ordinance and permit the festival to proceed.

Respectfully submitted,
Wafi & Nesrin Barshini
Festival Chairperson
18100 Merriman Road
Livonia, Michigan 48152
(734)320-0895(Wafi)
(734)394-7799(Nesrin)

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to

be used in lieu of the recommendation)

To approve the request as submitted.

ATTACHMENTS

1. S040826 Basilica of Saint Mary Festival request noise waiver

APPROVED BY

From: Wafi Albarshini
To: Kasprowicz, Sara
Subject: Basilica of Saint Mary Festival
Date: Monday, March 16, 2026 12:28:02 PM
Attachments: City of Livonia 2026.docx
Festival floor plan .png
Festival plan.pdf

Good afternoon Sara,

I hope all is well. I cannot believe it is already that time of year again, but we are officially preparing for the festival.

I have sent over the necessary documentation and hope that we can be included on the city schedule for the noise ordinance. Please let me know if you require any additional information from my side.

I appreciate your help. Have a great day!

Best regards,

Wafi & Nesrin Barshini

Via Hand Delivery
Livonia City Council
33000 Civic Center Drive
Livonia. MI 48154
Re:

Cr Proposal for St. Mary's Dormition Annual Festival
Dear Council Members:
We are pleased to inform you that Fr. George Shalhoub and The Basilica of St. Mary would like to host a church gathering from August 13, 2026, through August 16th, 2026.
The gathering will take place in a 40 feet ×100 feet tent on the Church Property and be open to church members.
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take down on August 17, 2026

Pursuant to Section 8.32.070 of the City Code, St. Mary's Church requests a special permit be granted which would waive the noise ordinance and permit the festival to proceed.

Respectfully submitted
Wafi & Nesrin Barshini

Festival Chairperson
18100 Merriman Road
Livonia, Michigan 48152
(734)320-0895(Wafi)
(734)394-7799(Nesrin)

Basilica of St. Mary

Tarabusi Creek

Open Flame / Grill Area More
Than 20' from Assembly Tent

FIRE HYRANT

Grills

Food
Prep
20' x 20'

Food Sales
20' x 20'

KID'S
BOUNCE
HOUSES

KID'S BOUNCE
HOUSES

FIRE LANE 25' WIDE

PUBLIC
PARKING

Assembly
Tent

STAGE

40' x 100'

Bar
10' x 10'

FIRE LANE

Merriman Rd

18100 Merriman Rd
Livonia, MI 48152

St Mary's Cultural Center

PUBLIC
ENTERANCE

Merriman Rd

PUBLIC PARKING

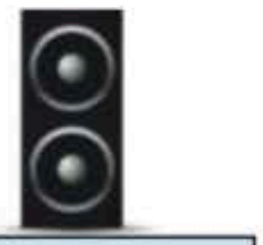
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LETTER TO THE LIVONIA CITY COUNCIL

2.

Council Office
March 19, 2026

MEETING DATE	PRESENTED BY
S040826/R042026	

AGENDA ITEM

REQUEST FOR PROCLAMATION TO DESIGNATE MAY AS ALS AWARENESS MONTH: Marcia Miller, to raise awareness and honor those affected by the disease.

BACKGROUND DETAILS

Title: Amyotrophic Lateral Sclerosis Awareness Month

WHEREAS, amyotrophic lateral sclerosis, also commonly known as Lou Gehrig's disease, is a progressive fatal neurodegenerative disease in which a person's brain loses connection with their muscles, slowly reducing a person's ability to walk, talk, eat, and eventually breathe; and

WHEREAS, thousands of new amyotrophic lateral sclerosis (ALS) cases are reported every year, and estimates show that every 90 minutes, someone is diagnosed with ALS and someone passes away from ALS; and

WHEREAS, on average, patients diagnosed with ALS survive only two to five years from the time of diagnosis; and

WHEREAS, the exact causes of ALS are unknown and there is no known cure for ALS; and

WHEREAS, people who have served in the military are more likely to develop ALS and die from the disease than those with no history of military service; and

WHEREAS, securing access to new therapies, durable medical equipment, and communication technologies is of vital importance to people living with ALS; and

WHEREAS, clinical trials play a pivotal role in evaluating new treatments, enhancing quality of life, and fostering assistive technologies for those living with ALS; and

WHEREAS, the ALS Association is the largest philanthropic funder of ALS research globally and has committed more than $154 million to support more than 550 projects across the United States and 18 other countries; and

WHEREAS, the ALS Association is committed to make ALS livable and cure it for everyone, everywhere; and

WHEREAS, Amyotrophic Lateral Sclerosis Awareness Month provides an opportunity to increase

public awareness of the dire circumstances of people living with ALS, acknowledge the terrible impact this disease has on those individuals and their families, and support research to eradicate this disease;

Now, therefore, I, City Clerk Miller, do hereby proclaim the month of May 2026 as ALS Awareness Month. I call upon all Americans to join in supporting ALS research, advocating for increased funding, and standing in solidarity with those affected by this relentless disease.

[Your Signature]

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

To approve the request as presented.

ATTACHMENTS

1. S040826 ALS Awareness Month Proclamation Request

APPROVED BY

From: Miller, Lori
To: CityCouncil; Mayor Staff
Subject: FW: ALS Awareness Month Proclamation Request
Date: Thursday, March 19, 2026 8:37:57 AM

Please see resident request below for a Proclamation for the month of May.

Thank you.

Lori Miller, MiPMC Level 2, CMC
City Clerk
City of Livonia | City Clerk
(734) 466-2233
lmiller@livonia.gov

From: Marcia Miller <Marcia.Miller.245134373@advocacymessages.com>
Sent: Wednesday, March 18, 2026 4:10 PM
To: Miller, Lori <lmiller@livonia.gov>
Subject: ALS Awareness Month Proclamation Request

Dear City Clerk Miller,

My name is Marcia, and I am a constituent from Livonia, MI. I am writing to you as someone personally impacted by ALS.

ALS (amyotrophic lateral sclerosis), often known as Lou Gehrig's disease, is a progressive and terminal disease that affects mobility, speech, and ultimately the ability to breathe. It impacts not only the person diagnosed but entire families and communities.

I respectfully request that you officially recognize May 2026 as ALS Awareness Month.

An ALS Awareness Month proclamation or resolution would:

- Help educate the public about the realities of this devastating disease
- Honor individuals and families living with ALS
- Recognize caregivers and healthcare providers
- Demonstrate our state's commitment to supporting those impacted

Public recognition from state leaders brings visibility to ALS and reminds families like mine that we are seen and supported.

The ALS Association works in communities across our state to provide care services,

equipment, advocacy, and research support. An official proclamation would strengthen these efforts and raise awareness statewide.

Thank you for your leadership and for considering this request. I would be honored to provide additional information or participate in any recognition event.

Sincerely,

Marcia Miller
a family member of a person living with ALS
30545 GREENLAND ST. Livonia, MI 48154
mmiller1105@sbcglobal.net

SAMPLE PROCLAMATION / RESOLUTION

Title: Amyotrophic Lateral Sclerosis Awareness Month

WHEREAS, amyotrophic lateral sclerosis, also commonly known as Lou Gehrig's disease, is a progressive fatal neurodegenerative disease in which a person's brain loses connection with their muscles, slowly reducing a person's ability to walk, talk, eat, and eventually breathe; and

WHEREAS, thousands of new amyotrophic lateral sclerosis (ALS) cases are reported every year, and estimates show that every 90 minutes, someone is diagnosed with ALS and someone passes away from ALS; and

WHEREAS, on average, patients diagnosed with ALS survive only two to five years from the time of diagnosis; and

WHEREAS, the exact causes of ALS are unknown and there is no known cure for ALS; and

WHEREAS, people who have served in the military are more likely to develop ALS and die from the disease than those with no history of military service; and

WHEREAS, securing access to new therapies, durable medical equipment, and communication technologies is of vital importance to people living with ALS; and

WHEREAS, clinical trials play a pivotal role in evaluating new treatments, enhancing quality of life, and fostering assistive technologies for those living with ALS; and

WHEREAS, the ALS Association is the largest philanthropic funder of ALS research globally and has committed more than $154 million to support more than 550 projects across the United States and 18 other countries; and

WHEREAS, the ALS Association is committed to make ALS livable and cure it for everyone, everywhere; and

WHEREAS, Amyotrophic Lateral Sclerosis Awareness Month provides an opportunity to increase public awareness of the dire circumstances of people living with ALS, acknowledge the terrible impact this disease has on those individuals and their families, and support research to eradicate this disease;

Now, therefore, I, City Clerk Miller, do hereby proclaim the month of May 2026 as ALS Awareness Month. I call upon all Americans to join in supporting ALS research, advocating for increased funding, and standing in solidarity with those affected by this relentless disease.

[Your Signature]

LETTER TO THE LIVONIA CITY COUNCIL

3.

Planning
March 25, 2026

MEETING DATE	PRESENTED BY
S040826/RR042026	Mark Taormina, Planning and Economic Development Director

AGENDA ITEM

WAIVER PETITION 2026-02-02-06: submitted by Capital Grille Holdings, Inc., requesting waiver use approval to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises), and an S.D.M. liquor license (sale of packaged beer and wine for consumption off the premises) in connection with a full-service restaurant (Capital Grille) at 17117 North Laurel Park Drive, located on the north side of Six Mile Road between North Laurel Park Drive and the I-275 Expressway in the Southeast ¼ of Section 7.

BACKGROUND DETAILS

March 27, 2026

Honorable Members of the City Council
City of Livonia, Michigan

Re: Petition 2026-02-02-06 – Capital Grille Class C/SDM

Dear Council Members:

At the 1,243rd Meeting held by the Livonia City Planning Commission on March 24, 2026, the following resolution was adopted:

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

#03-15-2026 RESOLVED, That pursuant to a Public Hearing having been held by the City Planning Commission on March 24, 2026, on Petition 2026-02-02-06 submitted by Capital Grille Holdings, Inc., requesting waiver use approval under Sections 3.13, 6.03 and 6.22 of the Livonia Zoning Ordinance, as amended, to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises), and an S.D.M. liquor license (sale of packaged beer and wine for consumption off the premises) in connection with a full-service restaurant (Capital Grille) at 17117 North Laurel Park Drive, located on the north side of Six Mile Road between North Laurel Park Drive and the I-275 Expressway in the Southeast ¼ of Section 7, the Planning Commission does hereby recommend to the City Council that Petition 2026-02-02-06, be approved subject to the following conditions:

1. City Council waiving the 1,000-foot separation requirement between this location and the other

existing on-premises licensed establishments pursuant to Section 6.22(2)A).

2. That the subject site has the capacity to accommodate the proposed use.

3. That the use of a Class C and SDM liquor license will complement the existing use of the subject property and will provide an additional service to customers; and

4. This waiver use is granted to this petitioner only, and any new user of this property is required to seek and receive City Council's consent to such user's operating the subject facility prior to occupancy by such user.

FURTHER RESOLVED, That notice of the above hearing was given in accordance with the provisions of Section 13.13 of the Livonia Zoning Ordinance, as amended.

ATTACHMENTS

1. 2026-02-02-06_E-COUNCIL Pkt

APPROVED BY



Date: March 27, 2026

Mark Taormina, Planning and Economic Development Director



Date: March 27, 2026

Maureen Miller Brosnan, Mayor

Petition 2026-02-02-06 submitted by Capital Grille Holdings, Inc., requesting waiver use approval under Sections 3.13, 6.03 and 6.22 of the Livonia Zoning Ordinance, as amended, to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises), and an S.D.M. liquor license (sale of packaged beer and wine for consumption off the premises) in connection with a full-service restaurant (Capital Grille) at 17117 North Laurel Park Drive, located on the north side of Six Mile Road between North Laurel Park Drive and the I-275 Expressway in the Southeast ¼ of Section 7.

MINUTES OF THE 1,243rd PUBLIC HEARINGS AND REGULAR MEETING HELD BY THE CITY PLANNING COMMISSION OF THE CITY OF LIVONIA

On Tuesday, March 24, 2026, the City Planning Commission of the City of Livonia held its 1,243rd Public Hearing and Regular Meetings in the Livonia City Hall, 33000 Civic Center Drive, Livonia, Michigan.

Mr. Ian Wilshaw, Chairman, called the meeting to order at 7 p.m.

Members present:	Wafa Dinaro	Patrick Droze	David Bongero
	Sam Caramagno	Glen Long	Ian Wilshaw

Members absent: Peter Ventura

Mr. Jacob Uhazie, Assistant Planning Director, and Stephanie Reece, Program Supervisor, were also present.

Chairman Wilshaw informed the audience that if a petition on tonight's agenda involves a rezoning request, this Commission makes a recommendation to the City Council who, in turn, will hold its own public hearing and make the final determination as to whether a petition is approved or denied. The Planning Commission holds the only public hearing on a request for preliminary plat and/or vacating petition. The Commission's recommendation is forwarded to the City Council for the final determination as to whether a plat is accepted or rejected. If a petition requesting a waiver of use or site plan approval is denied tonight, the petitioner has ten days in which to appeal the decision, in writing, to the City Council. Resolutions adopted by the City Planning Commission become effective seven (7) days after the date of adoption. The Planning Commission and the professional staff have reviewed each of these petitions upon their filing. The staff has furnished the Commission with both approving and denying resolutions, which the Commission may, or may not, use depending on the outcome of the proceedings tonight.

ITEM #1 PETITION 2026-02-02-06 Capital Grille SDM/Class C

Mr. Caramagno, Secretary, announced the first item on the agenda, Petition 2026-02-02-06 submitted by Capital Grille Holdings, Inc., requesting waiver use approval under Sections 3.13, 6.03 and 6.22 of the Livonia Zoning Ordinance, as amended, to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises), and an S.D.M. liquor license (sale of packaged beer and wine for consumption off the premises) in connection with a full-service restaurant (Capital Grille) at 17117 North Laurel Park Drive, located on the north side of Six Mile Road between

North Laurel Park Drive and the I-275 Expressway in the Southeast ¼ of Section 7.

Mr. Uhazie: Good evening, Mr. Chair. This is a request to operate with a Class C and SDM liquor license. The site is the Capital Grille that we approved previously in a site plan in the same complex as the new hotel and Coopers Hawk winery. The site consists of two tax parcels with a combined area of 10.27 acres. The site is accessible via two driveways off Laurel Park Drive. It was originally developed in 1979 as a Holiday Inn, and the site was redeveloped in 2015 when the Holidome was demolished and replaced with a new six story Holiday Inn. The current zoning is C-4 (Commercial high rise) in which full-service restaurants are treated as permitted use and liquor license are a waiver-use. The adjacent properties to the east is the Coopers Hawk restaurant. The west is the I-275, and I-96 interchange. To the south is Six Mile Road and the Best Western Hotel, zoned C-2 and to the north is the Holiday Inn also zoned C-4. Under the zoning ordinance SDM liquor licenses require special waiver-use approval pursuant to Section 6.03 of the zoning ordinance, and Class C license requires waiver under Section 6.22 of the ordinance. The proposed Capital Grille is shown in the southwest corner of the site plan, and the building would consist of about 10,000 square feet with indoor seating for 246. There is no outdoor seating proposed. Section 6.22 of the zoning ordinance requires establishments having a Class C liquor license not be located within 1,000 feet of any other liquor license establishment and Section 6.03 requires a separation of 500 feet between SDM liquor license establishments. The Coopers Hawk winery is located in the same parcel and also has an SDM and Class C license. The ordinance also requires 400 feet of separation between any church or school building, either public or parochial. No such establishments are present within the 400-foot buffer, but City Council can waive the separation requirements for liquor licenses. With that, Mr. Chairman, I can read out the departmental correspondence.

Mr. Wilshaw: Yes, please.

Mr. Uhazie: The first item is from the Engineering Division, dated March 2, 2026, which reads as follows: *"In accordance with your request, the Engineering Division has reviewed the above referenced petition. We have no objections to the proposed waiver use at this time, but would like to note the following items: 1. The subject parcel is assigned the address of #17117 North Laurel Park Drive. 2. The existing parcel is currently serviced by public*

sanitary sewer and water main, as well as private storm sewer. There is no mention of utility revisions with the proposal, so we do not believe there will be any adverse effects on the existing systems. 3. Should any revisions to the utility services to the building, or any work on the right-of- way be required, the owner will need to submit drawings to this Department to determine if Engineering permits will be required." The letter is signed by David W. Lear, P.E., Assistant City Engineer. The next letter is from the Livonia Fire & Rescue Division, dated February 24, 2026, which reads as follows: *"This office has reviewed the request to operate a Class C Liquor License on the property located at the above referenced address and has been contacted by Detective Jeffery Ronayne of the Livonia Police Department with a submitted request by The State of Michigan Department of Licensing and Regulatory Affairs for liquor license approval (RID# RQ-2511-14687). Once Capital Grille nears completion (final completion date unknown at this time), a final Life Safety inspection will take place and with compliance for Life Safety, a liquor license approval will take place.*" The letter is signed by Brian Kukla, Fire Marshal. The next letter is from the Division of Police, dated February 25, 2026, which reads as follows: "*I have reviewed the plans in connection with the petition. I have no objections to the proposal.*" The letter is signed by Brendan Adams, Sergeant, Traffic Bureau. The next letter is from the Finance Department, dated February 26, 2026, which reads as follows: "I have reviewed the addresses connected with the above noted petition. As there are no outstanding amounts receivable, general or water and sewer, I have no objections to the proposal." The letter is signed by Benjamin Grier, Director of Finance. The next letter is from the Treasurer's Department, dated February 23, 2026, which reads as follows: "*The owner of the property is current on their property tax*." The letter is signed by Susie Nash, Treasurer. The last letter is from the Police Department, Special Services Bureau that reads as follows: "We have reviewed the plans submitted by Capital Grille Holdings, Inc., requesting waiver use approval under Sections 3.13 and 6.03 of the Livonia Zoning Ordinance, as amended, to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises), and an SOM liquor license (sale of packaged beer and wine for consumption *off* the premises) in connection with a full service restaurant (Capital Grille) at 17117 North Laurel Park Drive, located on the north side of Six Mile Road between North Laurel Park Drive and the 1-275 Expressway in the Southeast¼ of Section 7. The review of the plans has determined that there are numerous Class C licensed businesses inside the separation requirement distance from the proposed "Capital Grille" site. The proposed establishment is

within a multi-business entertainment area, consistent with similar bar and restaurant clusters that collectively attract patrons and operate successfully without unique public safety impacts. We have no objections to the waiver being granted, contingent that the petitioner complies with: All State Laws, City Ordinances, Stipulations and conditions set by the Livonia Police Department, Liquor Investigation Unit, as approved by the Chief of Police, and Stipulations and conditions set by the Traffic Bureau of the Livonia Police Department" The letter is signed by Jeffery Ronayne, Special Services Bureau. That is the extent of the correspondence.

Mr. Wilshaw: All right, thank you, Mr. Uhazie. Is there any questions for planning staff? I don't see any questions. It's worth noting, because we do have two letters from the Police Department. That one letter comes from the traffic Bureau, which looks at this petition, kind of from that lens of view in terms of the traffic impacts of these petitions. The other one comes from the liquor licensing division of the police and has that sort of angle on their commentary. So, it's just worth noting, even though we received two letters from the police, they both have two different purposes. So thank you. Is the petitioner here? The petitioner is in the audience, coming forward. Start with your name and address. Good evening, sir.

Patrick Howe, attorney for Capital Grille, 17117 North Laurel Park Drive, Livonia, MI. Thank you for having us tonight. I was not able to attend the study session, but the General Manager was here. As you may have seen, the restaurants nearing completion. Looking forward to opening in May or June. I've worked with Capitol Grille for about 20 years. They have one location in Troy. They have an excellent operating record. It's gonna be real asset to the city, a real regional draw. Your traditional full service American Steakhouse, Open for lunch and dinner, 11am to 10pm you know, I think it's going to create a nice district there. Real nice redevelopment has been put in place. They have an excellent operating record with the Liquor Control Commission. They'll comply with all city laws, state laws and ordinances and we ask for your support tonight, subject to waiver of the SDM and Class C spacing restrictions. Any questions, I'm happy to answer them.

Mr. Wilshaw: Thank you. Mr. Howe, I appreciate your presentation. Is there any questions for the petitioner's representative?

Mr. Bongero: One question. Do all of the Capital Grilles have this type of license?

Mr. Howe: So your typical license, Class C, in Michigan for beer, wine, spirits on premise consumption is pretty standard now for all restaurants to get an SDM license for beer and wine to go. And in this case, it's usually, “Hey, I really enjoyed that glass of wine. Could I purchase a bottle to go?” after the meal. That's usually what you see here, but also offers an opportunity to sell a case of wine for an offsite event, you know, private catered event. If they wanted to get into to go orders. I don't think this concept really does, but you're, you know, sort of your more high-volume restaurants, that you could order a takeout order and then have it delivered by a delivery service.

Mr. Bongero: It's getting more popular.

Mr. Howe: It’s getting more popular. Yeah, but in this situation, it's more, it's more a relationship with the clientele, and more for a wine to go sales.

Mr. Bongero: Thank you.

Mr. Wilshaw: Thank you. Mr. Bongero. Any other questions?

Mr. Caramagno: Thank you, Mr. Chair. I've got a question. Speaking of delivery service, so did you say you will do carry out orders here if required by a customer?

Mr. Howe: I believe they do take-out orders, but they're not going to partner with like a DoorDash or something.

Mr. Caramagno: Okay. So, they will not. So, if someone wants to come get a carry out for a meal and they want a beverage with it, they'd have to show ID. What's your process for that?

Mr. Howe: For showing ID? It's just like serving in house. So, company standard ID, anybody looks under 40 you can…Michigan ID or out of state ID. The law requires that you make a diligent inquiry, so that would typically be handled in the bar area. So, you get your takeout order, if you have a beer or wine to go, they would check your ID by someone that's licensed to, you know, serve alcohol and that sale be completed right there in the store or in the restaurant?

Mr. Caramagno: I can't imagine it being a lot of business for Capital Grille.

Mr. Howe: No, they don't really encourage that. The environment doesn't…isn't conducive to a high volume takeout.

Mr. Caramagno: Okay? Thank you.

Mr. Wilshaw: Thank you. Mr. Caramagno.

Ms. Dinaro: That was my question. So, you guys will not be doing third party delivery services, Door, Dash, and there will definitely not be alcohol on the third party?

Mr. Howe: The third party service is a whole other industry in Michigan, so there's a licensed third party facilitator. So, you could go, not with this concept, but just generally speaking, the state does have a process for licensing these delivery services. That's not the plan here. This is your traditional full service American steakhouse Open for lunch and dinner.

Ms. Dinaro: Thank you.

Mr. Wilshaw: Thank you. Ms. Dinaro. Any other questions? No other questions on the board. Is there anyone in the audience wishing to speak on this item? Mr. Howe, anything else you wanted to say? You're good?

Mr. Howe: All set.

Mr. Wilshaw: Thank you for coming. I appreciate your being here. Thank you. If there's no other questions or comments from anyone, I will close the public hearing, and a motion would be in order

On a motion by Bongero, seconded by Dinaro, and unanimously adopted, it was

#03-15-2026 **RESOLVED**, That pursuant to a Public Hearing having been held by the City Planning Commission on March 24, 2026, on Petition 2026-02-02-06 submitted by Capital Grille Holdings, Inc., requesting waiver use approval under Sections 3.13, 6.03 and 6.22 of the Livonia Zoning Ordinance, as amended, to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises), and an S.D.M. liquor license (sale of packaged beer and wine for consumption off the premises) in connection with a full-service restaurant (Capital Grille) at 17117 North Laurel Park Drive, located on the north side of Six Mile Road between North Laurel Park Drive and the I-275 Expressway in the Southeast ¼ of Section 7, the Planning Commission does hereby recommend to the City Council that Petition 2026-02-02-06, be approved subject to the following conditions:

1. City Council waiving the 1,000-foot separation requirement between this location and the other existing on-premises licensed establishments pursuant to Section 6.22(2)A).

2. That the subject site has the capacity to accommodate the proposed use.

3. That the use of a Class C and SDM liquor license will complement the existing use of the subject property and will provide an additional service to customers; and

4. This waiver use is granted to this petitioner only, and any new user of this property is required to seek and receive City Council's consent to such user's operating the subject facility prior to occupancy by such user.

***FURTHER RESOLVED*,** That notice of the above hearing was given in accordance with the provisions of Section 13.13 of the Livonia Zoning Ordinance, as amended.

Mr. Wilshaw: Is there any discussion?

Mr. Wilshaw, Chairman, declared the motion is carried and the foregoing resolution adopted. It will go on to City Council with an approving resolution.

CITY OF LIVONIA, MICHIGAN
APPLICATION FOR WAIVER USE APPROVAL

RECEIVED
JAN 14 2026
PROPERTY LAW ADMINISTRATION

All applications must be presented in triplicate to the City Clerk, 33000 Civic Center Drive, Livonia, MI 48154-3097. Applications **must** include property owner's name, address and notarized signature.

For filing fee see below for computation

Date Filed: January 30, 2026 Petition _____

Site Address: 17117 N. Laurel Park Dr. Sidwell 028 99 0006 007 Zoning of Property C-4

Requesting Approval To Class C SDM Liquor License at Capital Grille Restaurant

Applicant: Capital Grille Holdings, Inc. Business/Company: The Capital Grille

Applicant's Address: 17117 N. Laurel Park Dr. City: Livonia State: MI Zip Code: 48152

Applicant's Phone # (248) 835-2068 Applicant's Email jphowe@jphowe.com

Contact Person: J. Patrick Howe Business/Company: JPHOWE, PLLC

Contact's Address: 280 N. Old Woodward Ave. #100 City: Birmingham State: MI Zip Code: 48009

Contact's Phone # (248) 835-2068 Contact's Email jphowe@jphowe.com

Please provide the following information:

1) **Site Plan** showing:
   - property dimensions, including road right-of-way & building setback lines
   - foot print of building(s), including dimensions & square footage
   - all easements, protective walls, sidewalks & existing trees
   - any significant topographic features (existing or proposed)
   - parking layout, including type of surface material, sizes of spaces & aisles
   - method used in calculating parking requirement
   - location of light standards servicing parking lot & cutout showing type & height
   - location of trash receptacle, including description of screening
   - location of signs
2) **Detailed Landscape Plan** including:
   - listing or labeling of all planted materials as to type and size
   - areas to be fully irrigated
   - percentage of landscaping provided (15% of total site required)
3) **Building Elevation Plan** depicting:
   - architectural quality
   - wall section & detail plan - exterior building materials must be labeled (i.e. brick, thin brick, E.F.I.S.)
   - all visible rooftop mechanical equipment and how they will be screened
4) **General Floor Plan** showing:
   - floor layout
   - entrances & exits
   - restaurants are required to illustrate seating arrangement & capacity
5) One (1) set of reduced plans (i.e. site, landscape, elevation, floor), a maximum 11" x 17" in size, or digital file in a .pdf format either on CD or emailed to planning@livonia.gov
6) **Legal Description** of the property to be considered (Clearly Printed)
7) Two (3) completed application forms & **three (3)** sets of full-size drawings

AVOID SCAMS! PLEASE BE AWARE THAT THE CITY OF LIVONIA PLANNING COMMISSION DOES NOT SEND INVOICES EITHER BY REGULAR MAIL OR EMAIL. WHEN YOU APPLY, YOU WILL BE REQUIRED TO PAY IN FULL AT THAT TIME. IF YOU RECEIVE AN INVOICE, PLEASE CONTACT US IMMEDIATELY.

You are invited and encouraged to review your proposal with the Planning Department staff. Only one set of preliminary drawings will be necessary for this analysis.

FEE COMPUTATION **$700.00 ($400 publication fee plus $300 base review fee) plus**

_____ sq. ft. of new construction x $20.00 per 1,000 sq. ft. or $30 per lot or unit for residential construction.

Total Amount Due $ _____ (To avoid scams, please see note above regarding invoices)

Owner of Property: Laurel Investment, LLC

Owner's Address: 29200 Northwestern Hwy. #450 City: Southfield State: MI Zip Code: 48034

Owner's Phone # (248) 955-2100 Owner's Email mkoza@group10.net

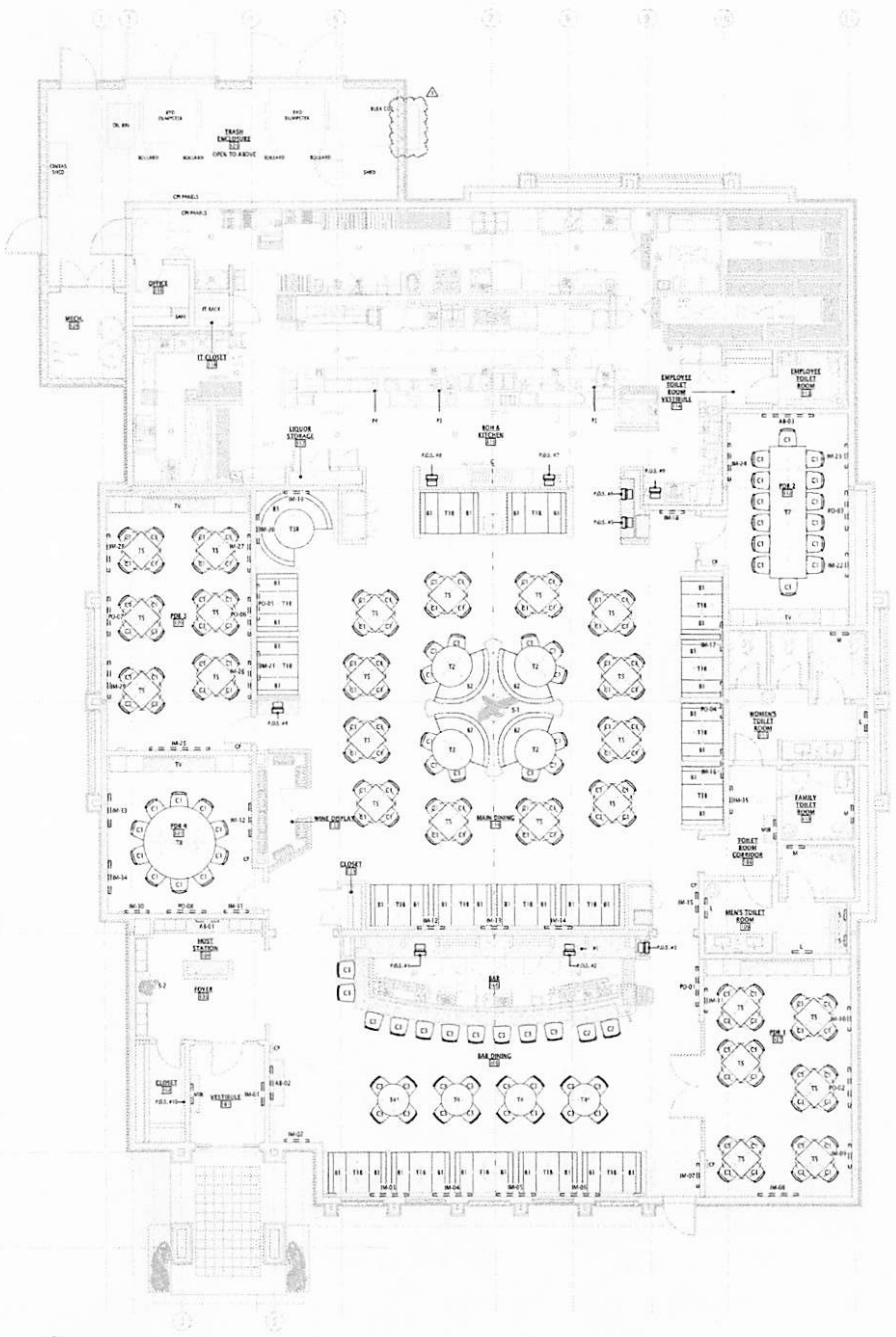
Signature of Owner: _____ Print Name: MAJID KOZA

Subscribed and sworn to before me, a Notary Public in and for the County of OAKLAND State of MICHIGAN

on this 13TH day of JANUARY 20 26. ALAN W BASKINS NOTARY PUBLIC - STATE OF MICHIGAN COUNTY OF OAKLAND My Commission Expires July 6, 2028 Acting in the County of OAKLAND

Signature of Notary _____ My commission expires 7/6/2028

Acting in the County of OAKLAND.



1 FURNISHING & POS PLAN
A1.5 3/16" = 1'-0"

LOW VOLTAGE EQUIPMENT SCHEDULE			
TYPE	MARK	TYPE	DESCRIPTION
CP		CONTROL PANEL BY OWNER	DATA AND POWER AT RECEIVING
P1		REQUISITION PRINTER - DRINKS	(1) DATA, (1) DUPLEX
P2		REQUISITION PRINTER - KITCHEN	(1) DATA, (1) DUPLEX
P3		REQUISITION PRINTER - APPS	(1) DATA, (1) DUPLEX
P4		REQUISITION PRINTER - PASTRY	(1) DATA, (1) DUPLEX
P.O.S. #1		POS STATION AND CASH DRAWER WITH CHECK PRINTER	(2) DATA, (1) DEDICATED QUAD
P.O.S. #2		POS STATION AND CASH DRAWER WITH CHECK PRINTER	(2) DATA, (1) DEDICATED QUAD
P.O.S. #3		POS STATION WITH CHECK PRINTER	(2) DATA, (1) DEDICATED QUAD
P.O.S. #4		POS STATION WITH CHECK PRINTER	(2) DATA, (1) DEDICATED QUAD
P.O.S. #5		POS STATION WITH CHECK PRINTER	(2) DATA, (1) DEDICATED QUAD
P.O.S. #6		POS STATION WITH CHECK PRINTER	(2) DATA, (1) DEDICATED QUAD
P.O.S. #7		POS STATION WITH CHECK PRINTER	(2) DATA, (1) DEDICATED QUAD
P.O.S. #8		POS STATION AND CASH DRAWER WITH CHECK PRINTER	(2) DATA, (1) DEDICATED QUAD
P.O.S. #9		POS STATION WITH CHECK PRINTER	(2) DATA, (1) DEDICATED QUAD
P.O.S. #10		POS STATION WITH CHECK PRINTER	(2) DATA, (1) DEDICATED QUAD

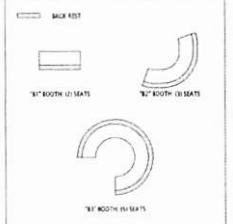
GENERAL FURNISHING NOTES

1. REFER TO INTERIOR ELEVATIONS FOR ARTWORK LOCATIONS.
2. REFER TO ELECTRICAL DRAWINGS FOR LOW VOLTAGE REQUIREMENTS.
3. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

SEATING TABULATION - ACTUAL SEATING

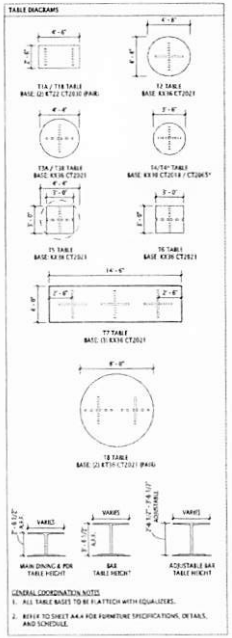
ROOM	TOTAL NUMBER OF SEATS
BAR DINING	48
MAIN DINING	125
POR 1	24
POR 2	14
POR 3	24
POR 4	10
	245

SEATING BOOTH DIAGRAMS - ACTUAL SEATING



GENERAL COORDINATION NOTES
1. REFER TO SHEET A4.X FOR FURNITURE SPECIFICATIONS, DETAILS, AND SCHEDULE.

TABLE DIAGRAMS



GENERAL COORDINATION NOTES
1. ALL TABLE BASES TO BE FLAT TECH WITH EQUALIZERS.
2. REFER TO SHEET A4.X FOR FURNITURE SPECIFICATIONS, DETAILS, AND SCHEDULE.

COPYRIGHT 2025 JKR PARTNERS, LLC ALL RIGHTS RESERVED

JKRP
ARCHITECTS
100 EAST PENN SQUARE
SUITE 1080
PHILADELPHIA, PA 19107
215.928.9331
JKRPARCHITECTS.COM

FIRM LICENSE NO. 3963/3963-0001
REGISTERED

DEVELOPMENT
DARDEN
DARDEN CONCEPTS INC.
1000 DARDEN CENTER DRIVE
ORLANDO, FL 32837

STRUCTURAL ENGINEER
HART CALDER + ASSOCIATES
917.216.1139
jhart@hartcalder.com

MEP ENGINEER
ARMSTRONG ENGINEERS
917.742.9693
chris.kent@armstrongpower.com

THE CAPITAL GRILLE

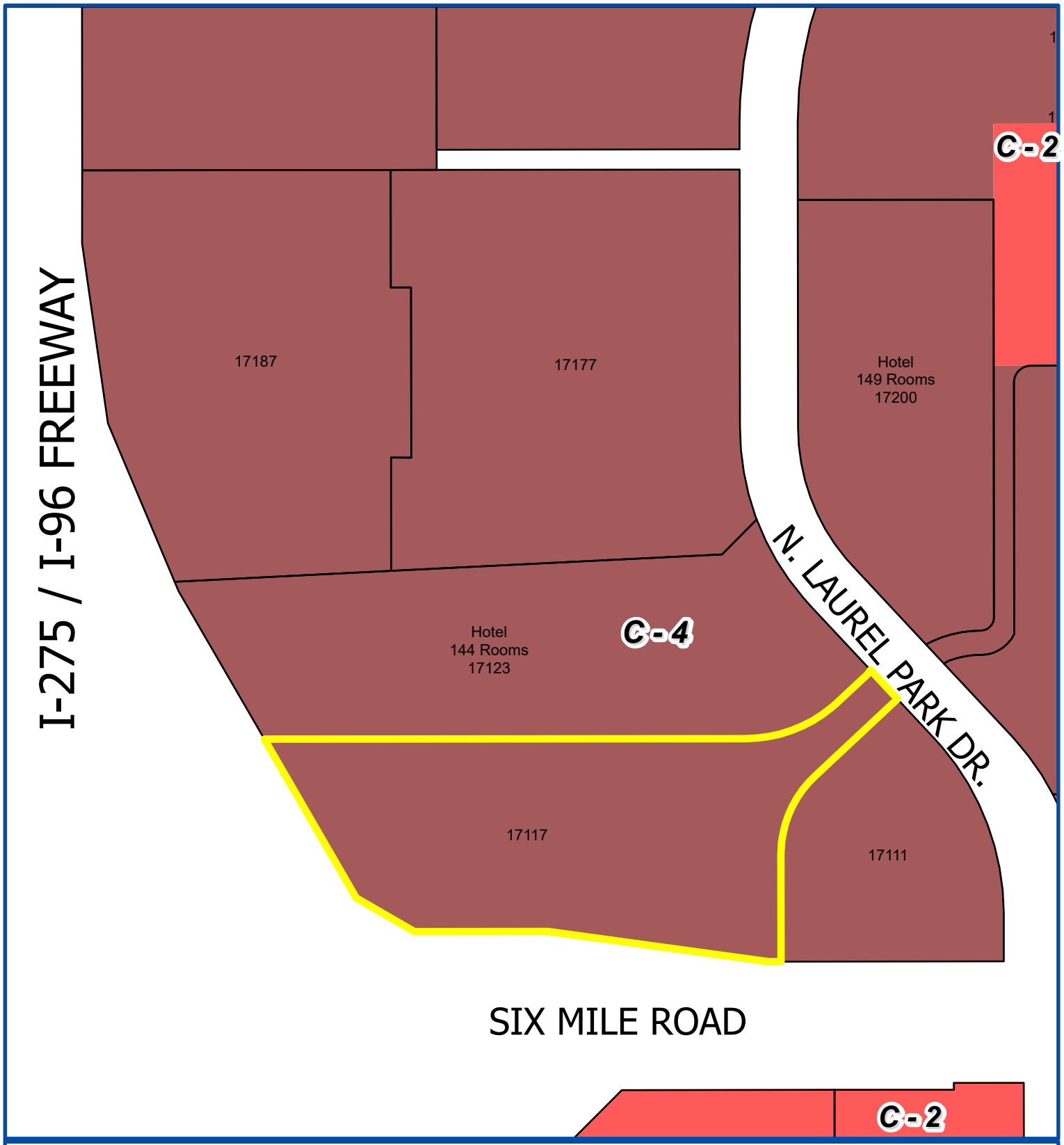
SUBMISSION INFORMATION	
ISSUED FOR PERMITS	2025.11.05
- ISSUED FOR BID	2025.04.22
1 - ISSUED FOR CONST.	2025.06.10
2 - BULLETIN 2	2025.10.06
3 - BULLETIN 3	2025.12.18

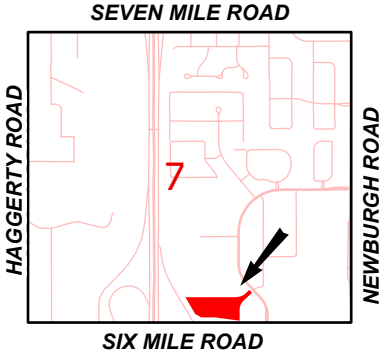
RESTAURANT #: 8084

THE CAPITAL GRILLE - LIVONIA, MI
04-24-002
17117 LAUREL PARK DRIVE NORTH
LIVONIA, MI 48152

DRAWING:
FURNISHING & POS PLAN

A1.5





Address & Zoning Map

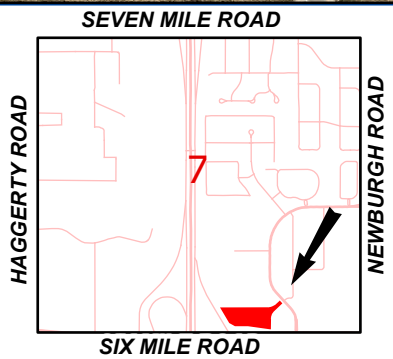
Petition 2026-02-02-06
Capital Grille Class C and SDM
17117 N. Laurel Park Drive

N

Not to Scale

City of Livonia
Planning Department





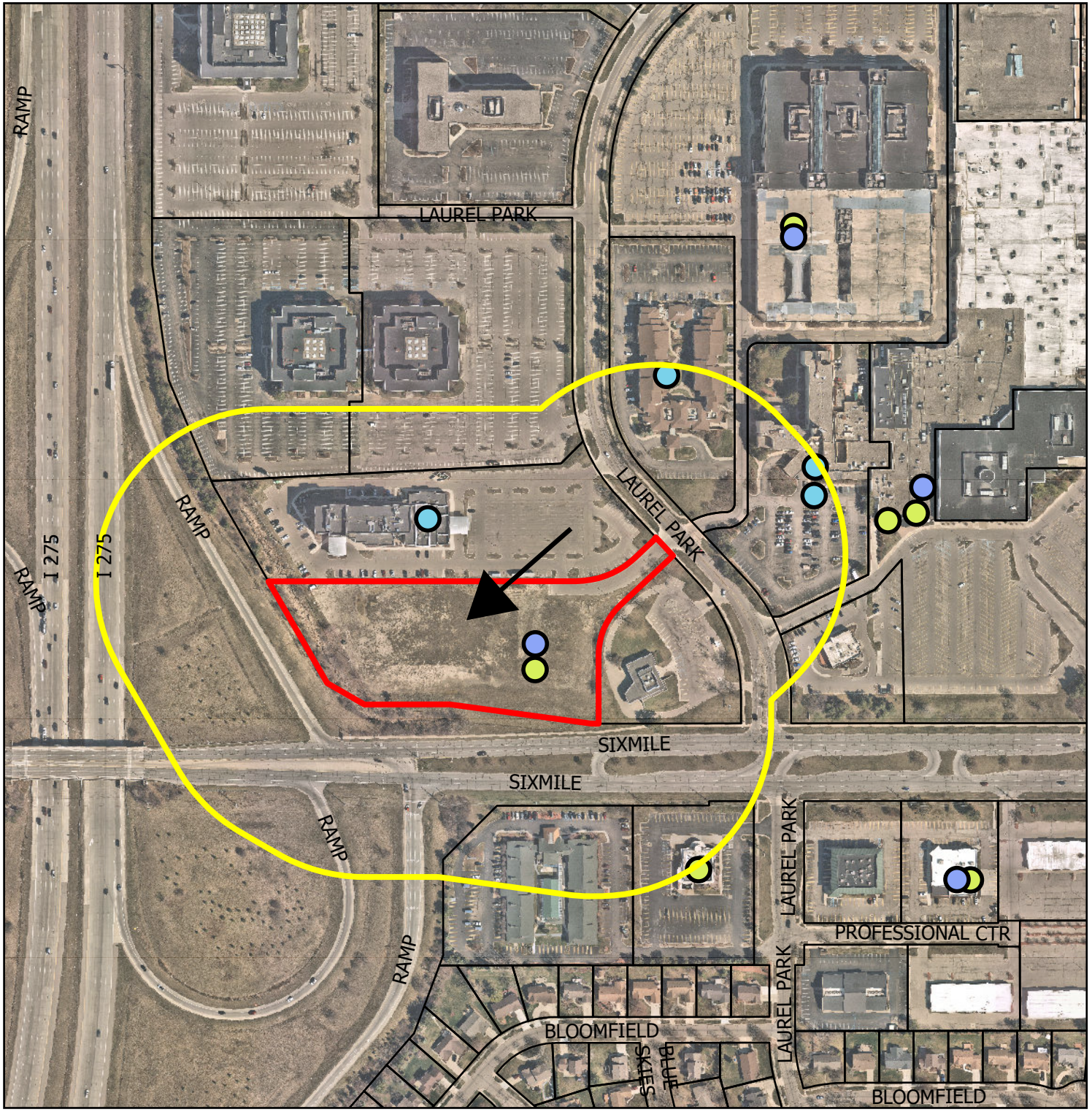
Aerial Map

Petition 2026-02-02-06
Capital Grille Class C and S.D.M.
17117 N. Laurel Park Drive

N

Not to Scale

City of Livonia
Planning Department



Legend

License Type

- B-Hotel
- Brew Pub
- Broker
- Class C
- Club
- SDD
- SDM
- Tavern
- 17117 N. Laurel Park Drive
- 400 FT Buffer

Located along Six Mile Road are Class C Licenses at:
(1) Red Robin

Additional Class C in the vicinity is at Buffalo Wild Wings on Six Mile Road.

0 200 400 US Feet

N

PLANNING COMMISSION STAFF NOTES

PUBLIC HEARING

ITEM 1

Petition 2026-02-02-06 submitted by Capital Grille Holdings, Inc., requesting waiver use approval under Sections 3.13, 6.03 and 6.22 of the Livonia Zoning Ordinance, as amended, to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises), and an S.D.M. liquor license (sale of packaged beer and wine for consumption off the premises) in connection with a full-service restaurant (Capital Grille) at 17117 North Laurel Park Drive, located on the north side of Six Mile Road between North Laurel Park Drive and the I-275 Expressway in the Southeast ¼ of Section 7.

March 10, 2026 Study Meeting:

Capital Grille Holdings, Inc. is requesting waiver use approval for a Class C liquor license (sale of beer, wine, and spirits for consumption on the premises) and an S.D.M. liquor license (sale of packaged beer and wine for consumption off the premises) in connection with the development of a new full-service restaurant currently under construction on the subject property.

The 10,086-square-foot Capital Grille restaurant was previously approved under Petition 2024-06-08-02 that also included significant changes to the Holiday Inn and Conference Center site, including demolishing the banquet hall portion of the hotel and construction of a five-story Home 2 Suites by Hilton Hotel, and an 11,040-square-foot Cooper's Hawk restaurant.

The proposed establishment will operate as a full-service restaurant offering dine-in service. The Class C license will allow the restaurant to serve alcoholic beverages to patrons for on-site consumption as an accessory use to the principal restaurant operation. The S.D.M. license will permit the sale of packaged beer and wine for off-premises consumption, which is typically limited in scope and accessory to the primary dining use.

The subject site is zoned C-4 (High Rise Commercial). Full-service restaurants are permitted in the C-4 (High Rise Commercial) zoning district. Full-service dining establishments customarily include the service of alcoholic beverages as part of their business model. The issuance of the requested liquor licenses will support the restaurant's operational needs and ensure readiness for opening day upon completion of construction and final inspections. To the west is the I-275/I-96 interchange with Six Mile Road. To the east is the newly constructed Cooper's Hawk, also zoned C-4 (High Rise Commercial). To the north is a Holiday Inn Hotel, zoned C-4 (High Rise Commercial). To the south, across Six Mile Road, is the Best Western Hotel, zoned C-2 (General Business). The petition shows no proposed changes to the building or site. If any changes are to be done, it will be interior changes.

According to Class C requirements in Section 6.22, establishments having liquor licenses such as Class C, tavern, club, and small distiller shall not be located within one thousand (1,000) feet of any other such licensed establishment as measured from the actual premises being used or proposed for use of the respective properties; provided, however, that with respect to those licensed establishments which are utilized primarily as restaurants or for dining facilities, the foregoing one thousand (1,000) foot requirement may be waived by the City Council.

S.D.M. licenses are regulated under Section 6.03 of the Livonia Zoning Ordinance and are treated as a waiver use within the C-4 zoning district. The Ordinance requires a minimum separation of five hundred (500) feet between S.D.M.-licensed establishments, measured from the nearest point of the proposed licensed building to the building housing the existing licensed establishment. This separation requirement may be waived by the City Council. Based on a review of the City's liquor license map, the nearest S.D.M.-licensed establishment is located beyond the required 500-foot separation distance.

Additionally, the proposed licensed establishment shall be located at least four-hundred (400) feet distant from any church or school building, either public or parochial, as measured from the nearest point on the building proposed to be licensed to the existing church or school building. No such establishments are present within four-hundred (400) feet from the petition site.

The petition application did not include any changes to signage or landscaping on the site.

March 24, 2026 Public Hearing:

Approving Resolution: That the request to utilize a Class C liquor license (sale of beer, wine and spirits for consumption on the premises) and S.D.M. liquor license (allows a business licensed to sell, at retail, beer, wine, and mixed spirit drink products in the original package for consumption off the premises) in connection with the proposed restaurant operation (The Capital Grille) at 17117 North Laurel Park Drive, is hereby approved for the following reasons, subject to City Council approval and the following conditions:

1. City Council waiving the 1,000-foot separation requirement between this location and the other existing on-premises licensed establishments pursuant to Section 6.22(2)A).

2. That the subject site has the capacity to accommodate the proposed use.

3. That the use of a Class C and SDM liquor license will complement the existing use of the subject property and will provide an additional service to customers; and

4. This waiver use is granted to this petitioner only, and any new user of this property is required to seek and receive City Council's consent to such user's operating the subject facility prior to occupancy by such user.

Denying Resolution: That the request to utilize a Class C liquor license (sale of beer, wine and spirits for consumption on the premises) and S.D.M. liquor license (allows a business licensed to sell, at retail, beer, wine, and mixed spirit drink products in the original package for consumption off the premises) in connection with the proposed restaurant operation (The Capital Grille) at 17117 North Laurel Park Drive, is hereby denied for the following reasons:

1. That the petitioner has failed to affirmatively show that the proposed utilization of a Class C and SDM liquor license at this location would comply with all the general waiver use standards and requirements as set forth in Section 6.22 of the Livonia Zoning Ordinance.

2. That this location fails to comply with the standards of Section 6.22 which requires a separation of at least1,000 feet between Class C liquor licensed establishments.

3. That this part of the City is currently well-served with Class C liquor licensed establishments selling alcoholic beverages.

4. That it has not been demonstrated that there is a need in this area for additional sales of alcoholic beverages such as are permitted by the utilization of a Class C liquor license.

5. That the petitioner has failed to adequately demonstrate that the facility has the capacity to accommodate the proposed use, and

6. That the proposal is contrary to the goals and objectives of the Zoning Ordinance which, among other things, are intended to ensure suitability and appropriateness of uses.

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

TODD J. ZILINCIK, P.E.
CITY ENGINEER

DAVID W. LEAR, P.E.
ASST. CITY ENGINEER

MAUREEN MILLER BROSNAN
MAYOR

DOUGLAS L. MOORE, MSA
INTERIM DIRECTOR OF PUBLIC WORKS

12973 FARMINGTON ROAD
LIVONIA, MICHIGAN 48150
(734) 466-2655

March 2, 2026

Mr. Kristoffer Canty
Planner IV
City of Livonia

Re: Petition 2026-02-02-06 – #17117 North Laurel Park Drive (Capital Grille)

Dear Mr. Canty:

In accordance with your request, the Engineering Division has reviewed the above referenced petition. We have no objections to the proposed waiver use at this time, but would like to note the following items:

1. The subject parcel is assigned the address of **#17117 North Laurel Park Drive.**

2. The existing parcel is currently serviced by public sanitary sewer and water main, as well as private storm sewer. There is no mention of utility revisions with the proposal, so we do not believe there will be any adverse effects on the existing systems.

3. Should any revisions to the utility services to the building, or any work on the right-of-way be required, the owner will need to submit drawings to this Department to determine if Engineering permits will be required.

Should you have any additional questions on this matter, please feel free to contact myself at (734) 466-2608 or the City Engineer, Mr. Todd Zilincik at (734) 466-2561. If you would prefer, you can e-mail either of us at dlear@livonia.gov or tzilincik@livonia.gov.

Sincerely,

David W. Lear, P.E.
Assistant City Engineer

cc: 2026 Petition File

DEPARTMENT OF PUBLIC SAFETY
LIVONIA FIRE & RESCUE

ROBERT JENNISON
FIRE CHIEF

MAUREEN MILLER BROSNAN
MAYOR

14910 FARMINGTON ROAD
LIVONIA, MICHIGAN 48154-5419
734-466-2444
734-466-2082 fax

DATE: February 24, 2026

TO: Kristoffer Canty, Planner IV

FROM: Livonia Fire Prevention Division

SUBJECT: Petition # 2026-02-02-06 Capital Grille 17117 N. Laurel Park Dr.

This office has reviewed the request to operate a Class C Liquor License on the property located at the above referenced address and has been contacted by Detective Jeffery Ronayne of the Livonia Police Department with a submitted request by The State of Michigan Department of Licensing and Regulatory Affairs for liquor license approval (RID# RQ-2511-14687).
Once Capital Grille nears completion (final completion date unknown at this time), a final Life Safety inspection will take place and with compliance for Life Safety, a liquor license approval will take place.

Sincerely,

Brian R. Kukla

Brian R. Kukla
Fire Marshal

DEPARTMENT OF PUBLIC SAFETY
DIVISION OF POLICE

THOMAS GORALSKI
CHIEF OF POLICE

MAUREEN MILLER BROSNAN
MAYOR

15050 Farmington Road
Livonia, Michigan 48154-5499
(734) 466-2470
FAX: (734) 261-2265

February 25th 2026

Mr. Kristoffer Canty
City of Livonia Planning Dept
33000 Civic Center Drive
Livonia, MI 48154

Re: Petition 2026-02-02-06 - 17117 North Laurel Park Drive

Mr. Canty,

I have reviewed the plans in connection with the petition. I have no objections to the proposals.

Please feel free to contact me, should you have any questions.

Sincerely,

FOR THE CHIEF OF POLICE,

Sgt. Badams

Brendan Adams, Sergeant
Traffic Bureau
(734) 466-2107

DEPARTMENT OF FINANCE

Benjamin N. Grier, JD, CPA
DIRECTOR OF FINANCE

MAUREEN MILLER BROSNAN
MAYOR

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2260
FAX: (734) 421-1807

February 26th, 2026

Kristoffer Canty
Planning Commission
33000 Civic Center Drive
Livonia, MI 48154

Petition 2026-02-02-06 – 17117 North Laurel Park Dr. (Capital Grille Holdings, Inc)

Dear Kristoffer,

I have reviewed the address connected with the above noted petition. As there are no outstanding amounts receivable (general or water and sewer), I have no objections to the proposal.

Please contact me if you have any further questions.

Very truly yours,

Benjamin N. Grier
Director of Finance

BG: sc

OFFICE OF THE TREASURER

SUSAN M. NASH
CITY TREASURER

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3060
(734) 466-2245
FAX: (734) 421-7230

February 23, 2026

RE: 17117 N Laural Park

Attention: Planning Commissioners

The owner of the property is current on their property tax.

If you have any further questions, please contact me

Thank you

Susan Nash
Livonia City Treasurer

DEPARTMENT OF PUBLIC SAFETY
DIVISION OF POLICE

THOMAS GORALSKI
CHIEF OF POLICE

MAUREEN MILLER BROSNAN
MAYOR

15050 FARMINGTON ROAD
LIVONIA, MICHIGAN 48154-5499
(734) 466-2470
FAX: (734) 261-2265

March 02, 2026

Kristoffer Canty, Planner IV
Planning Commission
33000 Civic Center Drive
Livonia, MI 48154

Re: Petition 2026-02-02-06 – Capital Grille 17117 North Laurel Park Drive

Dear Mr. Canty,

We have reviewed the plans submitted by Capital Grille Holdings, Inc., requesting waiver use approval under Sections 3.13 and 6.03 of the Livonia Zoning Ordinance, as amended, to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises), and an SDM liquor license (sale of packaged beer and wine for consumption off the premises) in connection with a full service restaurant (Capital Grille) at 17117 North Laurel Park Drive, located on the north side of Six Mile Road between North Laurel Park Drive and the I-275 Expressway in the Southeast ¼ of Section 7.

The review of the plans has determined that there are numerous Class C licensed businesses inside the separation requirement distance from the proposed "Capital Grille" site.

The proposed establishment is within a multi-business entertainment area, consistent with similar bar and restaurant clusters that collectively attract patrons and operate successfully without unique public safety impacts.

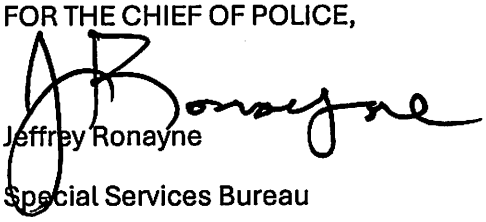
We have no objections to the waiver being granted, contingent that the petitioner complies with:

- All State Laws
- City Ordinances
- Stipulations and conditions set by the Livonia Police Department, Liquor Investigation Unit, as approved by the Chief of Police
- Stipulations and conditions set by the Traffic Bureau of the Livonia Police Department

Recycled Paper

Sincerely,

FOR THE CHIEF OF POLICE,



Jeffrey Ronayne

Special Services Bureau

LETTER TO THE LIVONIA CITY COUNCIL

4.

Planning
March 25, 2026

MEETING DATE	PRESENTED BY
S040826/R042026	Mark Taormina, Planning and Economic Development Director

AGENDA ITEM

WAIVER PETITION 2026-02-02-09: submitted by C3 Michigan, LLC on behalf of The Axe Parlor, requesting waiver use approval to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises) at 15970 Middlebelt Road, located on the east side of Middlebelt Road between Sunnydale Street and Terrence Avenue in the southwest 1/4 of Section 13.

BACKGROUND DETAILS

March 27, 2026

Honorable Members of the City Council
City of Livonia, Michigan

Re: Petition 2026-02-02-09 – Axe Parlor

Dear Council Members:

At the 1,243rd Meeting held by the Livonia City Planning Commission on March 24, 2026, the following resolution was adopted:

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

#03-17-2026 RESOLVED, That pursuant to a Public Hearing having been held by the City Planning Commission on March 24, 2026, on Petition 2026-02-02-09 submitted by C3 Michigan, LLC on behalf of The Axe Parlor requesting waiver use approval under Sections 3.11 and 6.22 of the Livonia Zoning Ordinance, as amended, to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises) at 15970 Middlebelt Road, located on the east side of Middlebelt Road between Sunnydale Street and Terrence Avenue in the southwest 1/4 of Section 13, the Planning Commission does hereby recommend to the City Council that Petition 2026-02-02-09 be approved subject to the following conditions:

1. City Council waiving the 1,000-foot separation requirement between this location and the nearby Class C license establishment pursuant to Section 6.09(2)(A).

2. That this location shall be in compliance with the Michigan Liquor Control Act, and

3. That the parking lot shall be repaired, resealed, and restriped as necessary to the satisfaction of the Inspection Department. Parking spaces shall be doubled striped at ten feet (10') wide by twenty feet (20') in length.

4. That the three walls of the trash dumpster area shall be constructed out of building materials that shall complement that of the building. The enclosure gates shall be of solid panel steel construction or durable, long-lasting solid panel fiberglass. The trash dumpster area shall be maintained and when not in use closed at all times.

5. This waiver use for this license is granted to this petitioner only, and any new user of this license is required to seek and receive City Council's consent prior to the transfer.

FURTHER RESOLVED, That notice of the above hearing was given in accordance with the provisions of Section 13.13 of the Livonia Zoning Ordinance, as amended.

ATTACHMENTS

1. 2026-02-02-09_E-COUNCIL Pkt

APPROVED BY

Date: March 27, 2026

Mark Taormina, Planning and Economic Development Director

Date: March 27, 2026

Maureen Miller Brosnan, Mayor

Petition 2026-02-02-09 submitted by C3 Michigan, LLC on behalf of The Axe Parlor requesting waiver use approval under Sections 3.11 and 6.22 of the Livonia Zoning Ordinance, as amended, to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises) at 15970 Middlebelt Road, located on the east side of Middlebelt Road between Sunnydale Street and Terrence Avenue in the southwest 1/4 of Section 13.

MINUTES OF THE 1,243rd PUBLIC HEARINGS AND REGULAR MEETING HELD BY THE CITY PLANNING COMMISSION OF THE CITY OF LIVONIA

On Tuesday, March 24, 2026, the City Planning Commission of the City of Livonia held its 1,243rd Public Hearing and Regular Meetings in the Livonia City Hall, 33000 Civic Center Drive, Livonia, Michigan.

Mr. Ian Wilshaw, Chairman, called the meeting to order at 7 p.m.

Members present:	Wafa Dinaro	Patrick Droze	David Bongero
	Sam Caramagno	Glen Long	Ian Wilshaw

Members absent: Peter Ventura

Mr. Jacob Uhazie, Assistant Planning Director, and Stephanie Reece, Program Supervisor, were also present.

Chairman Wilshaw informed the audience that if a petition on tonight's agenda involves a rezoning request, this Commission makes a recommendation to the City Council who, in turn, will hold its own public hearing and make the final determination as to whether a petition is approved or denied. The Planning Commission holds the only public hearing on a request for preliminary plat and/or vacating petition. The Commission's recommendation is forwarded to the City Council for the final determination as to whether a plat is accepted or rejected. If a petition requesting a waiver of use or site plan approval is denied tonight, the petitioner has ten days in which to appeal the decision, in writing, to the City Council. Resolutions adopted by the City Planning Commission become effective seven (7) days after the date of adoption. The Planning Commission and the professional staff have reviewed each of these petitions upon their filing. The staff has furnished the Commission with both approving and denying resolutions, which the Commission may, or may not, use depending on the outcome of the proceedings tonight.

ITEM #3 PETITION 2026-02-02-09 Axe Parlor

Mr. Caramagno, Secretary, announced the first item on the agenda Petition 2026-02-02-09 submitted by C3 Michigan, LLC on behalf of The Axe Parlor requesting waiver use approval under Sections 3.11 and 6.22 of the Livonia Zoning Ordinance, as amended, to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises) at 15970 Middlebelt Road, located on the east side of Middlebelt Road between Sunnydale Street and Terrence Avenue in the southwest 1/4 of Section 13.

Mr. Uhazie: This is a request to operate indoor recreational axe throwing establishment, which originally opened at 30959 Five Mile Road in the Livonia Plaza Shopping Center with an on-premises Class C liquor license. The petitioner is proposing no changes to the exterior of the building. It is the southern building portion of this building shown here. It is next to the existing Banks vacuums, and it is the site of the former Anytime Fitness. The current zoning is C-2, in the front and a portion is zoned P for parking in the rear. Adjacent properties to the east are residential, zoned RUF. West across Middle Belt is a pharmacy zoned C-1 and a residential property zoned RUF, as well. South across Sunnydale Street is the Detroit Korean Seventh Day Advent church and to the north is a commercial property zoned C-1. The proposal shows a floor plan with five throwing areas spread across the building. Each arena has seating and viewing area. The bar would be located at the center of the building and would only offer a selection of canned alcoholic beverages. Section 6.22 of the zoning ordinance treats Class C as a waiver-use in the C-2 district. Section 6.22 prohibits establishments having a liquor license with a Class C from operating within 1,000 feet of each other. A number of existing Class C liquor licenses are within the 1,000 foot buffer area that includes Steve's Family Diner, which is 460 feet away. As such, City Council would require be required to waive the separation requirements. Section 6.22 specifies that the proposed liquor establishment cannot be located 400 feet from any church or building or school building, As mentioned, the Detroit Korean Seventh Day Advent church is within the 400 foot buffer as well. With that, Mr. Chairman, I can read out the departmental correspondence.

Mr. Wilshaw: Yes, please.

Mr. Uhazie: The first item is from the Engineering Division, dated March 2, 2026, which reads as follows: "*In accordance with your request, the Engineering Division has reviewed the above referenced petition. We have no objections to the proposed waiver use at this time, but would like to note the following items: 1. The subject parcel is assigned the overall address of #15986 Middlebelt Road, with the address of #15970 being assigned to one of units inside of the building. 2. The existing parcel is currently serviced by public sanitary sewer and water main, as well as private storm sewer. There is no mention of utility revisions with the proposal, so we do not believe there will be any adverse effects on the existing systems. 3. Should any revisions to the utility services to the building, or any work on the right-of- way be required, the owner will need to submit drawings to this Department to determine if Engineering permits will be required.*" The letter is

signed by David W. Lear, P.E., Assistant City Engineer. The next letter is from the Livonia Fire & Rescue Division, dated March 5, 2026, which reads as follows: "*This office has not reviewed the site plan submitted in connection with modification construction and use of the property located at the above referenced address. Since this division has not received an official plan set with permits to perform an official plan review, a Class C Liquor License Life Safety inspection cannot be performed. further detailed plan review will take place when this division receives an official plan set.*" The letter is signed by Brian Kukla, Fire Marshal. The next letter is from the Division of Police, dated March 2, 2026, which reads as follows: "*I have reviewed the plans in connection with the petition. I have no objections to the proposal.*" The letter is signed by Brendan Adams, Sergeant, Traffic Bureau. The next letter is from the Inspection Department, dated March 23, 2026, which reads as follows: "Pursuant to your request, the above-referenced Petition has been reviewed. 1. The proposed location is closer than 400 feet to a church. 2. There is currently no dumpster enclosure located on site. An enclosure shall be provided in accordance with the ordinance. 3. The parking lot shall be repaired and restriped as necessary. Parking spaces shall be 10' wide and 20' deep and double-striped. This Department has no further objections to this Petition." The letter is signed by Jerome Hanna, Director of Inspection. The next letter is from the Finance Department, dated March 5, 2026, which reads as follows: "*I have reviewed the addresses connected with the above noted petition. The following amounts are due to the City of Livonia: Unpaid water and sewer charges (Due 3/10/26): (includes past due balance of $294.08 and penalty of $29.41) Total Due City of Livonia $594.98*." The letter is signed by Benjamin Grier, Director of Finance. The next letter is from the Treasurer's Department, dated February 13, 2026, which reads as follows: "*The owner of the property is current on their property tax. In addition, Axe Parlor is in good standing with their current location on Five Mile Road.*" The letter is signed by Susie Nash, Treasurer. The last letter is from the Special Services Bureau, dated March 4, 4026, which reads as follows: "*We have reviewed the plans submitted by C3 Michigan, LLC on behalf of The Axe Parlor requesting waiver use approval under Section s 3.11 and 6.22 of the Livonia Zoning Ordinance, as amended , to operate a Class C liquor license (sale of beer, wine and spirit s for consumption on the premises) at 15970 Middlebelt Road, located on the east side of Middlebelt Road between Sunnydale Street and Terrence Avenue in the southwest¼ of Sect ion 13. The review of the plans has determined that the request does not comply with the separation requirement guidelines. Steve's Family Dining at 15800 Middlebelt (600 feet), which holds a Class*

C liquor license is well within the one thousand (1,000) foot separation requirement distance of the proposed site. Also, the Detroit Korea n SDA Church at 15956 Middlebelt (100 feet) is well within the (400) four-hundred-foot separation requirement distance of the proposed site. We have no objections to the waiver being grant ed, contingent that the petitioner complies with: All State Laws, City Ordinances, Stipulations and conditions set by the Livonia Police Department, Liquor Investigation Unit, as approved by the Chief of Police, and Stipulations and conditions set by the Traffic Bureau of the Livonia Police Department." That is the extent of the correspondence.

Mr. Wilshaw: Thank you, Mr. Uhazie. Is there any questions for staff? Seeing none. Our petitioner in the audience. There she is. Hi, good evening. Name and address for our record.

Chevon Rogers, 15970 Middle Belt, Livonia, MI.

Mr. Wilshaw: Thank you. Ms. Rogers. Is there anything you'd like to tell us about your request?

Ms. Rogers: Not really. We're just relocating to a larger space and want to transfer our license to that location.

Mr. Wilshaw: Okay, very good. Let's see if there's some questions for you. Any questions for our petitioner?

Mr. Droze: Just a quick one, I think, a note from the Building Department about doing some improvements, getting a dumpster enclosure. Is that something you're able to do as part of your proposal?

Ms. Rogers: I will have to talk to Ken Banks, who's the owner of the property, but yeah, I'm sure he could. Yeah.

Mr. Droze: Okay, thank you.

Mr. Wilshaw: Thank you, Mr. Droze. Any other questions for the petitioner.

Mr. Caramagno: You're going to talk to the owner of the property. This is a lease that you're doing here.

Ms. Rogers: Yes.

Mr. Caramagno: You're not owning the property?

Ms. Rogers: Yeah, we don't own the property.

Mr. Caramagno: Okay, Long term lease? Something that will last a number of years, or what?

Ms. Rogers: Yes, so five-year lease currently, so hopefully longer.

Mr. Caramagno: Okay. And the reason you moved is because you need more space?

Ms. Rogers: Yep, yep.

Mr. Caramagno: Okay, good, excellent.

Mr. Wilshaw: Thank you.

Mr. Bongero: There was a couple notes from the Building Department. One was as Mr. Droze stated, they want a dumpster enclosure, which is required. There's not even an enclosure anywhere on that property, so it wouldn't be just for you, but probably a shared one. I would think, because there's…

Ms. Rogers: There is two dumpsters back there that I've seen.

Mr. Bongero: They have to be enclosed though.

Ms. Rogers: They're not right now.

Mr. Bongero: Then the front parking lot is in some disrepair. The catch basin out front has a cone.

Ms. Rogers: Yeah, there is a cone in the front. I've noticed.

Mr. Bongero: So, you might want to mention that to your landlord. It might be a condition to this.

Ms. Rogers: I'll mention that to him. Thank you.

Mr. Wilshaw: Alright, any other questions for the petitioner? Nothing else. Anyone in the audience wishing to speak on this item. There's someone in the audience. If you want to come ahead and come forward. Ms. Rogers, if you want to just take a seat and we'll get you back up here afterward. Hi. Good evening, ma'am.

Lisa Bame, 29205 Sunnydale, Livonia, MI. That is the home directly across from the proposed new establishment. My mother and my husband, we all live together one big, happy family. So, my concern is, you mentioned there's no dumpster Currently, there are piles and piles of carpet that have been there for weeks that is already like,

not only an eyesore, but it's also probably getting a lot of unwanted visitors to the area. So that's not setting very well to start. I'm concerned about the noise. I'm concerned about the parking most of all, because we already are wonderful neighbors. The church that butts up right next to my property, they have spillage over onto our street, because there's not a lot of parking. That parking area is not very big in the front or the back, and I'm concerned. We've had several times our mail hasn't gotten delivered because people have been parking in front of our mailbox, and the mail lady is like, you know, you can't have anyone park there and I am like, I can't control, you know, the parking so that's a big concern as well. But also, I'm concerned about the noise. Unfortunately, with alcohol, sometimes it can bring in an element of unwanted conflict, so I'm concerned about that as well. We've lived there for 30 years, and it's been several businesses in that area, but there's never been anything like this proposed so and Mom, did you want to say anything else? Well, I don't know if you can reach up.

Janice Beg, 29205 Sunnydale, Livonia, MI. I live with Lisa and Randy. My concern is this is supposed to be a Planning Commission, right?

Mr. Wilshaw: Correct.

Ms. Beg: But yet, when I go on the internet, I see that address already on the internet. I see a lot of activity going in, where there is things coming out and things coming in. Now that parking lot directly across from my bedroom is always have trucks and Banks is always delivering things, and there's always a lot of noise there, from, say, 9am to four, so then from four to 2am is there going to be additional noise and additional…my bedroom faces the street. My other concern is it's a neighborhood. Children are on bicycles. People walk their dogs. This is a axe throwing bar, you know. And I know I'm not very contemporary when it comes to having fun, but to me, an ax throwing bar is a little bit interesting and different. But why not further south and maybe the strip mall, not on the corner where there is children and pets and me, and I use my scooter, and I'm out there a lot, so that is my concern. So, thank you.

Mr. Wilshaw: Thank you for speaking, and I do appreciate you projecting your voice. Ma'am. It makes it very easy to hear you well.

Ms. Beg: Thank you, because it's very important to me and my safety in particular. I hear that the trucks and everything all day long. If you can get that carpet taken care of that'd be great, because that

carpets been getting rained on and everything else. And I have pictures.

Mr. Wilshaw: So, we hear your comments, and what we're going to do is, first, we're going to see if there's anyone else in the audience wishing to speak. I don't see anyone else wishing to speak on this. Ms, Rogers, what We try not to do is get into like a back and forth debate between people, but you did hear some concerns over the existing trash situation, which is obviously your landlord's issue, some concern about the possible noise that may happen from this business, and then also the parking situation. If you'd like to address particularly the noise and parking, because I think those are more relevant to your particular business. And if you do know anything about the carpet, please make sure you speak into the mic and to us. Thank you.

Ms. Rogers: Obviously moving into a new location, you have some renovations to do. That was an Anytime Fitness. They had turf and rubber and all this kind of stuff on the floor. That's all been removed. So, it has been out there for a week waiting for us to be able to load that up and take it to the city dump so that will be removed. We didn't have a dumpster at the time, and we can't put it in the regular dumpster, I don't think so, because I don't know if the trash will take that so that is going to be removed. As far as parking. people are here for an hour. We have five lanes, so we've got, maybe, possibly, you know, if we're really full, we have five groups, maybe two or four people. They're there for an hour, and they move out and so the parking I don't think is going to be an issue. We do have larger events occasionally, but not very often, maybe a couple times a year, that would probably fill up that back parking lot, but I don't see it spilling out into the road or anything like that. And as far as noise is concerned, we do have a barrier between the wall and where the axes are thrown. So, we have a probably two three quarter inch plywood on the wall, and then we have two by sixes on the backing, and then two by sixes on the front for the target. So, the noise, I don't think will be an issue. I mean, we were in a strip center down the road, and we had a tenant next to us, and we never heard any complaints.

Mr. Wilshaw: So, okay, I think you, yeah, we don't want to, we don't want to get back and forth, but I do want to appreciate the fact that you're at least answering some of these concerns.

Ms. Rogers: And actually, only two lanes are towards the road, the other three are towards Banks's storage facility next door, so only two lanes would be actually toward the road where your house is. So, I really don't think the noise would be an issue.

Mr. Wilshaw: I want to ask you a question, kind of, in relation to the parking specifically. What is your peak time that people come in to your facility?

Ms. Rogers: So I would say on Saturdays, is our busiest night. I'd say between four and maybe eight or nine during the week. I mean, we're open from four to 10, but usually by nine or 830 I'm closing. So that's probably our peak time of Saturday.

Mr. Wilshaw: It's safe to say that the Bank's vacuum is basically a nine to five operation, and you're going to be have more of your peak time, perhaps in the evenings and on weekends, which is going to allow for the parking to kind of settle itself in case there's a little overflow. That's kind of what I am getting at.

Ms. Rogers: Yes, correct. Banks will close at what, five or so, and we peak an hour or two after that, so there won't be any really overflow for the parking there.

Mr. Wilshaw: Okay, I just want to make sure that you do have sufficient parking. So, it sounds like that's being addressed. All right, is there any questions from any of my colleagues in relation to what we've heard?

Ms. Dinaro: Just a quick question. You guys are reservation only, like people have to reserve the lanes, so you're not going to get 100 people to show up at a time.

Ms. Rogers: No, and we do accept walk ins, but it's really rare, and most of the time when we accept the walk in, it's a Groupon, and they have to call to reserve it, or if they can't use a Groupon. So typically, yeah, there's reservations.

Ms. Dinaro: Thank you.

Ms. Rogers: Yep. And can I just address to the alcohol? I mean, people are there for an hour, they have maybe a drink or two, and our staff is very well trained in, you know, controlling that situation. So, we don't have anyone, you know, out of control. We've never had an incident with the city at all with our liquor license. So, we do definitely keep a very close eye on that. So that's not anything really to be concerned about.

Mr. Wilshaw: How many years have you been in operation in your Five Mile location?

Ms. Rogers: Three years now.

Mr. Wilshaw: And have you had any issues with the mixture of alcohol and these bladed instruments? No one injured themselves or anything.

Ms. Rogers: No, we have not, because we have really strict rules. I mean, you can't drink in the lanes. You can't even stand in the lane and reach over and drink. You can't bring food in the lanes. I mean, we have pretty strict rules on that.

Mr. Wilshaw: And the reason I ask those questions, and just to kind of get that on record, is because these were questions that were asked of you three years ago when you were here, and because we felt the same way. It's like this is kind of a interesting mix of, you know, mixing axes and alcohol together, right? That may not be a good combination. So, we do now have three years of experience to look at and see kind of how things have gone. So, I just want to address that.

Mr. Droze: Just a quick one. Looks like there's lighting in the rear yard, the back parking lot. Do you anticipate any changes to that, or is that going to kind of operate as it does now?

Ms. Rogers: The lighting?

Mr. Droze: Yeah, for the parking lot.

Ms. Rogers: I don't anticipate any changes. So, you said there is lighting back there? It looks like there's some on

Mr. Droze: It looks like there's some on the building. And I'm just wondering, because you might be changing…it sounds like it's going to work a little bit later than Banks does.

Ms. Rogers: And, yeah, no, I don't think there's any changes. I actually haven't seen the lighting back there yet So, but, yeah, I don't think so.

Mr. Droze: Okay, if there is, I guess, a change in that, it'd be interested to know. But if it's already there and it's sufficient, that's fine. Just want to ask about that. Thank you.

Mr. Wilshaw: You're welcome. Alright. Any other questions?

Mr. Caramagno: I've got a question for us. She's going to lease property from Banks. We're asking for property improvements from Banks, including the parking lot, perhaps the lighting, dumpster

enclosure, or enclosures, because they don't have either at this property? Is it fair to strap her with those requirements without talking to the owner of the property?

Mr. Wilshaw: We certainly have had restrictions, or, I should say, conditions in our approving resolutions in the past that sort of encumber the owner to satisfy things for a lesser or lessee of the property, but that is certainly something we can consider if we want to do that or not.

Mr. Caramagno: I understand that, but you know, it could prevent her from opening her business because of property improvements on a property she's leasing. So just something to be, be thoughtful of as we're voting on this. We hate to potentially make you not operate because the landlord maybe won't cooperate. So just a concern I've got right now.

Ms. Rogers: I mean, my experience with him is he's a pretty great person, so I think that he would, you know, help us with whatever we needed to do.

Mr. Caramagno: So well, I get that he might be great until he's got to redo that parking lot and enclosures. And next thing you know, he's, you know, $40 grand in a hole over this deal.

Ms. Rogers: Anytime Fitness was there prior to us. So, what happened with the dumpster enclosures in the parking with that?

Mr. Caramagno: I don't… that's why I'm saying it came up now, that's what I'm saying. So, anyhow, just a comment of mine. That's all it is.

Mr. Wilshaw: Very good. Thank you. Mr. Bongero.

Mr. Bongero: Did you pull building permit?

Ms. Rogers: Have I pulled a building permit?

Mr. Bongero: It looked like people were working in there.

Ms. Rogers: We're moving our stuff in there.

Mr. Bongero: Have you started any construction?

Ms. Rogers. No construction. We're just moving our stuff from one location to the other. There's no electrical or anything like that being done. Are you going to be no no, everything is all in place.

Mr. Bongero: Because if you had a permit, I would have suspected that the Building Department would have picked up on the dumpster enclosure and the parking lot.

Ms. Rogers: Yeah, no, we haven't had to have that from what we're doing, because we're just moving our tables and all that stuff over there.

Mr. Bongero: Okay, yeah, thank you. You definitely should follow up with him.

Ms. Rogers: Sure, with the owner you mean?

Mr. Bongero: Yeah.

Ms. Rogers: I will. Thank you.

Mr. Bongero: Thank you.

Mr. Wilshaw: Mr. Long.

Mr. Long: So, you've already signed the lease.

Ms. Rogers: Yes.

Mr. Long: You already did, and you're doing the improvements yourself?

Ms. Rogers: Yes.

Mr. Long: And you did that before you got permission to move this?

Ms. Rogers: I did that before we got permission to move our liquor license. Yes, yeah.

Mr. Long: So, you really put yourself at risk here.

Ms. Rogers: Yes, we really didn't have a choice.

Mr. Long: Okay, I have frequented your establishment. I like it there. Talk about the lanes, the individual lanes. You already talked about the rules, but you have somebody on each lane enforcing that.

Ms. Rogers: Yes, we have an ax master at every lane.

Mr. Long: That's for safety and security to make sure that, because you have the tables back here for eating and drinking, and the axes up here, and, like you said, you can't even reach back.

Ms. Rogers: Right. So, we have…our lanes are all enclosed. We have wire, what do you call gates between them, and we have an axe master on every lane that goes over safety first, and then they're pretty much there the whole time that you are throwing their axes.

Mr. Long: Yeah, my experience with the place, and would you agree with the statement, people don't go there to drink. People go to throw axes and they want to drink while they're doing that.

Ms. Rogers: Right.

Mr. Long: Okay. Have you ever operated with the doors open, like for a breeze, or anything like that? You know, you prop the front doors, yeah. Like, you know, at the old place.

Ms. Rogers: If it was a nice day, maybe.

Mr. Long: I would suggest that you don't do that.

Ms. Rogers: Okay.

Mr. Long: Because you have neighbors that are concerned about the noise.

Ms. Rogers: That's no problem.

Mr. Long: And in the contained area, you don't hear a thing, right? I mean, if you're outside and the door is closed, you don't hear a thing. So as long as you're doing your part to contain the noise, they should never hear a thing.

Ms. Rogers: Correct.

Mr. Long: So I would highly suggest that. That's all I have. Mr. Chair. Thank you,

Mr. Wilshaw: Thank you, Mr. Long.

Mr. Uhazie: One thing to note that this is just for the liquor license, so like if they were just wanting to operate as an axe parlor, they are allowed as a permitted use to operate. They need to get the proper inspection for the Certificate of Occupancy from the Inspection Department, but this would only pertain to their liquor portion.

Mr. Wilshaw: You took the words out of my mouth. I was about to say that because, yeah, in reality, they can operate their business without

any approval from us right now. It's the liquor license that they're looking to get approval for. So, any other questions, comments?

Mr. Caramagno: Let me also just say what you brought up is pertinent to this in the way of a dumpster. How much garbage do you generate in a week?

Ms. Rogers: Not very much.

Mr. Caramagno: So, because of this location where you're at, you're allowed to put garbage on the side street in containers as part of the Livonia rubbish program. So, you don't necessarily need a dumpster back there, which it then will keep less traffic, less trucks more quiet. You could put trash on the side street in rubbish containers, residential style containers, and it save you a little bit of money.

Ms. Rogers: Yeah.

Mr. Caramagno: It will save a truck from coming in there once a week to dump your trash, right? So, then that takes the dumpster situation back to Banks, his own separate deal.

Ms. Rogers: Okay.

Mr. Caramagno: Tthat may save you some heartburn with that as well.

Ms. Rogers: I didn't know you could do that.

Mr. Caramagno: You can, yeah.

Ms. Rogers: We maybe have, you know, a garbage container a week.

Mr. Caramagno: That's probably your avenue to go for a variety of reasons.

Ms. Rogers: Thank you for that.

Mr. Caramagno: Yeah, you're welcome.

Mr. Wilshaw: This guy knows everything about trash.

Ms. Rogers: I guess. Mr. Bongero.

Mr. Bongero: There's two large dumpsters in the back parking lot. I'm sure that's what Jerome is seeing. They're like stacked on each other. They're huge, yellow dumpsters.

Ms. Rogers: One is cardboard and one is garbage, I think, which is full of vacuums.

Mr. Bongero: He wanted to see those behind an enclosure by who's ever they are, but that was a great point that Sam brought up. You could just take yours to the street, but he's still gonna do some with that enclosure now that's been found and seen.

Ms. Rogers: Right.

Mr. Bongero: Now they're gonna want it.

Ms. Rogers: They are gonna be mad at me, I'm kidding.

Mr. Wilshaw: Thank you. All right, thank you. Mr. Bongero. Any other questions? Comments? All right, I think we've addressed everything we can at this point. If there's nothing else, I'm going to close the public hearing, and a motion would be in order.

On a motion by Dinaro, seconded by Bongero, and unanimously adopted, it was

#03-17-2026 **RESOLVED**, That pursuant to a Public Hearing having been held by the City Planning Commission on March 24, 2026, on Petition 2026-02-02-09 submitted by C3 Michigan, LLC on behalf of The Axe Parlor requesting waiver use approval under Sections 3.11 and 6.22 of the Livonia Zoning Ordinance, as amended, to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises) at 15970 Middlebelt Road, located on the east side of Middlebelt Road between Sunnydale Street and Terrence Avenue in the southwest 1/4 of Section 13, the Planning Commission does hereby recommend to the City Council that Petition 2026-02-02-09 be approved subject to the following conditions:

1. City Council waiving the 1,000-foot separation requirement between this location and the nearby Class C license establishment pursuant to Section 6.09(2)(A).

2. That this location shall be in compliance with the Michigan Liquor Control Act, and

3. That the parking lot shall be repaired, resealed, and restriped as necessary to the satisfaction of the Inspection Department. Parking spaces shall be doubled striped at ten feet (10’) wide by twenty feet (20’) in length.

4. That the three walls of the trash dumpster area shall be constructed out of building materials that shall complement that of the building. The enclosure gates shall be of solid panel steel construction or durable, long-lasting solid panel fiberglass. The trash dumpster area shall be maintained and when not in use closed at all times.

5. This waiver use for this license is granted to this petitioner only, and any new user of this license is required to seek and receive City Council's consent prior to the transfer.

***FURTHER RESOLVED*,** That notice of the above hearing was given in accordance with the provisions of Section 13.13 of the Livonia Zoning Ordinance, as amended.

Mr. Wilshaw: Is there any discussion?

Mr. Wilshaw, Chairman, declared the motion is carried and the foregoing resolution adopted. It will go on to City Council with an approving resolution.

CITY OF LIVONIA, MICHIGAN
APPLICATION FOR WAIVER USE APPROVAL

All applications must be presented in triplicate to the City Clerk, 33000 Civic Center Drive, Livonia, MI 48154-3097. Applications **must** include property owner's name, address and notarized signature.

For filing fee see below for computation

Date Filed: 2/12/2026 Petition 2026-02-02-09

Site Address: 15970 Middlebelt Road, Livonia, MI 48154 Sidwell 05101 0213 001 Zoning of Property C-2

Requesting Approval To Transfer Liquor License to new location and entity

Applicant: Chevon Rogers Business/Company: C3 Michigan,LLC (The Axe Parlor)

Applicant's Address: 4324 Climbing Way City: Ann Arbor State: MI Zip Code: 48103

Applicant's Phone # (734) 536-7150 Applicant's Email chevon@theaxeparlor.com

Contact Person: Chevon Rogers Business/Company: C3 Michigan, LLC (The Axe Parlor)

Contact's Address: 4324 Climbing Way City: Ann Arbor State: MI Zip Code: 48103

Contact's Phone # (734) 536-7150 Contact's Email chevonrogers2002@gmail.com

CITY OF LIVONIA
PLANNING DEPARTMENT
FEB 19 2026
RECEIVED

Please provide the following information:

1) **Site Plan** showing:
   - property dimensions, including road right-of-way & building setback lines
   - foot print of building(s), including dimensions & square footage
   - all easements, protective walls, sidewalks & existing trees
   - any significant topographic features (existing or proposed)
   - parking layout, including type of surface material, sizes of spaces & aisles
   - method used in calculating parking requirement
   - location of light standards servicing parking lot & cutout showing type & height
   - location of trash receptacle, including description of screening
   - location of signs
2) **Detailed Landscape Plan** including:
   - listing or labeling of all planted materials as to type and size
   - areas to be fully irrigated
   - percentage of landscaping provided (15% of total site required)
3) **Building Elevation Plan** depicting:
   - architectural quality
   - wall section & detail plan - exterior building materials must be labeled (i.e. brick, thin brick, E.F.I.S.)
   - all visible rooftop mechanical equipment and how they will be screened
4) **General Floor Plan** showing:
   - floor layout
   - entrances & exits
   - restaurants are required to illustrate seating arrangement & capacity
5) **One (1) set of reduced plans** (i.e. site, landscape, elevation, floor), **a maximum 11" x 17" in size, or digital file in a .pdf format either on CD or emailed to** planning@livonia.gov
6) **Legal Description** of the property to be considered (Clearly Printed)
7) Two (3) completed application forms & **three (3)** sets of full-size drawings

AVOID SCAMS! PLEASE BE AWARE THAT THE CITY OF LIVONIA PLANNING COMMISSION DOES NOT SEND INVOICES EITHER BY REGULAR MAIL OR EMAIL. WHEN YOU APPLY, YOU WILL BE REQUIRED TO PAY IN FULL AT THAT TIME. IF YOU RECEIVE AN INVOICE, PLEASE CONTACT US IMMEDIATELY.

You are invited and encouraged to review your proposal with the Planning Department staff. Only one set of preliminary drawings will be necessary for this analysis.

FEE COMPUTATION **$700.00 ($400 publication fee plus $300 base review fee) plus**

_____ sq. ft. of new construction x $20.00 per 1,000 sq. ft. or $30 per lot or unit for residential construction.

Total Amount Due $ _____ (To avoid scams, please see note above regarding invoices)

Owner of Property: Kenlyn Properties Livonia, LLC

Owner's Address: 15986 Middlebelt Road City: Livonia State: MI Zip Code: 48154

Owner's Phone # (248) 767-8227 Owner's Email ken@banksvac.com

Signature of Owner: Ken Bank Print Name: Ken Bank

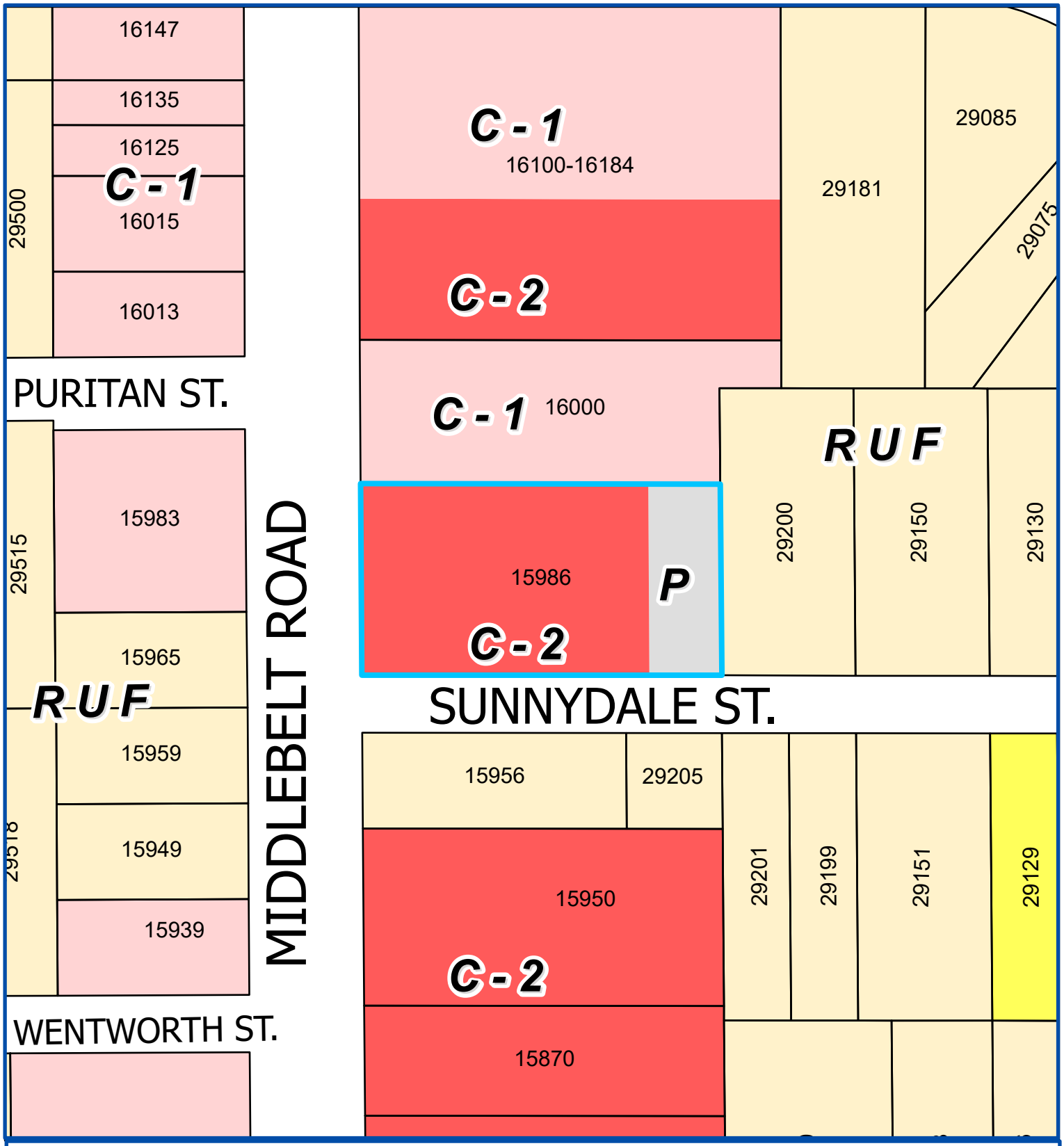
Subscribed and sworn to before me, a Notary Public in and for the County of Washtenaw State of Michigan

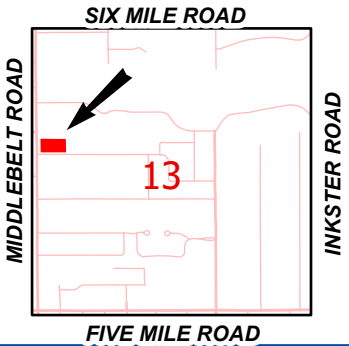
on this 16th day of February 20 26.

Signature of Notary _____ My commission expires

Acting in the County of Washtenaw.

MICHELLE KOVACICH
Notary Public - State of Michigan
County of Livingston
My Commission Expires Dec 8, 2029
Acting in the County of Washtenaw





Address & Zoning Map

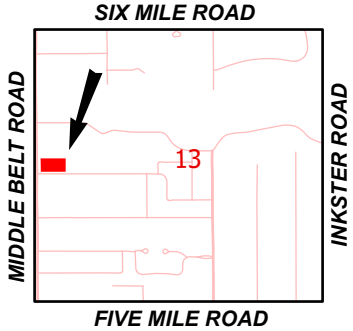
Petition 2026-02-02-09
The Axe Parlor
15970 Middle Belt Road

N

Not to Scale

City of Livonia
Planning Department





Aerial Map

Petition 2026-02-02-09
The Axe Parlor
15970 Middle Belt Road

N

Not to Scale

City of Livonia
Planning Department

PLANNING COMMISSION STAFF NOTES

PUBLIC HEARING

ITEM 3

Petition 2026-02-02-09 submitted by C3 Michigan, LLC on behalf of The Axe Parlor requesting waiver use approval under Sections 3.11 and 6.22 of the Livonia Zoning Ordinance, as amended, to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises) at 15970 Middlebelt Road, located on the east side of Middlebelt Road between Sunnydale Street and Terrence Avenue in the southwest 1/4 of Section 13.

March 10, 2026 Study Meeting:

The C3 Michigan, LLC, operating as the Axe Parlor, is an indoor recreational axe-throwing establishment which originally opened at 30959 Five Mile Road in the Livonia Plaza shopping center. In October of 2023 the petitioner was granted a Class C liquor license by City Council. The Axe Parlor is requesting waiver use approval to transfer their Class C liquor license to their new location of 15970 Middlebelt Road. The Class C license would permit the sale of beer, wine, and spirits for consumption on the premises.

The petition application does not propose any exterior site modifications. No changes to signage, landscaping, building elevations, or site layout are included as part of this request. Therefore, the review is limited strictly to the waiver use approval for the Class C liquor license.

The subject site is zoned C-2 (General Business) and P (Parking). To the north, is a commercial property, zoned C-1 (Local Business). To the south, across Sunnydale Street is the Detroit Korean Seventh-Day Adventist Church. To the east, is a residential property zoned RUF (Rural Urban Farm). To the west, across Middle Belt Road, is a Pharmacy zoned C-1 (Local Business) and a residential property zoned RUF (Rural Urban Farm). The petition shows no proposed changes to the building or site. If any changes are to be done, it will be interior changes. The petition application did not include any changes to signage or landscaping on the site.

The submitted floor plan shows five (5) Throwing Arenas spread across the building with seating and viewing for each one. The bar area would be located at the center of the building and would only offer a selection of canned alcoholic beverages.

Pursuant to Section 6.22 of the Zoning Ordinance, establishments holding liquor licenses such as Class C, tavern, club, and small distiller licenses shall not be located within one thousand (1,000) feet of any other such licensed establishment, as measured from the actual premises being used or proposed for use of the respective properties. Steve's Family Dining is located within the 1,000 foot buffer

but the ordinance provides that this one thousand (1,000) foot separation requirement may be waived by the City Council.

Additionally, Section 6.22 requires that any proposed licensed establishment be located at least four hundred (400) feet from any church or school building, either public or parochial, as measured from the nearest point of the building proposed to be licensed to the nearest point of the existing church or school building. The subject property is located directly across the street from the Detroit Korean Seventh-Day Adventist Church.

Establishments having liquor licenses such as Class C, tavern, club, and small distiller shall comply in every respect with the Michigan Liquor Control Act.

March 24, 2026 Public Hearing:

Approving Resolution: That the request to utilize a Class C liquor license (sale of beer, wine and spirits for consumption on the premises) in connection with the proposed restaurant operation (The Axe Parlor) at 15970 Middlebelt Road, is hereby approved for the following reasons, subject to City Council approval and the following conditions.

1. City Council waiving the 1,000-foot separation requirement between this location and the nearby Class C license establishment pursuant to Section 6.09(2)(A).

2. That this location shall be in compliance with the Michigan Liquor Control Act, and

3. This waiver use for this license is granted to this petitioner only, and any new user of this license is required to seek and receive City Council's consent prior to the transfer.

Denying Resolution: That the request to utilize a Class C liquor license (sale of beer, wine and spirits for consumption on the premises) in connection with the proposed restaurant operation (The Axe Parlor) at 15970 Middlebelt Road, is hereby denied for the following reasons:

1. That the petitioner has failed to affirmatively show that this proposal would comply with all the general waiver use standards and requirements as set forth in Section 6.09 of the Livonia Zoning Ordinance.

2. That this location fails to comply with the standards of Section 6.09(2)(A) which requires a separation of at least 1,000 feet between any establishment licensed to sell alcohol for consumption on the premises.

3. That this part of the City is currently well-served with licensed establishments selling alcoholic beverages.

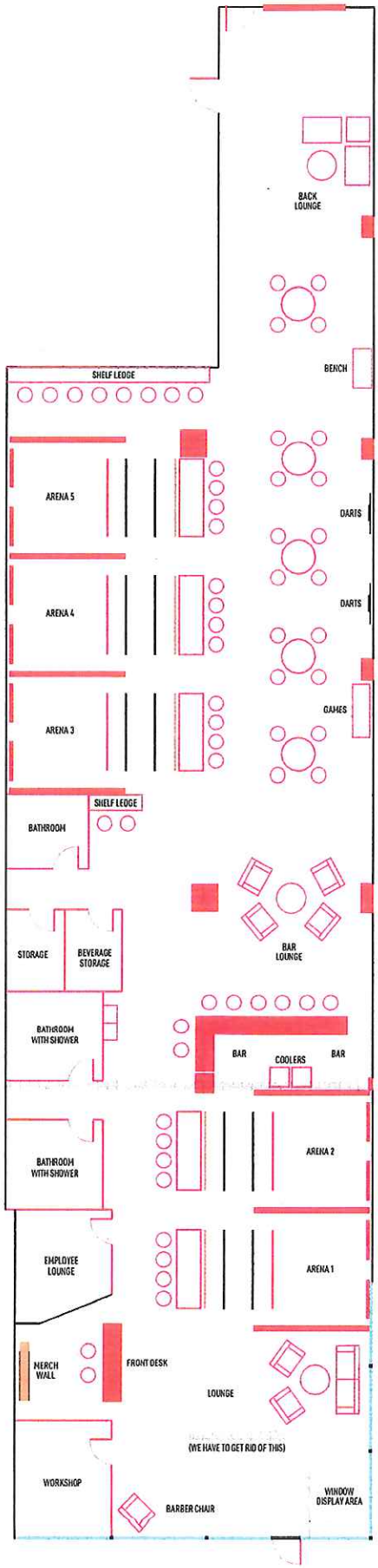
4. That it has not been demonstrated that there is a need in this area for additional sales of alcoholic beverages.

5. That the petitioner has failed to adequately demonstrate that the facility has the capacity to accommodate the proposed use; and

6. That the proposal is contrary to the goals and objectives of the Zoning Ordinance which, among other things, are intended to ensure suitability and appropriateness of uses.



RECEIVED
FEB 19 2026
CITY OF LIVONIA
PLANNING COMMISSION
2026-02-02-09



THE AXE PARLOR LAYOUT FINAL

RECEIVED
FEB 19 2026
CITY OF LIVONIA
PLANNING COMMISSION
2026-02-02-09

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

TODD J. ZILINCIK, P.E.
CITY ENGINEER

DAVID W. LEAR, P.E.
ASST. CITY ENGINEER

MAUREEN MILLER BROSNAN
MAYOR

DOUGLAS L. MOORE, MSA
INTERIM DIRECTOR OF PUBLIC WORKS

12973 FARMINGTON ROAD
LIVONIA, MICHIGAN 48150
(734) 466-2655

March 2, 2026

Mr. Kristoffer Canty
Planner IV
City of Livonia

Re: Petition 2026-02-02-09 – #15970 Middlebelt Road (The Axe Parlor)

Dear Mr. Canty:

In accordance with your request, the Engineering Division has reviewed the above referenced petition. We have no objections to the proposed waiver use at this time, but would like to note the following items:

1. The subject parcel is assigned the overall address of #15986 Middlebelt Road, with the address of #15970 being assigned to one of units inside of the building.

2. The existing parcel is currently serviced by public sanitary sewer and water main, as well as private storm sewer. There is no mention of utility revisions with the proposal, so we do not believe there will be any adverse effects on the existing systems.

3. Should any revisions to the utility services to the building, or any work on the right-of-way be required, the owner will need to submit drawings to this Department to determine if Engineering permits will be required.

Should you have any additional questions on this matter, please feel free to contact myself at (734) 466-2608 or the City Engineer, Mr. Todd Zilincik at (734) 466-2561. If you would prefer, you can e-mail either of us at dlear@livonia.gov or tzilincik@livonia.gov.

Sincerely,

David W. Lear, P.E.
Assistant City Engineer

cc: 2026 Petition File

DEPARTMENT OF PUBLIC SAFETY
LIVONIA FIRE & RESCUE

ROBERT JENNISON
FIRE CHIEF

MAUREEN MILLER BROSNAN
MAYOR

14910 FARMINGTON ROAD
LIVONIA, MICHIGAN 48154-5419
734-466-2444
734-466-2082 fax

DATE: March 5, 2026

TO: Kristoffer Canty, Planner IV

FROM: Livonia Fire Prevention Division

SUBJECT: **Petition #2026-02-02-09, 15970 Middlebelt Rd. The Axe Parlor**

This office has **not reviewed** the site plan submitted in connection with modification construction and use of the property located at the above referenced address.

Since this division has not received an official plan set with permits to perform an official plan review, a Class C Liquor License Life Safety inspection cannot be performed.

A further detailed plan review will take place when this division receives an official plan set.

Sincerely,

Brian Kukla

Brian Kukla
Fire Marshal

DEPARTMENT OF PUBLIC SAFETY
DIVISION OF POLICE

THOMAS GORALSKI
CHIEF OF POLICE

MAUREEN MILLER BROSNAN
MAYOR

15050 Farmington Road
Livonia, Michigan 48154-5499
(734) 466-2470
FAX: (734) 261-2265

March 2nd 2026

Mr. Kristoffer Canty
City of Livonia Planning Dept
33000 Civic Center Drive
Livonia, MI 48154

Re: Petition 2026-02-02-09 - 15970 Middlebelt Road

Mr. Canty,

I have reviewed the plans in connection with the petition. I have no objections to the proposals.

Please feel free to contact me, should you have any questions.

Sincerely,

FOR THE CHIEF OF POLICE,

Sgt. Badams

Brendan Adams, Sergeant
Traffic Bureau
(734) 466-2107

INSPECTION DEPARTMENT

BUILDING
HEATING
PLUMBING
ELECTRICAL
ZONING
ENVIRONMENTAL PROTECTION
ORDINANCE ENFORCEMENT

MAUREEN MILLER BROSNAN
MAYOR

JEROME A. HANNA
DIRECTOR

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2580
FAX: (734) 466-2095

Date: March 23, 2026

To: Kristoffer Canty

From: Jerome Hanna

RE: Petition 2026-02-02-09 – 15970 Middlebelt Road

Pursuant to your request, the above-referenced Petition has been reviewed.

1. The proposed location is closer than 400 feet to a church.
2. There is currently no dumpster enclosure located on site. An enclosure shall be provided in accordance with the ordinance.
3. The parking lot shall be repaired and restriped as necessary. Parking spaces shall be 10’ wide and 20’ deep and double-striped.

This Department has no further objections to this Petition.

I trust this provides the requested information.

Jerome Hanna
Jerome Hanna
Director of Inspection

DEPARTMENT OF FINANCE

Benjamin N. Grier, JD, CPA
DIRECTOR OF FINANCE

MAUREEN MILLER BROSNAN
MAYOR

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2260
FAX: (734) 421-1807

RECEIVED
MAR 09 2026
CITY OF LIVONIA
PLANNING COMMISSION

March 5, 2026

Kristoffer Canty
Planning Commission
33000 Civic Center Drive
Livonia, MI 48154

Petition 2026-02-02-09 – 15970 Middlebelt (C3 Michigan, LLC on behalf of The Axe Parlor)

Dear Kristoffer,

I have reviewed the addresses connected with the above noted petition. The following amounts are due to the City of Livonia:

Unpaid water and sewer charges (Due 3/10/26): (includes past due balance of $294.08 and penalty of $29.41)	$594.98
Total Due City of Livonia	$594.98

Please contact me if you have any further questions.

Very truly yours,

Benjamin N. Grier
Director of Finance

BG: jw

Transaction Statement

Service Address
15970 MIDDLEBELT
LIVONIA, MI 48154

Mailing Address

LIVONIA AF LLC
800 W. UNIVERSITY DRIVE, STE B
ROCHESTER HILLS, MI 48307

Account Number	Amount Due
024901550-001	$594.98

Account Number	From - Through
024901550-001	09/05/2025 - 03/05/2026

Services
Water & Sewer - Metered

Service Address
15970 MIDDLEBELT
LIVONIA, MI 48154

Beginning Balance
$248.90

Date	Type	Amount	Description
09/11/2025	Payment	($248.90)	Check
11/14/2025	Bill	$294.08	Due Date 12/10/2025
12/12/2025	Penalty	$29.41	
02/17/2026	Bill	$271.49	Due Date 03/10/2026

Total Due
$594.98

Transaction Statement

Account Number 024901550-001

OFFICE OF THE TREASURER

SUSAN M. NASH
CITY TREASURER

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3060
(734) 466-2245
FAX: (734) 421-7230

March 3, 2026

RE: 15970 Middlebelt

Attention: Planning Commissioners

The owner of the property is current on their property tax. In addition, Axe Parlor is in good standing with their current location on Five Mile rd.

If you have any further questions, please contact me

Thank you

Susan Nash
Livonia City Treasurer

DEPARTMENT OF PUBLIC SAFETY
DIVISION OF POLICE

THOMAS GORALSKI
CHIEF OF POLICE

MAUREEN MILLER BROSNAN
MAYOR

15050 FARMINGTON ROAD
LIVONIA, MICHIGAN 48154-5499
(734) 466-2470
FAX: (734) 261-2265

March 04, 2026

Kristoffer Canty, Planner IV
Planning Commission
33000 Civic Center Drive
Livonia, MI 48154

RE: Petition 2026-02-02-09 - The Axe Parlor 15970 Middlebelt

Dear Mr. Canty,

We have reviewed the plans submitted by C3 Michigan, LLC on behalf of The Axe Parlor requesting waiver use approval under Sections 3.11 and 6.22 of the Livonia Zoning Ordinance, as amended, to operate a Class C liquor license (sale of beer, wine and spirits for consumption on the premises) at 15970 Middlebelt Road, located on the east side of Middlebelt Road between Sunnydale Street and Terrence Avenue in the southwest ¼ of Section 13.

The review of the plans has determined that the request does not comply with the separation requirement guidelines. Steve's Family Dining at 15800 Middlebelt (600 feet), which holds a Class C liquor license is well within the one thousand (1,000) foot separation requirement distance of the proposed site. Also, the Detroit Korean SDA Church at 15956 Middlebelt (100 feet) is well within the (400) four hundred foot separation requirement distance of the proposed site.

We have no objections to the waiver being granted, contingent that the petitioner complies with:

- All State Laws
- City Ordinances
- Stipulations and conditions set by the Livonia Police Department, Liquor Investigation Unit, as approved by the Chief of Police
- Stipulations and conditions set by the Traffic Bureau of the Livonia Police Department

Sincerely,

FOR THE CHIEF OF POLICE,

Jeffrey Ronayne
Special Services Bureau

Recycled Paper

LETTER TO THE LIVONIA CITY COUNCIL

5.

Planning
March 25, 2026

MEETING DATE	PRESENTED BY
S040826/R042026	Mark Taormina, Planning and Economic Development Director

AGENDA ITEM

WAIVER PETITION 2026-03-02-10: submitted by Wade Shows, Inc. requesting waiver use approval to conduct a carnival in the parking lot of the former Sears department store, sponsored by the Livonia AM Rotary Club, consisting of amusement rides, games, and food concessions from May 18, 2026, through June 1, 2026, on the property at 29500 Seven Mile Road, located at the northwest corner of Seven Mile and Middlebelt Roads in the southeast 1/4 of Section 2.

BACKGROUND DETAILS

March 27, 2026

Honorable Members of the City Council
City of Livonia, Michigan

Re: Petition 2026-03-02-10 – Wade Shows

Dear Council Members:

At the 1,243rd Meeting held by the Livonia City Planning Commission on March 24, 2026, the following resolution was adopted:

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

#03-18-2026 RESOLVED, That pursuant to a Public Hearing having been held by the City Planning Commission on March 24, 2026 on Petition 2026-03-02-10 submitted by Wade Shows, Inc. requesting waiver use approval under Sections 3.11 and 6.56 of the Livonia Zoning Ordinance, as amended, to conduct a carnival in the parking lot of the former Sears department store, sponsored by the Livonia AM Rotary Club, consisting of amusement rides, games, and food concessions from May 18, 2026, through June 1, 2026, on the property at 29500 Seven Mile Road, located at the northwest corner of Seven Mile and Middlebelt Roads in the southeast 1/4 of Section 2, be approved subject to the following conditions:

1. The carnival shall be limited from May 18, 2026, through June 01, 2026.

2. The carnival shall be confined to the areas illustrated on the plan received by the Planning Commission.

3. All rides, food concessions, booths, and other equipment and apparatus relating to the carnival operation shall be at least sixty feet (60') from the rights-of-way of Seven Mile and Middlebelt Roads.

4. The temporary housing and storage of trucks and equipment associated with the carnival shall be in the property's southwest corner, as shown on the plan, no closer than sixty feet (60') from the right-of-way of Seven Mile Road.

5. The hours of operation shall be limited to Monday through Friday from 4:00 p.m. to 11:00 p.m., and on Saturday and Sunday, from 12:00 p.m. to 11:00 p.m., and

6. Permits and inspections are required. Wade Shows shall request a pre-event meeting with the Director of Inspection, Fire Marshal, and Emergency Preparedness.

FURTHER RESOLVED, That notice of the above hearing was given in accordance with the provisions of Section 13.13 of the Livonia Zoning Ordinance, as amended.

ATTACHMENTS

1. 2026-03-02-10_E-COUNCIL Pkt

APPROVED BY



Date: March 27, 2026

Mark Taormina, Planning and Economic Development Director



Date: March 27, 2026

Maureen Miller Brosnan, Mayor

Petition 2026-02-02-10 submitted by Wade Shows, Inc. requesting waiver use approval under Sections 3.11 and 6.56 of the Livonia Zoning Ordinance, as amended, to conduct a carnival in the parking lot of the former Sears department store, sponsored by the Livonia AM Rotary Club, consisting of amusement rides, games, and food concessions from May 18, 2026, through June 1, 2026, on the property at 29500 Seven Mile Road, located at the northwest corner of Seven Mile and Middlebelt Roads in the southeast 1/4 of Section 2.

MINUTES OF THE 1,243rd PUBLIC HEARINGS AND REGULAR MEETING HELD BY THE CITY PLANNING COMMISSION OF THE CITY OF LIVONIA

On Tuesday, March 24, 2026, the City Planning Commission of the City of Livonia held its 1,243rd Public Hearing and Regular Meetings in the Livonia City Hall, 33000 Civic Center Drive, Livonia, Michigan.

Mr. Ian Wilshaw, Chairman, called the meeting to order at 7 p.m.

Members present:	Wafa Dinaro	Patrick Droze	David Bongero
	Sam Caramagno	Glen Long	Ian Wilshaw

Members absent: Peter Ventura

Mr. Jacob Uhazie, Assistant Planning Director, and Stephanie Reece, Program Supervisor, were also present.

Chairman Wilshaw informed the audience that if a petition on tonight's agenda involves a rezoning request, this Commission makes a recommendation to the City Council who, in turn, will hold its own public hearing and make the final determination as to whether a petition is approved or denied. The Planning Commission holds the only public hearing on a request for preliminary plat and/or vacating petition. The Commission's recommendation is forwarded to the City Council for the final determination as to whether a plat is accepted or rejected. If a petition requesting a waiver of use or site plan approval is denied tonight, the petitioner has ten days in which to appeal the decision, in writing, to the City Council. Resolutions adopted by the City Planning Commission become effective seven (7) days after the date of adoption. The Planning Commission and the professional staff have reviewed each of these petitions upon their filing. The staff has furnished the Commission with both approving and denying resolutions, which the Commission may, or may not, use depending on the outcome of the proceedings tonight.

ITEM #4 PETITION 2026-03-02-10 Wade Shows

Mr. Caramagno, Secretary, announced the first item on the agenda Petition 2026-03-02-10 submitted by Wade Shows, Inc. requesting waiver use approval under Sections 3.11 and 6.56 of the Livonia Zoning Ordinance, as amended, to conduct a carnival in the parking lot of the former Sears department store, sponsored by the Livonia AM Rotary Club, consisting of amusement rides, games, and food concessions from May 18, 2026, through June 1, 2026, on the property at 29500 Seven Mile Road, located at the northwest corner of Seven Mile and Middlebelt Roads in the southeast 1/4 of Section 2.

Mr. Uhazie: This is a request to conduct the annual carnival in the parking lot of the former Sears site. The location is in the northwest corner of Seven Mile and Middle Belt. The current zoning is C-2. The surrounding neighborhood is zoned C-2 to the west. To the north is C-1 and C-2, as well as NM-1 at the Nottingham village condos. East across Middle Belt is C-2 and C-1. To the south of Seven Mile is Mid Seven Shopping Center zoned C-2, as well. Operation of a carnival is allowed with waiver-use approval subject to Section 6.56 of the zoning ordinance. Carnivals may be allowed for periods not to exceed two weeks. The proposed carnival will last 12 days from May 18 through June 1, 2026. The proposed hours of operation are Monday through Friday, from 4pm to 11pm and weekends, Saturday and Sunday, from noon to 11pm. On Monday, June 1, 2026, the carnival would be closed, broken down and moved to its new location. This is a bit hard to see, but this is the same layout as in previous years, with the carnival area measuring approximately 660 feet east to west by 320 feet north of south. The northern limit of the carnival would be the main drive aisle that extends across Sears parking lot and provides access from Middle Belt to Livonia Marketplace. The western boundary is the Sears property line adjacent to the Livonia Marketplace. Overall, the operation would consist of two main components. The west component, labeled RV parking, would be a temporary housing storage of other trucks and equipment associated with the carnival, and the east component would be labeled carnival midway. The midway area would be contain the rides in the midway. So, as I mentioned, this would be the same layout as years past. With that, Mr. Chairman, I can read out the departmental correspondence.

Mr. Wilshaw: Yes, please.

Mr. Uhazie: The first item is from the Engineering Division, dated March 5, 2026, which reads as follows: "*In accordance with your request, the Engineering Division has reviewed the above referenced waiver use approval request. The address of #29500 Seven Mile Road is correct for the subject parcel, and should be used in connection with this petition. We have no objections to the proposed petition, although the following items should be noted: 1. Should the carnival have the need to occupy, or should any of the associated activities impact either of the Seven Mile Road or Middlebelt Road right-of-way's, a permit from Wayne County will be required as both roads are under their jurisdiction. 2. All sanitary sewage from the site, recreational vehicles or campers shall be disposed of properly. 3. Should the operators need to have water provided for their facilities, they should contact the*

City of Livonia Water Department to obtain the proper equipment, including a water meter with backflow preventer." The letter is signed by David W. Lear, P.E., Assistant City Engineer. The next letter is from the Division of Police, dated March 6, 2026, which reads as follows: "*I have reviewed the plans in connection with the petition. I have no objections to the proposal.*" The letter is signed by Brendan Adams, Sergeant, Traffic Bureau. The next letter is from the Finance Department, dated February 13, 2026, which reads as follows: *" I have reviewed the addresses connected with the above noted petition. The following amounts are due to the City of Livonia: Unpaid false alarm charges: Total Due City of Livonia $2,818.72."* The letter is signed by Benjamin Grier, Director of Finance. That is the extent of the correspondence.

Mr. Wilshaw: Any questions for staff?

Mr. Bongero: That $2,800 that's Sears, right?

Mr. Uhazie: Correct.

Mr. Bongero: How many years is that?

Mr. Uhazie: You know, I don't believe we've had that in the past, so I think this is the first year.

Mr. Bongero: Yeah, I don't remember seeing that. Thank you.

Mr. Wilshaw: Thank you. I suspect those aren't false alarms either from what I hear.

Mr. Uhazie: One note in the invoice that they sent…so, the new due date for their invoice is April 6. 2026 so although it is past the original due date, they still have until April 6 to pay this amount per the Finance Department.

Mr. Wilshaw: Thanks. Okay, any other questions, comments for staff? If not, our petitioner is in the audience. Feel free to come forward and tell us about your carnival.

Joanna Hardesty, Wade Shows, PO Box 5173, Livonia, MI.Good to be back. Hello.

Patrick Zucak, 30855 Rayburn Street, Livonia, MI. I represent Livonia AM Rotary.

Mr. Wilshaw: Well, thank you both for being here tonight. This is something that we see on a fairly regular basis, I would say, annually. What would you like to tell us about it?

Ms. Hardesty: No changes. The same exact thing that we've done for the last 10 or 11 years. We haven't made any changes at all.

Mr. Wilshaw: Okay, very good. Is there any questions for our petitioner? I don't see any questions again. Thank you for coming tonight. I know there was some concern getting to the study meeting last week, so I appreciate that. We're glad that you're here. Is there anyone in the audience wishing to speak on this item? I don't see anyone getting up to speak on this item. Is there anything else you'd like to tell us before we make our decision?

Mr. Zucal: Ten or 11 years doing this. This is our best fundraiser, and we're fortunate. Sears still, they don't know what to do, so we keep it going one year at a time, and we thank you for your approval on it.

Mr. Wilshaw: We appreciate that. Thank you. If there's no other comments or questions.

Mr. Caramagno: Have you been searching for other locations in the event something changes here?

Mr. Zucal: We have been.

Mr. Caramagno: Okay. So, you're doing some proactive work, just in the event that something down the road comes here.

Mr. Zucal: The last few years. Yes.

Mr. Caramagno: Okay, good.

Mr. Zucal: This location is just perfect, though.

Mr. Caramagno: Yeah. Can't live like this forever, but it's good. It's good for the time being, and you're looking for something different for you to continue. I think that's a good thing. Yeah, enjoy it while it lasts.

Mr. Wilshaw: Very good. All right. If there's no other questions or comments, I don't see anything, I will close the public hearing and a motion is in order.

On a motion by Long, seconded by Droze, and unanimously adopted, it was

#03-18-2026 **RESOLVED,** That pursuant to a Public Hearing having been held by the City Planning Commission on March 24, 2026 on Petition 2026-03-02-10 submitted by Wade Shows, Inc. requesting waiver

use approval under Sections 3.11 and 6.56 of the Livonia Zoning Ordinance, as amended, to conduct a carnival in the parking lot of the former Sears department store, sponsored by the Livonia AM Rotary Club, consisting of amusement rides, games, and food concessions from May 18, 2026, through June 1, 2026, on the property at 29500 Seven Mile Road, located at the northwest corner of Seven Mile and Middlebelt Roads in the southeast 1/4 of Section 2, be approved subject to the following conditions:

1. The carnival shall be limited from May 18, 2026, through June 01, 2026.

2. The carnival shall be confined to the areas illustrated on the plan received by the Planning Commission.

3. All rides, food concessions, booths, and other equipment and apparatus relating to the carnival operation shall be at least sixty feet (60') from the rights-of-way of Seven Mile and Middlebelt Roads.

4. The temporary housing and storage of trucks and equipment associated with the carnival shall be in the property's southwest corner, as shown on the plan, no closer than sixty feet (60') from the right-of-way of Seven Mile Road.

5. The hours of operation shall be limited to Monday through Friday from 4:00 p.m. to 11:00 p.m., and on Saturday and Sunday, from 12:00 p.m. to 11:00 p.m., and

6. Permits and inspections are required. Wade Shows shall request a pre-event meeting with the Director of Inspection, Fire Marshal, and Emergency Preparedness.

***FURTHER RESOLVED*,** That notice of the above hearing was given in accordance with the provisions of Section 13.13 of the Livonia Zoning Ordinance, as amended.

Mr. Wilshaw: Is there any discussion?

Mr. Wilshaw, Chairman, declared the motion is carried and the foregoing resolution adopted. It will go on to City Council with an approving resolution.

Rec. 346632 — PLANNING — 2026-03-02-10

CITY OF LIVONIA, MICHIGAN
APPLICATION FOR WAIVER USE APPROVAL

All applications must be presented in triplicate to the City Clerk, 33000 Civic Center Drive, Livonia, MI 48154-3097. Applications **must** include property owner's name, address and notarized signature.

For filing fee see below for computation

Date Filed: _____ Petition 2026-03-02-10

Site Address: 29500 7-Mile Rd Sidwell 0089900121000 Zoning of Property _____

Requesting Approval To Host Annual Carnival Fundraiser / Livonia AM Rotary DATES: 5/18 - 6/1/2026

Applicant: Joanna Hardesty Business/Company: Wade Shows, Inc.

Applicant's Address: P O Box 51730 City: Livonia State: MI Zip Code: 48151

Applicant's Phone # (810) 397-9058 Applicant's Email jghwade1@aol.com

Contact Person: Joanna Hardesty Business/Company: Wade Shows, Inc

Contact's Address: 4277 E M 36 City: Pinckney State: MI Zip Code: 48169

Contact's Phone # (810) 397-9058 Contact's Email jghwade1@aol.com

Please provide the following information:

1) **Site Plan** showing:
   - property dimensions, including road right-of-way & building setback lines
   - foot print of building(s), including dimensions & square footage
   - all easements, protective walls, sidewalks & existing trees
   - any significant topographic features (existing or proposed)
   - parking layout, including type of surface material, sizes of spaces & aisles
   - method used in calculating parking requirement
   - location of light standards servicing parking lot & cutout showing type & height
   - location of trash receptacle, including description of screening
   - location of signs
2) **Detailed Landscape Plan** including:
   - listing or labeling of all planted materials as to type and size
   - areas to be fully irrigated
   - percentage of landscaping provided (15% of total site required)
3) **Building Elevation Plan** depicting:
   - architectural quality
   - wall section & detail plan - exterior building materials must be labeled (i.e. brick, thin brick, E.F.I.S.)
   - all visible rooftop mechanical equipment and how they will be screened
4) **General Floor Plan** showing:
   - floor layout
   - entrances & exits
   - restaurants are required to illustrate seating arrangement & capacity
5) **One (1) set of reduced plans** (i.e. site, landscape, elevation, floor), **a maximum 11" x 17" in size, or digital file in a .pdf format either on CD or emailed to** planning@livonia.gov
6) **Legal Description** of the property to be considered (Clearly Printed)
7) Three (3) completed application forms & **three (3)** sets of full-size drawings

CITY OF LIVONIA PLANNING DEPARTMENT MAR 12 2026 RECEIVED

RECEIVED 2026 MAR 12 AM 9:19

You are invited and encouraged to review your proposal with the Planning Department staff. Only one set of preliminary drawings will be necessary for this analysis.

FEE COMPUTATION **$700.00 ($400 publication fee plus $300 base review fee) plus**

_____ sq. ft. of new construction x $20.00 per 1,000 sq. ft. plus $30 per lot or unit for residential construction.

(**NOTE:** Round off to nearest 1,000) + _____

Total Amount Due $ _____

Owner of Property: TF Livonia MI LLC by TFP Property Management LLC, as authorized agent

Owner's Address: 5407 Trillium Blvd, Ste N120 City: Hoffman Estates State: IL Zip Code: 60192

Owner's Phone # (847) 691-2370 Owner's Email cheryl.schwartz@transformco.com

Signature of Owner: Zachary Straebel Print Name: Zachary Straebel, Authorized Representative

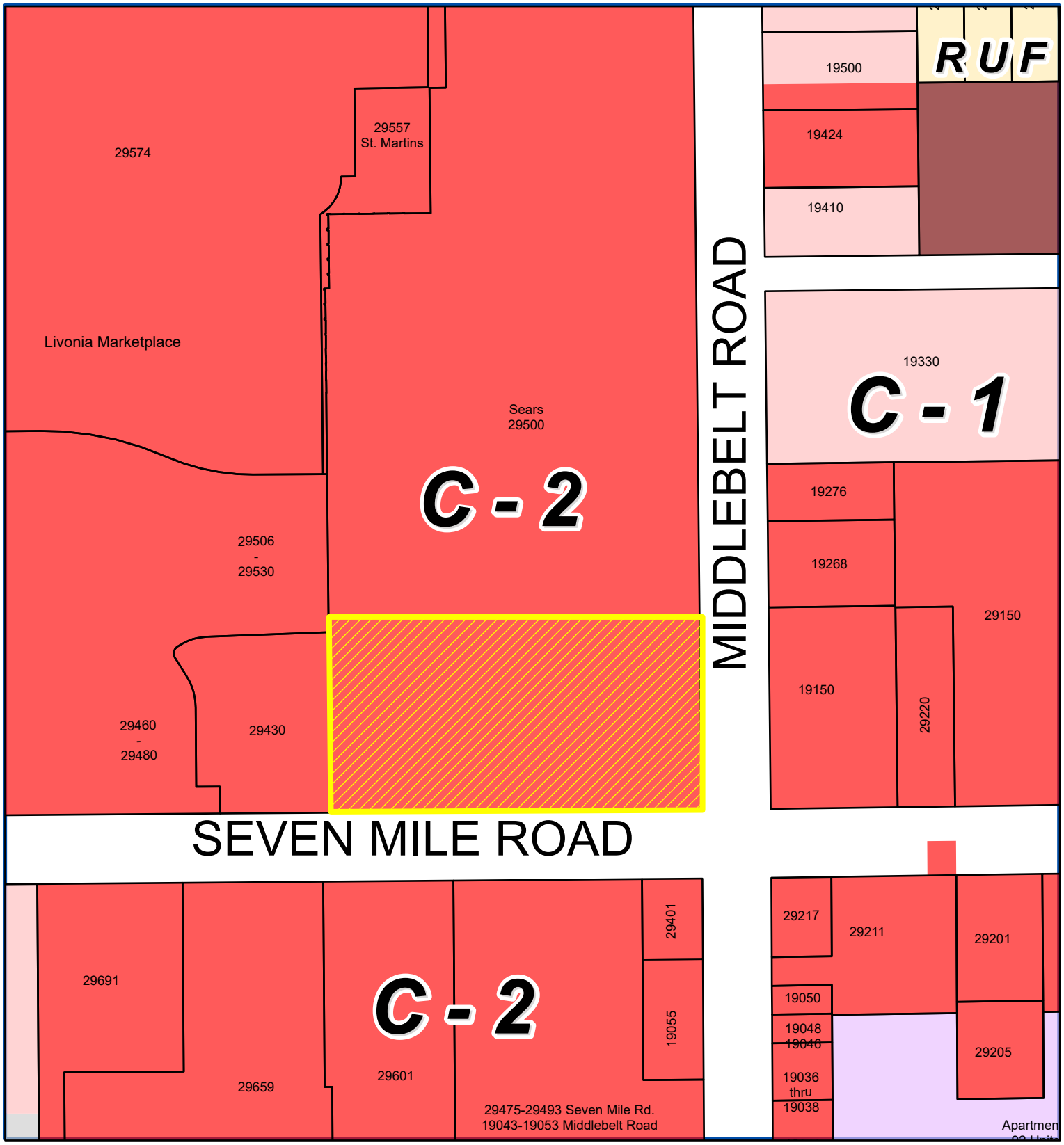
Subscribed and sworn to before me, a Notary Public in and for the County of Cook State of Illinois

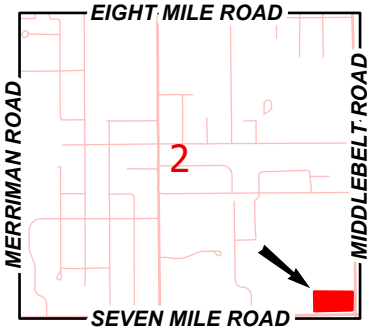
on this 3rd day of March 20 26.

Signature of Notary Jessica L. Gorski My commission expires 4/15/26

Acting in the County of Cook.

JESSICA L GORSKI
Official Seal
Notary Public - State of Illinois
My Commission Expires Apr 15, 2026





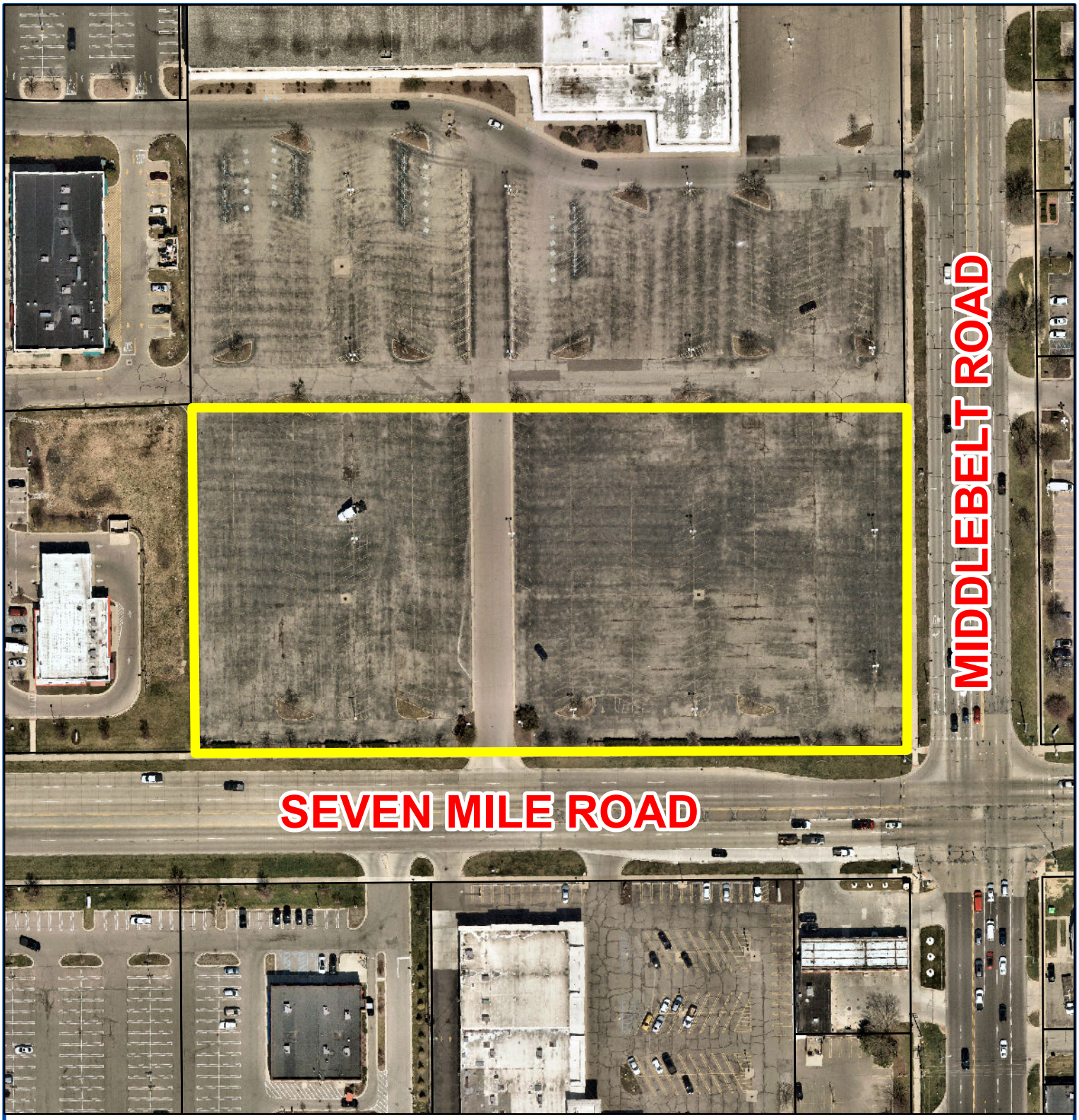
Address & Zoning Map

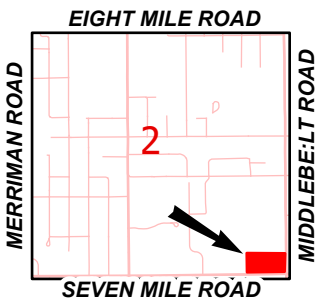
Petition 2026-03-02-10
Wade Shows
29500 Seven Mile Road

N

Not to Scale

City of Livonia
Planning Department





Aerial Map

Petition 2026-03-02-10
Wade Shows
29500 Seven Mile Road

N

Not to Scale

City of Livonia
Planning Department

PLANNING COMMISSION STAFF NOTES

PUBLIC HEARING

ITEM 4

Petition 2026-02-02-10 submitted by Wade Shows, Inc. requesting waiver use approval under Sections 3.11 and 6.56 of the Livonia Zoning Ordinance, as amended, to conduct a carnival in the parking lot of the former Sears department store, sponsored by the Livonia AM Rotary Club, consisting of amusement rides, games, and food concessions from May 18, 2026, through June 1, 2026, on the property at 29500 Seven Mile Road, located at the northwest corner of Seven Mile and Middlebelt Roads in the southeast 1/4 of Section 2.

March 10, 2026 Study Meeting:

This recurring waiver use petition by the Livonia AM Rotary Club is to hold a fundraising carnival at the former Sears property at the northwest corner of Seven Mile and Middlebelt Roads. The carnival operator is Wade Shows, Inc. The site is zoned C-2 (General Business).

To the west of the site is Livonia Marketplace, a multi-building commercial development comprised of Walmart and Kohls and several other shops and restaurants. North, across St. Martins Avenue, are several commercial uses zoned C-1 (Local Business) and C-2 that front along Middlebelt Road and Nottingham Village Condominiums zoned NM1 (Neighborhood Multifamily). East, across Middlebelt Road, are various commercial uses zoned C-2 and C-1. And to the south, across Seven Mile Road, is the Mid-Seven shopping center and several other commercial uses zoned C-2.

The operation of a carnival is allowed with waiver use approval in the C-2 District under the provisions outlined in Section 6.56 of the Zoning Ordinance. Carnivals may be allowed for at most two (2) weeks, however, they may request an optional time extension of up to two (2) weeks from the Planning Director. This proposed carnival will be twenty-one (21) days from May 18, 2026, through June 1, 2026.

The area where the carnival would be held measures approximately 660’ (E-W) x 320’ (N-S) and has been the same layout for several years. The northerly limit of the carnival would be the central drive aisle that extends across the former Sears parking lot and provides ingress and egress from Middlebelt Road to Livonia Marketplace. The westerly boundary is the Sears property line adjacent to Livonia Marketplace.

The overall operation consists of two (2) main components. In the southwest part, labeled on the plan as “*RV Parking,*” would be the temporary housing and storage of other trucks and equipment associated with the carnival. The rides and the midway would be in the remaining easterly part of the property near the intersection of Middlebelt and Seven Mile Roads, labeled “*Carnival Midway Area.*”

March 24, 2026 Study Meeting:

Approving Resolution: This request to conduct a carnival sponsored by the Livonia AM Rotary Club in the parking lot of the former Sears at 29500 Seven Mile Road is hereby approved, subject to City Council approval and the following conditions:

1. The carnival shall be limited from May 18, 2026, through June 01, 2026.

2. The carnival shall be confined to the areas illustrated on the plan received by the Planning Commission.

3. All rides, food concessions, booths, and other equipment and apparatus relating to the carnival operation shall be at least sixty feet (60') from the rights-of-way of Seven Mile and Middlebelt Roads.

4. The temporary housing and storage of trucks and equipment associated with the carnival shall be in the property's southwest corner, as shown on the plan, no closer than sixty feet (60') from the right-of-way of Seven Mile Road.

5. The hours of operation shall be limited to Monday through Friday from 4:00 p.m. to 11:00 p.m., and on Saturday and Sunday, from 12:00 p.m. to 11:00 p.m., and

6. Permits and inspections are required. Wade Shows shall request a pre-event meeting with the Director of Inspection, Fire Marshal, and Emergency Preparedness.


RV PARKING
CARNIVAL MIDWAY AREA
W Seven Mile Rd
Middlebelt Rd
© 2016 Google
Google Earth
1999
Imagery Date: 4/13/2016 42°25'40.36" N 83°20'14.83" W elev 645 ft eye alt 1592 ft

RESTROOMS
KIDDIE
KIDDIE
KIDDIE

CORRESPONDENCE

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

TODD J. ZILINCIK, P.E.
CITY ENGINEER

DAVID W. LEAR, P.E.
ASST. CITY ENGINEER

MAUREEN MILLER BROSNAN
MAYOR

DOUGLAS L. MOORE, MSA
INTERIM DIRECTOR OF PUBLIC WORKS

12973 FARMINGTON ROAD
LIVONIA, MICHIGAN 48150
(734) 466-2571
FAX: (734) 466-2195

RECEIVED
MAR 05 2026
CITY OF LIVONIA
PLANNING COMMISSION

March 5, 2026

Mr. Kristoffer Canty
Planner IV
City of Livonia

Re: Petition 2026-03-02-10 – 29500 Seven Mile Road (Wade Shows, Inc.)

Dear Mr. Canty:

In accordance with your request, the Engineering Division has reviewed the above referenced waiver use approval request.

The address of **#29500 Seven Mile Road** is correct for the subject parcel, and should be used in connection with this petition.

We have no objections to the proposed petition, although the following items should be noted:

1. Should the carnival have the need to occupy, or should any of the associated activities impact either of the Seven Mile Road or Middlebelt Road right-of-way's, a permit from Wayne County will be required as both roads are under their jurisdiction.
2. All sanitary sewage from the site, recreational vehicles or campers shall be disposed of properly.
3. Should the operators need to have water provided for their facilities, they should contact the City of Livonia Water Department to obtain the proper equipment, including a water meter with backflow preventer.

Should you have any additional questions, or need any additional information on this matter, please feel free to contact either myself at (734) 466-2608, or Todd Zilincik, the City Engineer at (734) 466-2561.

Sincerely,

David W. Lear, P.E.
Asst. City Engineer

cc: 2026 petition File

FIRE

DEPARTMENT OF PUBLIC SAFETY
DIVISION OF POLICE

THOMAS GORALSKI
CHIEF OF POLICE

MAUREEN MILLER BROSNAN
MAYOR

15050 Farmington Road
Livonia, Michigan 48154-5499
(734) 466-2470
FAX: (734) 261-2265

March 6th 2026

RECEIVED
MAR 06 2026
CITY OF LIVONIA
PLANNING COMMISSION

Mr. Kristoffer Canty
City of Livonia Planning Dept
33000 Civic Center Drive
Livonia, MI 48154

Re: Petition 2026-03-02-10 - 29500 Seven Mile Road

Mr. Canty,

I have reviewed the plans in connection with the petition. I have no objections to the proposals.

Please feel free to contact me, should you have any questions.

Sincerely,

FOR THE CHIEF OF POLICE,

Sgt. Badams

Brendan Adams, Sergeant
Traffic Bureau
(734) 466-2107

INSPECTION

DEPARTMENT OF FINANCE

Benjamin N. Grier, JD, CPA
DIRECTOR OF FINANCE

MAUREEN MILLER BROSNAN
MAYOR

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2260
FAX: (734) 421-1807

RECEIVED
MAR 09 2026
CITY OF LIVONIA
PLANNING COMMISSION

March 6, 2026

Kristoffer Canty
Planning Commission
33000 Civic Center Drive
Livonia, MI 48154

Petition 2026-02-02-10 - 29500 Seven Mile Road (submitted by Wade Shows, Inc)

Dear Kristoffer,

I have reviewed the addresses connected with the above noted petition. The following amounts are due to the City of Livonia:

Unpaid false alarm charges:	$2,818.72
Total Due City of Livonia	$2,818.72

Please contact me if you have any further questions.

Very truly yours,

Benjamin N. Grier
Director of Finance

BG: jw

CITY OF LIVONIA

33000 Civic Center Drive
Livonia, Michigan 48154
(734) 466-2273

FEDERAL I.D.
386005820

Bill To:

TF LIVONIA MI LLC/ESL INVESTMENTS DEPT 36134
5407 TRILLIUM BLVD STE B120
HOFFMAN ESTATES, IL 60192

Invoice # 88789
Account 43527
Date 03/06/2026
Due Date **04/06/2026**

False Alarm Billing and Payments: 29500 7 MILE, LIVONIA, MI 48150

Date/Time	Type	Reference	Amount
02/01/2026 12:00 AM	Past Due Balance		$2691.80
02/09/2026 01:26 PM	Fourth call in the calendar year	LI-260005101	$100.00
02/28/2026 11:59 PM	Late Payment Interest Penalty		$26.92
		Amount Due:	$2818.72

Please tear off this section and return with payment

Account 43527
Invoice # 88789
Due Date 04/06/2026

Alarm Address:
29500 7 MILE, LIVONIA, MI 48150

Amount Due: $2818.72

Bill To:
TF LIVONIA MI LLC/ESL
INVESTMENTS DEPT 36134
5407 TRILLIUM BLVD STE B120
HOFFMAN ESTATES, IL 60192

Make Check Payable and Mail to:
City of Livonia
Accounts Receivable
33000 Civic Center Drive
Livonia, MI 48154

Section 1. Section 070 of Title 5, Chapter 6 of the Livonia Code of Ordinances, as amended, is hereby amended to read as follows:

5.06.070 **False Alarms**-Fee required when; Interest; Collection; Appeals

To reduce the occurance of false alarms, the owner or lessee of an alarm system shall pay to the City the following sums for each occasion that the alarm system is activated and responded to by the police and/or fire division in any of the following cases:

First & Second call in the calendar year	No charge
Third call in the calendar year	$50.00
Fourth call in the calendar year	100.00
Fifth call in the calendar year	200.00
Sixth and Seventh call in the calendar year	300.00
Eighth and Ninth call in the calendar year	400.00
Tenth and additional calls in the calendar year	500.00

Sums not paid within thirty (30) days of the invoice shall have interest added at a rate equal to one percent (1%) of the unpaid portion.

The owner or lessee of an alarm system shall have the opportunity to appeal any false alarm fees by filing a written request of appeal with the Chief of Police.

Livonia Police Department
15050 Farmington Road
Livonia, MI 48154

TREASURER

OTHER ITEMS RELATED TO THE PETITION

LETTER TO THE LIVONIA CITY COUNCIL

6.

Planning
March 25, 2026

MEETING DATE	PRESENTED BY
S040826/R042026	Mark Taormina, Planning and Economic Development Director

AGENDA ITEM

SITE PLAN PETITION 2025-12-08-10: submitted by Charlie Bazzi on behalf of 36300 5 Mile Investment, LLC requesting site plan approval to demolish the existing gas station and fuel pumps at 36300 Five Mile Road, and construct a new gas station convenience store and fuel pumps, located the northeast corner of Levan Road and Five Mile Road in the Southeast ¼ of Section 17.

BACKGROUND DETAILS

March 27, 2026

Honorable Members of the City Council
City of Livonia, Michigan

Re: Petition 2026-02-02-06 – Capital Grille Class C/SDM

Dear Council Members:

At the 1,243rd Meeting held by the Livonia City Planning Commission on March 24, 2026, the following resolution was adopted:

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

#03-20-2026 RESOLVED, That the City Planning Commission does hereby recommend to the City Council that Petition 2025-12-08-10 submitted by Charlie Bazzi on behalf of 36300 5 Mile Investment, LLC requesting site plan approval under Section 13.13 of the Livonia Zoning Ordinance, as amended, to demolish the existing gas station and fuel pumps at 36300 Five Mile Road, and construct a new gas station convenience store and fuel pumps, located the northeast corner of Levan Road and Five Mile Road in the Southeast ¼ of Section 17, be approved subject to the following conditions:

1. That the Demolition Plan identified as Sheet AS100 prepared by A&M Consultants, submitted January 03, 2026, is hereby approved and shall be adhered to;

2. That the Site Plan identified as Sheet AS101 prepared by A&M Consultants, submitted January 27, 2026, is hereby approved and shall be adhered to;

3. That the Canopy Plan identified as Sheet AS1012 prepared by A&M Consultants, submitted January 27, 2026, is hereby approved and shall be adhered to;

4. That the Landscaping Plan identified as Sheet LS100 prepared by A&M Consultants, submitted January 27, 2026, is hereby approved and shall be adhered to;

5. That the Elevation Plan be updated to reflect the renderings received March 24, 2026, which are hereby approved and shall be adhered to;

6. That the gas pump island canopy shall not exceed eighteen feet (18') in height and its support columns shall be covered with the same brick used in the construction of the building;

7. That all light fixtures shall not exceed twenty feet (20') in height and shall be aimed and shielded so as to minimize stray light trespassing across property lines and glaring into adjacent roadway;

8. That free air shall be provided at all times this station is open for business. The free air shall be dispensed at the point of service without having to enter the station or the performance of any extra action in order to obtain the air without charge;

9. That all rooftop mechanical equipment shall be concealed from public view on all sides by screening that shall be of a compatible character, material and color to other exterior materials on the building.

10. That the specific plans referenced in this approving resolution shall be submitted to the Inspection Department at the time the building permits are applied for; and;

11. This approval is valid for a period of ONE YEAR ONLY from the date of approval by City Council, and unless a building permit is obtained, this approval shall be null and void at the expiration of said period.

ATTACHMENTS

1. 2025-12-08-10_E-COUNCIL Pkt

APPROVED BY



Date: March 27, 2026

Mark Taormina, Planning and Economic Development Director



Date: March 27, 2026

Maureen Miller Brosnan, Mayor

Petition 2025-12-08-10 submitted by Charlie Bazzi on behalf of 36300 5 Mile Investment, LLC requesting site plan approval under Section 13.13 of the Livonia Zoning Ordinance, as amended, to demolish the existing gas station and fuel pumps at 36300 Five Mile Road, and construct a new gas station convenience store and fuel pumps, located the northeast corner of Levan Road and Five Mile Road in the Southeast ¼ of Section 17.

MINUTES OF THE 1,243rd PUBLIC HEARINGS AND REGULAR MEETING HELD BY THE CITY PLANNING COMMISSION OF THE CITY OF LIVONIA

On Tuesday, March 24, 2026, the City Planning Commission of the City of Livonia held its 1,243rd Public Hearing and Regular Meetings in the Livonia City Hall, 33000 Civic Center Drive, Livonia, Michigan.

Mr. Ian Wilshaw, Chairman, called the meeting to order at 7 p.m.

Members present:	Wafa Dinaro	Patrick Droze	David Bongero
	Sam Caramagno	Glen Long	Ian Wilshaw

Members absent: Peter Ventura

Mr. Jacob Uhazie, Assistant Planning Director, and Stephanie Reece, Program Supervisor, were also present.

Chairman Wilshaw informed the audience that if a petition on tonight's agenda involves a rezoning request, this Commission makes a recommendation to the City Council who, in turn, will hold its own public hearing and make the final determination as to whether a petition is approved or denied. The Planning Commission holds the only public hearing on a request for preliminary plat and/or vacating petition. The Commission's recommendation is forwarded to the City Council for the final determination as to whether a plat is accepted or rejected. If a petition requesting a waiver of use or site plan approval is denied tonight, the petitioner has ten days in which to appeal the decision, in writing, to the City Council. Resolutions adopted by the City Planning Commission become effective seven (7) days after the date of adoption. The Planning Commission and the professional staff have reviewed each of these petitions upon their filing. The staff has furnished the Commission with both approving and denying resolutions, which the Commission may, or may not, use depending on the outcome of the proceedings tonight.

ITEM #5 PETITION 2026-12-08-10 Gas Station

Mr. Caramagno, Secretary, announced the first item on the agenda Petition 2025-12-08-10 submitted by Charlie Bazzi on behalf of 36300 5 Mile Investment, LLC requesting site plan approval under Section 13.13 of the Livonia Zoning Ordinance, as amended, to demolish the existing gas station and fuel pumps at 36300 Five Mile Road, and construct a new gas station convenience store and fuel pumps, located the northeast corner of Levan Road and Five Mile Road in the Southeast ¼ of Section 17.

Mr. Wilshaw: So, this was tabled at a previous meeting. Is there someone willing to offer a motion to remove this from the table?

On a motion by Caramango, seconded by Bongero, and unanimously adopted, it was

#03-19-2026 **RESOLVED**, that the City Planning Commission on March 24, 2026, on Petition 2025-12-08-10 submitted by Charlie Bazzi on behalf of 36300 5 Mile Investment, LLC requesting site plan approval under Section 13.13 of the Livonia Zoning Ordinance, as amended, to demolish the existing gas station and fuel pumps at 36300 Five Mile Road, and construct a new gas station convenience store and fuel pumps, located the northeast corner of Levan Road and Five Mile Road in the Southeast ¼ of Section 17., does hereby remove the item from the table.

Mr. Uhazie: As you mentioned, we have seen this before. This is a request to demolish and rebuild the existing fuel pumps. The site 0.45 acres in size and is zoned C-2. The changes since the last time we saw it include an updated tanker plan. The plan now shows access coming off Five Mile or Levan going north to refill and then exiting back out the northern access to Levan Road. The access points remain the same, with the caveat that they have been reduced in size and meet the Wayne County requirements. The lighting plan has been submitted that does comply with all zoning ordinance requirements. Additionally, the landscaping buffer has been put in place to the east between that and the adjoining property. And lastly, we did receive updated renderings this evening that show more accurately what the petitioner is proposing for the façade. I will let him speak to that in a little more detail, because we did just receive these prior to the meeting. That is all the changes since we tabled this item with that. I also have some correspondence I can read.

Mr. Wilshaw: You have some updated correspondence?

Mr. Uhazie: We do not.

Mr. Wilshaw: It is all original? They are all already read. Okay, they're already read in so we are good to go. Thank you. Mr. Uhazie. Any questions for staff? I see no questions. Mr. Bazzi, I believe you are in the audience. Feel free to come forward. Good evening, sir.

Michael Beydoun, on behalf of Mr. Bazzi.

Mr. Wilshaw: Very good. What would you like to tell us about these updates?

Mr. Beydoun: Okay, since the last meeting, I think I did submit some floor plans or something like that. That changes the character of the building. That makes it like ins and out. As you can see in the elevation, it's completely different than our previous meeting right here in front of you. Forget about that rendering. We did actually have a new render right now. We will be putting like, mixing up the colors, like a white stone on the bottom, minimizing the dark gray or the charcoal gray, and adding up more ACM materials, basically on the top. It gives it more character, and it gives it some kind of a new look. And as you know that the station right now, it's a dilapidated station. Honestly, it does look like a junkyard with a mechanic shop in there, and that would be completely cleaned up, and we're trying to beautify that area.

Mr. Wilshaw: All right, thank you. Mr. Beydoun. Is there any questions for the petitioners representatives?

Mr. Droze: Thank you. I appreciate the effort you guys put in the rendering. I think that was one of the things we talked about the study session. Is the top….

Mr. Beydoun: Almost like a red. That's not going to be there. When you send it to someone else, they cannot actually pick up on exactly what you want. They start improvising something like that. That is not going to be there because the way it shows, it's going to be lighting, it's not going to be.

Mr. Droze: Okay, yeah, that's kind of what I was getting at. So, what's your plan for the oping of the top of that building.

Mr. Beydoun: Literally straight cut.

Mr. Droze: Okay, yeah, okay.

Mr. Beydoun: Less is better.

Mr. Droze: My only other question was, there's two EV chargers on the north side. What do those typically look like? Do they need space? Because I'm just kind of seeing you have them almost sitting within the parking spaces themselves. Are they going to be off to the side? Are they on the property line?

Mr. Beydoun: A little bit away from the property line on the inside. And they're making them not that huge right now. So, it's like…what do you call that? It's like an air pump, something like that. So it's not even bigger than that.

Mr. Droze: Okay, because you're gonna have the air machine there too. So okay, it's a tight site, but it looks like it's gonna work. So really appreciate your effort.

Mr Beydoun: It's a common thing that everyone actually is going with them, so they have to go with the flow.

Mr. Droze: I'm good. Thank you. Mr. Chair.

Mr. Wilshaw: Alright. Thank you. Mr. Droze, any other questions for the petitioner?

Mr. Long: Just a comment, kudos. This is so much better than what we originally had. Very pleased with this.

Mr. Beydoun: Now I know exactly what you want.

Mr. Wilshaw: Thank you. Mr. Long. Any other questions or comments? Mr. Beydoun, the rooftop mechanicals. How are those going to be handled? Or are there going to be rooftop mechanicals?

Mr. Beydoun: There is, and actually, that will be hidden, because we did actually raise the roof up. And if you go back actually, to the elevation, the heights of the building, like maybe starts at top of the joist will probably be at 14 feet. This is some places at 16, some places at 18. It's not even higher than that, especially with that middle section. That's the old elevation too.

Mr. Wilshaw: Okay, so your parapet is high enough to block correct the view of those.

Mr. Beydoun: We'll go ahead and we'll shield them around with some kind of an ACM, and we'll put up…we'll improvise. Also get the area and maybe put some circles in them. We'll do that.

Mr. Wilshaw: Okay, all right, I think that's a question I asked you on the other one that you came to us. So, I just wanted to be consistent in that. Is there any other questions or comments from the rest of the gang here? Nope. Anything else? Anybody would like to offer, if not, this is not a public hearing, so a motion is in order

On a motion by Dinaro, seconded by Bongero, and unanimously adopted, it was

#03-20-2026 **RESOLVED**, That the City Planning Commission does hereby recommend to the City Council that Petition 2025-12-08-10 submitted by Charlie Bazzi on behalf of 36300 5 Mile Investment,

LLC requesting site plan approval under Section 13.13 of the Livonia Zoning Ordinance, as amended, to demolish the existing gas station and fuel pumps at 36300 Five Mile Road, and construct a new gas station convenience store and fuel pumps, located the northeast corner of Levan Road and Five Mile Road in the Southeast ¼ of Section 17, be approved subject to the following conditions:

1. That the Demolition Plan identified as Sheet AS100 prepared by A&M Consultants, submitted January 03, 2026, is hereby approved and shall be adhered to;

2. That the Site Plan identified as Sheet AS101 prepared by A&M Consultants, submitted January 27, 2026, is hereby approved and shall be adhered to;

3. That the Canopy Plan identified as Sheet AS1012 prepared by A&M Consultants, submitted January 27, 2026, is hereby approved and shall be adhered to;

4. That the Landscaping Plan identified as Sheet LS100 prepared by A&M Consultants, submitted January 27, 2026, is hereby approved and shall be adhered to;

5. That the Elevation Plan be updated to reflect the renderings received March 24, 2026, which are hereby approved and shall be adhered to;

6. That the gas pump island canopy shall not exceed eighteen feet (18') in height and its support columns shall be covered with the same brick used in the construction of the building;

7. That all light fixtures shall not exceed twenty feet (20') in height and shall be aimed and shielded so as to minimize stray light trespassing across property lines and glaring into adjacent roadway;

8. That free air shall be provided at all times this station is open for business. The free air shall be dispensed at the point of service without having to enter the station or the performance of any extra action in order to obtain the air without charge;

9. That all rooftop mechanical equipment shall be concealed from public view on all sides by screening that shall be of a compatible character, material and color to other exterior materials on the building.

10. That the specific plans referenced in this approving resolution shall be submitted to the Inspection Department at the time the building permits are applied for; and;

11. This approval is valid for a period of ONE YEAR ONLY from the date of approval by City Council, and unless a building permit is obtained, this approval shall be null and void at the expiration of said period.

Mr. Wilshaw: Is there any discussion?

Mr. Wilshaw, Chairman, declared the motion is carried and the foregoing resolution adopted. It will go on to City Council with an approving resolution.

MINUTES OF THE 1,241st PUBLIC HEARINGS AND REGULAR MEETING HELD BY THE CITY PLANNING COMMISSION OF THE CITY OF LIVONIA

On Tuesday, February 3, 2026, the City Planning Commission of the City of Livonia held its 1,241st Public Hearing and Regular Meetings in the Livonia City Hall, 33000 Civic Center Drive, Livonia, Michigan.

Mr. Ian Wilshaw, Chairman, called the meeting to order at 7 p.m.

Members present:	Patrick Droze	David Bongero	Sam Caramagno
	Glen Long	Peter Ventura	Ian Wilshaw

Members absent: Wafa Dinaro

Mr. Jacob Uhazie, Assistant Planning Director, and Stephanie Reece, Program Supervisor, were also present.

Chairman Wilshaw informed the audience that if a petition on tonight's agenda involves a rezoning request, this Commission makes a recommendation to the City Council who, in turn, will hold its own public hearing and make the final determination as to whether a petition is approved or denied. The Planning Commission holds the only public hearing on a request for preliminary plat and/or vacating petition. The Commission's recommendation is forwarded to the City Council for the final determination as to whether a plat is accepted or rejected. If a petition requesting a waiver of use or site plan approval is denied tonight, the petitioner has ten days in which to appeal the decision, in writing, to the City Council. Resolutions adopted by the City Planning Commission become effective seven (7) days after the date of adoption. The Planning Commission and the professional staff have reviewed each of these petitions upon their filing. The staff has furnished the Commission with both approving and denying resolutions, which the Commission may, or may not, use depending on the outcome of the proceedings tonight.

ITEM #3 PETITION 2025-12-08-10 Gas Station

Mr. Caramagno, Secretary, announced the first item on the agenda, Petition 2025-12-08-10 submitted by Charlie Bazzi on behalf of 36300 5 Mile Investment, LLC requesting site plan approval under Section 13.13 of the Livonia Zoning Ordinance, as amended, to demolish the existing gas station and fuel pumps at 36300 Five Mile Road, and construct a new gas station convenience store and fuel pumps, located the northeast corner of Levan Road and Five Mile Road in the southeast ¼ of Section 17.

Mr. Uhazie: This is a request to demolish the existing gas station, as mentioned and the fuel pumps at 36300 Five Mile Road, and construct a new gas station and convenience store with fuel pumps. The original gas station was constructed in 1960 and they added a second gas island in 1986. The site contains a 2,072 square foot gas station with three service stations. It has a total of five pumps, two to the west and three under the existing canopy. The site area is about 0.45 acres in size, and the gas station is currently zoned C-2. The proposal is to construct a new gas station/carry out establishment that is about 3,640 square feet in size. The building height is shown as about 16 feet. The setbacks for the proposed building would be 29 feet off of Levan, 84 feet from Five Mile, five feet from the eastern property, which contains a commercial strip center, one foot from the northern property, which is an existing medical office. The plans show tanks, pumps and canopies would be removed. A new storage tank would be located to the west of the building with a capacity of 22,000 gallons. The new fueling center would have four pumps with the ability to accommodate a total of eight vehicles, one on each side. An overhead canopy would cover the fuel dispensers and the front door entrance facing Five Mile. The canopy plans show a height of 17 feet. That was not shown on the plans last time they added that. For landscaping, we do require seven evergreen or deciduous trees, three along Levan Road and four along Five Mile Road. The zoning ordinance requires four ornamental trees, two along the Levan and two along Five Mile and 55 shrubs, 25 along Levan and 30 along Five Mile Road. Although the petitioner did add new landscaping, per our request last week, the new trees do not meet the zoning ordinance requirements, with only six trees and 33 shrubs shown. The floor plan shows a large retail area, takeout restaurant area, cashier counter area, cooler, storage room, office and unisex restroom. For parking, the ordinance requires eight parking spaces for a gasoline service station, one for each pump. The carry-out restaurant requires three parking spaces plus one per restaurant employee. The petitioner has not revealed the number of employees for the restaurant, and the site plan shows a total of 12 double striped parking spaces, one of which is barrier free, and one space reserved for air stations. As mentioned, one of those spaces is a loading area in front of the dumpster identified in the site plan. The satisfaction of the parking requirements is pending on the number of employees for the carry out establishment. The petitioner proposes two electric car charging stations in the northwest corner of the property. Access to the site would overall remain the same with two access points off Levan and two off of Five Mile. The petitioner did submit an updated site plan that has reduced the width of these openings, both of which

would be reduced to 30 feet in width. The Island in between would remain the same distance, the space was added at the two bump outs to the north and south corners of the property. A tanker plan was also submitted, per the request of the Planning Commission, and it shows access from Levan Road with access to the west side of the canopy to refuel the station and exit the site by proceeding forward onto Five Mile Road westbound. The exterior of the building would be constructed of a charcoal and neutral color brick and limestone and the top of the building would be constructed of aluminum composite materials with a red ACM stripe and one inch insulated glass in the clear aluminum frame making up most of the front facade. The existing freestanding sign would remain with new lettering, which is called out in the plans shown here. No other sign information was provided. A dumpster enclosure will be constructed with color fast concrete. The enclosure will be constructed about the same or comparable materials and colors of the principal building in terms of texture and quality. It is proposed to be six feet tall. The new dumpster will be just west of the existing of the new building shown here, and no site lighting plan was provided as part of this petition. With that, Mr. Chairman, I can read out the departmental correspondence.

Mr. Wilshaw: Yes, please.

Mr. Uhazie: The first item is from the Engineering Division, dated January 8, 2026, which reads as follows: In accordance with your request, the Engineering Division has reviewed the above referenced petition. We have no objections to the proposed project at this time, but would like to note the following items: 1. The subject parcel is assigned the address of #36300 Five Mile Road. Should additional addresses be needed, the owner will need to contact this Department once approvals have been obtained. 2. The existing parcel is currently serviced by public sanitary sewer and water main. The submitted does not include any proposed utility information or calculations, but based on the project scope, we do not believe there will be any negative impacts on the existing systems. 3. Drainage from the proposed building shall not be shed on to the neighboring property. Downspouts will need to be directed to the parking lot. 4. The owner will need to submit proposed Engineering drawings to this Department once planning approvals have been obtained to determine what permits will be required in association with utility revisions. 5. Drawings shall be submitted to the Wayne County Department of Public Service for comments on access control and possible permitting for the removal of existing approaches, if required by the County." The letter is signed by David W. Lear, P.E., Assistant

City Engineer. The next letter is from the Livonia Fire & Rescue Division, dated January 14, 2026, which reads as follows: “This office has reviewed the site plan submitted in connection with a request to construct a commercial building on the property located at the above referenced address. We have no objections to this proposal. Comply with codes and standards set by The State of Michigan for vehicle fueling stations. A further detailed plan review will take place when this division receives an official plan set.” The letter is signed by Brian Kukla, Fire Marshal. The next letter is from the Division of Police, dated January 7, 2026, which reads as follows: “I have reviewed the plans in connection with the petition. I have no objections to the proposal.” The letter is signed by Paul Walters, Sergeant, Traffic Bureau. The next letter is from the Inspection Department, dated January 30, 2026, which reads as follows: "Pursuant to your request, the above-referenced Petition has been reviewed. 1. Signage shall conform to the sign ordinance, or a variance from the Zoning Board of Appeals would be required. 2. Exterior lighting sources shall be designed, constructed, located, and maintained in a manner that minimizes light trespass onto neighboring properties and public ways. The light trespass from a property shall not exceed 0.5-foot-candles at the property line, measured five (5) feet from the ground. 3. The barrier-free parking space is required to be van-accessible. It is not currently proposed that way. The van-accessible barrier-free parking space shall be sized, signed, and marked in accordance with the Michigan Barrier-Free Code. This will be addressed at the time of plan review if this project moves forward. 4. An enclosure of sufficient height to completely screen the dumpster is required on three (3) sides of the waste receptacle, with a solid gate on the fourth side. The height of the enclosure must be not less than six (6) feet or at least one (1) foot above the height of the dumpster, whichever is greater. The enclosure gates shall be of solid panel steel construction or durable, long-lasting solid panel fiberglass and, when not in use, closed at all times. The enclosure must be constructed of the same or compatible material and colors as the principal building in terms of texture and quality. This Department has no further objections to this Petition.” The letter is signed by Jerome Hanna, Director of Inspection. The next letter is from the Finance Department, dated January 20, 2026, which reads as follows: "I have reviewed the addresses connected with the above noted petition. As there are no outstanding amounts receivable, general or water and sewer, I have no objections to the proposal.” The letter is signed by Benjamin Grier, Director of Finance. The next letter is from the Treasurer’s Department, dated January 7, 2026, which reads as follows: “The owner of the property is current on

their property tax." The letter is signed by Susie Nash, Treasurer. That is the extent of the correspondence.

Mr. Wilshaw: All right. Thank you. Mr. Uhazie. Is there any questions for our planning staff?

Mr. Bongero: Mr. Uhazie, I wasn't there last week, so I see that they provided a tanker route. Who, who drew this? The engineer?

Mr. Uhazie: I believe the engineer provided it.

Mr. Bongero: Okay, because it looks like it barely…there's hardly any clearance coming in off of Levan to the pumps. I mean, if this is exactly to scale, so I don't know, and I'll have to ask the petitioner if the furthest east pump, where it is right now, can be moved. Just if you look at that route, it's really close, let alone the canopy too. I just want to know who drew that, their engineer?

Mr. Uhazie: I think it looks like it was from their consultant, their architect.

Mr. Bongero: Okay, alright, I'll ask the petitioner when he comes up. Thank you.

Mr. Wilshaw: Thank you. Mr. Bongero. Any other questions for planning staff?

Mr. Ventura: My questions kind of go right along with Mr. Bongero's. I don't know how you get a tanker in there. If this is a typical tanker with a cab and this long tank, can it make a right turn? If it's going or can it get on Levan going north and make the turn into that gas station? I don't think it can. If it can, I'd like to see that demonstrated, and if it can't, then I don't know how they get it in there. I mean, they could draw it, they could come in off a Five Mile Road and go north, but then they're not going to be able to turn and go back south again to get back up to Five Mile Road. They're going to be stuck with going north up Levan through a neighborhood with that tanker truck, and the roads are not designed to carry that kind of weight. So, I'd like to see them come back with or provide to the Planning Department a demonstration of how a tanker actually gets in there and uses that path, because I don't see how that works.

Mr. Bongero: I don't either.

Mr. Wilshaw: All right, thank you for those comments. Anything else for planning staff?

Mr. Droze: Mr. Chair, another thing we talked about at the study session was the eastern side of the property, and I don't believe that we saw

any documentation regarding cross access and that sort of thing, unless I missed it. Is that correct, Mr. Uhazie?

Mr. Uhazie: No changes were made to the eastern property line.

Mr. Droze: Okay, thank you.

Mr. Wilshaw: And the question that Mr. Droze is referring to was in the discussion at the study meeting was either provide a barrier between those two properties or a cross access agreement if they want to leave it open, just to formalize that current access that flows through those two properties. So that's a question maybe we can ask the petitioner if there's any updates on that. Any other questions for our staff? Alright, is the petitioner here? There they are. Good evening, sir.

Michael Beydoun, on behalf of 36300 Five Mile Investments.

Mr. Wilshaw: Thank you, Mr. Beydoun. What would you like to tell us about your proposal?

Mr. Beydoun: Okay, well, since the last meeting, I've done some changes that, as you can see, as far as the approaches and all that. And I'll go straight to the cross access. We're still working with the neighbors next door. Instead of us just closing it. We're still working with the neighbors next door, if they can agree to that. And I said that will be a plus, but it's up to them. If they say yes, then we'll do it. If it's not, we'll provide some kind of a buffer on that and give you more landscape right there. One of the most important things is actually that tanker. The tank location right now is existing, and it is what it's in place where we're actually proposing. And what we have there right now is you have two pumps right at that location next to that tank, and they still managed to come right through and get out and go out on Five Mile, I agree, if we could come through Five Mile, but if you look at the approach, it's actually on an angle. There is no way that tanker can go into the corner approach and make a turn and go all the way into the tanks, where the tanks are. It is because it's on an angle. If the radius was completely different, then yes, it would have been easy to come right straight through Five Mile and go straight down. But if you see it's like on a 30 degree or something like that, some kind of an angle, if the tanker wants to go in there, it's going to go on top of the ramp, on top of the curb, in order for it to go into the property. So, the way it's maintained right now, and the way it is done, they come right through Levan, they make the turn into the parking lot, and then they leave right through Five Mile. It's done. It's been done for years like that.

Mr. Wilshaw: Mr. Beydoun, just to explore that a little bit more, do the current tanker trucks come south on Levan from Six Mile, or do they come from Five Mile and make the tight turn?

Mr. Beydoun: It's exactly what it is that comes down Levan. They go through the property, even with the two pumps right there, and they manage to come through. And then they get out on Five Mile.

Mr. Wilshaw: As indicated in the drawing?

Mr. Beydoun: Yes.

Mr. Wilshaw: Okay. All right. Sorry for the interruption.

Mr. Beydoun: Like you see that approach right there, if that approach has a different kind of a radius, yeah, then they'll be able to come west than Five Mile and go into the property, but with that curb right there, with that angle right there, there is no way for a tanker to go through.

Mr. Wilshaw: Okay, we may have some more discussion on that. Is there anything else you'd like to tell us before we get to that? I want to let you speak. If you want to talk about anything else, feel free. We'll probably revisit.

Mr. Beydoun: Only thing is, like, as far as landscape, and that's one thing I did not understand. How much more trees do you want? How much more trees are we asking for? Seven more evergreens?

Mr. Uhazie: The requirement is seven evergreen or deciduous trees, three along Levan and four along Five Mile, then ornamental trees, which you don't have any showing for, two along Levan and two along Five Mile.

Mr. Beydoun: I guess I'll change them into evergreens, because evergreens, you can actually bring them together if I put any ornamental trees, we don't even have enough landscape or enough square footage. I got that. To answer the question about the carry out. More likely it's going to be one. I'm not sure if we're going to have two employees right there. So that's going to answer that question. As far as sanitaries and all that I do have, we actually have an engineer working on it right now, and we will design it, will submit a preliminary as we go, and then we will be dealing with the Wayne County. That's not a problem. Photometric is already in the work. I could not get it as fast as I could. You asked me last time for some kind of rendering, and that wasn't mentioned here.

I did get you a copy of a rendering, like at the four angles with the rendering.

Mr. Wilshaw: Excellent. If you want to give it to Ms. Reece, she'll pass it over. I appreciate that. Thank you. Mr. Beydoun, anything else you would like to tell us?

Mr. Beydoun: Not at the moment, no.

Mr. Wilshaw: While we look at these renderings, is there any questions?

Mr. Long: Thank you. Mr. Chair. Mr. Beydoun, at the study session, we talked about shrinking the size of that northernmost approach on Levan, and you've done that in your drawings, you went from 36 to 30. Does that six-foot reduction affect the path of the tanker? It'll still be able to get in there if it's 30, I mean, as much as we'd like to shrink that, I think it's more important…

Mr. Beydoun: I mean, 30 feet, it should be okay for that.

Mr. Long: And we're certain of that?

Mr. Beydoun: Yes, unless, if you want me to go back and put it the way it was.

Mr. Long: I would not. I don't necessarily want you to go back, but I want you to go back if there's going to be any kind of a problem with getting the tanker in there, that's more important,

Mr. Beydoun: Because the issue, one of the issues was, if we actually have a car right there, and it's where they fill up, and also, I wanted to provide another lighting. The 30 feet will be able to okay some other stations. They even go to 25 feet, so it's okay.

Mr. Long” I don’t want to do that. All right, thank you. Thank you. Mr. Chair.

Mr. Wilshaw: Anyone else?

Mr. Bongero: Back to the tanker route. It just seems so tight to me the…Jacob, can you put that up there…on the tanker route as the semis approach and come into the parcel, the parking lot. Is that tank, the very first tank next to the that tanker on the drawing, is that existing or is that proposed?

Mr. Beydoun: The tank?

Mr. Bongero: You know, the pump right there, that one. Okay, that's a proposed location.

Mr. Beydoun: This is all proposed.

Mr. Bongero: Does it seem like we should move it away from there to give room for those semis?

Mr. Beydoun: Actually, if you see the lines around the semis, that's actually I'm giving, like, about two feet on the side of the Semi's. If you see, that's like just a route where they can go through. So they have maneuver in time, maneuver and lane too.

Mr. Bongero: There's a car there on the other side of that pump.

Mr. Beydoun: If they have a car…

Mr. Bongero: then that's not going to happen.

Mr. Beydoun: No, the tanker will be empty in the load, okay, once the car clears, then they actually can go through.

Mr. Bongero: Seems like there's a lot being fit in this, but you're thinking this is going to work.

Mr. Beydoun: I've done gas stations like crazy, all over.

Mr. Bongero: I mean, we're looking at it. I know you know what. I mean, he follows on that exact path.

Mr. Beydoun: I agree with you. If you want me to move the tanks and I mean the pumps little bit more forward, like couple feet I could, I'd say that's not a problem. Two feet. I mean, will help. I agree with you.

Mr. Bongero: Okay.

Mr. Beydoun: But tankers will get there, and sometimes they bring the tanker depends on when they actually request it. Maybe they wanted it to be at night or something like that, or one that are not too busy. And usually when a tanker is actually unloading, I would not even going to the gas station and put gas, because that's the time all the gas is getting…

Mr. Bongero: But we're in the planning now. We haven't done it yet, so we could try to make a few adjustments, right, that might improve it. So maybe if we slide that over a couple feet?

Mr. Beydoun: No problem. Yeah, a couple feet, I can still do that, and then as long as meet the requirement for the setback of the canopy, and

I think I have enough right there a couple feet, that's not a problem.

Mr. Bongero: Okay, okay, I think that'll help. Thank you.

Mr. Wilshaw: All right, thank you. Mr. Bongero, any other questions for our petitioner?

Mr. Droze: I think kind of how we got started on that discussion about that driveway on Five Mile was as we see these gas stations come in, we often talk about, what can we do to improve safety? My fear on this site is that as much as we'd like to try to remove that driveway on five mile, I think you've also demonstrated that you have an extremely tight site. And if you're going to maintain the tank where it is. Doesn't seem like there's really much you can do, but I did want to at least ask, if there is a cross access agreement with the property to the east, does that allow an opportunity where you could potentially close that driveway because that one right on the corner at Five and Levan on the south side, I mean, that's really close the intersection. That's a busy intersection. There's been fatalities at the intersection. So, if there's any chance to do that, and part of where I'm kind of going with this a little bit, is at the eastern edge. To me, you still have some homework to do there. If there is a cross-access agreement that would allow you to somehow get rid of that driveway and help and make this not such a tight site from a maneuverability standpoint, I'd love to see it. So, I don't know. What do you see from the design side? Is there an option where you could take out that driveway right at the corner and use some of the other access points?

Mr. Beydoun: I have no problem taking that out. I myself. I don't like driveways right on the corners. Sometimes I close both driveways. But the problem with this site here is how to get the tanker in and out. That's my only problem with this. And even if I have the cross-access with the next door, they're not going to allow a tanker to go through their parking lot. So, I mean, tanker, it's heavy. It can be in our parking lot. We'll maintain it, but I'm not sure they're going to let that one go through, and then they have to go in front of the building, by the tanks, all the parking and go around. I think this is the best way for that tanker to go around. Now, maybe if I can…that's not even going to make a difference.

Mr. Droze: Okay, just a question, if, for some reason, we make a suggestion that you go back and review that, that'd be just something that, from a homework perspective, I'd be interested to see, you know, just from a truck turning analysis stand point.

Mr. Beydoun: Maybe we can put up a sign, no car exits right through there, but at least we'll leave it for the tankers. That might help a little bit if they can actually follow the rules and say, hey, no right turn or something like that.

Mr. Droze: I'm generally, you know, I think signs are good, but I don't think…people they disobey them often, as we've seen. Another question and Mr. Caramagno and I were just looking at the rendering when we saw that you have some decorative fencing proposed along the edges.

Mr. Beydoun: It is pretty. We're actually going to do that. You can see it actually on the site plan. It's basically around the sign on that. But the rendering guy ended up putting it everywhere. But if we have to, then we will. We like that. If it adds up more character to it, and…

Mr. Droze: It's a nice touch. So, I just wanted to ask you about that. And then I believe Planning Director Taormina at our study session asked a little bit about the parapet height. I see where you kind of have the roof line at 16 feet. Is that high enough to screen any HVAC units that are going to go on the roof, or is there a need to go higher with that?

Mr. Beydoun: Well, we have the height of the ceiling. The building height probably…a joist, or roof heights will be probably more likely about 14' 8". We're not going to have enough, but we'll go ahead and do some kind of a decorative screening around it to actually what we're putting on the facade. We're going to put on the face here. We'll do some ACM around it too.

Mr. Droze: So, in addition to what we see right now, there would be some more height to that?

Mr. Beydoun: Correct. Just around the HVAC units. I cannot go higher with the soffit on the front, because I do have the canopy at 17 feet, and the building needs to be at 16 or 16' 4". It's going a little bit above the building, so that will screen those HVAC units.

Mr. Droze: And then the last question…the overhead canopy, is that going to be backlit, or is that just under lighting? Basically, is the face with the Amoco logo in the in the red stripe, is that all going to be lit?

Mr. Beydoun: That is a good question. I will have to find out from Amoco what kind of program they gave them. More likely it will be lit. I believe more likely it will be lit. But it's like it's minimum as far as lighting.

And I did actually talk to the civil engineer, and he's going to install also, I think, an underground oil interceptor that's before it goes to the municipalities, so that is in work too.

Mr. Droze: Thank you for that.

Mr. Wilshaw: Thank you, Mr. Droze. I believe it is in our prepared approving resolution that generally our canopies are not lit or illuminated with lights, so…just underneath. We'll have to look for that. Any other questions for the petitioner?

Mr. Ventura: Mr. Beydoun, are you the owner of the operation of the gas station?

Mr. Beydoun: Now, I'm not the owner. I'm just an architect, sir. I'm not the owner, but I've done a lot of gas stations, but I actually know the owner personally, and I worked on so many.

Mr. Ventura: So, will the owner, the person that owns it now, will he own it after this is done?

Mr Beydoun: Yes, that's the reason he bought it. I mean, I'm not sure if he actually looked at this.

Mr. Ventura: When did he buy it?

Mr. Beydoun: Probably, maybe a month or a month.

Mr. Ventura: Okay, so he's a new owner.

Mr. Beydoun: He actually is a new owner. And he's going to clean it up, if you see, at that one, I was actually surprised how come they did not get all the tickets, and he's actually getting the mechanic out, but they have some kind of at lease. He's working it out just to get him out. But it's a dump back there.

Mr. Ventura: Yeah, that's really the question of my question. It's a complete change in character of the operation there, from what appears to be a car repair store to a…which is in violation of virtually every ordinance of I can think of. But okay, so he's not planning on doing any repair. I don't see any way.

Mr. Beydoun: No.

Mr. Ventura: All those cars parked around and all the engines and everything that's laying around there. It's all going to go.

Mr. Beydoun: It's going to have to be gone. I think he gave him a notice like probably till the other end of February, for the mechanic to finish up his business and leave, and then he's going to go ahead and clean up the whole sites on that.

Mr. Ventura: Okay, good. Thank you. And a second question would be your rendering here shows these light bands. I'm assuming they are not illuminated on the canopy.

Mr. Beydoun: More likely, it's not. Like I said, honestly, I don't know how…the old days, they used to have them illuminated right now and they…I don't think it's…99% I don't think they are illuminated.

Mr. Ventura: Okay, great. Thank you very much. Thank you, Mr. Chairman.

Mr. Wilshaw: Thank you. Mr. Ventura. Any other questions for the petitioner?

Mr. Caramagno: While I share a great deal of things that have been brought up by the fellow board members, the truck path concerns me a great deal. There's certainly not going to bring a tanker down Levan Road from Six Mile Road to unload at the station. That's an immediate no for me, and I realize your entries to the property, your driveway entries are of concern. But there's got to be a better plan than what you're showing here. So that's one concern. The east property line was mentioned with no real plan for that. Color renderings. We got something here at the last minute to look at. We talked about bringing some materials of putting this building together that I haven't seen tonight. Parking is an issue still that's unresolved. How many parking spaces you really need? Trees, landscaping problems. To me, this presentation tonight is nowhere near what I need to see to make an approval or denial. So, it is what it is. There are too many open-ended items here, and I can't possibly make a decision with all these loose ends.

Mr. Beydoun: I understand. I didn't even think I'm even getting approved today. I thought this is just like some kind of a study meeting you're going through. I honestly, I didn't even think I'm coming here for an approval. I'm still missing some items.

Mr. Caramagno: We're certainly not here to design your plan for you. You're supposed to come. I would have think what the best plan you can do, you can put together, check all the boxes, make it look presentable to this body, and to me, this isn't even close. So my opinion.

Mr. Wilshaw: For what it's worth, Mr. Beydoun, this is a voting meeting. We do have the opportunity for the commission to offer an approving or

denying resolution on this. They could also table this item if we feel that there's a need for additional work to be done, to give you additional time. Whatever happens from here, if it is approved or denied, then you would go on to City Council. If it's approved, you go on the City Council, then they have a study and voting meeting as well. If it's denied, you would have a chance to appeal the decision made by us to the City Council. So, there's many outcomes that could happen tonight.

Mr. Beydoun: I've got a suggestion maybe, about the approach, and you brought it up, if we can change the radius on that approach. The radius, if we change it, instead of go directional, we'll be able to pull the tanker in. I was trying to avoid doing road on Five Mile as much as I can. But if we trade, if we change that radius, then the tanker could come in right through Five Mile, go straight through, and go up on Levan. That's something else could work.

Mr. Wilshaw: Mr. Caramagno.

Mr. Caramagno: I didn't quite understand what you said. But if you're saying the tanker comes in off Five Mile Road, pulls up and comes out that north exit on the Levan property, that looks reasonable to me.

Mr. Beydoun: Yeah, that's what I'm saying. Yeah, like I said I was trying to avoid even working on Five Mile but if we change that radius, instead of going diagonal, we can change that radius, we'll be able actually to pull up a tanker, right?

Mr. Caramagno: Well, we're not going to solve that here in discussion, so it's something you're going to have to look at, in my opinion, and bring back to us. A better plan.

Mr. Beydoun: Definitely will.

Mr. Wilshaw: Very good. Thank you. Is there any other comments to our petitioner or questions?

Mr. Bongero: Just comments. I am in agreement with Mr. Caramagno. I think there's a lot of things that we could work out here, but not tonight. Needs to be represented and then hit it again. But I think it's incomplete right now.

Mr. Beydoun: I really had, like, just not enough time from the last meeting. And I think I've done a lot from the last meeting, but I really didn't even think we're working on this one here tonight. If this is will be tabled, I'll appreciate that, and I can have all your answers. Then maybe I can have the photometrics at that time, and I can have a

full rendering for you, and I can rework that issue with the tanker, because I think that's one of the biggest issue. So, if this can be retable, I'll appreciate it.

Mr. Wilshaw: So thank you, Mr. Bongero, any other questions or comments? I did just want to ask one question. I didn't see in the approving resolution, any mention about signage at all. Normally, we at least have a condition that only conforming signage is approved. Normally, when we get gas stations come to us that have pylon signs, we ask that they try to change those down to a monument sign. We've tried to do as much as we can to eliminate pylon signs in the city. Is that something that your client would be willing to consider

Mr. Beydoun: I think we have it also on across the street. Maybe it's…yes, with a brick column on the sides. Yeah. What can I do?

Mr. Wilshaw: Usually we try to get it down to a monument sign to get it down a little closer to the ground.

Mr. Beydoun: And the owner who qwns the property owns the gas station also across street, and I think that's how it's done right there, too. Yeah, that's not a problem.

Mr. Wilshaw: Okay, that sort of levels the playing field for everyone, too. All right. Thank you for that. Is there anything else from the commissioners? If not, is there anybody in the audience wishing to speak for or against this item?

Mr. Bigga: A couple questions. I'm still confused as to traffic along Levan Road. I thought Levan Road had a weight restriction, and as far as I know, 23,000-gallon tank, roughly what they're proposing here, would require at least about a 25,000-to-30,000-gallon tanker to bring it into the gas station. Traveling along Levan Road, I don't know if that would be a weight restriction. Is there a weight restriction on Levan? I'd have to go and look on the signs, but I thought there was no trucks and weight restriction signs along Levan. So, I'm kind of confused, because I can't hear clearly. He keeps saying going up and down Levan. So, I'm confused as to where this truck may or may not go. Continuing along with that, that's probably going to be a 40-foot tanker. When I look at the cutout on the Five Mile Road, there's no way he's going to be able to turn into the right-hand lane onto Five Mile. He's going to go into the left center lane onto Five Mile. He's going to block two lanes of traffic. If he goes the other way to the north exit to try to make a hard turn on the Levan to go south, he's going to wipe out probably either landscaping or the air tank sign, you know, the air

fill sign, there's not enough space. And when you look at the tanker part of the truck, there's not enough room for that to swing the way you want without backing in and out and in, and Levan traffic at certain times of the day isn't going to be amenable to allowing that to happen. So, I think there's a lot of rework that has to happen. And I think one of the commissioners said something about blocking possibly one of the exits. I think you all need to look at that and probably send this whole thing back to be re looked, and have the city look at using or not using Levan Road as a means of getting gas in and out of that location. Thank you.

Mr. Wilshaw: Thank you. Mr. Bigga. Anyone else with any comments? I don't see anyone else. Mr. Beydoun.

Mr. Beydoun: How about if I can get you a video how the tanker is coming in and how it's unloading right now, and it's going to be the same process.

Mr. Wilshaw: You can certainly do that.

Mr. Beydoun: Because it's more practical.

Mr. Wilshaw: We can include that with the information that we have. Appreciate that. If there's no other comments from the audience and Mr. Bigga has made his comments, I'm going to go to my fellow Commissioners, Mr. Ventura.

Mr. Ventura: Mr. Wilshaw, I'd like to make, just like to give clarification here.

Mr. Wilshaw: Sure go ahead.

Mr. Ventura: So, currently you are saying that the tankers that are servicing the station are coming south from Six Mile to Five Mile and entering your station that way?

Mr. Beydoun: Correct. That's why I will prove it with a video.

Mr. Ventura: That's the plan to continue.

Mr. Beydoun: Yes, and that's it's exactly where the tank ends right now.

Mr. Ventura: And you don't know whether or not that's a violation of the weight limits on Levan?

Mr. Beydoun: I don't know.

Mr. Ventura: Okay, I just want to clarify that. Thank you, Mr. Wilshaw.

Mr. Wilshaw: Thank you. Any other questions or comments? I see nothing else a motion would be in order.

On a motion by Caramagno, seconded by Ventura, and unanimously adopted, it was

#02-06-2026 **RESOLVED**, That the City Planning Commission does hereby recommend that Petition 2025-12-08-10 submitted by Charlie Bazzi on behalf of 36300 5 Mile Investment, LLC requesting site plan approval under Section 13.13 of the Livonia Zoning Ordinance, as amended, to demolish the existing gas station and fuel pumps at 36300 Five Mile Road, and construct a new gas station convenience store and fuel pumps, located the northeast corner of Levan Road and Five Mile Road in the southeast ¼ of Section 17, be tabled to the end of April 2026.

Mr. Wilshaw: Is there any discussion?

Mr. Wilshaw, Chairman, declared the motion is carried and the foregoing resolution adopted.

CITY OF LIVONIA, MICHIGAN
APPLICATION FOR SITE PLAN REVIEW & APPROVAL

All petitions for Site Plan Approval shall be filed with the City Planning Commission, 33000 Civic Center Drive, Livonia, MI 48154-3097.

For filing fee see computation below

Date Filed: 12/30/25 Petition 2025-12-08-10

Site Address: 36300 FIVE MILE RD Sidwell 068 99 0002 001

Requesting Approval to DEMOLISH EXISTING BUILDING AND ERECT NEW AS PER PLAN

Applicant: CHARLIE BAZZI Business/Company: 36300 5 MILE INVESTMENT LLC.

Applicant's Address: 36300 FIVE MILE RD City: LIVONIA State: MI Zip Code: 48154

Applicant's Phone # (313)995-3337 Applicant's Email charliebazzi@aol.com

Contact Person: MICHAEL BEYDOUN Business/Company: NSI CONSTRUCTION INC.

Contact's Address: 4320 PRATT RD City: ANN ARBOR State: MI Zip Code: 48103

Contact's Phone # (313)790-0129 Contact's Email mbnatspec@yahoo.com

RECEIVED DEC 30 2025 CITY OF LIVONIA PLANNING DIVISION 2025-12-08-10

Please provide the following information:

1) **Site Plan** showing:
   - property dimensions, including road right-of-way & building setback lines
   - foot print of building(s), including dimensions & square footage
   - all easements, protective walls, sidewalks & existing trees
   - any significant topographic features (existing or proposed)
   - parking layout, including type of surface material, sizes of spaces & aisles
   - method used in calculating parking requirement
   - location of light standards servicing parking lot & cutout showing type & height
   - location of trash receptacle, including description of screening
   - location of signs (if proposed must submit separate sign application)
2) **Detailed Landscape Plan** including:
   - listing or labeling of all planted materials as to type and size
   - areas to be fully irrigated
   - percentage of landscaping provided (15% of total site required)
3) **Building Elevation Plan** depicting:
   - architectural quality
   - wall section & detail plan - exterior building materials must be labeled (i.e. brick, thin brick, E.F.I.S.)
   - all visible rooftop mechanical equipment and how they will be screened
4) **General Floor Plan** showing:
   - floor layout
   - entrances & exits
   - restaurants are required to illustrate seating arrangement & capacity
5) One (1) set of reduced plans (i.e. site, landscape, elevation, floor), a maximum 11" x 17" in size, or digital file in a .pdf format either on CD or emailed to: planning@livonia.gov
6) **Legal Description** of the property to be considered (Clearly Printed)
7) One (1) completed application form & **three (3)** sets of full-size drawings

You are invited and encouraged to review your proposal with the Planning Department staff. Only one set of preliminary drawings will be necessary for this analysis.

FEE COMPUTATION 3640 sq. ft. of new construction x $20.00 per 1,000 sq. ft. **$600.00 plus**

Avoid Scams! The City of Livonia Planning Dept. does NOT send invoices via USPS or email. When you apply, you will pay in full. (NOTE: Round to nearest 1,000) + 80.00

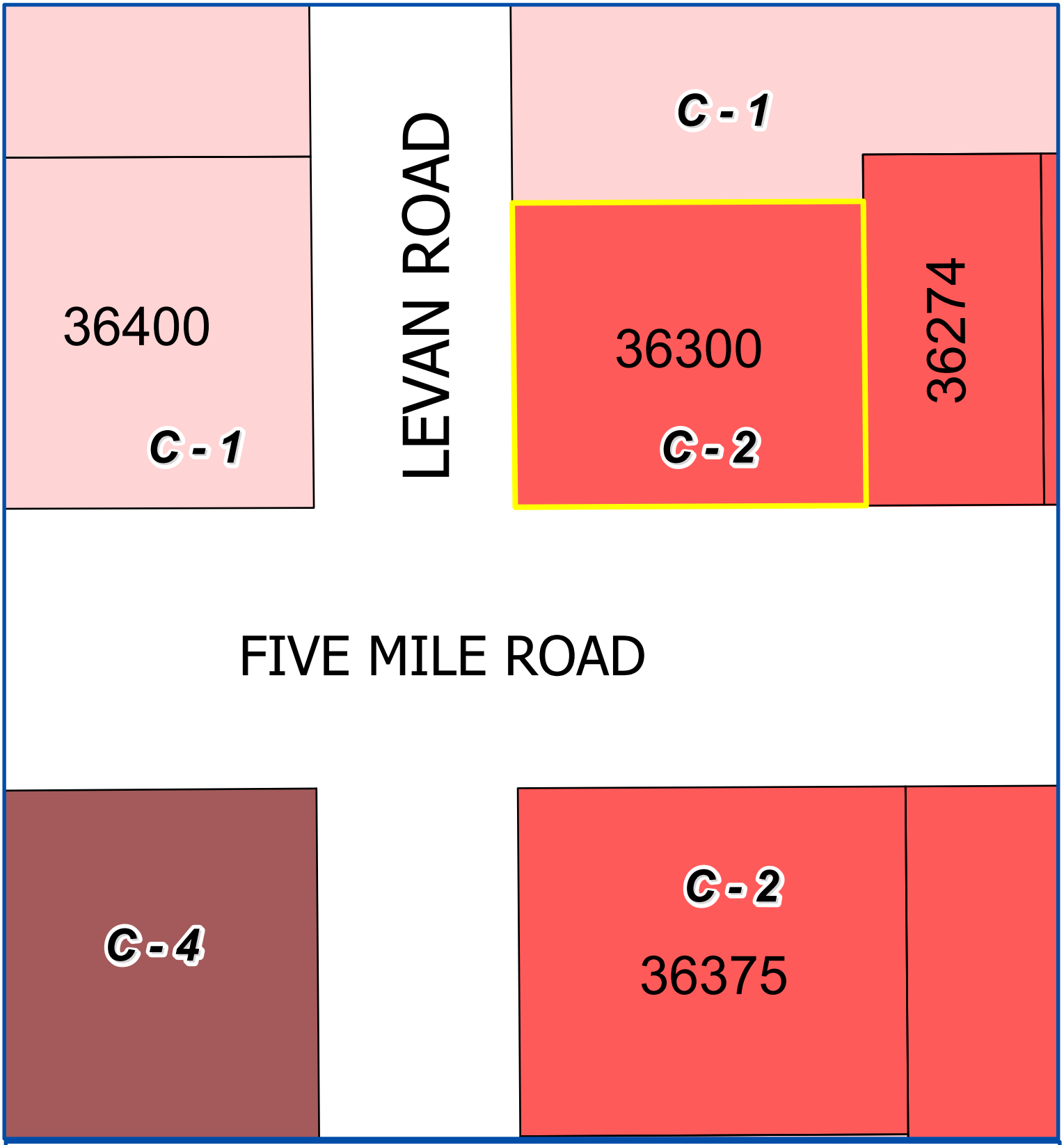
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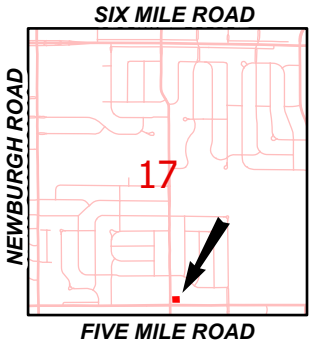
Owner of Property: 36300 FIVE MILE INVESTMENT LLC

Owner's Address: 36300 FIVE MILE RD City: LIVONIA State: MI Zip Code: 48154

Owner's Phone # (313)995-3337 Owner's Email charliebazzi@aol.com

Signature of Owner: Khalil BAZZI Print Name: CHARLIE BAZZI





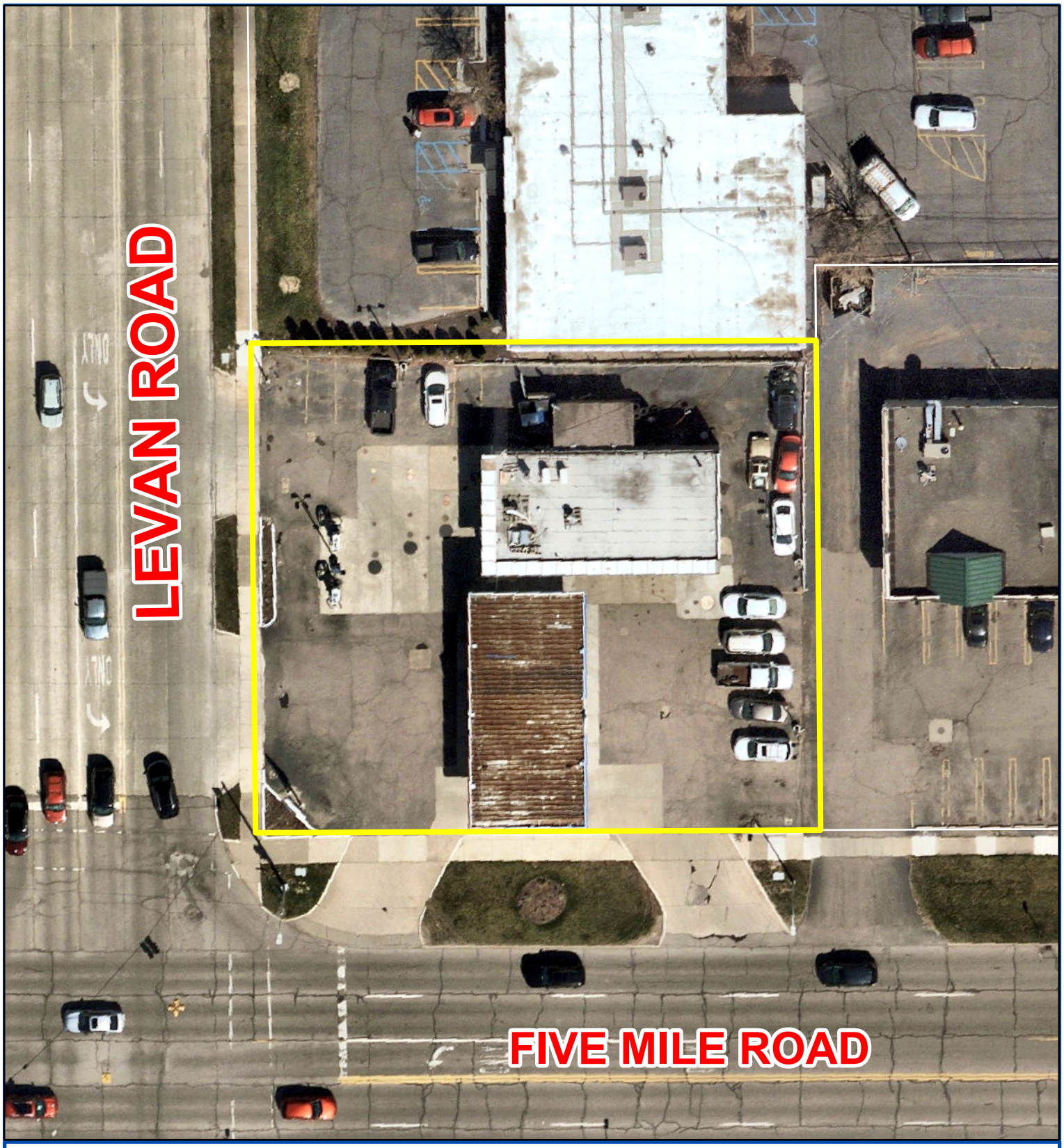
Address & Zoning Map

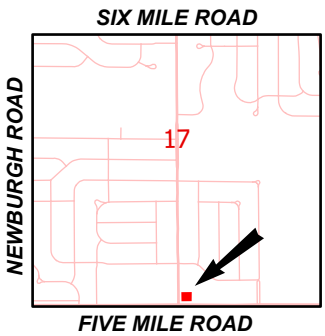
Petition 2025-12-08-10
NSI Construction
36300 Five Mile Road

N

Not to Scale

City of Livonia
Planning Department





Aerial Map

Petition 2025-12-08-10
NSI Construction
36300 Five Mile Road

N

Not to Scale

City of Livonia
Planning Department

PLANNING COMMISSION STAFF NOTES

MISCELLANEOUS

ITEM 5

Petition 2025-12-08-10 submitted by Charlie Bazzi on behalf of 36300 5 Mile Investment, LLC requesting site plan approval under Section 13.13 of the Livonia Zoning Ordinance, as amended, to demolish the existing gas station and fuel pumps at 36300 Five Mile Road, and construct a new gas station convenience store and fuel pumps, located the northeast corner of Levan Road and Five Mile Road in the Southeast ¼ of Section 17.

January 27, 2026, Study Meeting:

The site currently contains an existing 2,072 square foot gas station with five (5) pumps, two (2) to the west and three (3) under the existing canopy.

The proposal includes an one-story gas station and carry-out establishment measuring 3,640 square feet in size, located 29 feet from Levan Road and approximately 83.9 feet from Five Mile Road. The site is zoned C-2 (General Business). A gas station is considered a waiver use in the C-2 District. To the north is a doctor's office, zoned C-1 (Local Business). To the south, across Five Mile Road, is another gas station site, also zoned C-2 (General Business). To the east is a shopping center, also zoned C-2 (General Business). To the west is a dental office, zoned C-1 (Local Business).

The demolition plan, Sheet AS100, shows the removal of the walls, floor, existing footing, and backfilled with sand. The tanks, pumps, and canopy will be removed. The petitioner notes that the concrete sidewalk disrupted during the removal with be restored after construction. The existing freestanding sign is proposed to remain on site on the canopy plan, but on the demolition plan it is to be removed.

The petitioner shows the new underground fuel tank but does not show other utilities. According to surfacing and drainage requirements in Section 9.10, Storm water runoff created because of the improvements to the parking area must be controlled in such a manner to reduce and/or eliminate draining onto neighboring properties. A utility plan should be submitted to show the proposed underground detention system, and grading on the property.

Access to the site would remain unchanged and provided via two (2) existing curb cuts off Levan and two (2) existing cuts off Five Mile Road. Section 6.26 of the Zoning Ordinance states that gasoline service stations when located on a corner lot shall provide vehicular entrances or exits (curb cuts) no less than a minimum of twenty-five (25) feet from the intersection of the property lines parallel to the two (2) streets pavement. All curb openings whether on a corner lot or not shall not exceed thirty-five (35) feet in width at the curb. There are two (2) curb cuts along Levan Road that exceed thirty-five; 36-foot and a 39-foot approach. Adjustments

to the curb cuts should be considered in order to bring them into compliance with the current Zoning Ordinance.

According to gasoline station standards in Section 6.26, gasoline service stations, including any part of the façade, shall not exceed thirty-five (35) feet in height. According to the proposal, Sheet A101 submitted December 22, 2025, the height of the gas station building will be 16.3 feet. The new fueling center would have four (4) gas pumps with the ability to accommodate a total of eight (8) vehicles (one on each side). The pump islands would run parallel to the Levan Road frontage. An overhead canopy would cover the fuel dispensers and the front door entrance. The submitted canopy plans indicate a height of seventeen feet (17'). As canopies shall not exceed eighteen (18) feet in height, the petitioner meets the applicable canopy height requirement.

The required parking for a gasoline service station is one (1) parking space for fueling pumps, requiring the site to have at least eight (8) parking spaces. The required parking for a limited service and carry-out restaurant with or without outdoor dining areas is one (1) parking space for each one hundred (100) square feet of floor area, plus one (1) parking space for each employee. The carryout restaurant is approximately 287 square feet. The carryout restaurant requires three (3) parking spaces. The petitioner has not revealed the number of employees for the restaurant. The site plan shows a total of twelve (12) double striped parking spaces, one (1) of which is barrier free, and one (1) space reserved for air stations. The satisfaction of the parking requirement is pending on the number of employees for the carryout establishment.

According to Section 9.06, the proposed site is required to have at least one (1) barrier-free parking space. All parking spaces should be clearly marked using double striping. Except for parallel parking, all parking spaces should be clearly striped with four (4) inch wide double lines, twenty-four (24) inches apart, to facilitate movement and to help maintain an orderly parking arrangement.

The petitioner has the option to add Electric Vehicle charging stations to the site. Electric Vehicle (EV) Charging Stations or Ports, when treated as an accessory use, shall be allowed in all zoning districts, subject to the review and approval of the Department of Inspection. No EV Charging Station shall be located closer than ten (10) feet from any public right-of-way, and no EV Charging Station shall be located within any part of a public right-of-way without the prior written approval of the authority having jurisdiction over the right-of-way. EV Charging Stations shall not encroach upon or inhibit the use of pedestrian walkways. The petitioner proposes two (2) electric car charging stations in the northwest corner of the property.

A trash enclosure will be constructed with Colorfast concrete. The enclosure will be constructed of the same or compatible material and colors of the principal building in terms of texture and quality. It is proposed to be six feet (6') tall. The new dumpster will be just west of the new building.

The landscape plan on Sheet LS100. Landscaping Design Requirements in Section 10.03 require one (1) Deciduous or Evergreen Tree per forty (40) linear feet of road frontage; one (1) Ornamental (Flowering) Tree per one hundred (100) linear feet of road frontage; and eight (8) shrubs per forty (40) linear feet of road frontage.

The site requires seven (7) evergreen/deciduous trees – three (3) along Levan Road, and four (4) along Five Mile Road; four (4) ornamental trees – two (2) along Levan Road and two (2) along Five Mile Road; and fifty-five shrubs – twenty-five (25) along Levan Road and thirty (30) along Five Mile Road. The petitioner does not seem to satisfy the requirements with only two (2) trees and only thirty-five (35) shrubs.

The petitioner did not include a lighting plan in the submission. The petitioner should provide a lighting plan for the proposed gas station with all exterior lighting on the property, including illuminated signs, which should be erected and hooded, shielded and recessed to be deflected away from any adjacent or neighboring residential property.

The interior floor plan on Sheet A100 shows a large retail area, takeout restaurant area, cashier counter area, cooler, storage room, office, and unisex restroom.

The elevation plans on Sheet A101 indicate that the exterior of the building would be constructed of charcoal and neutral colored brick and limestone. The top of the building will be constructed of aluminum composite materials (ACM), a red ACM, and a one inch (1") insulated glass in the clear aluminum frame.

Outdoor storage of disabled, abandoned, junked, wrecked, and/or unlicensed vehicles is prohibited. Outdoor storage of rubbish and junked equipment or parts is prohibited unless such rubbish, junked equipment, or parts are stored adjacent and to the rear of the principal building and are enclosed by a masonry wall. When such a wall is provided, rubbish, junked equipment, or parts shall not be stored at a height exceeding the height of the wall; provided, further, that such rubbish and junked equipment or parts shall be removed from the property at least once every week.

February 3, 2026, Public Hearing:

On January 27, 2026, the petitioner submitted a Tanker Route Plan (Sheet AS103) demonstrating tanker access and circulation. The tanker is proposed to access the site from Levan Road, park on the west side of the canopy to refuel the station and exit the site by proceeding forward onto Five Mile Road westbound.

The petitioner updated the site plan to reflect comments by the Planning Commissioners to reduce the width of the approaches off Levan Road. The northern access drive was reduced by six feet (6'), while the southern access drive was reduced by nine feet (9'). The median island between the existing drives would remain the same width.

A new landscape plan reflects the changes to the site plan and added nine feet (9') of landscaping to the site's southern corner and six feet (6') to the north. Although new trees were added the petitioner still does not satisfy the requirements with only six (6) trees and only thirty-three (33) shrubs.

A trash enclosure will be constructed with Colorfast concrete. The enclosure will be constructed of the same or compatible material and colors of the principal building in terms of texture and quality. It is proposed to be six feet (6') tall. The new dumpster will be just west of the new building.

A new canopy plan (Sheet AS102) was submitted on January 27, 2026. The submitted canopy plans indicate a height of seventeen feet (17'). As canopies shall not exceed eighteen (18) feet in height, the petitioner meets the applicable canopy height requirement.

March 10, 2026, Study Meeting:

On February 8, 2026, the petitioner submitted a Tanker Route Plan (Sheet AS103) demonstrating tanker access and circulation. The petitioner suggests two (2) separate ways the tanker can access the property. The first proposal shows the tanker accessing the site from Levan Road northbound, park on the west side of the canopy to refuel the station and exit the site by turning left onto Levan Road southbound. The second proposal shows the tanker accessing the property from the westernmost approach from westbound Five Mile Road, park on the west side of the canopy to refuel the station and exit the site by turning left onto Levan Road southbound.

The photometric plan submitted on February 8, 2026 indicates that illumination levels beneath the fueling canopy will reach a maximum of ten (10) footcandles. This level of lighting is consistent with industry standards for gasoline service stations and is intended to provide adequate visibility and safety for patrons while

minimizing excessive brightness. The plan demonstrates that light levels taper off appropriately at the perimeter of the site, with no measurable light spillover onto adjacent properties. In accordance with the performance standards of the Livonia Zoning Ordinance, exterior lighting is required to be arranged and shielded so as not to create a nuisance or glare onto neighboring properties or public rights-of-way, and the submitted plan appears to comply with these requirements.

Additionally, the surrounding properties are zoned and developed for commercial uses, further reducing the likelihood of adverse impacts associated with site illumination. The ordinance emphasizes that lighting shall be directed away from adjoining properties and confined to the subject site to the greatest extent practicable. Based on the photometric data provided, the proposed lighting design maintains illumination within the site boundaries and does not encroach upon adjacent parcels. As such, the proposed lighting plan is consistent with the intent of the Livonia Zoning Ordinance to ensure safe site operations while protecting neighboring properties from glare and light trespass.

The updated site plan does not show additional cross access to the east but a five (5’) curbed strip of landscaping has been added to separate the properties.

Pursuant to the landscape requirements of the Livonia Zoning Ordinance, the site is required to provide a total of five (5) canopy trees, consisting of two (2) along Levan Road and three (3) along Five Mile Road; two (2) ornamental trees, with one (1) located along each frontage; and twenty-one (21) shrubs, including thirteen (13) along Levan Road and eighteen (18) along Five Mile Road. The petitioner has submitted a revised landscape plan indicating the installation of three (3) evergreen trees along Levan Road and three (3) evergreen trees along Five Mile Road. The petitioner has proposed four (4) additional evergreen trees along the east side of the property, where the new curb and landscaped area have been incorporated due to site space limitations.

While the revised plan increases tree plantings along the eastern property line, it does not fully satisfy the required distribution along Five Mile Road, nor does it include any ornamental trees as required. Section 10.04 – Standards for Plant Materials of the Livonia Zoning Ordinance specifies that ornamental trees shall be a minimum of two (2) inches in caliper at the time of planting. Acceptable examples include Allegheny Serviceberry, Dogwood, Flowering Crab, Hawthorn, Hornbeam, Magnolia, Redbud, and Rose of Sharon. The absence of ornamental trees along both road frontages represents a deviation from the ordinance requirements and should be addressed to ensure compliance. City Council can waive these requirements based on the size of the site.

With respect to ground cover, lawn areas are required to be planted with species of grass normally grown as permanent lawns in southeast Michigan. Grass areas

may be either sodded or seeded and mulched; however, solid sod is required in swales or other areas subject to erosion. All sod or seed must be clean and free of weeds, noxious pests, or disease. These standards are intended to promote long-term landscape health, soil stabilization, and overall site appearance consistent with community expectations.

The property owner is responsible for the ongoing maintenance of all landscaping following installation. Maintenance obligations include replenishing mulch, controlling weeds, fertilizing plant materials, and pruning as necessary beginning upon completion of construction. Furthermore, all diseased, dead, or damaged plant materials must be replaced within thirty (30) days, unless seasonal planting limitations apply, in which case replacement shall occur at the beginning of the next appropriate planting season. These provisions ensure that required landscaping remains viable and continues to serve its intended aesthetic and buffering functions.

Additional renderings have been submitted of the building exterior that show ACM paneling on the sides of the building where brick was previously shown on the elevation plans. The site owner is still deciding on the materials but will submit a final material list at the study meeting.

March 24, 2026, Study Meeting:

Approving Resolution: The request to demolish the existing gas station and fuel pumps at 36300 Five Mile Road, and construct a new gas station convenience store and fuel pumps is hereby approved for the following reasons, subject to City Council approval and the following conditions:

1. That the Demolition Plan identified as Sheet AS100 prepared by A&M Consultants, submitted February 9, 2026, is hereby approved and shall be adhered to;

2. That the Site Plan identified as Sheet AS101 prepared by A&M Consultants, submitted February 9, 2026, is hereby approved and shall be adhered to;

3. That the Canopy Plan identified as Sheet AS1012 prepared by A&M Consultants, submitted February 9, 2026, is hereby approved and shall be adhered to;

4. That the Landscaping Plan identified as Sheet LS100 prepared by A&M Consultants, submitted February 9, 2026, is hereby approved and shall be adhered to;

5. That the Elevation Plan identified as Sheet A101 prepared by A&M Consultants, submitted February 9, 2026, is hereby approved and shall be adhered to;

6. That the gas pump island canopy shall not exceed eighteen feet (18') in height and its support columns shall be covered with the same brick used in the construction of the building;

7. That all light fixtures shall not exceed twenty feet (20') in height and shall be aimed and shielded so as to minimize stray light trespassing across property lines and glaring into adjacent roadway;

8. That free air shall be provided at all times this station is open for business. The free air shall be dispensed at the point of service without having to enter the station or the performance of any extra action in order to obtain the air without charge;

9. That the specific plans referenced in this approving resolution shall be submitted to the Inspection Department at the time the building permits are applied for; and;

10. This approval is valid for a period of ONE YEAR ONLY from the date of approval by City Council, and unless a building permit is obtained, this approval shall be null and void at the expiration of said period.

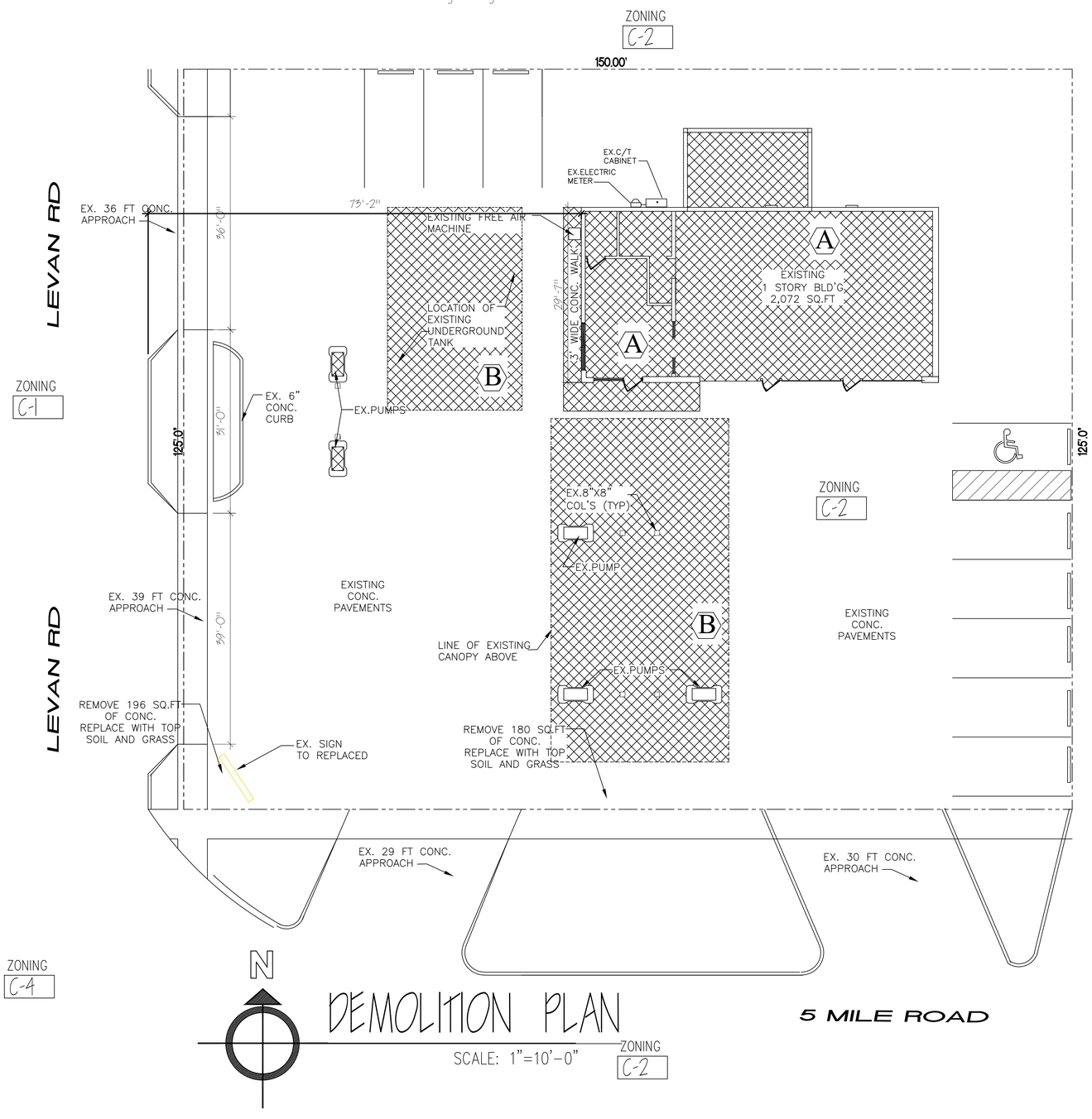
Denying Resolution: The request to demolish the existing gas station and fuel pumps and construct a new gas station convenience store and fuel pumps at 36300 Five Mile Road, is hereby denied for the following reasons:

1. That the petitioner has failed to affirmatively show that the proposed use is in compliance with all of the special and general waiver use standards and requirements as set forth in Section 13.13 of the Livonia Zoning Ordinance,

2. That the petitioner has failed to sufficiently demonstrate that the site has the capacity to accommodate the proposed use.

Dust Control Measures for Construction Projects
PROJECT# 24-58
These measures suggest methods for controlling dust and other construction-related materials, which the Contractor should evaluate for applicability in preparing a dust control plan. The specific level of control selected should be based upon Project parameters, including the proximity to occupants of nearby buildings, with the highest level reserved for particularly sensitive populations
Control Level 1:
For outdoor or other uncontrolled Projects distant from any sensitive populations, the Contractor should consider the following mitigation measures:

Provide misting water sprays sufficient to reduce airborne dusting from demolition work;
Apply additional water dust suppression applied during dry weather; and
Avoid dust-generating work must be avoided on high wind days.



DEMOLITION GENERAL NOTES:

1. REFER TO ALL ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR RELATED AND/ OR ADDITIONAL DEMOLITION WORK. THE EXTENT OF THE STRUCTURAL DEMOLITION IS NOT INDICATED ON THIS PLAN.
2. THE OWNER HAS FIRST SALVAGEABLE RIGHTS TO ALL ITEMS AND EQUIPMENT THAT ARE BEING DEMOLISHED. THE DEMOLITION CONTRACTOR SHALL VERIFY WITH THE OWNER WHICH ITEMS THEY WISH TO KEEP PRIOR TO THE COMMENCEMENT TO ANY DEMOLITION WORK. THESE SALVAGED ITEMS ARE TO BE REMOVED IN GOOD CONDITION AND TURNED OVER TO THE OWNER.
3. THE CONTRACTOR SHALL PROVIDE ALL STRUCTURAL SHORING, TEMPORARY SUPPORTS AND BRACING REQUIRED FOR THE SAFE DEMOLITION AND ERECTION OF STRUCTURAL COMPONENTS. ALL SHORING, BRACING, AND TEMPORARY SUPPORTS ARE THE CONTRACTORS RESPONSIBILITY AND MUST COMPLY WITH ALL APPLICABLE SAFETY CODES, RULES, REGULATIONS, AND GUIDELINES. – REFER TO STRUCTURAL DRAWINGS.
4. CARE IS TO BE GIVEN TO ALL EXISTING FIXTURES, FURNISHING AND MATERIALS TO PREVENT DAMAGE DURING ALL STAGES OF DEMOLITION AND NEW CONSTRUCTION.
5. PROVIDE FOR ALL DEBRIS REMOVAL AND NECESSARY CLEAN UP.
6. ALL EXISTING SURFACES AFFECTED/ DAMAGED BY DEMOLITION ARE TO BE PATCHED, REPAIRED OR REPLACED AND FINISHED TO MATCH EXISTING ADJACENT CONSTRUCTION, MATERIALS AND FINISHES AS REQ'D.
7. DEMOLITION TO BE AS INDICATED ON PLAN. INCLUDES ALL ASSOCIATED ELECTRICAL, HVAC, AND PLUMBING COMPONENT IN AREAS TO BE DEMOLISHED
8. CONTRACTOR IS TO VERIFY ALL SITE CONDITIONS PRIOR TO DEMOLITION
9. ALL STRUCTURAL AND ARCHITECTURAL DEMOLITION TO BE COORDINATED WITH THE GENERAL CONTRACTOR. CONTACT THE ARCHITECT IF THERE ARE ANY DISCREPANCIES WITH THE EXISTING BUILDING.
10. ALL BUILDING MATERIALS BEING DEMOLISHED ARE TO BE DISPOSED OF BY THE CONTRACTOR, UNLESS NOTED OTHERWISE AND EXCLUDING THOSE ITEMS SALVAGED BY THE OWNER.

DEMOLITION KEYED NOTES: (X)

(A) REMOVE WALLS, FLOOR, AND EXISTING FOOTING, BACKFILL WITH COMPACTED FILL SAND

(B) REMOVE TANKS, PUMPS, CANOPY

NOTE:
REPLACE, RESTORE ALL CONC. SIDE WALK THAT ARE AFFECTED BY THIS CONSTRUCTION AS DIRECTED BY THE CITY OF LIVONIA ENGINEER.

THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT. THE WORK SHALL BE PERFORMED IN COMPLETE CONFORMANCE WITH THE CURRENT LIVONIA STANDARD SPECIFICATIONS AND DETAILS.

NSI CONSTRUCTION INC .
4320 PRATT RD.
ANN ARBOR, MI. 48103
PH :(313) 790-0129
EMAIL:MBNATSPEC@YAHOO.COM

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DEARBORN, MI.48124
PH: (313) 790-0129
FAX:(313) 582-0028

PROJECT:
CONSTRUCTION
36300 5 MILE RD .
LIVONIA, MI.48154

CLIENT:
36300 FIVE MILE INVESTMENT LLC..
36300 5 MILE RD
LIVONIA, MI. 48154

Issued:
12 / 22 /2025
1 / 03 /2026

NOTE:
Do not scale drawings. Use calculated dimensions only. Verify existing conditions in field.

SHEET† TITLE:
DEMO PLAN

SCALE:
1"=10'-0"

PROJECT NUMBER:
25-58

SHEET NUMBER:
AS100

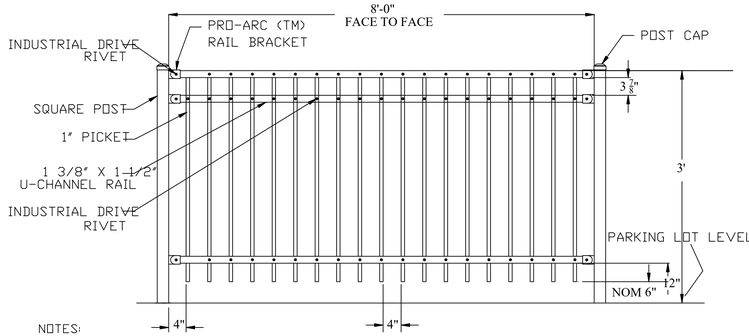
SEAL:
STATE OF MICHIGAN
ADNAN H. AL-SAATI
ENGINEER
No. 36126
PROFESSIONAL ENGINEER

NOTE:
HOURS OF OPERATIONS 5:00 AM TO 10:00 PM

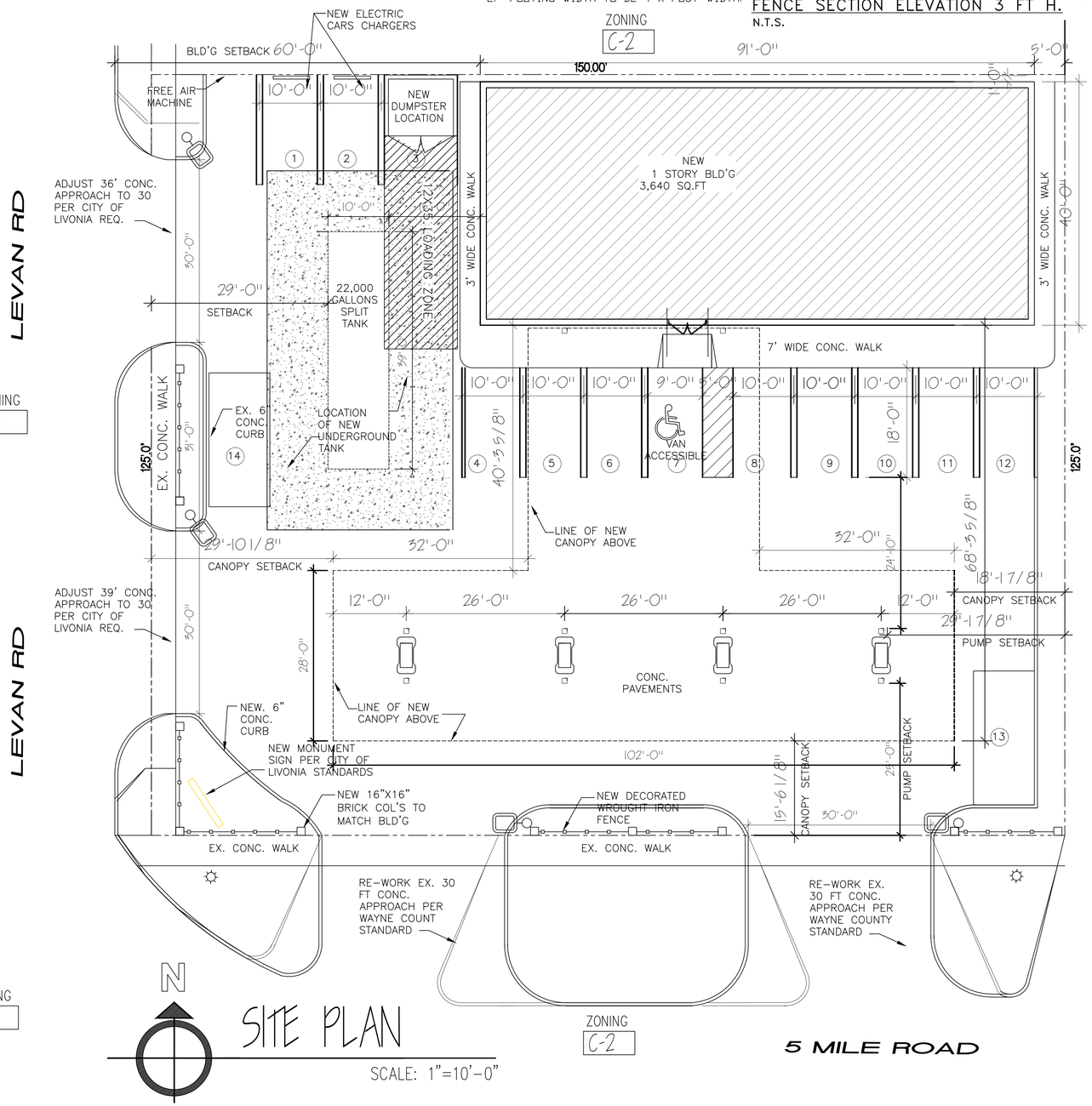
NOTE:
TANK, PUMPS AND CANOPY INSTALLER TO SECURE THERE OWN PERMIT

NOTE:
A TRASH RECEPTACLES FOR CUSTOMERS WILL BE LOCATED AT THE ENTRANCE OF THE BUILDING AND BY THE PUMPS.

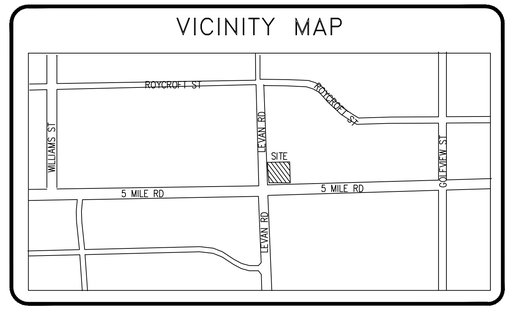
NOTE:
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FENCE SECTION ELEVATION 3 FT H.
N.T.S.



SITE PLAN
SCALE: 1"=10'-0"



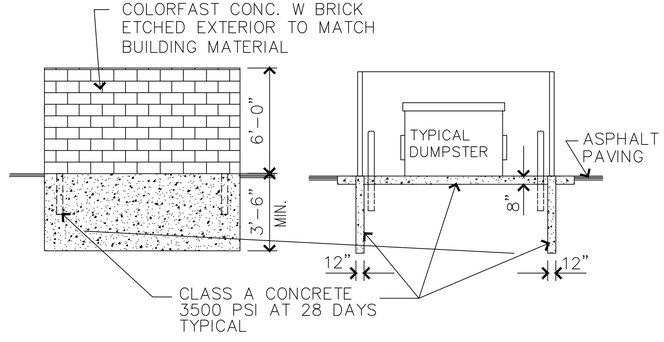
ZONING INFORMATION:					
ADDRESS: 36300 5 MILE RD LIVONIA, MI.48154					
ZONE DISTRICT	PRIMARY USE(S)	ZONE LOT SIZE (GROSS AREA)		GROSS FLOOR AREA	
C-2	GAS STATION CARRY-OUT	18,750 SF (0.44 AC)		3,640 SQ.FT	
BUILDING HEIGHTS, STORIES (MIN.MAX)		LANDSCAPE AREA (GROSS AREA)			
1 STORY, 16 FT HIGH					
STANDARD PARKING SPACES		ACCESSIBLE PARKING SPACES		TOTAL PARKING SPACES	
PROVIDED:13	REQUIRED: 08	PROVIDED:1	REQUIRED:1	PROVIDED 14	REQUIRED:13
LEGAL DESCRIPTION					
# 36300 5 MILE RD, LIVONIA, MI, 48154 PARCEL ID: 46068990002001					

SITE PLAN GENERAL NOTES

1. THE INTENT OF THE PLANS IS TO SHOW THE GENERAL SCOPE OF THE WORK. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITY.
2. VERIFY EXACT LOCATION OF ALL UTILITIES IN FIELD. THIS DRAWINGS IS NOT TO BE USED AS A UTILITY REFERENCE.
3. VERIFY ALL DIMENSIONS SHOWN FOR THE NEW BUILD-OUT
4. NOTIFICATION OF DISCREPANCIES SHOULD BE ISSUED TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY.
5. COMPLY WITH ALL LOCAL, STATE, NATIONAL, AND FEDERAL SAFETY REQUIREMENTS, COMPLY WITH GOVERNING EPA NOTIFICATION REGULATIONS BEFORE COMMENCING DEMOLITION. COMPLY WITH ALL HAULING AND DISPOSAL REGULATIONS OF AUTHORIZED JURISDICTION.

BUILDING CODE ANALYSIS

JURISDICTION:	CITY OF LIVONIA, MI.
REFERENCE CODE	-2021 MICHIGAN BUILDING CODE -2021 MICHIGAN PLUMBING CODE -2021 MICHIGAN MECHANICAL CODE -2023 NATIONAL ELECTRIC CODE (NEC) -2018 NFPA 1 FIRE CODE -2021 MICHIGAN ENERGY CODE -2024 ICC/ANSI A117.1 ACCESSIBILITY STANDARD
CONSTRUCTION TYPE	III B
OCCUPANCY CLASSIFICATION	(M)RETAIL / GAS STATION



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SHEETt TITLE:
SITE PLAN

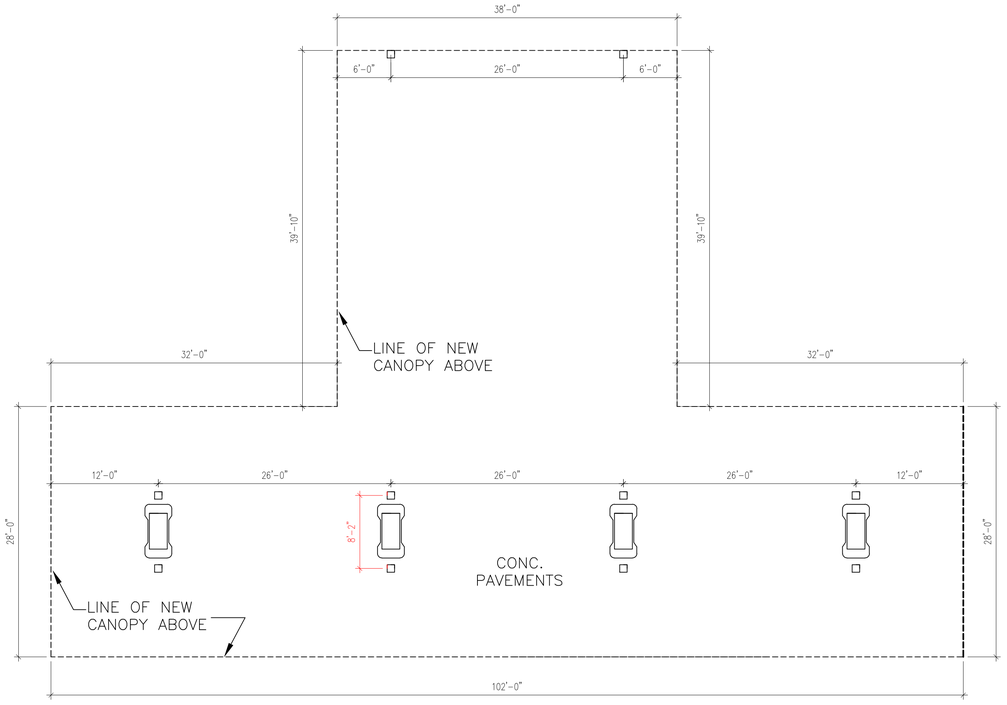
SCALE:
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PROJECT NUMBER:
25-58

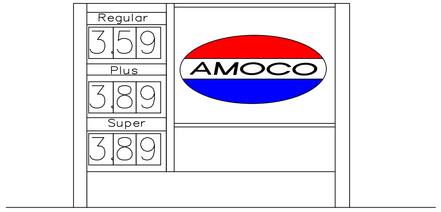
SHEET NUMBER:
AS101

SEAL:

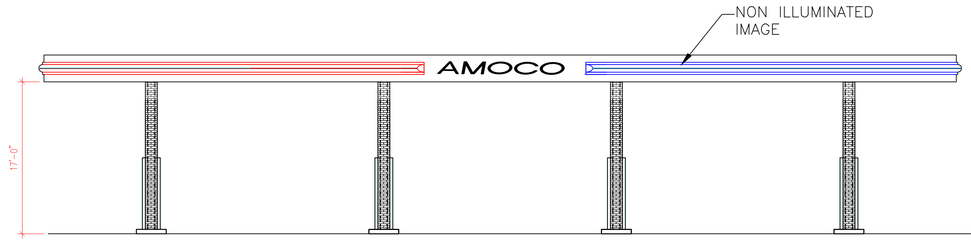
STATE OF MICHIGAN
ADNAN H. AL-SAATI
ENGINEER
No. 36124
REGISTERED PROFESSIONAL ENGINEER



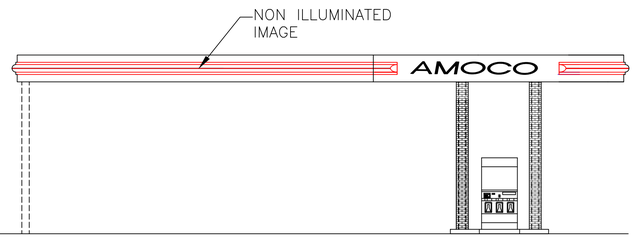
CANOPY LAYOUT



NEW MONUMENT SIGN(NTS)
PER CITY OF LIVONIA STANDARDS



SOUTH



WEST

NSI CONSTRUCTION INC .
4320 PRATT RD.
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CLIENT:
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INVESTMENT LLC..
36300 5 MILE RD
LIVONIA, MI. 48154

Issued:
12 / 22 /2025
1 / 03 /2026
1 / 27 /2026

NOTE:
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SHEETt TITLE:
CANOPY & PUMP PLAN

SCALE:
1/8"=1'-0"

PROJECT NUMBER:
25-58

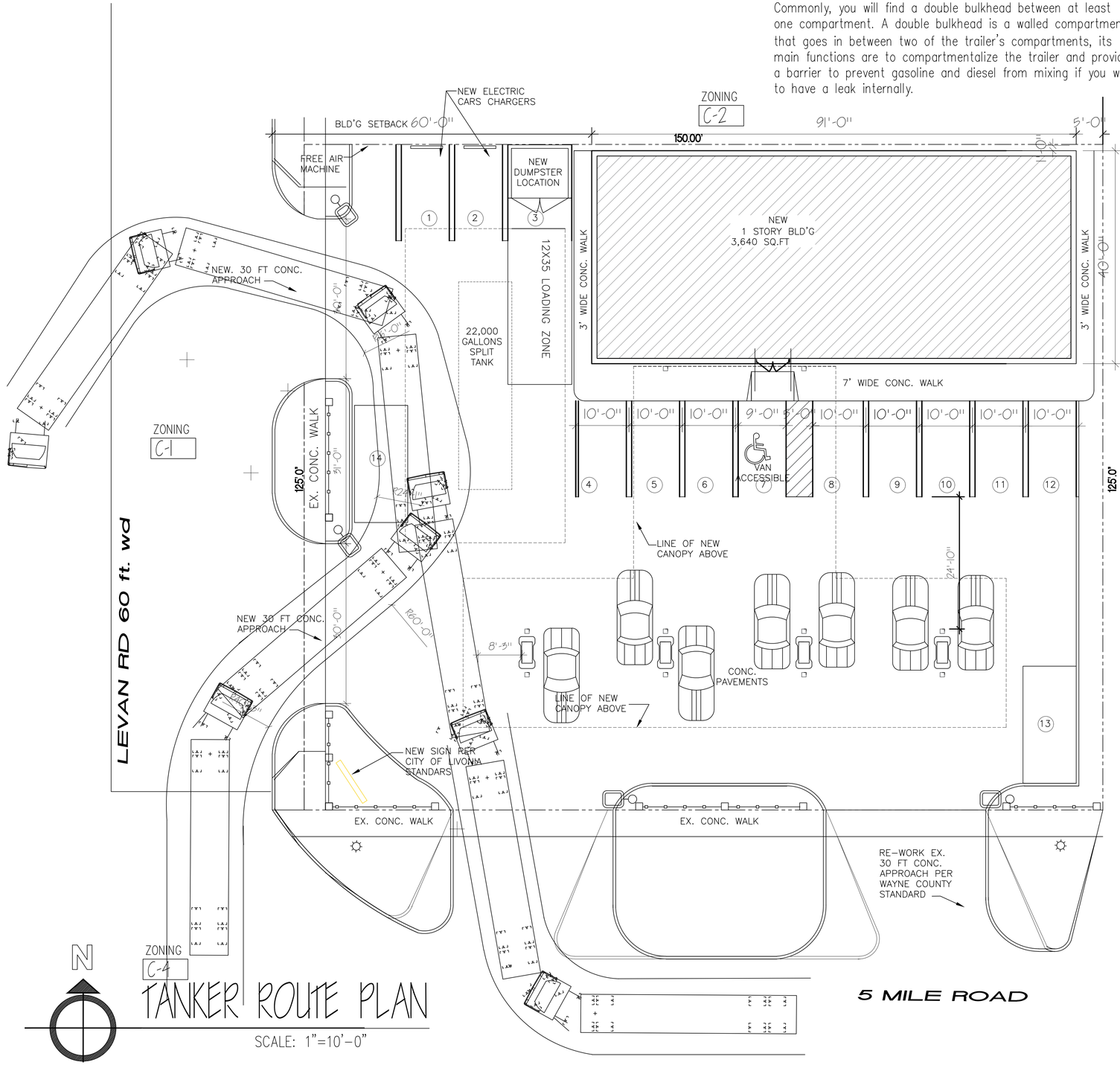
SHEET NUMBER:
AS102

SEAL:



Product Holding Capacity for Fuel Tank Trailer Types

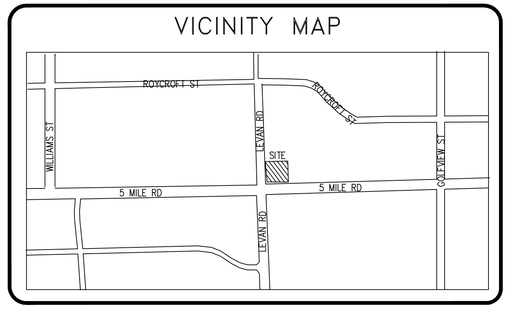
Petroleum Fuel Tank Trailer Capacity & Options
Typically, the capacity for petroleum fuel tank trailers ranges from 9000 to 9800 gallons capacity. They can be made up of several different compartments and are built as four and five compartment trailers. This gives you flexibility in the different products you can haul in one trailer. Most compartment sizes range from 1000 upwards to 3100 gallons per compartment depending on the configuration. Commonly, you will find a double bulkhead between at least one compartment. A double bulkhead is a walled compartment that goes in between two of the trailer's compartments, its main functions are to compartmentalize the trailer and provide a barrier to prevent gasoline and diesel from mixing if you were to have a leak internally.

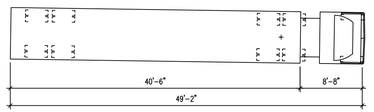


TANKER ROUTE PLAN

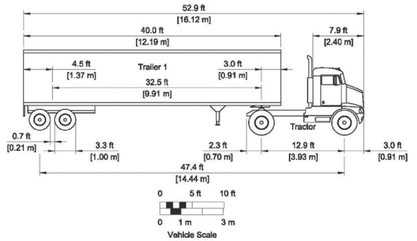
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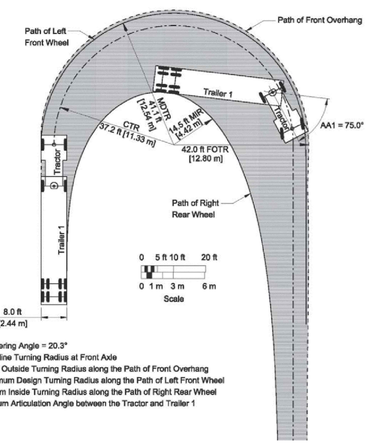
VICINITY MAP





TANKER SIZE





- Maximum Steering Angle = 20.3°
- CTR = Centerline Turning Radius at Front Axle
- FOTR = Front Outside Turning Radius along the Path of Front Overhang
- MDTR = Minimum Design Turning Radius along the Path of Left Front Wheel
- MIR = Minimum Inside Turning Radius along the Path of Right Rear Wheel
- AA1 = Maximum Articulation Angle between the Tractor and Trailer 1

Figure 60. Turning template for recommended intermediate semitrailer (WB-47) design vehicle.

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PROJECT:
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36300 5 MILE RD .
LIVONIA, MI.48154

CLIENT:
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Issued:
12 / 22 /2025
1 / 03 /2026
1 / 27 /2026

NOTE:
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SHEETt TITLE:
TANKER ROUTE PLAN

SCALE:
1"=10'-0"

PROJECT NUMBER:
25-58

SHEET NUMBER:
AS103

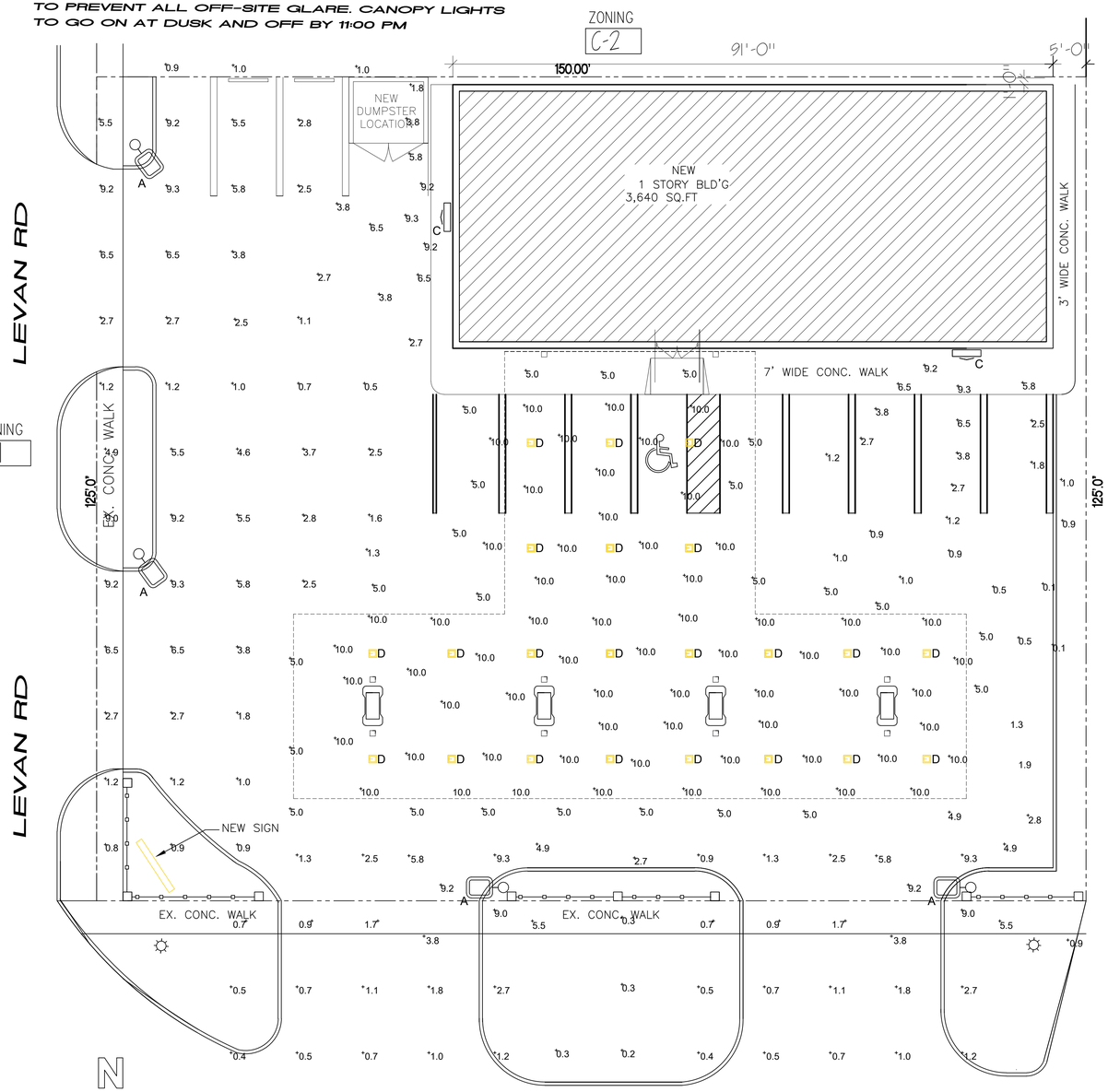
SEAL:

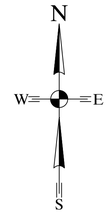


LUMINAIRE SCHEDULE

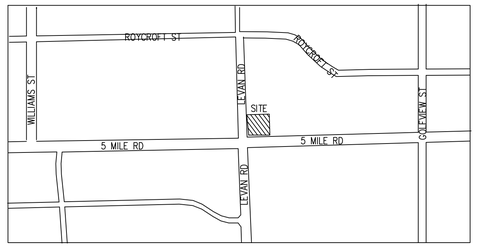
Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF	Watts
	A	4	DSX1 LED P3 30K VLS	DSX1 LED Visual Comfort, P3 symmetric Type V distribution 30K	LED	DSX1_LED_P3 _30K_VLS.ies	Absolute	0.95	160
	C	2	DSXW1 LED 10C 350 30K ASYDF MVOLT HS	DSXW1 LED WITH (1) 10 LED LIGHT ENGINES, TYPE ASYDF OPTIC, 3000K, @ 350mA WITH HOUSE-SIDE SHIELDS.	LED	DSXW1_LED_ 10C_350_30K_ ASYDF_MVOL T_HS.ies	Absolute	0.81	13.3
	D	22	TCPATLASGS60HRS ATLAS RECESSED LED LUMINAIRE	Recessed Led Luminaire white finish input voltage 100-277 vac led life: 50,000 hrs	LED	TCPATLASGS60HRS	Absolute	80.4	98.6

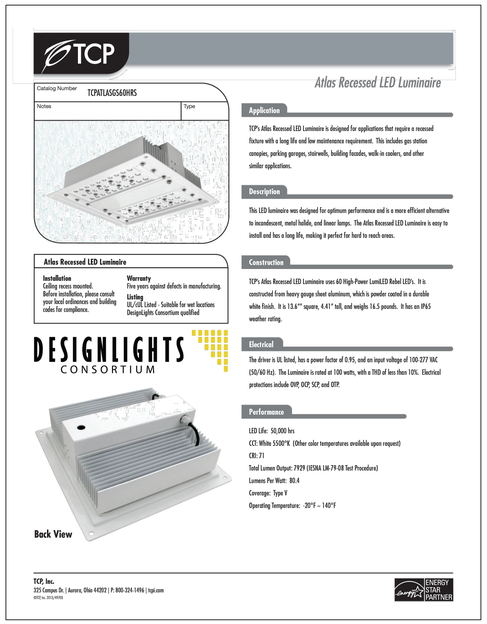
NOTE: ALL OUTSIDE LIGHTING WILL BE IN COMPLIANCE WITH THE STANDARDS OF THE CITY OF LIVONIA ZONING ORDINANCE TO PREVENT ALL OFF-SITE GLARE. CANOPY LIGHTS TO GO ON AT DUSK AND OFF BY 11:00 PM

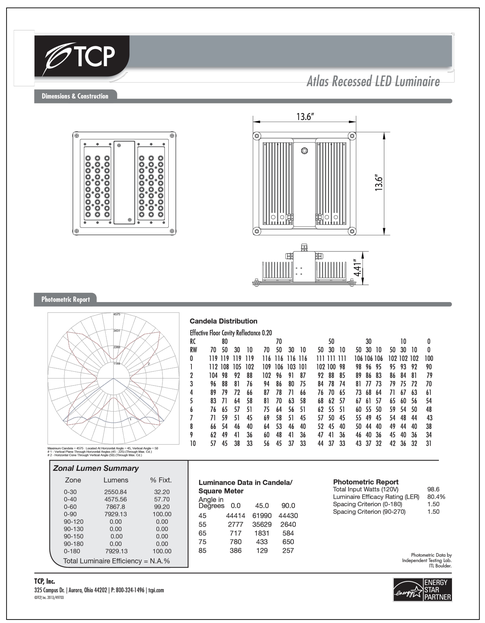




VICINITY MAP









D-Series Size 1
LED Wall Luminaire

d^series

Specifications

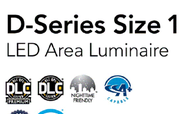
Luminaire

Width:	13-3/4" (34.9 cm)	Weight:	12 lbs (5.4 kg)
Depth:	10" (25.4 cm)		
Height:	6-3/8" (16.2 cm)		

Back Box (BBW, ELCW)

Width:	13-3/4" (34.9 cm)	BBW Weight:	5 lbs (2.3 kg)
Depth:	4" (10.2 cm)	ELCW Weight:	10 lbs (4.5 kg)
Height:	6-3/8" (16.2 cm)		



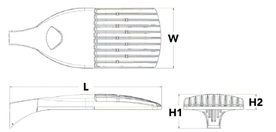


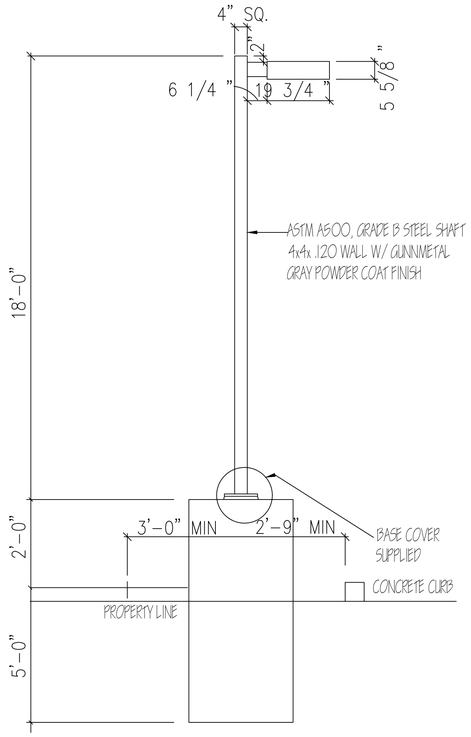
D-Series Size 1
LED Area Luminaire

d^series

Specifications

EPA:	1.01 ft² (0.09 m²)
Length:	33" (83.8 cm)
Width:	13" (33.0 cm)
Height H1:	7-1/2" (19.0 cm)
Height H2:	3-1/2"
Weight (max):	27 lbs (12.2 kg)





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PROJECT:

CONSTRUCTION
36300 5 MILE RD .
LIVONIA, MI.48154

CLIENT:

36300 FIVE MILE INVESTMENT LLC..
36300 5 MILE RD
LIVONIA, MI. 48154

Issued:

1 / 27 /2026

NOTE:

Do not scale drawings. Use calculated dimensions only. Verify existing conditions in field.

SHEET† TITLE:

PHOTOMETRIC PLAN

SCALE:

1"=10'-0"

PROJECT NUMBER:

25-58

SHEET NUMBER:

ES100

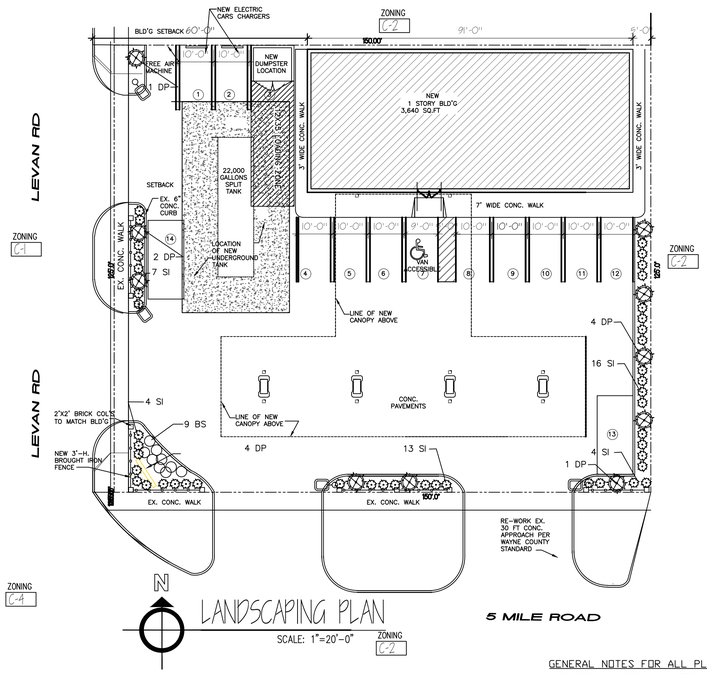
SEAL:



The American Association of Nurserymen Standards for Nursery Stock.

3. The plant material shall be nursery grown and inspected by the Owner's representative before planting. The Owner's representative reserves the right to reject any plant material at any time.
4. Plants designated "B&B" shall be balled and burlapped with firm balls of earth.
5. Dig shrub pits one foot (1') larger than the shrub rootball, tree pits three (3) times the width of the tree rootball and backfill with one (1) part topsoil and one (1) part soil from excavated pit. Plant trees and shrubs at the same grade level at which they were planted at the nursery. If wet, clay soils are evident, plant trees and shrubs slightly higher.
6. The Contractor is responsible for planting the materials at the correct grades and spacing. The plants shall be oriented to give the best appearance.
7. When the plant has been properly set, the pit shall be backfilled with the topsoil mixture, gradually filling, patting, and settling with water.
8. Trees in lawn areas to have a four foot (4') circle of mulch, four inches (4") deep, and three inches (3") away from the trunk. Shrub beds are to be mulched with shredded bark mulch to a minimum depth of three inches (3"). Only natural color shredded hardwood bark mulch will be accepted.
9. Remove all twine, wire, and burlap from the top one third (1/3) of tree and shrub root balls and from tree trunks. Remove all non-biodegradable material such as plastic or nylon completely from branches and stems. All tree wrap, stakes, and guys are to be removed after one (1) winter season.
10. All plant materials shall be pruned and injuries repaired. The amount of pruning shall be limited to the removal of dead or injured limbs and to compensate for the loss of roots from transplanting. Cuts should be flush, leaving no stubs. Cuts over three quarters of an inch (3/4") shall be painted with tree paint. Shrubs along the site perimeter shall be allowed to grow together in a natural form.
11. Organic, friable topsoil shall be evenly distributed and fine graded over all areas to receive lawns at uniform depth of four inches (4") after settlement.
12. All lawn areas shall be sodded with a Grade A Kentucky Blue Grass blend over the topsoil.
13. All plantings shall be completed as a part of the road construction but no later than November 30. Plantings shall thereafter be reasonably maintained, including permanence and health of plant materials to provide a screen to abutting properties and including the absence of weeds and refuse.
14. Plant trees and shrubs no closer than the following minimum distances from sidewalks, curbs, and parking stalls:
    a. Shade/Canopy Trees — Five feet (5')
    b. Ornamental/Flowering Trees — Ten feet (10')
    c. Evergreen Trees — Five feet (5')
    d. Evergreen/Flowering Shrubs — Four feet (4').
15. Backfill directly behind all curbs and along sidewalks and compact to the to of curbs or walk to support vehicle and pedestrian weight without settling.
16. All landscape areas, especially parking lot islands and landscape beds next to buildings shall be excavated of all building materials and poor soils to a depth of twelve inches to eighteen inches (12"–18") and backfilled with good, medium-textured planting soil (loam or light yellow clay). Add four inches to six inches (4"–6") of topsoil over the fill material and crown a minimum of six inches (6") above the top of curbs and/or walks after earth settling unless otherwise noted on the landscape plan.
17. Conversion of all asphalt and gravel areas to landscape planting beds shall be done in the following manner:
    a. Remove all asphalt, gravel, and compacted earth to a depth of six inches to eighteen inches (6"–18") depending on the depth of the sub base and dispose of off site;
    b. Call the City for an inspection prior to backfilling;
    c. Replace excavated material with good, medium-textured planting soil (loam or light yellow clay) to a minimum of two inches (2") above the top of the curb and sidewalk, add four inches to six inches (4"–6") of topsoil and crown to a minimum of six inches (6") above the adjacent curb and walk after earth settling, unless otherwise noted on the landscape plan. If conversion from asphalt to landscape occurs in or between an existing landscape area (s), replace excavated material from four inches to six inches (4"–6") below adjacent existing grade with good, medium-textured planting soil (loam or light yellow clay) and add four inches to six inches (4"–6") of topsoil to meet existing grades after earth settling.
18. Edging shall consist of Perma-loc aluminum edging or approved equivalent.
19. Elevate the rootballs of Yew shrubs to allow for better drainage.

    c. No. 1 grade material with a straight, unscarred trunk, and well-developed uniform crown (park grade trees will not be accepted);
    d. Staked, wrapped, watered, and mulched according to the details provided; and
    e. Guaranteed for two (2) years.
3. Topsoil shall be friable, fertile soil of clayloam character containing at least five percent (5%) but not more than twenty percent (20) by weight of organic matter with a pH range between 6.0 and 7.0. The topsoil shall be free from clay lumps, coarse sand, plant roots, sticks, and other foreign materials.
4. The seed mixture shall consist of the following types and proportions: Kentucky Blue Grass blend "Baron/Sheri/Adelphi" @ sixty percent (60%), Chewing Fescue @ twenty-five percent (25 %), Creeping Red Fescue @ ten percent (10 %), and Perennial Rye Grass @ five percent (5 %). Weed content shall not exceed one percent (1 %). The mix shall be applied at a rate of 200 pounds per acre.
5. Sod shall be two (2) year old "Baron/Sheri/Adelphi" Kentucky Blue Grass blend grown in a sod nursery on loam soil.
6. Proposed perennials shall be full, well-rooted plants.



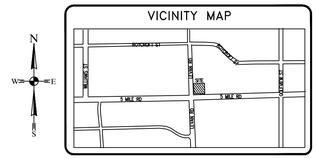
GENERAL

1. Do not plant deciduous or evergreen trees directly over utility lines or under overhead wires. Maintain a six foot (6') distance from the centerline of utilities and twenty feet (20') from the centerline of overhead wires for planting holes. Call MISS DIG forty-eight (48) hours prior to landscape construction for field location of utility lines.

   the Owner's representative reserves the right for a final inspection. Plant material with twenty-five percent (25%) die back, as determined by the Owner's representative shall be replaced. This guarantee includes the furnishing of new plants, labor, and materials. These new plants shall also be guaranteed for a period of two (2) years.
3. The work shall consist of providing all necessary materials, labor, equipment, tools, and supervision required for the completion as indicated on the drawings.
4. Landscape areas shall be irrigated by an automatic underground irrigation system. Lawns and shrub/landscape areas shall be watered by separate zones to minimize over watering.
5. All written dimensions override scale dimensions on the plans.
6. All substitutions or deviations from the landscape plan must be approved by the City of LIVONIA. prior to installation.
7. All bidders must inspect the site and report any discrepancies to the Owner's representative.
8. All specifications are subject to change due to existing conditions.
9. The Owner's representative reserves the right to approve all plant material.
10. All ground mounted mechanical units shall be screened on three (3) sides with living plant material.

MAINTENANCE

1. The Owner of the landscaping shall perpetually maintain such landscaping in good condition so as to present a healthy, neat, and orderly appearance, free from refuse and debris.
2. The Owner shall conduct a seasonal landscape maintenance program including regular lawn cutting (at least once per week during the growing season), pruning at appropriate times, watering, and snow removal during winter.
3. The Contractor is responsible for watering and maintenance of all seed areas until a minimum of ninety percent (90%) coverage, as determined by the Owner's representative.
4. All diseased and/or dead material shall be removed within sixty (60) days following notification and shall be replaced within the next appropriate planting season or within one (1) year, whichever comes first.
5. Any debris such as lawn clippings, fallen leaves, fallen limbs, and litter shall be removed from the site on a weekly basis at the appropriate season.
6. All planting beds shall be maintained by removing weeds, fertilizing, and replenishing mulch as needed.
7. Annual beds shall be kept free of weeds and mulched with sphagnum peat of a neutral pH as needed. Perennial beds shall be kept free of weeds and mulched with fine textured shredded bark as needed. Cut spent flower stalks from perennial plants at regular intervals.



LANDSCAPE DATA :

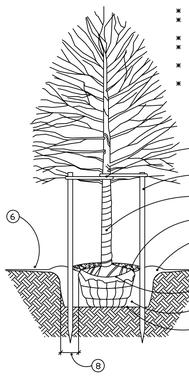
GREENBELT LANDSCAPE MATERIAL:

KEY	QUAN	SIZE	BOTANICAL NAME	COMMON NAME	SYMBOL
SI	44	36 IN HIGH	SALIX INTEGRA 'HAKURO-NISHIKI'	TRI-COLOR DAPPLED WILLOW	
BS	9			BLACK-EYED SUSAN	
DP	12	60 IN HIGH	PSEUDTSUGA MENZIESSII BLUE	DOUGLAS ARBORVITAE	

LANDSCAPING PROVIDED:

DECIDUOUS SHADE OR EVERGREEN TREE PROVIDED = 9 TREES
SHRUBS PROVIDED = 64 SHRUBS

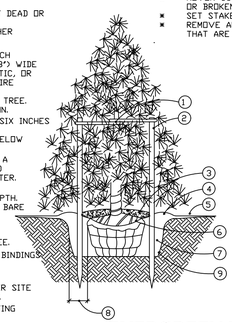
PLANTING PROVIDED = 73 PLANTS



DECIDUOUS TREE

NOTES:

- STAKE TREES UNDER FOUR INCH (4") CALIPER.
- CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION.
- SET TOP OF BALL THREE INCHES (3") ABOVE FINISH GRADE.
- SET STAKES VERTICAL & EVENLY SPACED.
- DO NOT PRUNE TERMINAL LEADER. PRUNE ONLY DEAD OR BROKEN BRANCHES.
- REMOVE ALL TAGS, STRING, PLASTICS, AND OTHER



EVERGREEN TREE

NOTES:

- STAKE ALL EVERGREEN TREES UNDER TWELVE FEET (12') HIGH.
- GUY ALL EVERGREEN TREES TWELVE FEET (12') HIGH AND OVER.
- CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION.
- NEVER CUT CENTRAL LEADER. PRUNE ONLY TO REMOVE DEAD OR BROKEN BRANCHES.
- SET STAKES VERTICAL AND EVENLY SPACED.
- REMOVE ALL TAGS, STRING, PLASTICS, AND OTHER MATERIALS THAT ARE UNSIGHTLY OR COULD CAUSE GIRDLING.

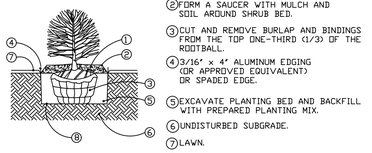
PLANTING DETAILS

NOTE:

- CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION.

NOTE:

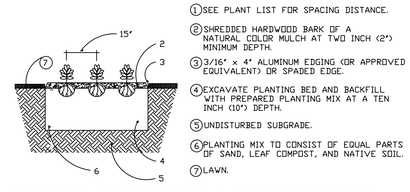
- CONTRACTOR TO VERIFY PERCOLATION OF PLANTING PIT PRIOR TO INSTALLATION.
- PERENNIALS TO BE PLANTED UP TO THE EDGE OF THE SAUCER AROUND A TREE OR SHRUB BED.



SHRUB

GENERAL NOTES FOR ALL PLANTINGS:

- DO NOT CUT CENTRAL LEADER.
- REMOVE ALL TAGS, STRINGS,PLASTICS, AND ANY OTHER NON-BIODEGRADABLE MATERIALS (EXCEPT LABEL FOR PLANT NAME) FROM PLANT STEMS OR CROWN WHICH ARE UNSIGHTLY OR COULD CAUSE GIRDLING.
- PLANTS SHALL BEAR THE SAME RELATION TO FINISH GRADE AS IT BORE TO THE PREVIOUS GRADE IN THE NURSERY. SET THE BASE OF THE PLANT SLIGHTLY HIGHER THAN EXISTING GRADE IF PLANTING IN CLAY SOILS.
- CENTER THE ROOTBALL IN THE PLANTING HOLE. LEAVE THE BOTTOM OF THE PLANTING HOLE FIRM. USE WATER TO SETTLE THE PLANTING MIX AND REMOVE ANY AIR POCKETS AND FIRMLY SET THE TREE OR SHRUB. GENTLY TAMP IF NEEDED.



ANNUAL / PERENNIAL / GROUNDCOVER

not to scale

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Issued:

12 / 22 /2025
1 / 03 /2026
1 / 27 /2026

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SHEET† TITLE:

LANDSCAPING PLAN

SCALE:

1"=20'-0"

PROJECT NUMBER:

25-58

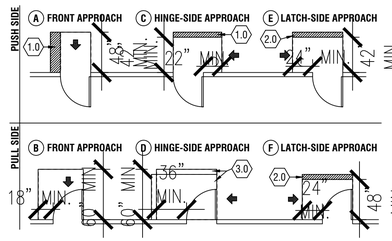
SHEET NUMBER:

LS100

SEAL:



SWING DOOR MANEUVERING CLEARANCES:

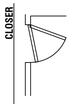


1.0 ADDITIONAL SWING DOOR MANEUVERING CLEARANCE REQUIRED WHEN DOOR HAS BOTH CLOSER AND LATCH

2.0 ADDITIONAL SWING DOOR MANEUVERING CLEARANCE REQUIRED WHEN DOOR HAS CLOSER

3.0 ALTERNATIVE SWING DOOR MANEUVERING CLEARANCE REQUIREMENTS

CLOSER



EACH DOOR SUB-CONTRACTOR (ALUMINUM. STOREFRONT/ W/OOD/HM) SHALL BE RESPONSIBLE TO ADJUST ALL INTERIOR DOORS SO THAT THE DOORS REQUIRED OPENING FORCE IS 5 LBS OR LESS. ANY ACCESSIBLE DOOR WITH A CLOSER SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12 DEGREES FROM THE LATCH IS 5 SECONDS MINIMUM. HARDWARE SHALL BE SELECTED TO ALLOW FOR CLOSING SPEED REQUIREMENTS FOR ACCESSIBILITY. COORDINATE THESE REQUIREMENTS WITH LOCAL CODE AND PROVIDE THE STRICTER.

NOTE

DOOR SIZES TO BE 3'-0" WIDE (UNLESS NOTED OTHERWISE) OR DOOR WITH 2'-8" CLEAR WHEN DOOR IS OPEN AT 90°. INFORMATION ON THIS SHEET IS INTENDED TO DEMONSTRATE CLEAR FLOOR AREA AND DOOR CLEARANCE REQUIREMENTS FOR ACCESSIBILITY AS DESIGNED IN THIS PROTOTYPE SET. THE ARCHITECT OF RECORD IS REQUIRED TO CONFORM TO ALL STATE AND LOCAL CODES IN ADDITION TO THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN. ENLARGED PLAN REFERENCES CONTAIN CLEAR FLOOR AREA INFORMATION ON THOSE SHEETS, INCLUDING REQUIREMENTS FOR PLUMBING FIXTURE CLEARANCES.

OVERALL TYPICAL FLOOR ACCESSIBILITY PLAN

ACCESSIBLE CLEARANCE LEGEND:

- (A) **DOOR MANEUVERING SPACE:** FRONT APPROACH, PUSH SIDE CLEAR FLOOR SPACE = DOOR WIDTH x 48" 12" BEYOND DOOR WIDTH AT LATCH SIDE WHEN DOOR HAS LATCH AND CLOSER
- (B) **DOOR MANEUVERING SPACE:** FRONT APPROACH, PULL SIDE CLEAR FLOOR SPACE = DOOR WIDTH + 18" x 60"
- (C) **DOOR MANEUVERING SPACE:** HINGE SIDE APPROACH, PUSH SIDE CLEAR FLOOR SPACE = DOOR + 22" x 42", PUSH SIDE CLEAR FLOOR SPACE = DOOR + 22" x 4'-0" (WHEN DOOR HAS LATCH AND CLOSER)
- (D) **DOOR MANEUVERING SPACE:** HINGE SIDE APPROACH, PULL SIDE CLEAR FLOOR SPACE = DOOR WIDTH + 42" x 54" ALTERNATIVE PERMISSIBLE CLEAR FLOOR SPACE = DOOR WIDTH + 36" x 60"
- (E) **DOOR MANEUVERING SPACE:** LATCH SIDE APPROACH, PUSH SIDE CLEAR FLOOR SPACE = DOOR WIDTH + 24" x 42" PUSH SIDE CLEAR FLOOR SPACE = DOOR WIDTH + 24" x 48" (WHEN DOOR HAS CLOSER)
- (F) **DOOR MANEUVERING SPACE:** LATCH SIDE APPROACH, PULL SIDE CLEAR FLOOR SPACE = DOOR WIDTH + 24" x 48" PUSH SIDE CLEAR FLOOR SPACE = DOOR WIDTH + 24" x 54" (WHEN DOOR HAS CLOSER)
- (G) **AREA OF REFUGE:** 30" x 48" CLEAR FLOOR SPACE
- (H) **CLEAR FLOOR SPACE:** 36" x 48"
- (I) **TURNING SPACE:** 5'-0" DIAMETER TURNING AREA (T-SHAPED SPACE ALSO ALLOWED PER ACCESSIBILITY REQUIREMENTS)
- (J) **ACCESSIBLE ROUTE/WHEELCHAIR PASSAGE:** 36" WIDE AISLE x LENGTH OF ACCESSIBLE PIECE OF EQUIPT. OR FURNITURE (48" MIN.)
- (K) **WATER CLOSET CLEARANCE:** 56" x 60"
- (L) **LAVATORY CLEARANCE:** 30" x 48"
- (M) **CLEAR FLOOR SPACE:** FRONT OR SIDE APPROACH TO AN ELEMENT 30" x 48"

CLEAR FLOOR SPACE

DESIGNATED REQUIRED CLEAR FLOOR SPACE (CFS) PER ACCESSIBILITY REQUIREMENTS. REFER TO DIAGRAM ON THIS SHEET IN REFERENCE TO APPROACH CLEARANCES. VERIFY REQ. CLEAR FLOOR SPACE FOR ALL ACCESSIBLE EQUIPMENT, FURNITURE AND AREAS REQUIRED TO BE ACCESSIBLE. REFER TO HADG FOR FURTHER INFORMATION.

TABLE 1016.2 EXIT ACCESS TRAVEL DISTANCE
M- (NS) 200FT

TABLE 1004.1.2 OCCUPANT LOAD
M- MERCANTILE 60 GROSS 1975 SQFT. X 60 = 33
S- STORAGE 30 GROSS 649 SQFT X 300 = 2
F-COMMERCIAL KITCHEN 200 GROSS 547 SQFT X 200 = 3

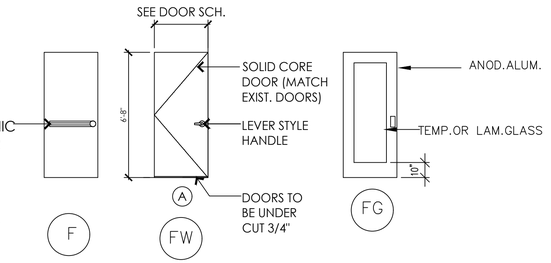
ROOM FINISH SCHEDULE

ROOM NAME	FLOOR	BASE	WALLS	CEILING
POINT OF SALES AREA	STAINED CONC. BY OWNER	4" VINYL	GYP. BD. PAINTED	OPEN CEILING
RESTROOMS	CERAMIC TILE BY OWNER	4" CERAMIC	CERAMIC TILE BY OWNER	ACOUSTICAL
OFFICE	STAINED CONC. BY OWNER	4" VINYL	GYP. BD. PAINTED	ACOUSTICAL
KITCHEN AREA	STAINED CONC. BY OWNER	4" VINYL	GYP. BD. PAINTED	ACOUSTICAL / GYP BD.
STORAGE	STAINED CONC. BY OWNER	4" VINYL	GYP. BD. PAINTED	OPEN CEILING

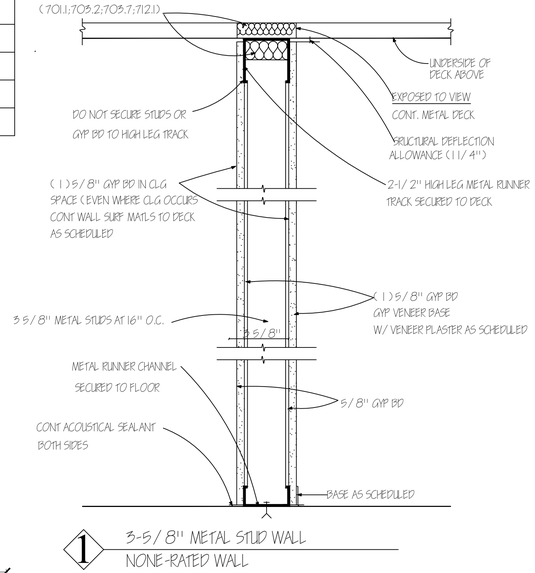
WALL LEGEND

NEW FRAME WALL 5/8" DRYWALL FINISHED AND PAINTED ON 3 5/8" METAL STUDS @ 16" O.C.

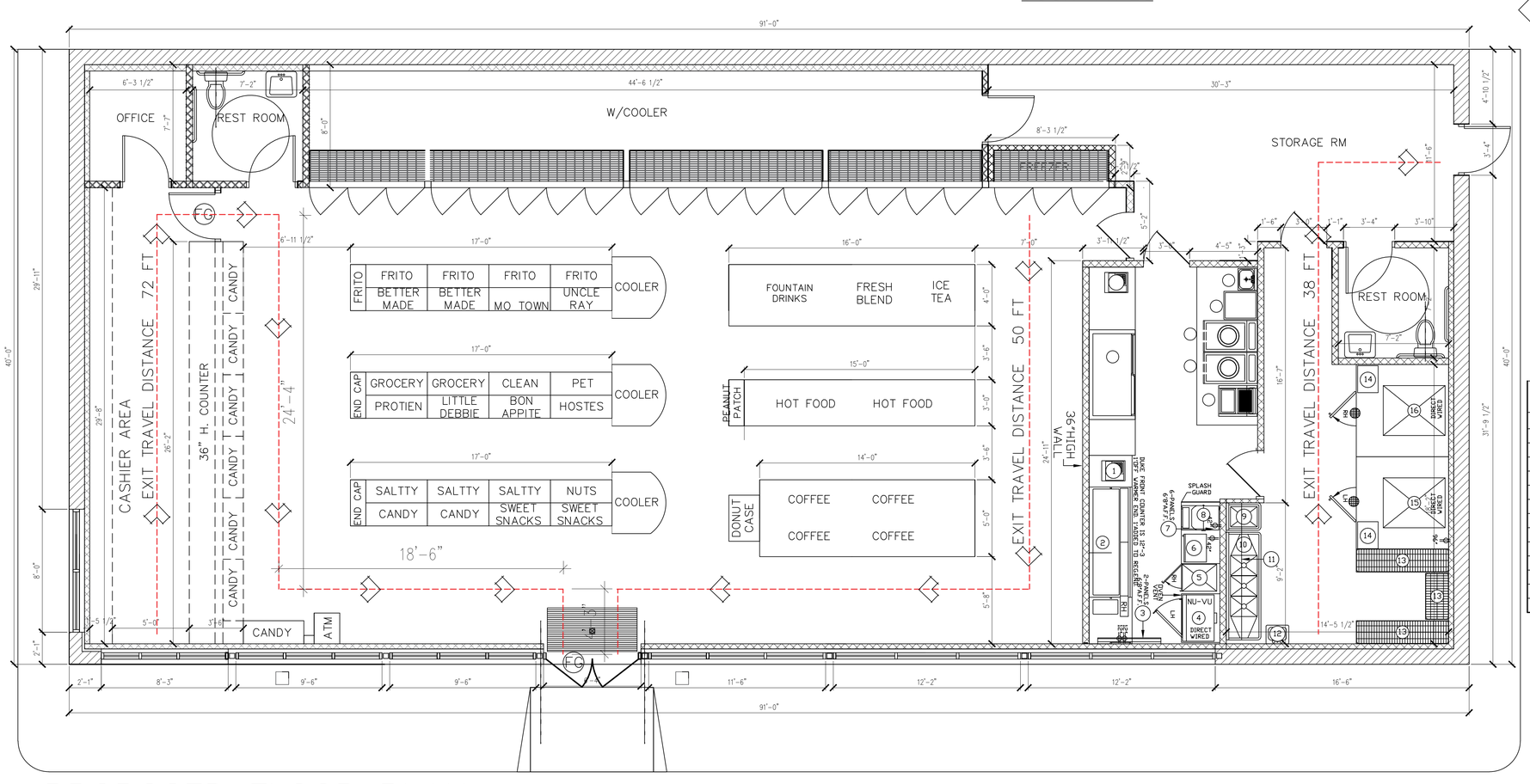
MASONRY WALL



DOOR TYPES



1 3-5/ 8" METAL STUD WALL
NONE-RATED WALL



PROPOSED FLOOR PLAN
SCALE: 1/4"=1'-0"

IECC 2021 THERMAL ENVELOPE COMPONENTS
TABLE C402.1.3 &C402.4 (PRESCRIPTIVE METHOD)

CLIMATE ZONE	5 AND MARINE 4
ROOFS	
INSULATION ENTIRELY ABOVE ROOF DECK	R-30 ci
METAL BUILDINGS	R-19 + 11 LS
WALLS, ABOVE GRADE	
MASS	R-11.4 ci
WALLS, BELOW GRADE	
BELOW-GRADE WALL	R-7.5 ci
SLAB-ON-GRADE FLOORS	
UNHEATED SLABS	R-10 ci FOR 24" BELOW
VERTICAL FENSTRATION	
FIXED FENESTRATION	R-0.38
FIXED FENESTRATION	R-0.45
FIXED FENESTRATION	R-0.77

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SHEETt TITLE:
FLOOR PLAN

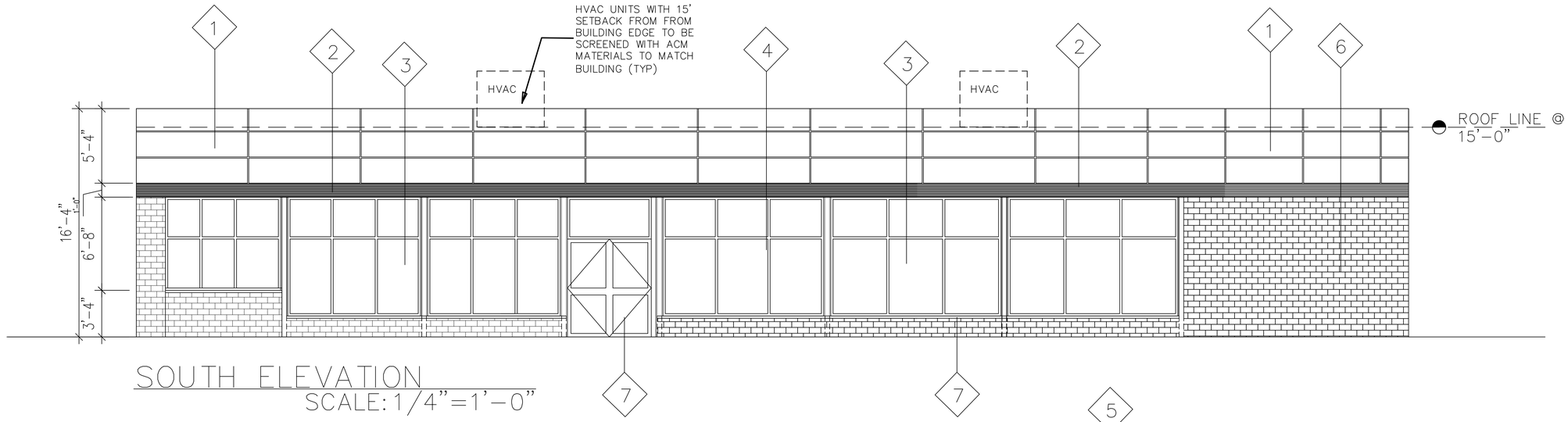
SCALE:
1/4"=1'-0"

PROJECT NUMBER:
25-58

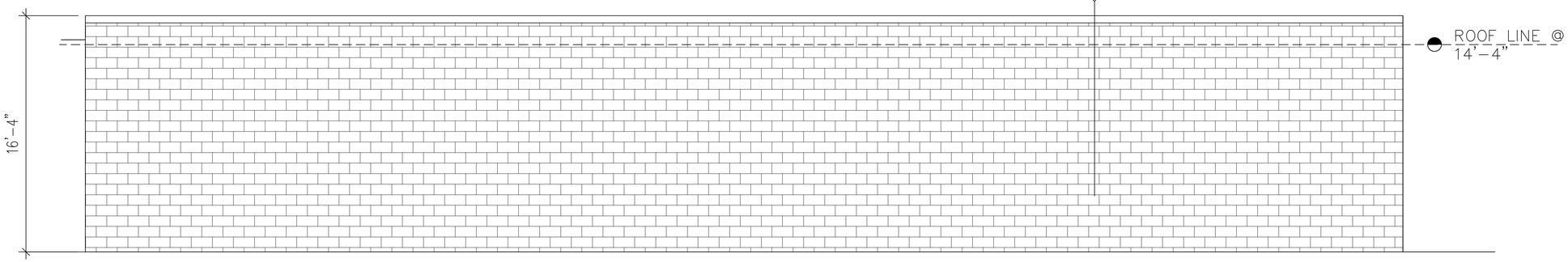
SHEET NUMBER:
A100

SEAL:

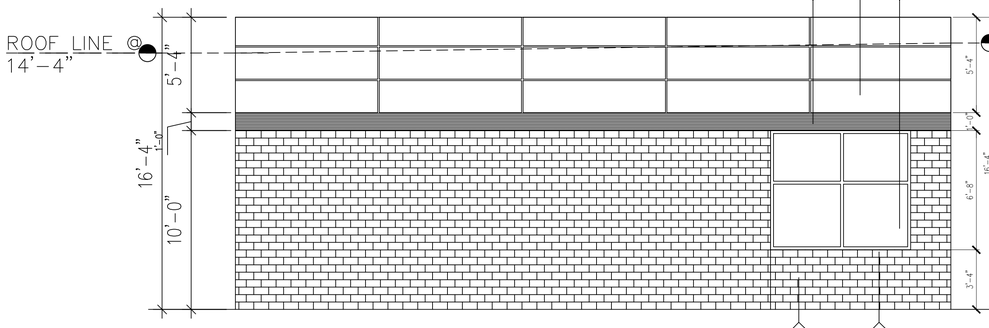




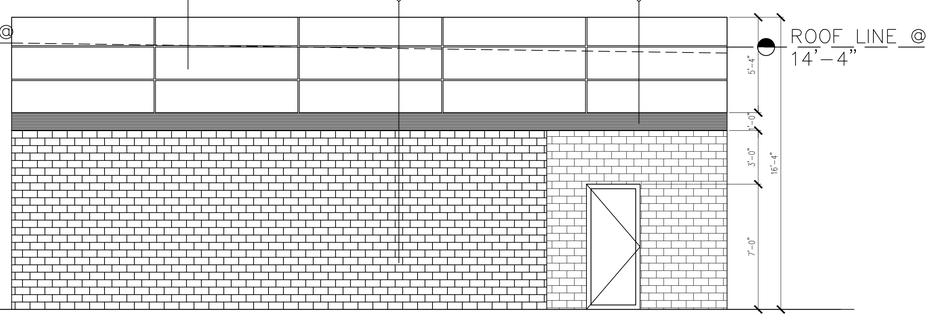
SOUTH ELEVATION
SCALE: 1/4"=1'-0"



NORTH ELEVATION
SCALE: 1/4"=1'-0"



WEST ELEVATION
SCALE: 1/4"=1'-0"



EAST ELEVATION
SCALE: 1/4"=1'-0"

ELEVATION KEY

1. ALUMINUM COMPOSITE MATERIALS (ACM)
2. RED COLOR (ACM)
3. NEW 1" INSULATED GLASS IN CLEAR ALUMINUM FRAME
   (T) DENOTES TEMPERED GLASS
4. ENTRY DOOR
5. SPLIT FACE BLOCK COLOR IS "CHARCOAL GRAY"
6. JUMBO BRICK (NEUTRAL COLOR)
7. 2" LIME STONE

NSI CONSTRUCTION INC .
4320 PRATT RD.
ANN ARBOR, MI. 48103
PH : (313) 790-0129
EMAIL:MBNATSPEC@YAHOO.COM

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A & M CONSULTANTS

835 MASON ST.
STE. B 290
DEARBORN,
MI.48124
PH: (313) 790-0129
FAX: (313) 582-0028

PROJECT:

CONSTRUCTION
36300 5 MILE RD .
LIVONIA, MI.48154

CLIENT:

36300 FIVE MILE INVESTMENT LLC..
36300 5 MILE RD
LIVONIA, MI. 48154

Issued:

12 / 22 /2025
1 / 03 /2026
1 / 27 /2026

NOTE:

Do not scale drawings. Use calculated dimensions only. Verify existing conditions in field.

SHEETt TITLE:

ELEVATION PLAN

SCALE:

1/4"=1'-0"

PROJECT NUMBER:

25-58

SHEET NUMBER:

A101

SEAL:





stixels



stixels



'stixels



stixels

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

TODD J. ZILINCIK, P.E.
CITY ENGINEER

DAVID W. LEAR, P.E.
ASST. CITY ENGINEER

MAUREEN MILLER BROSNAN
MAYOR

DONALD R ROHRAFF
DIRECTOR OF PUBLIC WORKS

12973 FARMINGTON ROAD
LIVONIA, MICHIGAN 48150
(734) 466-2571
FAX: (734) 466-2195

January 8, 2026

Mr. Kristoffer Canty
Planner IV
City of Livonia

Re: Petition 2025-12-08-10 – 36300 Five Mile Road (Gas Station Replacement)

Dear Mr. Canty:

In accordance with your request, the Engineering Division has reviewed the above referenced petition. We have no objections to the proposed project at this time, but would like to note the following items:

1. The subject parcel is assigned the address of **#36300 Five Mile Road**. Should additional addresses be needed, the owner will need to contact this Department once approvals have been obtained.
2. The existing parcel is currently serviced by public sanitary sewer and water main. The submitted does not include any proposed utility information or calculations, but based on the project scope, we do not believe there will be any negative impacts on the existing systems.
3. Drainage from the proposed building shall not be shed on to the neighboring property. Downspouts will need to be directed to the parking lot.
4. The owner will need to submit proposed Engineering drawings to this Department once planning approvals have been obtained to determine what permits will be required in association with utility revisions.
5. Drawings shall be submitted to the Wayne County Department of Public Service for comments on access control and possible permitting for the removal of existing approaches, if required by the County.

Should you have any additional questions on this matter, please feel free to contact myself at (734) 466-2608 or the City Engineer, Mr. Todd Zilincik at (734) 466-2561. If you would prefer, you can e-mail either of us at dlear@livonia.gov or tzilincik@livonia.gov.

Sincerely,

David W. Lear, P.E.
Assistant City Engineer

Cc: 2025 Petition File

M:\ALL OTHER MATTERS\Planning Petition Responses\2025\2025-11-08-08 - 13801 Merriman Road (Gas Station Expansion).doc

DEPARTMENT OF PUBLIC SAFETY
LIVONIA FIRE & RESCUE

ROBERT JENNISON
FIRE CHIEF

MAUREEN MILLER BROSNAN
MAYOR

14910 FARMINGTON ROAD
LIVONIA, MICHIGAN 48154-5419
734-466-2444
734-466-2082 fax

DATE: January 14, 2026

TO: Kristoffer Canty, Planner IV

FROM: Livonia Fire Prevention Division

SUBJECT: Petition # 2025-12-08-10 at 36300 Five Mile Rd. New bldg. for a gas station.

This office has reviewed the site plan submitted in connection with a request to construct a commercial building on the property located at the above referenced address.

We have no objections to this proposal.

Comply with codes and standards set by The State of Michigan for vehicle fueling stations.

A further detailed plan review will take place when this division receives an official plan set.

Sincerely,

Brian R. Kukla

Brian R. Kukla
Fire Marshal

DEPARTMENT OF PUBLIC SAFETY
DIVISION OF POLICE

THOMAS GORALSKI
CHIEF OF POLICE

MAUREEN MILLER BROSNAN
MAYOR

15050 Farmington Road
Livonia, Michigan 48154-5499
(734) 466-2470
FAX: (734) 261-2265

January 7th 2026

Mr. Kristoffer Canty
City of Livonia Planning Dept
33000 Civic Center Drive
Livonia, MI 48154

Re: Petition 2025-12-08-10 – 36300 Five Road

Mr. Canty,

I have reviewed the plans in connection with the petition. I have no objections to the proposals.

Please feel free to contact me, should you have any questions.

Sincerely,

FOR THE CHIEF OF POLICE,

Paul Walters, Sergeant
Traffic Bureau
(734) 466-2107

INSPECTION DEPARTMENT

BUILDING
HEATING
PLUMBING
ELECTRICAL
ZONING
ENVIRONMENTAL PROTECTION
ORDINANCE ENFORCEMENT

MAUREEN MILLER BROSNAN
MAYOR

JEROME A. HANNA
DIRECTOR

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2580
FAX: (734) 466-2095

Date: January 30, 2026

To: Kristoffer Canty

From: Jerome Hanna

RE: Petition 2025-12-08-10 - 36300 Five Mile Road

Pursuant to your request, the above-referenced Petition has been reviewed.

1. Signage shall conform to the sign ordinance, or a variance from the Zoning Board of Appeals would be required.
2. Exterior lighting sources shall be designed, constructed, located, and maintained in a manner that minimizes light trespass onto neighboring properties and public ways. The light trespass from a property shall not exceed 0.5-foot-candles at the property line, measured five (5) feet from the ground.
3. The barrier-free parking space is required to be van-accessible. It is not currently proposed that way. The van-accessible barrier-free parking space shall be sized, signed, and marked in accordance with the Michigan Barrier-Free Code. This will be addressed at the time of plan review if this project moves forward.
4. An enclosure of sufficient height to completely screen the dumpster is required on three (3) sides of the waste receptacle, with a solid gate on the fourth side. The height of the enclosure must be not less than six (6) feet or at least one (1) foot above the height of the dumpster, whichever is greater. The enclosure gates shall be of solid panel steel construction or durable, long-lasting solid panel fiberglass and, when not in use, closed at all times. The enclosure must be constructed of the same or compatible material and colors as the principal building in terms of texture and quality.

This Department has no further objections to this Petition.

I trust this provides the requested information.

Jerome Hanna
Jerome Hanna
Director of Inspection

DEPARTMENT OF FINANCE

Benjamin N. Grier, JD, CPA
DIRECTOR OF FINANCE

MAUREEN MILLER BROSNAN
MAYOR

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2260
FAX: (734) 421-1807

January 20th, 2026

Kristoffer Canty
Planning Commission
33000 Civic Center Drive
Livonia, MI 48154

Petition 2025-12-08-10 – 36300 Five Mile Road (36300 5 Mile Investment, LLC))

Dear Kristoffer,

I have reviewed the address connected with the above noted petition. As there are no outstanding amounts receivable (general or water and sewer), I have no objections to the proposal.

Please contact me if you have any further questions.

Very truly yours,

Benjamin N. Grier

Benjamin N. Grier
Director of Finance

BG: sc

OFFICE OF THE TREASURER

SUSAN M. NASH
CITY TREASURER

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3060
(734) 466-2245
FAX: (734) 421-7230

January 7, 2026

RE: 36300 Five Mile Rd

Attention: planning Commissioners

The owner of the property is current on their property tax.

If you have any further questions, please contact me

Thank you

Susan Nash
Livonia City Treasurer

LETTER TO THE LIVONIA CITY COUNCIL

7.

Civil Service
March 19, 2026

MEETING DATE	PRESENTED BY
S040826/R042026	Jeannine Laible, Human Resources Director

AGENDA ITEM

REQUEST TO ESTABLISH A NEW CLASSIFICATION: for the position of Assistant Library Director.

BACKGROUND DETAILS

March 19, 2026

Honorable Members of City Council
City of Livonia

Subject: Request to Establish a New Classification of Assistant Library Director

Dear Council Members:

At the Civil Service Commission meeting of March 18, 2026, with Commissioners Roger Spence and Charlotte Mahoney present, it was requested that the Commission consider approving a new classification for Assistant Library Director and, pending City Council approval, the posting of an open-competitive examination for the Assistant Library Director position. These requests were reviewed and approved by the Personnel Review Committee and Mayor Brosnan, prior to being presented to the Civil Service Commission. The job description is below:

Description of work:
The Assistant Library Director is a newly established role that serves as the Library Director's primary second-in-command, providing leadership and support across the entire library system. The role assists in overseeing operations, implementing policies and strategic initiatives, managing budgets and resource allocation, coordinating staff development and training, and supporting programs, collections, and community services to ensure high-quality library services for the Livonia community.

It is requested that the Assistant Library Director be eligible for the new vacation policy for classifications that are exempt from overtime/compensatory time.

The proposed salary range would be equivalent to the Branch Librarian classification of $90,272.00 to $105,248.00.

The Civil Service Commission reviewed the following requests:

Upon motion by Ms. Mahoney, seconded by Mr. Spence, and unanimously adopted, it was

26-51 RESOLVED, that having reviewed the letter from Lindsay Fricke, Interim Library Director, dated March 16, 2026, requesting a new classification of Assistant Library Director, the Civil Service Commission does hereby approve the request for a new classification of Assistant Library Director. The Civil Service Commission submits the same to City Council for their review and consideration.

Upon motion by Mr. Spence, seconded by Ms. Mahoney, and unanimously adopted, it was

26-52 RESOLVED, that having reviewed the letter from Lindsay Fricke, Interim Library Director, dated March 16, 2026, requesting an open-competitive examination for Assistant Library Director and proposed qualifications and parts of examination and weights, the Civil Service Commission does hereby approve the following qualifications and parts of examination and weights pending City Council's approval of the Assistant Library Director classification.

QUALIFICATIONS

By the closing date of this announcement, applicants must:

1. Be a citizen of the United States or resident alien with the right to work in the United States; and
2. Possess a master's degree in library and information science from an ALA-accredited college or university; and
3. Possess or, ability to obtain by the date of hire, a Level 1 Professional Librarian Certification from the Library of Michigan; and
4. Have a minimum of eight years of progressively responsible experience working as a professional librarian, including direct service to the public; and
5. Have a minimum of four years of supervisory or management experience in a public library, including at least two years of direct supervisory experience overseeing professional librarian staff; and
6. Demonstrated experience in public library administration, including contributing to policy development, assisting with budgeting and financial planning, and allocating resources effectively; and
7. Demonstrated experience in staff development, training, and team leadership; and
8. Demonstrated knowledge of public library operations, library technologies, collections management, programming, and community engagement; and
9. Have strong organizational, communication, and interpersonal skills; and
10. Have the ability to manage multiple projects simultaneously, prioritize work effectively, and adapt to evolving organizational needs.

PARTS OF EXAMINATION AND WEIGHTS

Interview - 100%*

*In the event the number of qualified applicants exceeds 15, an evaluation of the 15 applicants with the most appropriate and responsible combination of experience and training will be invited to the interview.

Therefore, it is recommended that the new classification of Assistant Library Director be adopted, with an effective date upon Council approval; at that time, the open-competitive examination for Assistant Library Director would be posted.

Thank you for your consideration.

Sincerely,

Jeannine Laible
Human Resources Director

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Approve as submitted

ATTACHMENTS

1. S040826 LTC Assistant Library Director Class
2. Packet to Council Transmitting Request for a New Classification, Assistant Library Director

APPROVED BY

Jeannine Laible, Human Resources Director — Date: March 19, 2026

Benjamin N. Grier, JD, CPA, Finance Director — Date: March 26, 2026

Eric Goldstein, Assistant City Attorney — Date: March 27, 2026

Maureen Miller Brosnan, Mayor — Date: March 27, 2026

MEMORANDUM

TO: Jeannine Laible, Human Resources Director
FROM: Jessica Pierson, Personnel Analyst I
DATE: March 16, 2026
SUBJECT: Request to Establish a New Classification of Assistant Library Director

In a letter dated March 16, 2026, Lindsay Fricke, Library Director requests to establish a new classification of Assistant Library Director. The job description is below:

Description of work:
The Assistant Library Director is a newly established role that serves as the Library Director's primary second-in command, providing leadership and support across the entire library system. The role assists in overseeing operations, implementing policies and strategic initiatives, managing budgets and resource allocation, coordinating staff development and training, and supporting programs, collections, and community services to ensure high-quality library services for the Livonia community

It is requested that the Assistant Library Director would be eligible for the new vacation policy for classifications that are exempt from overtime/compensatory time.

The proposed salary range would be equivalent to the Branch Librarian classification of $90,272.00 to $105,248.00. It is recommended the Civil Service Commission approve to establish the new classification of Assistant Library Director.

COMMENTS BY THE HUMAN RESOURCES DIRECTOR:
Concur Jeannine Laible

MAUREEN MILLER BROSNAN
Mayor

LINDSAY FRICKE
Library Director

LIBRARY COMMISSION
Carol Bagazinski
Dave MacFarland
Mary Morrison
Carrie Ryckman
Claire Sheldon

LIVONIA PUBLIC LIBRARY

ROBERT and JANET BENNETT
CIVIC CENTER LIBRARY
32777 FIVE MILE ROAD
Livonia, Michigan 48154-3045
Phone: (734) 466-2491
Fax: (734) 421-4860

CARL SANDBURG BRANCH
30100 SEVEN MILE ROAD
Livonia, Michigan 48152-1918
Phone: (248) 893-4010
Fax: (248) 476-6230

March 16, 2026

Civil Service Commission
James Wenson, Chairperson
Roger L. Spence
Charlotte S. Mahoney

Re: Request to Establish the New Classification of Assistant Library Director

Dear Commissioners:

We respectfully request the Commission to establish the classification of Assistant Library Director within the Library Department. The proposed salary equivalency and position description are enclosed for your review and consideration.

Should you have any questions, please contact me at extension 2456.

Best,

Lindsay Fricke
Library Director

LIVONIA PUBLIC LIBRARY

Assistant Library Director

About the City of Livonia

The City of Livonia is a safe, well-planned community of 36 square miles in southeast Michigan. Our population of about 95,000 residents places us as the ninth-largest city in the state. Livonia enjoys a strategic location second to none in the region, with easy access to the I-96 and I-275 expressways. Close-knit neighborhoods and strong community spirit have long been hallmarks of Livonia. The City's motto proclaims, "Families First," and Livonia has successfully maintained its friendly, hometown atmosphere while keeping a strong emphasis on public safety, parks, and public services.

Position Overview

The Assistant Library Director plays a key leadership role in supporting the strategic vision, administration, and system-wide development of the Livonia Public Library. Working closely with the Library Director, this position assists in overseeing library services, operations, and organizational priorities, ensuring the library remains responsive to community needs and aligned with City goals. This role requires a forward-thinking professional with strong knowledge of public library administration, staff development, and community engagement, who can foster a positive and collaborative work culture.

The Assistant Library Director is hands-on in daily library management, ensuring that policies, procedures, and strategic initiatives set by the Library Director are executed effectively. The position collaborates with library managers and staff to promote consistent service standards, operational efficiency, and staff support. Through strong leadership, collaboration, and operational oversight, the Assistant Library Director contributes to the continued success and high-quality services of the Livonia Public Library system.

Qualifications

1. Be a citizen of the United States or a resident alien with the legal right to work in the United States.
2. Possess a Master's Degree in Library and Information Science from a college or university accredited by the American Library Association (ALA).
3. Possess or, ability to obtain by the date of hire, a Level 1 Professional Librarian Certification from the Library of Michigan.
4. Have eight (8) or more years of progressively responsible experience working as a professional librarian, including direct service to the public.
5. Have four (4) or more years of supervisory or management experience in a public library, including at least two (2) years of direct supervisory experience overseeing professional librarian staff.
6. Demonstrated experience in public library administration, including contributing to policy development, assisting with budgeting and financial planning, and allocating resources effectively.
7. Demonstrated experience in staff development, training, and team leadership.
8. Demonstrated knowledge of public library operations, library technologies, collections management, programming, and community engagement.
9. Strong organizational, communication, and interpersonal skills.
10. Ability to manage multiple projects, prioritize work effectively, and adapt to evolving organizational needs.

Key Responsibilities

1. Library Operations & Leadership

- Serves as the Library Director's primary second-in-command, providing leadership and decision-making support across the library system.
- Assists in overseeing daily and long-term operations across all service areas and the library system, supporting consistent, high-quality service.
- Provides operational oversight and coordination of library facilities, working with city departments to ensure smooth operations at both locations.
- Directly supervises staff as assigned to ensure consistent services and operational standards.
- Leads workflow efficiency efforts across library departments, including Adult Services, Children's Services, Circulation, Technology Services, and other areas, coordinating with department managers to ensure operational consistency and effective service delivery.
- Compiles and analyzes library data to support operational decisions, and prepares reports for the Library Director as needed.
- Leads or participates in special initiatives to improve library operations, services, or community engagement.

2. Policy & Strategic Implementation

- Works closely with the Library Director to implement initiatives and contribute to long-range planning in order to achieve goals outlined in the library's strategic plan.
- Implements system-wide policies and procedures in collaboration with the Library Director.
- Provides input on operational improvements and workflow to align departments with strategic goals, City priorities, and library initiatives.
- Assists in tracking key performance indicators (KPIs) for library services and reports progress to the Library Director to inform operational and service improvements.

3. Building Oversight & Facilities Management

- Assists with coordination among city departments regarding maintenance, safety protocols, and emergency preparedness.
- Participates in capital improvement planning and design meetings, providing operational insight.

4. Staff Training & Support

- Assists the Library Director in coordinating and implementing professional development and training opportunities for staff.
- Shares relevant learning and development opportunities with staff to support skill-building and knowledge across library services.
- Fosters a positive, collaborative work environment by mentoring staff, providing constructive performance feedback, and assisting with professional goal-setting.
- Oversees library department schedules to ensure adequate operational coverage of staff and Person-in-Charge responsibilities.

5. Program Development & Implementation

- Assists in planning, implementing, and evaluating library programs and services for diverse audiences in collaboration with the Library Director and staff. Provides recommendations for program adjustments based on community interests, data, and feedback.

6. Collections Support

- Manages collection budget and resource allocation, distributing funds to staff for specific collections.
- Oversees collection development, including selecting materials that meet the needs and interests of the community.
- Assists the Library Director with acquisitions planning and collaborates with staff to review and assess collection needs, ensuring alignment with the library's strategic plan and priorities.

7. Budget Support & Vendor Relations

- Assists the Library Director with budget planning and management for operational initiatives, training, and facility support.
- Oversees acquisitions of supplies and equipment that directly supports daily library operations.
- Manages relationships with vendors and service providers supporting daily library operations.

8. Community Engagement & External Liaison

- Represents the library in city, cooperative, and community meetings as appropriate.
- Develops and maintains relationships with library cooperatives and strategic partners, supporting library services, shared initiatives, and community outreach.
- Supports outreach efforts to promote library services and programs within the community.

		3.5%			4.5%			3.5%		
		2025-2026			2026-2027			2027-2028		
		HOURLY	BI-WEEKLY	ANNUAL	HOURLY	BI-WEEKLY	ANNUAL	HOURLY	BI-WEEKLY	ANNUAL
ASSISTANT LIBRARY DIRECTOR	STEP 1	$ 43.40	$ 3,472.00	$ 90,272.00	$ 45.35	$ 3,628.00	$ 94,328.00	$ 46.94	$ 3,755.20	$ 97,635.20
	STEP 1.5	$ 44.24	$ 3,539.20	$ 92,019.20	$ 46.23	$ 3,698.40	$ 96,158.40	$ 47.85	$ 3,828.00	$ 99,528.00
	STEP 2	$ 45.03	$ 3,602.40	$ 93,662.40	$ 47.06	$ 3,764.80	$ 97,884.80	$ 48.71	$ 3,896.80	$ 101,316.80
	STEP 3	$ 46.85	$ 3,748.00	$ 97,448.00	$ 48.96	$ 3,916.80	$ 101,836.80	$ 50.67	$ 4,053.60	$ 105,393.60
	STEP 4	$ 48.74	$ 3,899.20	$ 101,379.20	$ 50.93	$ 4,074.40	$ 105,934.40	$ 52.71	$ 4,216.80	$ 109,636.80
	STEP 5	$ 50.60	$ 4,048.00	$ 105,248.00	$ 52.88	$ 4,230.40	$ 109,990.40	$ 54.73	$ 4,378.40	$ 113,838.40

LETTER TO THE LIVONIA CITY COUNCIL

8.

Civil Service
March 19, 2026

MEETING DATE	PRESENTED BY
S040826/R042026	Jeannine Laible, Human Resources Director

AGENDA ITEM

REQUEST FOR AN ADDITIONAL BENEFIT: for non-represented City of Livonia employees, non-appointed department heads and appointed department heads for the period of December 1, 2025, through November 30, 2028.

BACKGROUND DETAILS

March 19, 2026

Honorable Members of City Council
City of Livonia

Subject: Request for an Additional Benefit for Non-Represented Employees, Non-Appointed Department Heads, and Appointed Department Heads

Dear Council Members:

At the Civil Service Commission meeting of March 18, 2026, with Commissioners Roger Spence and Charlotte Mahoney present, it was requested that the Commission consider approving an additional benefit for non-represented employees and non-appointed department heads. On February 25, 2026, AFSCME Union Local 192 ratified a three-year agreement effective December 1, 2025, through November 20, 2028. Historically, the wage and benefit adjustments negotiated between the City and Locals 1917 and 192 have been extended to the non-represented employees and non-appointed department heads. The Civil Service Commission approved the extension of these benefits at the Special Civil Service Commission Meeting of February 26, 2028. One benefit was not extended, and we are requesting that it be extended: an increase in the clothing voucher allowance from $100 to $125 per fiscal year.

The Civil Service Commission reviewed the request and, upon motion by Ms. Mahoney, seconded by Mr. Spence, unanimously adopted, it was

26-53 RESOLVED, that having reviewed the memorandum from Jeannine Laible, Human Resources Director, dated March 5, 2026, regarding a benefit change for non-represented employees and non-appointed department heads, the Civil Service Commission does hereby approve the request to increase the clothing voucher allowance from $100 to $125 per fiscal year for non-represented employees and non-appointed department heads. The Civil Service Commission submits the same to City Council for their review and consideration.

We respectfully request an extension of this benefit, effective upon Council approval of the salary and benefit adjustments for non-represented employees, non-appointed department heads, and appointed department heads.

Thank you for your consideration.

Sincerely,

Jeannine Laible
Human Resources Director

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Approve as submitted

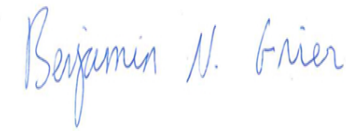
ATTACHMENTS

1. S040826 LTC Addl ben for nonrep nonappt appt

APPROVED BY



Jeannine Laible, Human Resources Director — Date: March 19, 2026



Benjamin N. Grier, JD, CPA, Finance Director — Date: March 26, 2026



Eric Goldstein, Assistant City Attorney — Date: March 27, 2026



Maureen Miller Brosnan, Mayor — Date: March 27, 2026

LETTER TO THE LIVONIA CITY COUNCIL

9.

Police
March 16, 2026

MEETING DATE	PRESENTED BY
S040826/R042026	Brian Kahn, Director of Homeland Security & Emergency Preparedness

AGENDA ITEM

REQUEST ADOPTION OF A RESOLUTION APPROVING THE WAYNE COUNTY HAZARD MITIGATION AS APPROVED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY ON FEBRUARY 20, 2026: for a period of five (5) years in order to receive funds made available through certain mitigation grant programs, pursuant to the Code of Federal Regulations, Title 44, Chapter 1, Subchapter D, Part 201, Section 201.6.c.5 which has been approved for implementation from the Federal Emergency Management Agency (FEMA).

BACKGROUND DETAILS

The Wayne County, Michigan, 2025 Hazard Mitigation Plan is a collaborative, comprehensive plan that aims to reduce the impact of natural, technological, and man-made hazards on the region's communities, infrastructure, and environment. This plan identifies and assesses potential risks, outlines proactive measures to minimize vulnerabilities, and provides a framework for enhancing the City of Livonia and Wayne County's resilience to disasters. By engaging local stakeholders, government agencies, and the public, the Plan prioritizes actions that protect lives, mitigate economic losses, and enhance Livonia's capacity to recover from future hazards.

This Plan serves as an update to the 2020 Hazard Mitigation Plan for the City of Livonia that was created in collaboration with Wayne County and the municipalities that are part of the county. All municipalities in Wayne County, except for the City of Detroit, were considered in the preparation of the Plan. The City of Detroit has its own separate Department of Homeland Security and Emergency Preparedness, Local Emergency Preparedness Committee, and separate hazard mitigation planning process.

This Plan was developed in conjunction with the Wayne County Department of Homeland Security and Emergency Management and other representatives and leaders from Wayne County communities, the Michigan State Police Emergency and Homeland Security Management Division, and numerous stakeholders. Over 90 individuals were involved in the preparation, evaluation, and community outreach components of this Plan, facilitated by ASTI Environmental. The Plan was prepared by an Advisory Committee comprising local emergency response personnel, public works department staff, elected officials, and regional agency leaders. This committee provided evaluation and assessment, assisted with community outreach, and facilitated the adoption of the Plan. This collaborative approach ensures that the Plan reflects the needs and concerns of all stakeholders.

Hazard mitigation aims to reduce the loss of life and property from hazards that occur in the County by protecting its residents' health, safety, and economic interests.

Additional goals of this Plan are:

- Retain access to Federal Emergency Management Agency (FEMA) funding for the County and its communities complying with Section 104 of the Disaster Mitigation Act of 2000 (42 USC 5165)
- Provide a basis for identifying and mitigating hazards that affect the County and its communities
- Develop a method to incorporate hazard identification and mitigation into the planning process of the County and its communities

This plan has since been forwarded to FEMA and has subsequently been approved for implementation on February 20th, 2026.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

The City of Livonia's Emergency Preparedness Division requests your approval to adopt the Wayne County Hazard Mitigation Plan, as Approved by FEMA on February 20th, 2026, pursuant to the Code of Federal Regulations, Title 44, Chapter 1, Subchapter D, Part 201, Section 201 6.c.5.

City of Livonia, Michigan

RESOLUTION NO. _____

A RESOLUTION OF THE CITY OF LIVONIA ADOPTING THE WAYNE COUNTY HAZARD MITIGATION PLAN

WHEREAS the City of Livonia, Michigan, recognizes the threat that natural hazards pose to people and property within the City of Livonia; and

WHEREAS the City of Livonia has prepared a multi-hazard mitigation plan, hereby known as the City of Livonia Hazard Mitigation Plan in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the City of Livonia Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the City of Livonia from the impacts of future hazards and disasters; and

WHEREAS adoption by the City of Livonia demonstrates its commitment to hazard mitigation and achieving the goals outlined in the (title and date of mitigation plan).

NOW THEREFORE, BE IT RESOLVED BY THE CITY OF LIVONIA, MICHIGAN, THAT:

Section 1. In accordance with local rules for adopting resolutions, the City of Livonia adopts the Wayne County Hazard Mitigation plan, dated February 5th, 2026 While content related to the City of

Livonia may require revisions to meet the plan approval requirements, changes occurring after adoption will not require the City of Livonia to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

ADOPTED by a vote of ____ in favor and ____ against, and ____ abstaining, this _____ day of _____, _____.

By: _____ (print name)

ATTEST: By: _____ (print name)

APPROVED AS TO FORM: By: _____ (print name)

ATTACHMENTS

1. S040826 LTC Mitigation Plan
2. FINAL_WayneCoHMP_20250303_Redacted (1)
3. FEMA Letter
4. HazMit cover 2025

APPROVED BY



_____ Date: March 16, 2026

Brian Kahn, Director of Homeland Security & Emergency Preparedness



_____ Date: March 17, 2026

Eric Goldstein, Assistant City Attorney



_____ Date: March 27, 2026

Maureen Miller Brosnan, Mayor









Wayne County Hazard Mitigation Plan

2025 Update

Wayne County, Michigan

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Executive Summary

Wayne County Hazard Mitigation Plan

The Wayne County, Michigan 2025 Hazard Mitigation Plan (the Plan) is a comprehensive plan that aims to reduce the impact of natural, technological, and man-made hazards on the region's communities, infrastructure, and environment. This plan identifies and assesses potential risks, outlines proactive measures to minimize vulnerabilities, and provides a framework for enhancing the County's resilience to disasters. By engaging local stakeholders, government agencies, and the public, the Plan prioritizes actions that protect lives, mitigate economic losses, and enhance the County's capacity to recover from future hazards. Through this collaborative effort, Wayne County is committed to building a safer and more sustainable future for all its residents.

This Plan serves as an update to the 2020 Hazard Mitigation Plan for Wayne County, following the 2006 and 2013 updates. All municipalities in Wayne County (listed below), except for the City of Detroit, were considered in the preparation of the Plan. The City of Detroit has its own separate Department of Homeland Security and Emergency Preparedness, Local Emergency Preparedness Committee, and separate hazard mitigation planning process. All communities listed are continuing participants unless stated. Communities listed in italics are included in the Plan but did not participate in the 2025 update planning process.

Allen Park, City of
Belleville, City of
Brownstown Township
Canton Township
Dearborn, City of
Dearborn Heights, City of
Ecorse, City of
Flat Rock, City of
Garden City, City of
Gibraltar, City of
Grosse Ile Township
Grosse Pointe, City of
Grosse Pointe Farms, City of
Grosse Pointe Park, City of
Grosse Pointe Shores, Village of
Grosse Pointe Woods, City of
Hamtramck, City of
Harper Woods, City of
Highland Park, City of
Huron Charter Township
Inkster, City of
Lincoln Park, City of
Livonia, City of
Melvindale, City of
Northville, City of
Northville, Township of
Plymouth, City of
Plymouth, Township of
Redford Township
River Rouge, City of
Riverview, City of
Rockwood, City of
Romulus, City of
Southgate, City of
Sumpter Township
Taylor, City of
Trenton, City of
Van Buren Township
Wayne, City of
Westland, City of
Woodhaven, City of
Wyandotte, City of

The Plan Process

This Plan was developed with the assistance of the Wayne County Department of Homeland Security and Emergency Management and other representatives and leaders from Wayne County communities, the Michigan State Police Emergency and Homeland Security Management Division, and numerous stakeholders. Over 90 individuals were

involved in the preparation, evaluation, and community outreach components of this Plan, facilitated by ASTI Environmental. The Plan was prepared by an Advisory Committee comprising local emergency response personnel, public works department staff, elected officials, and regional agency leaders. This committee provided evaluation and assessment, assisted with community outreach, and facilitated the adoption of the Plan. This collaborative approach ensures that the Plan reflects the needs and concerns of all stakeholders.

Hazard mitigation aims to reduce the loss of life and property from hazards that occur in the County by protecting its residents' health, safety, and economic interests. Additional goals of this Plan are:

- Retain access to Federal Emergency Management Agency (FEMA) funding for the County and its communities by complying with Section 104 of the Disaster Mitigation Act of 2000 (42 USC 5165)

- Provide a basis for identifying and mitigating hazards that affect the County and its communities

- Develop a method to incorporate hazard identification and mitigation into the planning process of the County and its communities

Specific tasks for this Plan included the following:

- Identifying Hazards and Risks
- Developing a Hazard History
- Developing a Community Profile
- Assessing Vulnerabilities
- Defining Community Goals and Objectives
- Identifying and Prioritizing Hazard Mitigation Strategies
- Developing Action Plans for a Select List of Mitigation Strategies
- Preparing a Draft Report for County, Municipal, and Public Review
- Soliciting County, Municipal, and Public Feedback
- Preparing a Final Report
- Providing Community Outreach and Communication
- Documenting the Planning Process
- Adopting the Final Plan

Hazard Assessment

The Advisory Committee selected the following hazards to represent County-wide concerns using historical research, surveys, workshops, and community and public meetings. Prioritizing these ten hazards does not diminish the significance of any other hazards evaluated, but provides a method for the County to focus its mitigation activities and resources.

- Thunderstorms – including Hail, Lightning, and Severe Wind.
- Flooding – all types.
- Tornadoes.

- Criminal Acts – Mass Shootings/Active Assailant(s).
- Cyber Attacks – Network Disruptions.
- Transportation Accidents – Rail.
- Infrastructure Failure causing Flooding.
- Winter Hazards – including Snow, Ice, and Sleet.
- Acts of Terrorism.
- Hazmat Incidents – including Stored Energy Systems.

Hazard Mitigation

The Advisory Committee selected mitigation strategies for county-wide consideration based on cost-effectiveness, technical feasibility, ability to accomplish the objectives, planning effort required, and protection of critical facilities and infrastructure. Input was gathered from surveys, community meetings, and workshop discussions. The ten strategies listed below were then developed into final county-wide Action Items.

Objective #1: Plan and Train
1.1: Unified Response Training and Exercises
1.2: Training for Hazardous Materials Incidents
1.3: Develop Response Plans for Key Locations

Objective #2: Analyze
2.1: Cybersecurity Assessment
2.2: Review Floodplain Mapping and Engineering Plans
2.3: Vulnerability Assessment for Terrorist Acts

Objective #3: Conduct
3.1: Ensure Readiness at Critical Facilities (Emergency Power)
3.2: Improve Emergency Communications Systems

Objective #4: Maintain
4.1: Protect Communications from EMP
4.2: Upgrade Aging Infrastructure

For comparison, the final county-wide action items from the 2020 Wayne County Hazard Mitigation Plan are listed below.

Criminal Acts: Mass Shooting(s)/Active Assailant(s)

1. Continue training in the most current protocols and develop a process for requesting assistance from local and state law enforcement.

Infrastructure Failure

2. Identify, prioritize, and replace or renovate aging structures and equipment. Establish procedures to protect IT systems.

Public Health Emergencies

3. Stockpile vaccines and antidotes; train & equip volunteers to staff open/closed points of dispensing (PODs).

4. Develop and use mass media notification systems for public health emergencies (establish Wayne County geo-targeting/geo-fencing methods for notifications using Facebook, Nixle, Twitter, etc.).

Extreme Temperatures

5. Establish and build awareness of accessible heating/cooling centers in the community. Utilize all means available, including websites, social media, smartphone apps, mailers, etc., to inform the public of impending weather threats and resources available, including heating & cooling shelters.

6. Educate the public regarding safe use of office and home space heaters, generators, smoke detectors & carbon monoxide detectors.

7. Catalog & map areas of vulnerable and other residents (unlicensed facilities, empty/vacant buildings, etc.). Provide outreach and transportation to vulnerable and normally hard-to reach populations during extreme temperature events.

Hazardous Materials (HazMat) Incidents – Transportation

8. Utilize public warning systems and networks for public awareness and instructions in the event of hazardous materials incidents.

Flooding – River/Shoreline

9. Identify and map, or update existing maps of, floodplains and flood-prone areas. Leverage new ArcGIS online applications with MI CIMS sponsored by Michigan State Police and FEMA Risk MAP, incorporating the Great Lakes Coastal Flood Study. Provide training for local jurisdiction use and access.

1. Introduction

Wayne County faces a variety of natural, technological, and human-made hazards that pose risks to life, health, property, and the environment. Under the Federal Disaster Mitigation Act of 2000, local governments are required to develop a Hazard Mitigation Plan (HMP) to be eligible for funding aimed at mitigating the impacts of disasters, both before and after they occur. In compliance with this requirement, Wayne County has developed this multi-jurisdictional Hazard Mitigation Plan (the Plan) to better understand the significant hazards within the County, assess their potential impacts, and identify strategies to reduce those risks.

The Plan was created with input and guidance from the Wayne County Department of Homeland Security & Emergency Management, community members, local officials, and leaders from the County's municipalities, along with support from the Michigan State Police Emergency Management and Homeland Security Division and a range of other stakeholders.

1.1 Acknowledgements

The development of this Hazard Mitigation Plan involved significant time, effort, and input from a diverse group of individuals, including community leaders, residents, and County staff. Wayne County would like to acknowledge and thank the following people for their cooperation and assistance in developing this report:

Wayne County Department of Homeland Security & Emergency Management

Samer Jaafar, Director
Nour Aljanabi, Executive Asst. / UASI Solution Area Planner
Ahmed Nasser, Finance Manager
Brian Herman, Local Emergency Planning Committee (LEPC) Information Coordinator
John Serda, Deputy Director

Michigan State Police Emergency Management and Homeland Security Division, State and Local Support Section

Michael Sobocinski | Hazard Mitigation Planning Analyst

Table 1. Wayne County Hazard Mitigation Planning Survey and Workshop Participants

Community or Organization	Name	Title/Department
16th District Court	Natalie	Unknown
Allen Park, City of	Jeff O'Riley	Fire Chief
Belleville, City of	Ken Voigt	Mayor
Belleville, City of	Kristin Faull	Chief of Police
Brownstown Township	Jeffery Watson	Chief of Police
Brownstown Township	Ryan Raumen	Fire Chief
Canton Township	Anne Marie Graham-Hudak	Township Supervisor
Canton Township	William Hayes	Emergency Manager
Dearborn, City of	James Rodgers	Emergency Manager
Dearborn, City of	Jim Rodgers	Emergency Management Coordinator
Dearborn Heights	John Danci	Director of Public Works
Downriver Community Conference	Jazmine Danci	Economic Development
Ecorse, City of	Daniel Wright	Fire Chief
Ecorse, City of	Lamar Tidwell	Mayor
Flat Rock, City of	Brad Smith	Firefighter
Flat Rock, City of	Derrick Welton	Fire Chief
Flat Rock, City of	Eric Holtz	Director of Public Services and Water

Community or Organization	Name	Title/Department
Garden City	Billy Smith	Road Patrol Police
Garden City	John Smith	Fire Marshal
Garden City	Randell Keen	Fire Chief
Gibraltar, City of	Bruce Bullard	Police Chief
Grosse Pointe Farms, City of	John Hutchins	Director of Public Safety
Grosse Pointe Shores, Village of	Kenneth Werenski	Director of Public Safety
Grosse Pointe Woods, City of	John Kosanke	Director of Public Safety
Grosse Pointe, City of	Joseph Valentine	City Manager
Hamtramck, City of	Matthew Wyszczelki	Fire Chief
Highland Park, City of	Charles Lackey	Director
Huron Township	Phil Lindenmuth	Deputy Fire Chief
Huron Township	Thomas Smith	Patrol Operations Lieutenant
Huron Township	Everett Robbins	Director of Public Safety
Inkster, City of	Jerome Bivins	Director DPS
Inkster, City of	Jason Kaye	Fire Chief
Lincoln Park	Michael Prinz	Fire Chief
Lincoln Park	Mike Prinz	Fire Chief
Livonia, City of	Biran Kulka	Fire and rescue - prevention
Livonia, City of	Casey O'Neill	Information Systems
Livonia, City of	Christopher Jackett	Chief of Public Relations
Livonia, City of	Donald Rohraff	DPW Director
Livonia, City of	Douglas Moore	Dept of Public Works
Livonia, City of	Jeannine Laible	Human Resources Director
Livonia, City of	Kristin Houchins	Director of Communications
Livonia, City of	Robb Drzewicki	Director of Government Affairs and Community Outreach
Livonia, City of	Robert Jennison-	Livonia Fire & Rescue
Livonia, City of	Sara Kasprowicz	Program Supervisor
Livonia, City of	Ted Davis	Superintendent, P&R
Livonia, City of	Todd Zilincik	City Engineer
Livonia, City of	Wade Clay	Deputy Chief/ Livonia Fire Department
Livonia 16 District Court	Nadezda Stovevska	Court Administrator
Livonia Public Library	Kristen Edson	Director
Livonia, City of	Brian Kahn	Director of Homeland Security and Emergency Preparedness
Livonia, City of	Dave Varga	Chief of Staff

Community or Organization	Name	Title/Department
Melvindale, City of	James Rodgers	Emergency Manager
Northville, City of	Dustin Kruger	Captain
Northville, City of	Alan Maciag	Chief of Police
Northville Township	Glenn Caldwell	Township Manager
Plymouth Township	Daniel Kudra	Assistant COP
Plymouth Township	Patrick Conely	Fire Chief
Plymouth, City of	Paul Sincock	City Manager
Redford Township	Pat McRae	Township Supervisor
Riverview, City of	John Allen	Police Chief
Riverview, City of	Glenn Owens	Fire Chief
Rockwood, City of	Randy Krause	Chief of Police
Rockwood, City of	Troy Cox	Mayor
Romulus, City of	Ken Chapmen	Fire Chief
Senate	Andria Robinson	Liaison
Southgate, City of	Joe Marsh	Director of Public Safety
Sumpter Township	Eric Luke	Chief of Police
Taylor, City of	Al Young	Deputy Fire Chief
Trenton, City of	Keith Anderson	Fire Chief / Trenton Fire Department
Trenton, City of	Paul Haley	Emergency Manager
Unknown	Brad Smzty	Unknown
Unknown	RJ	Unknown
Van Buren Township	David McInally	Fire Chief
Wayne County	Cara Dietz	Project Manager
Wayne County - DHSEM	Brian Herman	SAP
Wayne County - DHSEM	James Katona	SAP
Wayne County - DHSEM	John Serda	Deputy Director
Wayne County - DHSEM	Jonathan Williams	SAP
Wayne County - DHSEM	Ahmad Nasser	Finance
Wayne County - DHSEM	Nour Aljanabi	Executive Assistant / SAP
Wayne County - DHSEM	Samer Jaafer	Director
Wayne, City of	David Schmidt	Assistant Director, DPW
Wayne, City of	Kirk Malcomson	Assistant Director of Building, Engineering, and Ordinance Department
Wayne, City of	Ryan Strong	Chief of Police
Westland, City of	Robert Wilkie	Deputy Police Chief
Westland, City of	Darrell Stamper	Fire Chief
Westland, City of	Jim Godbout	Deputy Mayor

Table 2 presents the names and affiliations of public individuals who reviewed and commented on the draft HMP and had not otherwise participated in the Hazard Mitigation Plan Advisory Committee workshops.

Table 2. Representatives and Public Commenting on the Draft HMP

Community or Organization	Name	Title/Department
Center Line, City of	Dennis Champine	City Manager/Clerk/DDA Director
River Rouge, City of	Elizabeth Cacevic	City Representative
River Rouge, City of	William L Campbell	Mayor
River Rouge, City of	Public Safety Director	Public Safety Director
Wyandotte, City of	Joe Gruber	Community and Economic Development Director

The following 42 communities in Wayne County, excluding the City of Detroit, were invited to participate in the development of the Plan. Communities listed in italics are included in the Plan but did not participate in the 2025 update planning process. All of the listed participating communities below are continuing participants from the previous HMP cycle.

Allen Park, City of
Belleville, City of
Brownstown Township
Canton Township
Dearborn, City of
Dearborn Heights, City of
Ecorse, City of
Flat Rock, City of
Garden City
Gibraltar, City of
Grosse Ile Township
Grosse Pointe, City of
Grosse Pointe Farms, City of
Grosse Pointe Park, City of
Grosse Pointe Shores, Village of
Grosse Pointe Woods, City of
Hamtramck, City of
Harper Woods, City of
Highland Park, City of
Huron Charter Township
Inkster, City of
Lincoln Park, City of
Livonia, City of
Melvindale, City of
Northville, City of
Northville Township
Plymouth, City of
Plymouth Township
Redford Township
River Rouge, City of
Riverview, City of
Rockwood, City of
Romulus, City of
Southgate, City of
Sumpter Township
Taylor, City of
Trenton, City of
Van Buren Township
Wayne, City of
Westland, City of
Woodhaven, City of
Wyandotte, City of

2. Hazard Mitigation Plan Process

This Plan is designed to comply with the requirements of the Disaster Mitigation Act of 2000, which states that local governments must have an approved Hazard Mitigation Plan in place to be eligible for pre-disaster mitigation funds after November 1, 2003,

and post-disaster mitigation funds after November 1, 2004.[1] This Plan is also designed to comply with the Federal Emergency Management Act, guidance documents developed by the Federal Emergency Management Agency (FEMA) and the Michigan State Police Emergency Management and Homeland Security Division (EMHSD), and other applicable federal, state, and local regulations. This was achieved by evaluating the impacts of known natural, technological, and human hazards, prioritizing mitigation alternatives, and coordinating hazard mitigation with other County programs and policies.

Forty-one (41) hazards in the three categories described below were evaluated during the planning process. Hazard definitions are included in Section 4. These hazards were selected based on the guidelines presented in the *Local Hazard Mitigation Planning Handbook,* Michigan Department of State Police Emergency Management and Homeland Security Division[2].

Natural Hazards

Celestial Impact
Drought
Earthquake
Extreme Temperatures - Extreme Hot or Cold
Fire - Wildfires
Flooding - Riverine or Shoreline
Fog
Invasive Species
Subsidence - Natural
Thunderstorms - Hail, Lightning, Severe Wind
Tornadoes
Winter Hazards - Snow, Ice & Sleet

Technological Hazards

Fire - Scrap Tire
Fire - Structural
Flooding - Dam Failure
Flooding - Urban
Hazmat Incidents - Fixed Site
Hazmat Incidents - Transportation
Infrastructure Failure - Bridges, Roads, Overpasses
Infrastructure Failure - Communications
Infrastructure Failure - Electrical Systems
Infrastructure Failure - Sanitary/Storm Sewers
Infrastructure Failure - Water System

[1] Section 104 of the Disaster Mitigation Act of 2000 (42 USC 5165), 44 CFR (Code of Federal Regulations) Part 201, accessed January 24, 2025, https://www.ecfr.gov/current/title-44/chapter-I/subchapter-D/part-201.
[2] Michigan Department of State Police, Emergency Management Division, *Local Hazard Mitigation Planning Handbook,* December 2001.

Nuclear Power Plant Accidents
Oil and Gas Well or Pipeline Accidents
Subsidence – Mining or Infrastructure

Human Hazards

Catastrophic Events/National Emergencies
Civil Disturbance
Criminal Acts - Mass Shootings/Active Assailant(s)
Criminal Acts - Vandalism and Arson
Criminal Acts - Homicide/Robbery/Carjacking
Gas/Oil Shortages or Supply Disruptions
Information Technology Intrusion
Public Health Emergencies - Pandemics, Epidemics, Food/Water
Terrorism/Sabotage
Transportation Accidents - Air
Transportation Accidents - Marine
Transportation Accidents - Rail
Transportation Accidents - Surface Roads/Highways
Weapons of Mass Destruction

Terrorism, weapons of mass destruction, and nuclear power plant accidents are mentioned in the hazard analysis section, but this Plan does not include specific mitigation strategies. These hazards are addressed separately in the Wayne County Emergency Operations Plan, which contains sensitive homeland security and law enforcement information and is not publicly available.

2.1 Plan Goals and Objectives

The goals of any Hazard Mitigation Plan include saving lives and protecting property, preserving and maintaining an area's environment and economy, and ensuring the preservation and continuity of essential services and quality of life. In addition, the specific goals of this Plan are:

- To retain access to FEMA funding for the County and its communities by complying with Section 104 of the Disaster Mitigation Act of 2000 (42 USC 5165)
- To provide a basis for identifying hazards that affect the County and its communities
- To develop a method to incorporate hazard identification and mitigation into the planning process of the County and its communities

Through the hazard mitigation planning process outlined in this Plan, Advisory Committee members identified specific goals and objectives that align with the overall planning framework. These goals are supported by targeted mitigation strategies aimed at achieving the following outcomes:

- Protect and preserve human health and well-being

- Maintain and fortify critical assets, structures, and infrastructure to preserve the quality of life
- Ensure interagency cooperation and coordination for preparedness
- Enhance emergency response capabilities (including and especially communications
- Review and improve county-wide contingency plans for maintaining quality of life

2.2 Planning Process

This Plan was prepared to provide a basis for identifying and managing natural, technological, and human hazards and to meet federal, state, and local requirements for hazard mitigation and FEMA grant funding. Plan preparation involved the completion of the following tasks:

- Identifying Hazards and Risks
- Developing a Hazard History
- Developing a Community Profile
- Assessing Vulnerabilities
- Defining Community Goals and Objectives
- Identifying and Prioritizing Hazard Mitigation Strategies
- Developing Action Plans for a Select List of Mitigation Strategies
- Preparing a Draft Report for County, Municipal, and Public Review
- Soliciting County, Municipal, and Public Feedback
- Preparing a Final Report
- Providing Community Outreach and Communication
- Documenting the Planning Process
- Adopting the Final Plan

The development of this Plan involved identifying and evaluating hazards and mitigation options through an Advisory Committee comprised of community representatives from municipalities in the County, emergency management leaders, and other stakeholders from these same municipalities. Each of these is described further in Section 2.3, Plan Participation. Members of the Advisory Committee are listed in Table 3.

Table 3. Advisory Committee

Community or Organization	Name	Title/Department
Allen Park, City of	Jeff O'Riley	Fire Chief
Belleville, City of	Kristin Faull	Chief of Police
Brownstown Township	Ryan Raumen	Fire Chief
Brownstown Township	Jeffery Watson	Chief of Police
Canton Township	Anne Marie Graham-Hudak	Township Supervisor
Canton Township	William Hayes	Emergency Manager
Dearborn	James Rodgers	Emergency Manager
Dearborn Heights	John Danci	Director of Public Works

Community or Organization	Name	Title/Department
Dearborn, City of	Jim Rodgers	Emergency Management Coordinator
Ecorse, City of	Daniel Wright	Fire Chief
Ecorse, City of	Lamar Tidwell	Mayor
Flat Rock, City of	Derrick Welton	Fire Chief
Flat Rock, City of	Brad Smith	Firefighter
Flat Rock, City of	Eric Holtz	Director of Public Services and Water
Garden City	Randell Keen	Fire Chief
Gibraltar, City of	Bruce Bullard	Police Chief
Grosse Pointe Farms, City of	John Hutchins	Director of Public Safety
Grosse Pointe Shores, Village of	Kenneth Werenski	Director of Public Safety
Grosse Pointe Woods, City of	John Kosanke	Director of Public Safety
Hamtramck, City of	Matthew Wyszczelki	Fire Chief
Inkster, City of	Jerome Bivins	Director DPS
Lincoln Park, City Park	Mike Prinz	Fire Chief
Livonia, City of	Douglas Moore	Dept of Public Works
Livonia, City of	Brian Kahn	Director of Homeland Security and Emergency Preparedness
Northville, City of	Alan Maciag	Chief of Police
Northville Township	Glenn Caldwell	Township Manager
Plymouth Township	Patrick Conely	Fire Chief
Plymouth, City of	Paul Sincock	City Manager
Redford Township	Pat McRae	Township Supervisor
Riverview, City of	John Allen	Police Chief
Riverview, City of	Glenn Owens	Fire Chief
Rockwood, City of	Randy Krause	Chief of Police
Sumpter Township	Eric Luke	Chief of Police
Trenton	Keith Anderson	Fire Chief / Trenton Fire Department
Trenton	Paul Haley	Emergency Manager
Van Buren Township	David McInally	Fire Chief
Wayne County - DHSEM	Nour Aljanabi	Finance
Wayne County - DHSEM	Brian Herman	SAP
Wayne County - DHSEM	James Katona	SAP
Wayne County - DHSEM	John Serda	Deputy Director
Wayne County - DHSEM	Jonathan Williams	SAP
Wayne County - DHSEM	Nour Aljanabi	Executive Assistant / SAP
Wayne County - DHSEM	Samer Jaafer	Director

Community or Organization	Name	Title/Department
Wayne, City of	David Schmidt	Assistant Director, DPW
Wayne, City of	Kirk Malcomson	Assistant Director of Building, Engineering, and Ordinance Department
Wayne, City of	Ryan Strong	Chief of Police
Westland, City of	Robert Wilkie	Deputy Police Chief
Westland, City of	Darrell Stamper	Fire Chief

Planning Approach

Plan preparation was based on the contract titled *FEMA Five-Year Hazard Mitigation Plan: To Be Completed for the County of Wayne, Michigan, D/B/A ASTI Environmental*. Wayne County contracted ASTI Environmental, Inc. (ASTI) of Brighton, Michigan. ASTI was contracted to facilitate the hazard mitigation planning process and prepare the final Hazard Mitigation Plan. The process involved updating background information on the County, updating information on local hazard issues from individual communities, obtaining input on hazard priorities, identifying specific vulnerabilities and desired mitigation strategies, facilitating the activities of the Advisory Committee, and conducting a series of workshops and public meetings with County officials, local stakeholders, and the general public as described below.

Hazard information for the County and corresponding mitigation strategies were gathered through two workshops and three surveys. Both workshops were presented in person and remotely. The first survey was distributed to Advisory Committee members, resulting in a numerical ranking of 37 hazards. The results of this survey were used to inform the discussions at the first workshop. The second survey focused on rating mitigation strategies and allowed participants to suggest additional mitigation ideas. The data from this survey were used to guide the second workshop. The workshops included a mix of individual assignments, small-group activities, and large-group discussions and evaluations for both in-person and remote participants. Participants engaged in pairwise ranking exercises, completed worksheets, and participated in discussion groups to assess survey results, develop and apply evaluation criteria, identify goals and objectives, and select mitigation options for specific hazards. This collaborative process helped ensure that diverse perspectives were considered in formulating effective strategies. Further information on the surveys and workshops can be found in Sections 2.4.1, 5.1, and 6.2.

2.2.1 Existing Plans and Programs

A Hazard Mitigation Plan is just one component of the broader emergency management cycle, which spans mitigation, preparedness, response, and recovery. A key objective of this planning process was to align the Plan with existing emergency plans, programs, procedures, and organizations within Wayne County. Coordination of this Plan with other county activities will be overseen by the Hazard Mitigation Plan Advisory Committee (HMPAC), as outlined in Section 2.6 below.

Members of the HMPAC will be responsible for identifying opportunities within their respective departments or organizations to integrate this Plan into other county plans and programs. Any identified opportunities will be brought back to the full HMPAC for review

and consideration. Ultimately, the decision to incorporate this Plan into other plans and programs will be made by the individual county department or organization responsible for those plans or programs.

Several documents and resources published by regional, state, and federal institutions were used in the development of this Plan, as noted in the endnotes. These resources included:

- Michigan Department of State Police Emergency Management and Homeland Security Division, Michigan Hazard Analysis
- Michigan State Police, Uniform Crime Reports, Crime Statistics, and Property Index Crime Trends
- SEMCOG, Land Use in Southeast Michigan, 2045 Regional Development Forecasted Population Change, and digital land use data
- U.S. Census Bureau, Profile of General Demographic Characteristics and American Community Survey 5-Year Estimates.
- FEMA NFIRS 5.0 National Reporting, Tally by Incident Type and National Flood Insurance Program Community Status Book
- U.S. Coast Guard National Response Center
- Michigan Department of Environmental Quality
- NOAA National Centers for Environmental Information Storm Events database
- U.S. Department of Transportation
- U.S. Fire Administration
- National Transportation Safety Board

2.2.2 County Goals and Objectives

For successful implementation, this Plan must align with and complement the broader goals, objectives, and programs of Wayne County. As part of the planning process, the goals, objectives, mission statements, and guiding principles of relevant county agencies were reviewed to ensure consistency. The hazard mitigation planning process is not intended to replace other County planning efforts, but rather to be integrated into future County-wide planning initiatives.

The Wayne County Department of Homeland Security & Emergency Management serves as the lead department for both the development and implementation of the County's Hazard Mitigation Plan. This Plan is consistent with the mission of the Wayne County Emergency Management Division, which is:[3]

> "To take the lead role in coordinating the County's responsibility to plan, analyze, conduct, and maintain programs to preserve and protect lives and property from major emergencies and disasters of all types. In this capacity, it maintains a current adequate emergency management program for the County of Wayne and all participating local municipalities."

[3] Charter County of Wayne, Michigan, "Homeland Security and Emergency Management," accessed January 24, 2025, https://www.waynecounty.com/departments/hsem/home.aspx.

Furthermore, the Plan is consistent with the goals and objectives of the Wayne County Department of Homeland Security & Emergency Management, which include the following:[4]

- Update and maintain the Emergency Operations Plan, as well as all related support documents.
- Conduct public awareness activities designed to increase basic emergency preparedness skills and develop public confidence in the County's Emergency Management Program.
- Conduct disaster response training drills and exercises designed to highlight and correct emergency planning and resource deficiencies and to otherwise maintain and improve the overall emergency response readiness level of the County and participating local communities.

2.3 Plan Contributions

The Wayne County hazard mitigation planning process centered on a series of structured discussions and opportunities for feedback from various stakeholders. These included county officials, municipal leaders from Wayne County and neighboring communities, local and regional agencies involved in hazard mitigation and land use/regional planning, and the general public. Key mechanisms for outreach and input are listed below. Copies of public outreach materials, which describe the planning process and invite participation in the development of the Plan, can be found in Appendix A.

1. A project website presented a summary of the planning process, relevant background materials, and a web-based comment form.
2. Flyers describing the planning process were available to the Advisory Committee and municipal officials.
3. Online surveys were provided to the Advisory Committee and strategic partner organizations.
4. Two workshops were completed to identify and prioritize hazards, develop mitigation strategies, and create action plans.
5. A copy of the draft plan was provided on the project website and announced to the public, adjoining communities, Advisory Committee members, and community representatives.

2.3.1 County Contributions

The Wayne County Department of Homeland Security and Emergency Management provided contract administration, participated on the Advisory Committee, and assisted in outreach efforts.

2.3.2 Advisory Committee

The Advisory Committee served as the primary group overseeing the development of the Plan. The committee participated in hazard identification and risk assessment, evaluated mitigation alternatives, and prepared the final action plans through a series of workshops

[4] Charter County of Wayne, Michigan, "Homeland Security and Emergency Management."

and surveys. Although representatives from every community were involved in surveys and reviews, the advisory committee only included a select number of individuals chosen by the County. A copy of the participation materials is provided in Appendix A.

2.3.3 Community Representatives

Representatives from each of the 42 communities were invited to coordinate community input and engage in discussions about hazard identification, mitigation options, and community-specific vulnerabilities. These representatives included key stakeholders such as Police Chiefs, Fire Chiefs, Public Safety Directors, Mayors, Village Presidents, Township Supervisors, Emergency Management Coordinators, and other appointed officials from each community. A complete, tabulated list of participating individuals and their respective engagement types can be found in Appendix A.

To keep these community representatives informed and involved in the planning process, they were updated through various channels, including the project website, Advisory Committee workshops, workshop summaries, and three online surveys. They were also encouraged to provide feedback on the Draft Plan, which was posted on the website for public review.

The following adjoining communities were invited to review the draft Plan before submittal to FEMA. Those listed in italics provided feedback in response to the invitation. A copy of the outreach email is provided in Appendix A.

Armada Township
Armada, Village of
Centerline, City of
Chesterfield Township
Clinton Township
Macomb County
Monroe County
Oakland County
Washtenaw County

The City of Center Line requested that the plan be additionally reviewed for the intent of carry over text from the previous HMP, and to update a link within a citation. These requests have been addressed in the final draft of the 2025 HMP.

2.3.4 Public Outreach

The completion of the draft report was announced on the project website and via various social media platforms. A copy of some of the announcements is provided in Appendix A. The website provided an overview of the project and explained the planning effort's processes and objectives, as well as the resulting draft Hazard Mitigation Plan. The page also shared contact information and a feedback form for soliciting input on the draft Plan. As a result, the draft Plan was reviewed by at least 24 individuals; two members of the public reached out with feedback.

2.3.5 Other Stakeholders

The following stakeholders with land use planning knowledge and hazard mitigation/response authority were contacted to offer opportunities to comment and provide input on the draft Plan:

- American Red Cross – Southeastern Michigan Chapter
- DTE Energy
- Michigan State University Cooperative Extension Service
- Wayne County Road Commission
- Wayne County Sheriff
- Friends of the Rouge
- Clinton River Watershed Council
- Huron River Watershed Council
- Genesee County LEPC
- Lapeer County LEPC
- Livingston County LEPC
- Macomb County LEPC
- Southeast Michigan Council of Governments
- St. Clair County LEPC
- Washtenaw County LEPC
- Wayne County LEPC
- Wayne County Departments of Public and Environmental Services
- U.S. Geological Survey
- U.S. Army Corps of Engineers
- National Weather Service

2.4 Plan Activities

2.4.1 Surveys

Planning participants were asked to complete three online surveys, each designed to gather input for specific planning workshops and facilitate discussions on hazard evaluation and mitigation options. These surveys played a crucial role in shaping the Plan and guiding the selection of effective mitigation strategies. A copy of the surveys can be found in Appendix B.

First Survey and Follow-up Survey

The first survey asked participants to identify the most significant hazard in each of three major categories (natural, technological, and human). It included open-ended questions that allowed participants to include other hazards in the final list. Participants were also asked to rate the top five hazards on a scale of 1 (Least Significant) to 5 (Most Significant). The significance of each hazard was evaluated based on its potential negative impact on the County's population, economy, and environment. These ratings and responses were used to assess the relative importance of each hazard, considering both its likelihood and potential consequences. This process helped identify which hazards required focused action plans to address during the workshops.

Participants were asked to identify the top five assets most vulnerable to hazard events, considering their potential impact on the population, the environment, and economic activity. The assets evaluated included commercial sites, hospitals, industrial sites, open spaces, public facilities, residential areas, roads, bridges, railroads, utility facilities, schools and churches, sports and entertainment arenas, and the central business district. Vulnerability was rated on a scale of 1 (Least Critical) to 5 (Most Critical). These ratings were used during the workshops to assess the importance of each asset and to evaluate the likelihood that each identified hazard would impact those assets.

The survey was provided to 105 individuals in both the Advisory Committee and local representatives. A total of 38 individuals participated in the survey. Of the Advisory Committee, 18 members participated in the first survey. The results were presented to the Advisory Committee for review and evaluation at the first workshop.

First Workshop Follow-up Survey

Due to the length of time allotted in the first workshop, the final two worksheets were sent out to the Advisory Committee as a follow-up survey. The topics covered by the first workshop follow-up survey include the likelihood of hazards impacting community assets and the consequences of hazardous events on community assets. A total of 18 participants completed the follow-up survey for the first workshop. The results of the first workshop follow-up survey were presented to the Advisory Committee for review at the second workshop.

Second Survey

Advisory Committee members were asked to evaluate possible hazard mitigation strategies in a written survey prior to the second workshop. Mitigation strategies were developed based on the first workshop, the 2020 Plan, and lists of potential mitigation strategies compiled by other communities undertaking hazard mitigation planning in the state of Michigan. The survey listed eight or more mitigation strategies for each hazard. Of the committee members, 11 participated in the survey prior to the second workshop.

Advisory Committee members were asked to rate each mitigation strategy for appropriateness in Wayne County. Participants could decline scoring items with which they were not familiar. Additional space was provided for each hazard, allowing participants to suggest additional mitigation strategies. The survey requested open-ended input on the best mitigation strategies to address each of the 10 highest-priority hazards identified by the Advisory Committee during the first workshop.

The results of this survey were presented to the Advisory Committee members during the second workshop. The top responses were compiled into an initial list for consideration, and the committee was asked to review all applicable responses to identify other strategies that should be considered.

Third Survey

Due to the complexity of the final worksheet of the second workshop, the Advisory Committee voted to conduct the final worksheet as a follow-up survey. The follow-up survey focused on the top 14 mitigation strategies and the additional nine mitigation strategies identified through the open-ended question.

2.4.2 Workshops

The Advisory Committee met in two workshops at the Wayne County Community College Ted Scott Campus. The following describes each workshop and the procedures used to focus this Plan on the hazards and mitigation strategies specific to Wayne County. Sections 5 and 6 provide more information on the process used and the results of the workshop activities. Appendices B and C provide the summary memo, agenda, handouts, and worksheets from the risk assessment and mitigation strategy workshops.

First Workshop – Risk Analysis Workshop

The first workshop was conducted on December 10, 2024. This meeting included an orientation to familiarize committee members with the hazard mitigation planning process. A risk and vulnerability assessment was conducted to identify and rank priority hazards in Wayne County, assess the risk associated with the top-ranked hazards, and determine the County's unique critical assets and specific vulnerabilities. The objective of the workshop was to use a rational approach to focus the Plan on the most critical hazards and vulnerable assets in the County.

The first task of the meeting was to identify the goals and objectives for the mitigation process. Advisory Committee members reviewed the goals set forth in the 2020 HMP and suggested additional goals based on other County programs. The Advisory Committee then reviewed the County's hazard history, the hazard ranking in the 2020 Plan, and the results of the initial survey. Workshop participants discussed the frequency and impacts in three categories: health and safety, the area affected, and economic effects. The Committee discussed the importance of each hazard and its impacts on the population, environment, and economy within each of the 11 asset classes, including residential areas, business districts, and industrial sites.

Based on historical information, survey results, and discussions, 10 hazards were identified as significant for the County and selected for further analysis. The committee was tasked with selecting and weighing criteria for evaluating the top hazards and creating a list of evaluation criteria specifically applicable to Wayne County. Questions were provided to stimulate thought, including: "What are the top priorities for the community when considering hazard mitigation?" "What do community leaders represent as important?" "What are the top priorities for emergency response agencies when considering the impacts of hazards?" and "What are the top challenges facing the County when a hazard occurs?" Four criteria were developed and weighted relative to one another: duration of Impact on the Economy and Population, Public Health, Safety and Welfare, and Loss of Life, Loss of Property, and Infrastructure Failure or Damage. These criteria were used to evaluate the top 10 hazards for consequence and frequency. This process further reduced the list of priority hazards to seven.

The committee discussed 10 general asset categories. These assets were evaluated to determine their potential criticality in the event of a hazard, considering both the consequence and likelihood of individual hazard impacts.

Second Workshop – Mitigation Strategies Workshop

The second workshop was conducted on January 14, 2025. This workshop focused on three main objectives: (1) identifying, evaluating, and prioritizing hazard mitigation alternatives for key hazards and critical assets; (2) developing evaluation criteria to guide the selection of mitigation strategies; and (3) identifying specific mitigation strategies to be developed further as Action Items for the final Plan. These activities were designed to ensure that the Plan effectively addresses the most significant risks and vulnerabilities facing the County.

The committee was asked to provide updates on the 2020 action items. They were then tasked with selecting and weighing criteria to evaluate new mitigation strategies. These criteria were chosen based on a review of those used in the development of the 2020

Plan, as well as input from group discussions. The five key criteria selected to assess and compare individual mitigation strategies were:

- Cost-effectiveness
- Technical feasibility
- High ability to accomplish
- Low planning effort required
- Protection of critical facilities and infrastructure

The ratings of mitigation strategies from the survey, along with additional strategies identified by the community, were compiled, resulting in a total of 331 potential strategies for consideration. Participants discussed the top-rated strategies for each hazard and any other strategies they felt were relevant to the County. During these discussions, strategies were refined by combining redundant approaches and identifying additional mitigation strategies for the top hazards, as needed. This collaborative process helped ensure a comprehensive and tailored set of strategies for the County's specific needs. The committee used the evaluation criteria to rank the strategies presented by the groups.

After revising the top 14 strategies identified through the survey process, the committee reviewed the additional strategies generated from the open-ended questions in the online survey. This review was based on a discussion of the Plan's goals and objectives, the County's needs, and the critical hazards and vulnerable assets. As a result of this discussion, the committee selected nine additional strategies to include in the Plan. The resulting list of 23 strategies formed the foundation for the final 10 Action Items to address the current needs and priorities of Wayne County. Each Action Item was drafted by ASTI and reviewed by Wayne County.

2.5 Plan Adoption

Formal adoption of a Hazard Mitigation Plan is required for FEMA approval. The Draft Plan was first submitted to the Wayne County Department of Homeland Security and Emergency Management for review, with a focus on security-related issues. After incorporating any security-related feedback, the draft document was distributed to members of the project Advisory Committee and the Michigan State Police for further review and comment.

A copy of the Draft Plan was made available to stakeholders and the public through the project website, ensuring broad access and opportunity for feedback. Following the incorporation of review comments, the Plan was presented to the County Board of Commissioners for approval and adoption. Copies of the final adoption resolutions for each community are included in Appendix D.

FEMA and the Michigan State Police require that all multi-jurisdictional Plans be adopted, either in whole or in part, by the individual municipalities within the planning area. Municipal officials were informed of this requirement, and a sample resolution of adoption was provided to each community along with the announcement of the final Plan. To facilitate adoption, information regarding local hazard priorities and mitigation strategies is included in separate subsections of the Plan, allowing each community to reference and adopt the sections specific to their municipality easily.

Tables 1 and 2 list the individuals who participated in the planning process, including those who responded to surveys, attended meetings, and/or provided input on the draft Plan.

2.6 Plan Maintenance

The Wayne County Hazard Mitigation Plan Advisory Committee (HMPAC) will regularly monitor this Plan. The HMPAC will comprise members of the Wayne County Department of Homeland Security and Emergency Management, as well as representatives from the Wayne County communities and stakeholders. Plan evaluation and maintenance is the responsibility of the County Emergency Management Coordinator.

The HMPAC will review the Plan annually to assess progress on each Action Item, changes in hazard history, and any known changes in vulnerability. Every two years, a description of the Plan's progress and any changes in circumstances or trends that may require revision will be presented to the Wayne County Board of Commissioners.

The Plan will be reviewed, updated, and revised as necessary every five years to maintain consistency with the changing community and hazard history, as well as the County's goals and objectives.

Each time the Plan is revised, a new Revision Number and Revision Date will be inserted in the document header. Changes constituting a substantive revision to the Plan will require that the new plan be provided to the County Board of Commissioners and the individual communities participating in the Plan for approval and re-adoption. Review and approval will provide an opportunity for public review and comment at a normally scheduled meeting(s) of the Wayne County Board of Commissioners.

3. Community Profile

3.1 Historical Overview

Wayne County was established in 1796, following the founding of the Northwest Territories, which was named in honor of Major Anthony “Mad Anthony” Wayne (1745-1796), a Revolutionary War hero whose military service helped secure lasting peace in the region. His name is commemorated in cities and towns throughout Michigan, Ohio, Indiana, and Illinois. Originally, Wayne County encompassed nearly all of Michigan's Lower Peninsula, as well as parts of Ohio, Indiana, Illinois, and even Wisconsin.

The region was first explored and settled by the French in the 1600s as part of their efforts to establish strategic settlements on the continent and contain the British colonies in New England. Its location along the Detroit River made the area both a valuable commercial hub and a key military position. While French explorers were the first to establish a lasting presence, Jesuit missionaries had been active in the area prior to that. Several Native American tribes also inhabited the region in the 1600s, and long before European settlement, the area was home to the Mound Builders, a prehistoric culture known for the elaborate burial mounds they constructed. Mound Road in Wayne County is named for one such mound found in the area.

After European settlement, the region's economy was initially centered on farming and lumber but later expanded to include small industrial operations that leveraged the area's rich natural resources, such as iron and copper, and its access to shipping routes via the Great Lakes. In the second half of the 19th century, Wayne County emerged as a leading

producer of stoves, ships, and railroad cars, as well as bicycles and carriages. This laid the foundation for the area's explosive growth in the 20th century, particularly with the rise of the automotive industry.

Although the automobile was invented in the late 1800s, it was Henry Ford's innovations in the early 1900s that made cars both popular and affordable. Ford's first assembly plant in Highland Park attracted workers with higher-than-average wages and a set of rights that led to the formation of the first labor union. As a result, Detroit's population doubled between 1910 and 1920.

Wayne County's leadership in the automotive industry also positioned it at the forefront of roadway technologies. In 1909, the Wayne County Road Commission became the first in the world to pave a road, a small stretch of Woodward Avenue, with concrete. The County went on to achieve a series of other notable "firsts," including the first road line-painting vehicle in 1911, the first snowplow in 1912, the first roadway testing laboratory in 1910, and the first superhighway (the Davison Freeway) in 1942.

During World War II, Wayne County's auto plants were converted to produce aircraft and tanks, and they were quickly reconverted for automobile production when the war ended. However, the County's legacy wasn't confined to industry. In the 1950s and 1960s, Detroit emerged as the birthplace of the Motown sound, producing groundbreaking music that resonated nationwide and helped shape popular culture.

Today, Wayne County remains an industrial powerhouse, home to world-renowned sports teams, and rich in cultural diversity. Its unique history of innovation, resilience, and vibrant cultural life continues to make it an exciting and dynamic place to live and work.

3.2 Geography and Climate

Wayne County is in southeast Michigan, north of Monroe County, east of Washtenaw County, and south of Oakland and Macomb Counties. It encompasses 672 square miles and features a generally flat topography, consistent with that of most of southeastern Michigan. Figure 1 displays the geographic context of Wayne County, both in the southeast region of Michigan and the entire state of Michigan.

The weather in Wayne County is typical of non-coastal southeastern Michigan. The following table provides the average monthly weather conditions for Wayne County from 2019 to 2023.

Wayne County Temperature and Precipitation Averages, 2019-2023

Month	Average Daily Temperature (F°)	Average Precipitation (in)	Average Snowfall (in)
January	28	2.01	5
February	28.1	1.86	7
March	38.7	2.77	2
April	48.1	3.09	2
May	59.3	2.94	0
June	69.9	3.91	0
July	74.9	4.11	0

August	72.8	4.69	0
September	66	2.83	0
October	54.2	3.11	0
November	40.6	1.72	3
December	35.3	2.23	2
Annual Total	-	35.27	8

Source: https://www.ncei.noaa.gov/monitoring, Updated October 2024, and weather.gov, NOAA Online Weather Data.

3.3 Land Use Patterns

The table below presents a breakdown of land cover by acreage for Wayne County, excluding the city of Detroit. The land cover data indicates that 29.8% of Wayne County consists of impervious surfaces. This is likely to have significant implications for the problems noted elsewhere in this report regarding flooding and insufficient stormwater infrastructure. The most dominant land cover is open space, including agricultural fields, grasslands, and turfgrass.

2020 Land Cover (excluding Detroit)			
Type	**Description**	**Acres**	**Percent**
Impervious	Buildings, roads, driveways, parking lots	91,168.8	29.8%
Trees	Woody vegetation, trees	85,811.6	28.1%
Open Space	Agricultural fields, grasslands, turfgrass	108,571.2	35.5%
Bare	Soil, aggregate piles, unplanted fields	14,487.2	4.7%
Water	Rivers, lakes, drains, ponds	5,746.7	1.9%

Source: Southeast Michigan Council of Governments, www.semcog.org, Community Profile for Wayne County, excluding Detroit.

Wayne County does not exercise control over land use or zoning. Instead, each of the individual cities, townships, and villages in the County is zoned and exercises its own control regarding land use planning and permitting. The table below demonstrates the land use patterns and trends in Wayne County from 2015 to 2020. The greatest increase in land use was extractive (the process of removing natural resources), followed by parking and mixed-use. The greatest decrease in land use was in the medical and hospitality industries.

Single-family residential remains the dominant land use in Wayne County, occupying 80,413 acres as of 2020. The acreage of single-family residential lands exhibited a slight increase from 2015 to 2020. According to the Southeast Michigan Council of Governments (SEMCOG), approximately 73% of Wayne County's housing consists of single-family detached homes. Multiple-family housing accounts for 24% of housing types, and mobile homes account for 3%.

According to SEMCOG, the number of vacant housing units decreased by 30% from 2010 to 2022. In 2022, approximately 73% of non-vacant housing units were owner-occupied, and 26% were renter-occupied. The decrease in vacant housing is partly due to the Wayne County Land Bank, which has secured funding for various programs, including demolition and site revitalization.

Land Use Patterns & Trends				
Parcel Land Use	Acres 2015	Acres 2020	Change 2015-2020	Pct Change 2015-2020
Single-Family Residential	79,746.4	80,413.6	667.1	0.8%
Not Parceled	44,245.3	44,241.3	-4	0%
Agricultural/Rural Residential	40,447	39,627.7	-819.3	-2%
Vacant	35,381.2	35,944.6	563.4	1.6%
Recreational/Open Space	23,625.2	24,492.7	867.5	3.7%
Industrial	16,968.5	16,938.2	-30.3	-0.2%
TCU	15,645.2	15,644.4	-0.9	0%
Institutional	11,183.5	10,274	-909.4	-8.1%
Retail	6,642.3	6,883.5	241.3	3.6%
Office	6,733.8	6,197	-536.8	-8%
Multi-Family Housing	4,886	4,891	4.9	0.1%
Golf Course	4,315.5	4,315.5	0	0%
Water	4,015.1	4,015.1	0	0%
Mobile Home	2,406.1	2,407.6	1.5	0.1%
Medical	2,131.4	1,848.5	-282.9	-13.3%
Attached Condo Housing	1,894.2	1,821.9	-72.3	-3.8%
Hospitality	1,785.1	1,584.4	-200.7	-11.2%
Extractive	1,016.1	1,344.7	328.6	32.3%
Cemetery	1,264.5	1,264.5	0	0%
Parking	883.5	1,017.5	134	15.2%
Mixed Use	457.8	506	48.2	10.5%

Agricultural / Rural Res includes any residential parcel containing 1 or more homes where the parcel is 3 acres or larger.
Mixed Use includes those parcels containing buildings with Hospitality, Retail, or Office square footage and housing units.
Not Parceled includes all areas within a community that are not covered by a parcel's legal description.
Parcels that do not have a structure assigned to the parcel are considered vacant unless otherwise indicated, even if the parcel is part of a larger development such as a factory, school, or other developed series of lots.
Source: Southeast Michigan Council of Governments, www.semcog.org, Community Profile for Wayne County, excluding Detroit.

3.4 Transportation Network

There are approximately 460 miles of state and federal highways, as well as 175 miles of county roads, within the County. Major roadways include I-275, I-94, I-96, I-75, John C. Ledge Freeway (M-10), Davison Freeway (M-8), Ford Road (M-153), and Southfield Freeway (M-39). The Wayne County Department of Public Services Division of Roads maintains county roads.

Wayne County is served by two different bus systems. The Detroit Department of Transportation (D-DOT) primarily serves the City of Detroit, Hamtramck, and Highland

Park, averaging 31.2 million rides per year. The Suburban Mobility Authority for Regional Transportation (SMART) system provides transport for over 10.1 million passengers per year. These bus systems provide routes and/or connections to destinations throughout Oakland, Wayne, and Macomb Counties. SMART also offers specialized services to the elderly and individuals with disabilities.

Commercial and passenger air transportation is provided through the Detroit Wayne County Metropolitan International Airport, Coleman A. Young International Airport and Willow Run Airport.

There are four major railroads in Wayne County: CSX Transportation, Norfolk Southern Railway, Conrail, and Amtrak. These provide passenger and shipping services to locations throughout the U.S. and Canada.

3.5 Population Characteristics

Wayne County is Michigan's most populous county and the 19th most populous county in the United States. It has a total population (excluding Detroit) of 1,139,504 as of 2023. Census values show that Wayne County, outside of Detroit, had a 4.3% increase in population from 2010 to 2020. The 2050 Wayne County population is expected to increase by approximately 1% over 2020's values. The following tables contain demographic information regarding the County, excluding the city of Detroit, as provided by the Southeast Michigan Council of Governments (SEMCOG) and the U.S. Census Bureau.

Wayne County (excluding Detroit) Population Projection	
Year	**Population Count/Projection**
1990	1,083,713
2000	1,109,892
2010	1,106,788
2020	1,154,450
2050	**1,172,580**

Wayne County (excluding Detroit): Age, Sex, and Race Breakdown		
	Number	**Percent**
Total Population	1,144,854	100
Age		
Under 5 years	70,023	6.1
5 to 19 years	218,480	19.1
20 to 24 years	68,292	6.0
25-54 years	441,650	38.6
55 to 64 years	156,734	13.7
65-84 years	120,144	10.5
85 and over	23,415	2.0
Race		
White	821,714	71.03
Black/ African American	181,570	15.70

Wayne County (excluding Detroit): Age, Sex, and Race Breakdown		
Asian	54,862	4.74
Other Race	48,396	4.18
Multi-racial	91,526	7.91

Household Characteristics		
	Number	**Percent**
Total households	438,946	100.0
Households with children	128,412	29.25
Households without children	240,669	54.82
Average household size	1.15	-

Source: U.S. Census Bureau & Southeast Michigan Council of Governments, Community Profile for Wayne County, excluding Detroit.

3.6 Economic Characteristics

Nearly 80% of the Wayne County population is over 16 years of age, with 61% in the workforce. Manufacturing and healthcare services employ the most residents, at 12% each. The following tables provide detailed information regarding the employed population of Wayne County.

Occupation & Industry Characteristics		
	Number	**Percent**
Employment Status		
Daytime Population	1,077,883	100
Employed Residents	483,468	49
Age 15 & Under	225,311	19
Not in Labor Force	325,904	27
Unemployed	43,200	4
Industry		
Natural Resources, Mining, & Construction	27,362	5
Manufacturing	69,627	12
Wholesale Trade	23,705	4
Retail Trade	64,510	11
Transportation and Warehousing, and Utilities	42,357	7
Information & Financial Activities	48,640	8
Professional and Technical Services & Corporate HQ	62,227	6
Administrative, Support, & Waste Services	42,610	7
Education Services	33,115	6
Healthcare Services	71,169	12
Leisure & Hospitality	56,046	9
Other Services	36,822	6
Public Administration	12,816	2

Income & Poverty Status Characteristics		
	Number	**Percent**

Median Household Income (dollars)	$53,307	-
Population with Social Security Income	211,545	30
Population with Supplemental Security Income	45,989	7
Population with public assistance income	36,478	5
Population with retirement income	156,146	22
Per capita income (dollars)	$27,877	-
Poverty Status in 2015		
Number of individuals below the poverty level	166,729	15.4

Source: U.S. Census Bureau & SEMCOG, Community Profile for Wayne County, excluding Detroit.

3.7 Community Services/Organizations

Wayne County provides various services through boards and agencies, including the Wayne County Board of Commissioners, the Department of Homeland Security & Emergency Management, the Departments of Community Services, Economic Development, Environment, Family Services, Health Services, Parks and Recreation, Public Services, and the Wayne County Sheriff's Office.

Natural gas and electricity in Wayne County are supplied by Consumers Energy and DTE Energy. Telephone service is provided by several companies, with AT&T and Verizon being the primary providers. Most of the County receives sewer service from the City of Detroit Water and Sewerage Department. However, Canton, Northville, and Plymouth Townships also receive sewer service from the Western Townships Utilities Authority (WTUA), in addition to the Ypsilanti Community Utilities Authority (YCUA). The City of Detroit supplies water service to the majority of the County.

The County is served by thirty-three (33) public school districts. These districts include well-established suburban areas such as Livonia, Plymouth-Canton, and Dearborn, as well as smaller districts that serve surrounding communities. Several community colleges, private colleges, and public universities are also located within the County. Some of the most significant post-secondary institutions include the University of Michigan-Deaborn and the Wayne County Community College District. The County's numerous public libraries offer additional learning resources.

Wayne County has an extensive Parks & Recreation Department that maintains 11 primary parks and 27 recreation areas. Wayne County Parks (WCP) collaborates with Huron-Clinton Metroparks, the City of Detroit, and the Michigan Department of Transportation (MDOT) to provide residents access to over 628 miles of non-motorized trails. In 2022, WCP created the Connecting the Rouge plan, which created a framework for an additional 129.5 miles of trails. This expansion would ensure that approximately 405,000 residents live within a quarter mile of the WCP greenway system, nearly 46% of the County's residents.

Wayne County, beyond the city of Detroit, also boasts several entertainment venues that offer a variety of cultural experiences, including The Henry Ford Museum and Greenfield Village, the Canton Performing Arts Center, and the Livonia Civic Center. The Wayne County Fairgrounds is a critical venue for community events, fairs, and other public gatherings. Retail and commercial centers in the area include Fairlane Town Center, Southland Center, and the Canton Township Retail Corridor.

3.8 Critical Assets

The following list of critical assets was developed based on current and projected land use in Wayne County, the nature of hazards that may impact the region, and input from local communities. These assets represent the critical infrastructure, services, and facilities that support the health, safety, and economy of Wayne County, excluding Detroit. Each plays a vital role in serving the needs of the residents and businesses of suburban Wayne County and contributes to the overall resilience of the region:

- Central Business Districts
- Commercial Sites
- Hospitals
- Industrial Sites
- Natural Areas
- Open Spaces
- Public Facilities
- Residential Areas
- Roads, Railroads, and Bridges
- Schools and Churches
- Sports and Entertainment Venues

4. Hazard History

The following sections discuss the natural, technological, and human-caused hazards affecting Wayne County. Hazard history encompasses historical events, frequency, probability, and a review of known, if not estimated, damage to life, property, infrastructure, and the environment, based on historical data. Hazards may evolve over time, considering factors such as trends in land use, climate change, and other relevant factors. These predictions aim to determine whether the frequency and intensity of specific hazards are expected to remain the same, increase, or decrease.

To assess the likelihood of each hazard occurring in the future, hazard frequency categories such as high, moderate, and low are used. These categories help qualify the historical data on hazard events. The terminology used in the Plan—such as High, Probable, or Likely—provides a general prediction for future occurrences based on historical patterns alongside estimated chance or frequency of occurrence. Adjustments in terminology (High, Probable, or Likely) have been made to account for emerging trends, including climate change, shifts in land use, and new technologies. For a more detailed analysis of how emerging trends might affect future hazard patterns, refer to Section 5.4.3 of the Plan, which provides an in-depth discussion of these potential influences.

4.1 Civil Disturbance

Civil disturbance refers to a public disturbance or violent protest by a group of individuals or a community, typically in response to perceived grievances or injustices. These disturbances may involve acts of protest, rioting, looting, vandalism, and other forms of social unrest. Civil disturbances often arise from political, social, economic, or cultural tensions and can escalate into violent clashes between the public, law enforcement, or government officials.

Key characteristics of civil disturbances include:

- Unlawful behavior: Actions that disrupt public order or the functioning of government institutions, often including rioting, looting, property damage, and violence.
- Group-based actions: Civil disturbances are usually organized or arise from collective actions by groups with a shared cause or frustration.
- Public unrest: These events can lead to widespread public fear, confusion, and a breakdown in normal community activities.

Civil disturbances can range from peaceful protests to full-scale riots, and the response to such events typically involves law enforcement, as well as, in some cases, the military or National Guard, to restore order.

Historical Events

Large civil disturbances are not common in Michigan and typically are a result of the following causes:

- Labor disputes,
- Controversial court judgments or government actions,
- Resource shortages following a catastrophe,
- Demonstrations by special interest groups,
- Unfair death or injury, or
- Celebration following a high-profile victory or defeat by a sports team.

Civil disturbances, including protests, riots, or other forms of social unrest, have historically been more closely associated with Detroit due to its urban environment, economic challenges, and social dynamics. These include the race riots of 1943, which resulted in 34 deaths and more than 700 injuries, and the 1967 civil rights riots, which resulted in 43 deaths and over 1,000 injuries. Additional looting and arson damage were estimated at over $50 million, with 5,000 or more individuals left homeless in their wake. More recently, in 1995, Detroit witnessed minor skirmishes and injuries when newspaper employees went on strike over contract disagreements.

Civil disturbances can also occur in other parts of Wayne County, although they may not receive the same level of attention as those in Detroit. Other civil disturbances of note in Wayne County include the “Hunger March” in Dearborn in 1932, in which 10,000 demonstrators fought with police, leaving four dead and many injured.

Frequency & Probability

A major civil disturbance occurs in Wayne County approximately once every 8-10 years.[5] The most likely causes of a civil disturbance in the County would be a labor dispute, a sporting event or demonstration at a college, or an incident involving a government or

[5] Listing of US Civil Unrest Incidents, Armstrong Economics: www.armstrongeconomics.com/statistics/listing-of-us-civil-unrest-incidents.

military facility within the County. There are six detention/correctional facilities located within the County, which are potential sites for an inmate uprising.

The potential for this hazard to occur in Wayne County is somewhat elevated due to the presence of numerous sports and entertainment venues, educational facilities, detention facilities, large-scale industrial facilities, and government facilities within the County. Racial diversity in some communities was also cited as a factor in civil disturbance due to the potential for an influx of out-of-state protesters during community events.

Health & Safety

There have been at least 81 deaths and over 1,700 injuries from major civil disturbances in Wayne County since 1932.[6]

Area Impacted

Civil disturbance events often involve acts of arson, looting, and/or vandalism, which can result in devastating levels of property damage. The 1967 riots in Detroit included looting and over 150 fires that burned properties over 15 blocks. 43 people were killed, and over 1,000 were injured during the riots. Property damage was estimated at $50 million, and over 5,000 people were left homeless; it was the largest and most destructive of any such incident in the country for that decade.[7] Places of public gathering, such as festivals, sporting and entertainment venues, colleges and universities, detention facilities, and government facilities, are the most likely places for a civil disturbance to occur; however, as noted, most of these venues are located within the City of Detroit, which is not included in this Plan.

Economic Impact

The economic impact of a civil disturbance reaches far beyond emergency response costs and property damage. Economic recovery from civil disturbances could be faster and often requires government assistance to revive the local economy. This hazard can tarnish an area's image and deter potential investors and residents.

Critical Facilities/Services

Civil disturbance is such that local emergency response services are often overwhelmed. As a result, aid is often required from other local or state units.

The high degree of property damage that can occur from this hazard can significantly impact the ability to operate or provide services at the hazard location (particularly sporting and entertainment venues, colleges and universities, detention facilities, and government facilities).

[6] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis*, December 2001, page 7.
[7] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis*, December 2012, page 340.

4.2 Criminal Acts

4.2.1 Vandalism

Vandalism is the willful or malicious destruction, injury, disfigurement, or defacement of any public or private property, whether real or personal, without the consent of the owner or the person in control. A vandalism offense is an act of vandalism that is reported to a law enforcement agency.

Historical Events

Examples of vandalism include graffiti, tampering with traffic signs, and damage to vacant buildings. In more extreme cases, vandalism of public facilities or infrastructure can have a significant impact on the community.

During times of labor unrest, particularly in the early to mid-20th century, some protests or worker disputes at Ford Motor Company facilities in Dearborn, such as the River Rouge plant, occasionally led to acts of vandalism. This included damage to property or machinery during strikes and demonstrations.

In 2020, several public buildings, including Dearborn City Hall and its surrounding areas, were vandalized with graffiti. This occurred during a period of social unrest, though it was not directly tied to protests. The graffiti damage led to increased efforts by the city to remove graffiti promptly and install more surveillance cameras in high-traffic areas.

In 2021, there were reports of vandalism at mosques and churches in Dearborn, where windows were broken, and hateful messages were left on walls in the form of graffiti. This prompted local authorities to work closely with community leaders to ensure public safety and prevent further incidents.

Frequency & Probability

Crime statistics do not report "vandalism" directly but instead reference property crimes or damage to property, including theft. The 2022 Michigan State Police Michigan Incident Crime Reporting (MICR) online database indicates that a total of 85,850 "damage against property" incidents were reported in Wayne County from 2018 through 2022, resulting in an average of 17,170 incidents per year.[8] Compared to the 2013-2017 average of 13,637 incidents of “damage against property,” the 2018-2022 period experienced an average increase of 3,533 incidents.[9]

Given the well-established frequency of this hazard in recent years, it is likely to continue occurring.

[8] Michigan State Police, Michigan Incident Crime Reporting, Crime Statistics, Wayne County, 2018, 2019, 2020, 2021, and 2022. https://www.michigan.gov/msp/divisions/cjic/micr/annual-reports.
[9] Michigan State Police, Michigan Incident Crime Reporting, Crime Statistics, Wayne County, 2013, 2014, 2015, 2016, and 2017. https://www.michigan.gov/msp/divisions/cjic/micr/annual-reports.

Health & Safety

There is no available data on death or injury rates resulting from acts of vandalism. It is anticipated that the majority of these acts do not pose a threat to human health or safety. This, however, may not be the case in instances of vandalism involving public infrastructure.

Area Impacted

Due to the nature of vandalism, property damage is likely to occur with each instance. Data regarding property damage due to vandalism is not available for Wayne County; however, the amount of property damage is directly related to the severity of the event.

All areas of Wayne County are potential targets for vandalism. Higher rates of occurrence can be anticipated in areas of urban blight or vacant buildings.

Economic Impact

No information is available regarding the overall economic impact of vandalism in Wayne County. However, considering the effects of this crime, high vandalism rates can decrease the attractiveness of neighborhoods or business districts. This can result in economic loss due to the loss of residents or businesses, as well as any property damage incurred.

Critical Facilities/Services

Critical facilities and services are not often directly impacted by vandalism. However, in 1984, vandals in nearby Lake Orion, Oakland County, damaged the entire school bus fleet. This is an example of the potentially far-reaching effects of vandalism. Additionally, the indirect impacts of vandalism, most notably the time required by police and court systems to deal with acts of vandalism, should not be overlooked.

4.2.2 Arson

Arson is the willful or malicious burning or attempt to burn, with or without intent to defraud, a dwelling, public building, motor vehicle, or personal property of another. An arson offense is an act of arson that is reported to a law enforcement agency.

Historical Events

In recent years, Wayne County has experienced numerous arson fires at both private and public properties. The night before Halloween in the city of Detroit had been known as

"Devil's Night," which brought widespread arson. After the peak of over 800 fires in 1984,[10] that number declined to only 21 to 38 in 2017.[11]

Frequency & Probability

Arson (intentional fires) accounts for 4.2% of residential fires and 9.3% of non-residential building fires in the U.S., but only 225 of these intentional fires occur indoors.[12] From 2013 to 2022, there was an increase of 16% in residential intentional fires[13] and a 140% increase in nonresidential intentional fires in the U.S.[14] In 2003, an arson or suspicious fire occurred every 1 hour and 2 minutes in Michigan.[15] Between 2013 and 2017, Wayne County experienced 4,081 arson fires, averaging 816 per year.[16] Between 2018 and 2022, Wayne County experienced 700 incidents of arson, averaging 140 per year.[17] This is notably less than the 4,081 total and average of 816 arson fires per year reported in Wayne County's 2020 Hazard Mitigation Plan.

Health & Safety

The U.S. Fire Administration reported 7.2 deaths and 23.3 injuries per 1,000 fires for residential structure fire casualties in 2022.[18]

Area Impacted

In 2001, the United States reported $1.4 billion in property loss due to arson, which was the leading cause of fire-related incidents.[19] The FBI estimated that the State of Michigan lost $545 million in damages due to industrial fires in 2014.[20] Wayne County experiences more arson fires than any other county in Michigan, accounting for more than half the arson incidents in the state annually, with 112 reported cases in 2022.[21]

Any property is a potential target for arson. Given that arson is a type of property crime, it is anticipated that arson incidents will occur in areas with high rates of property crime.

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[10] Detroit Historical Society, "Haunted History: Devil's Night," October 25, 2021, https://detroithistorical.org/blog/2021-10-25-haunted-history-devils-night.
[11] Citizen Manual Detroit, "Halloween Nights of Serious Mischief," accessed November 7, 2024, https://citizenmanual.com/activities/case-studies/devils-night/.
[12] U.S. Fire Administration Topical Fire Report Series Volume 9, Issue 5 / November 2009.
[13] U.S. Fire Administration, "Residential Building Intentional Fire Trends (2013-2022)," last modified May 15, 2024, https://www.usfa.fema.gov/statistics/residential-fires/intentional.html.
[14] U.S. Fire Administration, "Nonresidential Building Intentional Fire Trends (2013-2022)," last modified May 15, 2024, https://www.usfa.fema.gov/statistics/nonresidential-fires/intentional.html.
[15] Michigan State Police, Fire Marshall Division, *2003 Michigan Fire Clock*.
[16] Michigan State Police, Michigan Incident Crime Reporting, Crime Statistics, Wayne County, 2013, 2014, 2015, 2016, and 2017. https://www.michigan.gov/msp/divisions/cjic/micr/annual-reports.
[17] Michigan State Police, Michigan Incident Crime Reporting, Crime Statistics, Wayne County, 2018, 2019, 2020, 2021, and 2022. https://www.michigan.gov/msp/divisions/cjic/micr/annual-reports.
[18] U.S. Fire Administration, "Michigan Fire Loss and Fire Department Profile," accessed November 7, 2024, https://www.usfa.fema.gov/statistics/states/michigan.html.
[19] U.S. Fire Administration, "Arson in the United States." *Topical Fire Research Series* 8 (1).
[20] Joel Kurth, "Arson Finally on Decline in Detroit. Now for the Bad News," *Bridge, Michigan*, August 22, 2017, https://www.bridgemi.com/urban-affairs/arson-finally-decline-detroit-now-bad-news.
[21] Michigan State Police, Incident Crime Reporting, Wayne County, 2022.

Economic Impact

In 2015, nearly 3,000 arson and suspicious fires in Wayne County cost residents over $100 million.

Critical Facilities/Services

Although not common, critical facilities and services can be directly impacted by arson. An arson fire involving any of the County's assets could temporarily impede the County's ability to provide that service.

4.3 Drought

Drought is an extended period characterized by significantly low precipitation levels, typically occurring during the planting and growing seasons.

Historical Events

In 2016, Genesee, Shiawassee, and Wayne Counties experienced severe drought.[22] In 2012, the U.S. Department of Agriculture declared drought disaster declarations for all 83 counties in Michigan due to drought-related crop losses. [23]

Elsewhere in the state, extreme drought conditions in 1976-1977 contributed heavily to the large wildfire that struck the Seney area in Michigan's Upper Peninsula in July 1976.[24]

During the 1988 drought, Michigan took several steps to mitigate the impacts on businesses, natural resources, and individual citizens. A statewide burn ban was enacted, and water use restrictions were implemented in many communities.

During a drought that struck Michigan from 1998 to 2001, one-third of the state's fruit, vegetable, and field crops were destroyed. This drought resulted in a U.S. Department of Agriculture Disaster Declaration for 82 of the State's counties, including Wayne County.[25]

Frequency and Probability

There is one major drought event every 20-25 years, on average, that affects the entire State.[26] As described above, at least two drought events have been recorded in Wayne County since 2000, and climate patterns continue to trend toward shorter-duration seasonal drought, despite an overall increase in average annual precipitation.[27] The southeast Michigan climatic region (Region 10), which includes Wayne County, exhibits

[22] Robert Acosta, "Sections of Three Michigan Counties Under Severe Drought Conditions," *MLive*, August 11, 2016, https://www.mlive.com/news/flint/2016/08/sections_of_three_michigan_cou.html.
[23] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* July 2012, page 132.
[24] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* July 2012, page 139.
[25] Ibid.
[26] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2001, page 7.
[27] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* April 2019, page 221.

one of the lowest probabilities in the state for drought. Yet, Wayne County experiences some level of drought 46% of the time, on average.[28]

Health & Safety

The risk to human life from a drought event is low.[29] Possible loss of human life due to a drought event is attributed to secondary effects, such as extreme heat (refer to Section 4.5.1), fires (refer to Section 4.6), and other health-related issues, including increased pollutant concentrations in surface water resulting from drought-induced low water levels.

Area Impacted

Impacts of drought primarily affect those employed in agriculture. Drought affects widespread areas; however, the most significant impact is generally on agricultural lands. Natural resources such as lakes, streams, and other bodies of water can be affected by decreased water levels. Additionally, fires resulting from drought can lead to the destruction of trees and other natural habitats, as well as homes and businesses.

The July 2001 drought affected 12 southeast Michigan counties, including Wayne County. The drought in October 2002 affected Wayne County.[30] Wayne County was further impacted by drought in July 2012, October 2015, and November 2015. Wayne County contains approximately 13,060 acres of agricultural land (Figure 2).[31]

Even with over 13,000 acres in agriculture, Wayne County is primarily an urban county. Agricultural lands are primarily concentrated in the County's southwest corner, specifically in Canton, Huron, Sumpter, and Van Buren Townships. Smaller concentrations of agricultural land are found in the southern part of the County, specifically in Brownstown Township, Flat Rock, Romulus, and Woodhaven. These eight communities are likely the most at-risk from drought.

Economic Impact

The impacts of drought on a community include water shortages; a decrease in the quantity and quality of crops; a decline of water levels in lakes, streams, and other bodies of water; poor nourishment for wildlife and livestock; increases in wildfires; and increases in insect infestations, plant disease, and wind erosion.

The 1988 drought and heat wave in the central and eastern U.S. (an event that greatly impacted Michigan) caused an estimated $40 billion in damages, resulting from agricultural losses, disruptions to river transportation, water supply shortages, wildfires, and related economic impacts.[32]

[28] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* April 2019, page 223.
[29] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2001, page 7.
[30] US Department of Agriculture and National Oceanic and Atmospheric Administration, "U.S. Drought Monitor: Wayne County
[31] SEMCOG, 2008 *Land Use and 2010 Land Cover*, Specific to Wayne County, not including Detroit, May 2019.
[32] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 139.

The July 2001 drought resulted in $150 million in crop damage across 12 southeastern Michigan counties, reducing yields of corn, dry beans, and soybeans to one-third of their normal levels.[33] The drought that occurred in September 2002 resulted in agricultural yields of less than 50% of normal, and many counties across eastern Michigan were declared disaster areas for agriculture.[34]

Critical Facilities/Services

Most facilities impacted by drought are related to agriculture. Farms, large grain facilities, and fruit and vegetable vendors/markets could potentially experience a significant decrease in production and sales.

Local and regional governmental services may be required to respond to drought. However, if the severity of the drought is significant, State and Federal assistance could be required.

Agricultural services and departments such as the Farm Bureau and the U.S. Department of Agriculture may also be required to provide assistance.

4.4 Earthquakes

An earthquake is a sudden movement or motion in the Earth caused by the abrupt release of slowly accumulating strain, resulting in ground shaking, surface faulting, or ground failures.

Historical Events

Most earthquakes that occur in Michigan are minor tremors, resulting in little to no damage. No severely destructive earthquake has ever been documented in Michigan. However, several mildly damaging earthquakes have occurred since the late 1700s.[35] Michigan has fault lines in the bedrock geology that are considered stable; however, the data are poorly documented. Michigan is most likely to be affected by earthquakes that occur in the New Madrid Seismic Zone, centered near the Arkansas-Tennessee state line, and in upstate New York.

There is no record of an earthquake originating within Wayne County. However, there have been several low-magnitude earthquakes centered outside of the County that have been felt in the County.[36]

Frequency and Probability

[33] NOAA National Centers for Environmental Information Storm Events database query https://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=26%2CMICHIGAN, May 14, 2019
[34] National Climatic Data Sponsored Website, www.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storm, *Standard Query for Severe Weather,* May 14, 2019.
[35] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 168.
[36] MichaelV, "Michigan Earthquakes," Michigan Weather Forecast, March 7, 2019, https://michigan-weather-center.org/michigan-earthquakes.

Since 1994, there have been eight earthquakes in Michigan, ranging in magnitude from 2.4 to 4.2. The two largest magnitude earthquakes that have occurred in Michigan were a 3.5 magnitude earthquake centered in the Lansing area in 1994 and a 4.2 magnitude earthquake centered near Kalamazoo in 2015.[37] Since 1793, there have been approximately 43 earthquake-related disturbances in Michigan.[38] Although a small disturbance from an earthquake is possible, an earthquake of significant magnitude is unlikely due to Wayne County's distance from the fault and the type of fault in Michigan. Wayne County will consider an earthquake of significant magnitude to be one that may result in moderate damage to buildings and other structures; typically, those with a magnitude of at least 6. The frequency of such an earthquake in Michigan is assumed to be once every 50 years or more.

Health & Safety

There have been no recorded deaths or injuries related to earthquakes in the state of Michigan. The risk rating for human life related to earthquake events is low, with fewer than one event per year.[39]

Area Impacted

The number of people affected depends on the earthquake's magnitude and distance from the epicenter. Typically, an earthquake affects a large region, not a specific location. Because earthquakes typically have regional effects, the entire Wayne County population could be affected. However, given the historical severity, only a fraction of the population would be affected by a typical event. The impact of an earthquake would be primarily on water, sewer, and gas pipelines, which are located throughout Wayne County.

Economic Impact

Damage occurs primarily to any type of structure or improvement. The amount of damage is directly proportional to the earthquake magnitude, and a large amount of property damage could be anticipated due to the high development density in southern Wayne County. Given the historical severity, economic impacts are expected to be minimal. Since 1793, only a few earthquakes (most of which were minor tremors) resulted in minimal structural damage, such as cracked plaster and damaged chimneys. In Wayne County, the impact of an earthquake would be primarily on water, sewer, and gas pipelines. The

[37] U.S. Geological Survey, "Earthquakes Map: Search Results" (interactive), accessed September 27, 2025, https://earthquake.usgs.gov/earthquakes/map/?currentFeatureId=usp0006hvv&extent=40.80549,-87.24792&extent=44.28847,-78.45886&range=search&sort=oldest&showUSFaults=true&baseLayer=terrain&timeZone=utc&search=%7B%22name%22:%22Search%20Results%22,%22params%22:%7B%22starttime%22:%221900-01-01%2000:00:00%22,%22maxlatitude%22:45.93,%22minlatitude%22:41.584,%22maxlongitude%22:-82.145,%22minlongitude%22:-86.913,%22minmagnitude%22:0,%22orderby%22:%22time%22%7D%7D

[38] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* July 2012, page 170.

[39] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* April 2019, page 41.

United States experiences an estimated $14.7 billion in economic losses from the impacts of earthquakes.[40]

Critical Facilities/Services

Due to the low probability of a severely destructive earthquake, response would most likely be limited to primary utility services and pipeline owners. Due to the lack of earthquake events in Michigan, additional investigation of the impact on critical facilities/services is not recommended at this time.

4.5 Extreme Temperatures

4.5.1 Extreme Heat

A prolonged period of extreme heat is often accompanied by conditions such as high humidity, strong winds, and a lack of rainfall. Although no standardized temperature is used to define extreme heat, the Centers for Disease Control and Prevention define extreme heat as temperatures that hover 10 degrees or more above the average high temperature for the region.[41] In Michigan, heat advisories refer to periods when the heat index, a combination of relative humidity and temperature, is calculated to exceed 100 degrees for at least three consecutive hours.[42] An excessive heat warning is issued if the calculated heat index exceeds 105 degrees for three or more consecutive hours.[43] Prolonged periods of temperatures greater than 90°F are of concern. The minimum mortality temperature threshold is lower in northern latitudes (from 65 °F to 70 °F) than in the southern United States (from 76 °F to 90 °F). The human health effects of heat are also dependent on an individual's age, health, physical activity, humidity, and access to air conditioning.

Historical Events

The highest temperature ever recorded in Michigan was 112 degrees Fahrenheit on July 13, 1936, in Mio. During that week, 570 people died statewide, and 5,000 deaths were attributed to the heat wave nationwide.[44] During a heat wave in the summer of 1988, 39 days had temperatures of 90°F or more. The temperature in southeast Michigan topped the 100-degree mark on five occasions.[45]

In July 1999, a heat wave that struck the Midwest and East Coast resulted in an estimated 256 heat-related deaths in 20 states, including one death in Michigan. A number of people

[40] United States Geological Survey: Communications and Publishing, "New USGS-FEMA Study Highlights Economic Earthquake Risk in the United States," April 18, 2023, https://www.usgs.gov/news/national-news-release/new-usgs-fema-study-highlights-economic-earthquake-risk-united-states.
[41] Centers for Disease Control and Prevention, "Extreme Heat and Your Health," June 21, 2024, https://www.cdc.gov/extreme-heat/about/index.html.
[42] National Oceanic and Atmospheric Administration: National Weather Service, "Michigan Heat Awareness Day," May 25, 2018, https://www.weather.gov/dtx/heataware2.
[43] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* April 2019, pages 91-92.
[44] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103. July 2012, page 85.
[45] Ibid.

were treated at area hospitals, including in Detroit, for heat-related problems ranging from dehydration to heat stroke.[46]

Detroit and Wayne County have documented local impacts during major regional heat waves. For example, during the July 1936 heat wave, Detroit recorded highs over 100 °F for several consecutive days, and local health systems reported a surge in fatalities and heat-related illness.[47] In that event, Detroit alone accounted for 64 heat-related deaths by midnight of a single day.[48] Studies of the Detroit tri-county area (including Wayne County) indicate a baseline of 2–3 hyperthermia deaths per year during 2002–2016, and a more recent observational study covering Wayne County from 2018 through 2023 found shifts in extreme heat patterns and health outcomes among vulnerable populations.[49] According to climate data records (NOAA / NCEI), Wayne County has monthly temperature and high-heat day series reaching back to the early 20th century, showing a gradual increase in summertime maxima and increasing frequency of days exceeding 90°F.[50]

Between January 2013 and July 2024, no extreme heat events were reported in Wayne County.[51] NOAA uses the term "excessive heat" for extreme heat events, which are defined as high temperatures combined with high humidity.[52] However, Wayne County did experience a heat advisory in June 2024.[53]

Frequency and Probability

Extreme temperature periods occur every year in the state. Wayne County experienced 14 extreme heat events between 1996 and 2016, resulting in 541 injuries and three deaths.[54] The frequency of occurrence of extreme heat events in Wayne County is approximately once every 1.4 years, but varies based on seasonal weather patterns.

Health & Safety

The major threats associated with extreme heat are heatstroke and heat exhaustion. Nationwide, approximately 135 deaths per year are attributable to extreme heat (a total of

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[46] Ibid.
[47] Detroit Free Press. "Hundreds Died in Michigan during 1936 Heat Wave." Detroit Free Press, July 30, 2023. https://www.freep.com/story/news/local/michigan/2023/07/30/when-a-heatwave-killed-hundreds-in-michigan/70462170007/
[48] Ibid.
[49] Sokol, Rebeccah, Cynthia Gerlein-Safdi, Michelle Degli Esposti, and Mildred Wallace. "Extreme Weather Events Interact With Local Contexts to Alter the Frequency of Firearm Violence and Child Maltreatment in Wayne County, Michigan." Geophysical Research Letters / AGU (2025). https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2025GH001406
[50] National Centers for Environmental Information (NCEI). "Climate at a Glance: County Mapping." NOAA. Accessed September 25,2025. https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/mapping
[51] National Oceanic and Atmospheric Administration, National Centers for Environmental Information Storm Events: Wayne County, Michigan: Excessive Heat," accessed November 19, 2024, https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28Z%29+Excessive+Heat&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=2013&endDate_mm=07&endDate_dd=31&endDate_yyyy=2024&county=WAYNE%3A163&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=26%2CMICHIGAN.
[52] Ibid, "Glossary: E," accessed November 19, 2024, https://forecast.weather.gov/glossary.php?word=excessive%20heat#:~:text=Excessive%20Heat%20Watch,occur%20for%20two%20consecutive%20days.
[53] Mark Torregrossa, "Much of Michigan Under Excessive Heat Warning, Advisories: What's the Difference," *MLive*, June 17, 2024, https://www.mlive.com/weather/2024/06/much-of-michigan-under-excessive-heat-warnings-advisories-whats-the-difference.html.
[54] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103. April 2019, page 93.

3,311 over the 24-year period from 1986 to 2009.[55] Extreme heat primarily affects the most vulnerable segments of society, such as the elderly, children, impoverished individuals, and people in poor health. Within Wayne County, approximately 6.1% of the population is aged 0-5 years, and 12.5% is aged 65 years or more.[56] In summary, 18.6% of the Wayne County population is at higher risk of impact from extreme heat solely based on age.

Area Impacted

Extreme heat typically affects entire counties or regions of Michigan. Although the entire county would be affected, open spaces (at risk for wildfires), elderly housing centers, and homeless shelters would be most impacted. The Michigan Department of Health and Human Services lists 44 nursing homes in Wayne County in their Medicaid Long Term Care Provider List.[57]

Economic Impact

Extreme heat is often accompanied by drought and can have hazardous effects on livestock, crops, and energy demands, as well as being associated with forest or field fires. Drought is discussed in Section 4.3. Medical costs and increased emergency response costs would be anticipated.

Critical Facilities/Services

Primarily, local and regional governmental services would be requested to assist. Hospitals and clinics would expect an increase in heat exhaustion and other heat-related illnesses.

Utility companies, such as Consumers Energy and DTE Energy, would be essential in providing sufficient resources to meet the increased demand for power resulting from higher air conditioning usage.

If the severity of the extreme heat is significant enough to cause a drought hazard, state and federal assistance could be available. Agricultural services and departments, such as the Farm Bureau and the U.S. Department of Agriculture, are the most likely types of agencies to provide assistance and aid.

4.5.2 Extreme Cold

A prolonged period of extreme cold, characterized by temperatures around or below 0°F, typically occurs in Wayne County from late November to early April.[58] Similarly, human

[55] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103. July 2012, page 77.
[56] Southeast Michigan Council of Governments , "2020 Census: Community Profiles, Wayne County, excluding Detroit," accessed November 19, 2024, https://maps.semcog.org/2020census/.
[57] Michigan Department of Health and Human Services, "Medicaid Long Term Care Provider List," accessed November 19, 2024, https://www.michigan.gov/mdhhs/0,5885,7-339-71551_2945_42542_42543_42546_42551-20397--,00.html
[58] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103. April 2019, page 88.

mortality temperature thresholds also vary with latitude, much like those associated with extreme heat. Areas of the southern United States are more susceptible to human health impacts from high temperatures than those in northern regions. Human health effects vary with wind chill and an individual's age, physical condition, physical activity, and access to heated buildings.

Historical Events

The National Storm Events Database lists seven extreme (cold wave/ low-temperature) temperature events reported for Wayne County between January 2000 and 2024.[59] The Storm Events Database provides only a limited number of "cold wave / low temperature" events for Wayne County; given known underreporting and classification challenges, other local cold stress days likely occurred but did not meet threshold criteria.[60] These events resulted in a total of 4 deaths.[61] This includes the "polar vortex" that affected Michigan and 21 other states from January 29 through 31, 2019. During that period, temperatures across the state hovered at or below zero. On January 30, 2019, Harbor Springs, Michigan, reported the warmest temperature in the state at 5°F, and Ironwood in the Upper Peninsula recorded the coldest temperature at -26°F. Two Wayne County residents died during the event, in the City of Detroit and Ecorse.[62] Other injuries involved frostbite and slip-and-fall accidents.

In the winter of 1978, one of Michigan's coldest seasons on record (associated with the Eastern cold wave of 1978), many communities in southeast Michigan, including Wayne County, experienced extended periods of subzero temperatures and record low wind chills, causing health, infrastructure, and heating system stress.[63]

Following an explosion at a natural gas compressor station in Macomb County during the same cold weather event, Consumers Energy and the State of Michigan issued an emergency message urging residents to reduce their natural gas consumption.[64] The US Postal Service even suspended mail delivery in parts or all of several Midwest states, including Michigan.[65]

Another extreme cold event occurred on January 11, 1999, and resulted in more than 120 water main breaks in the City of Detroit. In Adrian, Lenawee County, a water main break

[59] National Oceanic and Atmospheric Administration, "National Centers for Environmental Information: Storm Events Database: Wayne County, Michigan: Extreme Cold/Wind Chill," accessed November 19, 2024, https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28Z%29+Extreme+Cold%2FWind+Chill&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=1950&endDate_mm=07&endDate_dd=31&endDate_yyyy=2024&county=WAYNE%3A163&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=26%2CMICHIGAN.
[60] dos Santos, Renato P. "Some comments on the reliability of NOAA's Storm Events Database." arXiv, June 22, 2016. https://arxiv.org/abs/1606.06973
[61] Ibid.
[62] Charles E. Ramirez, Sarah Rahal, and Mark Hicks, "Artic Cold that Killed 2 Lingers in State," *Detroit News*, January 30, 2019, https://www.detroitnews.com/story/weather/2019/01/30/arctic-cold-lingers-over-metro-area-wednesday/2719279002/.
[63] National Weather Service Detroit/Pontiac. "The Blizzard of 1978." NOAA/NWS, January 1978. https://www.weather.gov/dtx/blizzard1978
[64] Taylor DesOrmeau, "Consumers Energy Fined $10K for 2019 Fire that Spurred Michigan Natural Gas Shortage," *MLive*, May 8, 2020. https://www.mlive.com/public-interest/2020/05/consumers-energy-fined-10k-for-2019-fire-that-spurred-michigan-natural-gas-shortage.html.
[65] John Tunison, "Postal Service Halts Delivery in Areas of Michigan and Midwest Due to Extreme Cold," *MLive*, January 30, 2019, https://www.mlive.com/news/2019/01/postal-service-halts-delivery-in-areas-of-michigan-and-midwest-due-to-extreme-cold.html.

caused a water shortage for the city's 22,000 residents. Together, the infrastructure damage in Detroit and Adrian resulted in estimated property damage of $250,000 and $1,000,000, respectively.[66]

On December 22, 2000, several freighters became stuck in ice on both the Detroit River and Lake St. Clair, blocking the shipping channel and bringing dozens of ships to a halt.[67]

In January 2024, Wayne County experienced a deep freeze, with temperatures ranging from a high of 12°F to a low of -1°F. Several schools were closed, and earlier snowstorms put utilities offline throughout parts of Southeastern Michigan.[68]

In February 2025, Detroit saw a high-profile water main rupture during a cold snap: a century-old 54-inch steel main burst under below-freezing conditions, flooding homes and freezing streets, leaving hundreds without heat or water.69 Detroit's all-time record low minimum temperature is –24°F, most recently recorded on December 24, 1872. Within the last two decades, the lowest minimum observed at Detroit Metro Airport (DTW, Romulus—Wayne County) was –14°F on January 6–7, 2014, when Detroit remained below 0°F for 42 consecutive hours, with a peak wind chill of –41°F. 70 Most recently, during the January 2025 cold snap, DTW reached –3°F, marking one of the coldest lows of the last several winters, although well above the 2014 mark.71

Frequency and Probability

Michigan experiences 90 to 180+ days per year with temperatures below freezing. Still, Wayne County is categorized as an area of relatively low risk, with zero to 9.9 days per year with temperatures at or below 0°F.[72] Based on seasonal weather patterns, and since 2000, an extreme cold event has occurred once every 1.4 years on average in Wayne County. Global climate change patterns indicate that this rate may increase in the future.

Health & Safety

Extreme cold poses a significant health risk to the same segments of the population as extreme heat. Although extreme cold affects the entire population, the population most at risk for health hazards from extreme cold includes children, the elderly, individuals with disabilities, and those living in poverty. Nationally, extreme cold is responsible for approximately 700 deaths per year.[73] Hypothermia and frostbite are the most common conditions associated with extreme cold. Over half of the approximately 700 deaths are

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[66] National Weather Service, "Storm Data and Unusual Weather Phenomena," January 1999.
[67] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103. April 2019, page 109.
[68] Frank Witsil, "Michigan Braces for Prolonged Deep Freeze as Dangerous Temperatures Grip State," *Detroit Free Press*, January 16, 2024, https://www.freep.com/story/news/local/michigan/2024/01/16/michigan-forecast-weather-deadly-cold/72240690007/.
[69] Associated Press. "Detroit crews are working to fix a broken water main that flooded dozens of homes." *AP News*, February 2025. https://apnews.com/article/7f3d936fe6fdfd66a1a9c07973d77248
[70] National Weather Service Detroit/Pontiac. "Cold Air Outbreaks." Accessed September 25, 2025. https://www.weather.gov/dtx/cold
[71] National Weather Service Detroit/Pontiac. "January 2025 Climate Summary." Published January 8, 2025. https://www.weather.gov/dtx/climate
[72] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103. April 2019, page 104.
[73] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103. July 2012.

persons 60 years of age or older. The Michigan Department of Health and Human Services lists 45 nursing homes in Wayne County in their Medicaid Long Term Care Provider List.[74] Statistics indicate that death due to cold is more frequent among males than females in most age groups.

Within Wayne County, approximately 12.5% of the population is aged 65 years or more and therefore at higher risk from extreme heat based solely on age.[75] Seventeen extreme cold or wind chill events, resulting in 11 deaths and 10 injuries, were reported in Wayne County between 2000 and 2019.[76]

Area Impacted

Extreme cold can affect water supply lines, and secondary effects, such as winter storms, can greatly impair transportation. Although the entire county would be affected, the impacts of extreme cold, other than those on human health, would primarily affect infrastructure (gas and water lines) and shipping channels.

Economic Impact

Damage to infrastructure, including gas and water lines, can result in costly repairs. Medical costs and increased emergency response costs would be anticipated. Shipping delays could cause a short-term increase in the cost of consumer products.

Critical Facilities/Services

Primarily, local and regional governmental services would be needed to support individuals during times of extreme cold. Local churches, community centers, and other nonprofit organizations, as well as governmental groups, opened warming centers during the 2019 polar vortex event, and the Wayne County Sheriff's Office assisted by transporting individuals to area shelters. Similarly, the Michigan Humane Society responded to calls about animals exposed to the cold.

Hospitals and clinics would likely see an increase in cases of hypothermia, frostbite, and other cold-related illnesses. Coast Guard icebreaker assistance has been utilized to clear shipping lanes of ice.

Utility companies, such as Consumers Energy and DTE Energy, would be essential in repairing lines and providing sufficient resources to meet the increased demand for heat.

[74] Michigan Department of Health and Human Services, Medicaid Long Term Care Provider List, https://www.michigan.gov/mdhhs/0,5885,7-339-71551_2945_42542_42543_42546_42551-20397--,00.html
[75] SEMCOG, Community Profiles, Wayne County, excluding Detroit. https://semcog.org/Community-Profiles
[76] NOAA National Centers for Environmental Information Storm Events Database query https://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=26%2CMICHIGAN, April 22, 2019

4.6 Fire Hazards

4.6.1 Forest/Field Fire

An uncontrolled fire in an open space, forested area, brush or grassland, or wildland.

Historical Events

Fire incident reporting for Michigan is coordinated through the National Fire Incident Reporting System (NFIRS), which captures all categories of fire events — including structural, vehicle, outside, grass/brush, and wildland fires. NFIRS data are available statewide for every year since 1999, but county-level breakdowns are not routinely published. As a result, Wayne County planning documents provide only limited historical windows of "forest and field" fire data, such as 1998-2004 (shown in the table below).[77]

Statewide NFIRS totals demonstrate that wildfire and grass/brush fire activity continues to occur consistently in Michigan. In 2021, Michigan fire departments reported 274 wildland fires burning 2,379 acres, and in 2022, they reported 231 wildland fires burning 3,415 acres.[78] Although most of these events were in northern and central counties, they underscore the persistence of small but regular fire hazards across the state. Wayne County, while highly urbanized, experiences similar small-scale grass and brush fires each year, even though no large wildfires have been recorded in the County in recent decades.

A total of 1,669 occurrences of minor to moderate forest and field fires occurred between January 1, 1998, and December 2004 in Wayne County.[79] Between 1998 and 2003, Wayne County experienced an average of 278 minor to moderate forest and field-related fires per year.[80] Between 1998 and 2024, no severe, disastrous wildfires have been reported in Wayne County.[81]

On September 14, 2025, a Woodhaven grass and brush fire near Van Horn Road and Ford Lane spread rapidly before being contained; local media also reported a nearby six-car train derailment connected to the initial 911 "grass fire" calls.[82] Wayne County has also experienced smoke impacts from large marsh fires in neighboring Ontario, such as an April 2025 blaze that produced visible smoke across Metro Detroit.[83] Between November 28, 2021, and November 24, 2024, the State of Michigan experienced 4,837 Visible Infrared Imaging Radiometer Suite (VIIRS) fire alerts. Wayne County consistently records

[77] U.S. Fire Administration. National Fire Incident Reporting System (NFIRS), Version 5.0: Summary Data Reports. Emmitsburg, MD: FEMA, accessed September 25, 2025. https://www.usfa.fema.gov/data/nfirs/
[78] Michigan Department of Natural Resources, Bureau of Fire Services. *Wildland Fire Reports 2021–2022.* Lansing: Michigan DNR. Accessed September 25, 2025. https://www.michigan.gov/dnr/-/media/Project/Websites/dnr/Documents/FRD/fire/Wildland-fire-report.pdf
[79] Federal Emergency Management Association Website, www.nfirs.fema.gov, *NFIRS 5.0 National Reporting*, October 3, 2005, Filtered for Wayne County Reporting Only
[80] Ibid.?
[81] National Oceanic and Atmospheric Administration, "National Centers for Environmental Information: Storm Events Database: Wayne County, Michigan: Wildfire,"
[82] *Fox 2 Detroit*, "Firefighters battled large grass fire Downriver Sunday afternoon," September 14, 2025.
[83] *The Detroit News*, "Smoke rising from Ontario marsh fire visible in Metro Detroit," April 20, 2025.

only low single- to low double-digit high-confidence VIIRS alerts per year, including just one high-confidence alert reported so far in 2025.[84],[85]

Between 2001 and 2023, Wayne County lost 18 hectares of tree cover to wildfires compared to a loss of 592 hectares to other causes.[86]

In October 1871, Michigan's first recorded catastrophic fire occurred following a prolonged drought that had affected much of the Great Lakes region. The wildfire killed 200 people and burned 1.2 million acres in Michigan's Lower Peninsula.[87]

Forest/Field Related Fire Incidents in Wayne County 1/1/98-12/31/04			
	Number	**Deaths/Injuries**	**Property Loss**
Natural vegetation	514	1/2	$11,054
Forest, woods, or wildland fire	81	0/0	$154
Brush, or brush and grass mixture	553	0/1	$223,215
Grass fire	521	0/0	$9,719
Cultivated vegetation, grain or crop, orchard, vineyard, trees, or nursery stock	147	1/4	$242,976

Source: NFIRS 5.0 National Reporting, Tally by Incident Type, January 1, 1998, through December 31, 2004, filtered for Wayne County Reporting only. Note: deaths & injuries are civilian and firefighters combined.

Frequency and Probability

On average, one major event requiring MDNR involvement occurs per decade in Michigan. Michigan reported 376 wildfires in 2022, which collectively burned a total of 3,522 acres.[88] Wayne County had two wildfires reported between 1981 and 2018 that are considered by the County to be significant, as they required the involvement of MDNR.[89] The probability of a significant forest or field fire occurring in the County is once every 18.5 years, but smaller-scale occurrences, such as localized grass or brush fires, are comparatively more likely to happen. Should more recent, fire-type distinguished data become available for Wayne County prior to the preparation of the next Hazard Mitigation Plan, the frequency of occurrence should be reconsidered with the most recent data.

Health & Safety

[84] Global Forest Watch, "Wayne County, Michigan — Fires (VIIRS alerts, high confidence) & forest-loss dashboards," accessed Sept. 25, 2025.
[85] NASA Earthdata, "VIIRS I-Band 375 m Active Fire Data (overview)," accessed Sept. 25, 2025.
[86] Ibid, "United States: Michigan: Wayne County," accessed November 25, 2024, https://www.globalforestwatch.org/dashboards/country/USA/23/86/?category=fires&map=eyJjYW5Cb3VuZCI6dHJ1ZX0%3D.
[87] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103. July 2012
[88] Insurance Information Institute, "Facts + Statistics: Wildfires," accessed November 25, 2024, https://www.iii.org/fact-statistic/facts-statistics-wildfires.
[89] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* April 2019, page 247.

Between January 1, 1998, and December 31, 2003, one death was reported from natural fires. A total of 3 injuries (civilian and firefighter) resulted.[90]

Generally, heat exhaustion and smoke inhalation pose the greatest risk to firefighters and civilians. The risk to human life is low to moderate for wildfires.[91]

Area Impacted

In Michigan, approximately 4% of all forest and field fires are caused by lightning strikes, while the remainder are attributed to human activity.[92] Forests cover approximately 55% (20.4 million acres) of Michigan's total land base.[93] The amount of area potentially affected by wildfire in Wayne County varies depending on how land use and land cover data are classified: only 9.2% of Wayne County is categorized as park, recreation, or open space land uses.[94] Agricultural lands make up an additional 7.9% of Wayne County. However, 60% of the County is covered by trees or open space.[95] Wayne County contained approximately 77,000 acres of scrub, grassland, and forest land in 2000.[96] (Figure 2)

Populations adjacent to open space or vacant land will be directly affected. The extent of the affected area depends greatly on response time and fire control. Open spaces and vacant land are most at risk for forest/field fires. In 2000, approximately 114,209 acres of undeveloped land were located in Wayne County.[97] However, this number is expected to be lower due to growth in the County over the past four years. Over 60% of Wayne County's land is developed.

Economic Impacts

The risk rate for property damage resulting from a wildfire is moderate to high, with a particularly high risk for timber loss.[98]

Total property loss for vegetation, forest, woods, wildland, brush, and grass fires between January 1, 1998, and December 31, 2004, was $24,414. The total property loss for fires on cultivated agricultural lands was $242,976.[99] Secondary effects of forest/field fires include infrastructure damage, timber loss, property loss, wildlife loss, and loss of life or injury to persons.

Critical Facilities/Services

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[90] Federal Emergency Management Association Website, www.nfirs.fema.gov, *NFIRS 5.0 National Reporting*, October 3, 2005.
[91] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2001, page 7.
[92] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* April 2019, page 234.
[93] Ibid
[94] Southeast Michigan Council of Governments (SEMCOG), Community Profiles, Wayne County, excluding Detroit. https://semcog.org/Community-Profiles
[95] Southeast Michigan Council of Governments (SEMCOG), Quick Facts: Land Cover in Southeast Michigan, 2013. https://www.semcog.org/publications
[96] SEMCOG, *Land Use in Southeast Michigan 1990-2000*, Specific to Wayne County, April 2004.
[97] SEMCOG, *Land Use in Southeast Michigan 1990-2000*, Specific to Wayne County, April 2004.
[98] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2001, page 7.
[99] Federal Emergency Management Association Website, www.nfirs.fema.gov, *NFIRS 5.0 National Reporting*, October 3, 2005.

There are 45 fire departments that respond to fires within Wayne County. Emergency response assistance is provided to fire departments through mutual aid arrangements. Between January 1, 1998, and December 31, 2004, no firefighter deaths were reported, and two firefighter injuries were reported from related forest and field fires.[100]

4.6.2 Scrap Tire Fire

Scrap tire fires are large fires that occur at locations where scrap tires are stored for processing, recycling, or reuse.

Historical Events

Michigan generates 7.5 to 9 million scrap tires annually, and Wayne County has an extensive history of scrap tire fires. Over the last decade, there has been a decrease in both the frequency and severity of fires at scrap tire disposal sites due to the cleanup of existing stockpiles and an increase in compliance at collection sites. The Michigan State Police listed 16 significant fires at tire storage locations from 1987 to 2010. One of these incidents occurred in southwest Detroit in 2005; that fire injured three firefighters and destroyed buildings on the site.[101] A scrap tire fire occurred on the West Side of Detroit in April 2021 at a site used for dumping. No injuries, deaths, or structural damage were reported. However, the event highlights how improper dumping or storage of scrap tires can occur in dense urban areas.[102]

The Michigan Department of Environmental Quality requires a scrap tire collection site to be registered if it exceeds established tire storage thresholds. Scrap tire collection sites can include businesses such as scrap tire processors, new tire retailers, junkyards, farms, and go-kart tracks. It is estimated that over 650,000 scrap tires are stored in Wayne County at both registered and unregistered scrap tire collection sites.

Frequency & Probability

Between 1987 and 2010, Michigan experienced sixteen major scrap tire fires.[103] However, since the MDEQ Michigan Scrap Tire Program began in 1991, Michigan's scrap tire stockpile has been reduced from 31 million to approximately 3.4 million (as of 2012).[104]

Health & Safety

Scrap tire facilities present significant environmental and fire hazards. In addition, scrap tires are known to provide breeding grounds for mosquitoes, thereby contributing to public

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[100] Federal Emergency Management Association Website, www.nfirs.fema.gov, *NFIRS 5.0 National Reporting*, October 3, 2005.
[101] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 216.
[102] Dane Kelly, "Tire Fire Causes Large Smoke Plume on Detroit's West Side," *Click on Detroit*, April 28, 2021, https://www.clickondetroit.com/news/local/2021/04/28/tire-fire-causes-large-smoke-plume-on-detroits-west-side/.
[103] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 216.
[104] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 214.

health hazards. Scrap tire fires can also produce acrid smoke and an oily residue, which can leach into the soil.

Area Impacted

Scrap tire fires can be difficult to contain, and in addition to the fire hazard they present, inhaling the smoke produced by the fire can be hazardous to human health. As a result, scrap tire fires often require people in surrounding areas to evacuate or seek shelter in place.

The oily material produced by scrap tire fires can also negatively impact the soil, as well as potentially groundwater and surface water, in the area surrounding the fire. If groundwater or surface water is impacted, the effects can potentially extend well beyond the boundaries of the fire.

Economic Impact

A scrap tire fire will inevitably result in property damage and inventory loss to the collection site. In addition, environmental clean-up costs after the fire is extinguished can be high.

Due to the high volume of responses required, extinguishing a scrap tire fire can be financially draining for local emergency response departments. For example, the largest scrap tire fire in recent Michigan history occurred in Osceola County in 1997. That fire burned over 1.5 million tires and cost approximately $300,000 to extinguish. The State of Michigan paid $100,000 to Osceola County as reimbursement for the costs incurred in fighting that fire.

Critical Facilities/Services

Scrap tire fires can be extremely challenging to extinguish, often lasting for extended periods, and require substantial resources from local emergency response departments. The response effort typically requires assistance from neighboring fire departments.

4.6.3 Structural Fire

A structural fire is a fire of any origin that ignites one or more structures and causes loss of life and/or property.

Historical Events

Structural fires are commonly known as a “universal hazard” because they can occur anywhere. The Michigan State Police, Fire Marshal Division estimated that, in 2003, a structural fire occurred in Michigan every 28 minutes and 6 seconds.[105] Wayne County has experienced numerous structural fires throughout its history.

[105] Michigan State Police: Fire Marshal Division, *2003 Fire Clock*, accessed November 25, 2024, https://www.michigan.gov/documents/dleg_bccfs_03fireclock_94774_7.pdf.

Frequency & Probability

From 1998 through 2004, 8,674 structural fires in Wayne County were reported to the Federal Emergency Management Agency, National Fire Incident Reporting (NFIR) System.[106] Wayne County-specific information was not available for the writing of this report. Still, national data from the U.S. Fire Administration notes an estimated 1,319,500 fires in 2022, with 24.3% of those impacting residential structures and another 9.5% involving nonresidential structures.[107]

Although the number of structural fires nationally is declining, fires within Wayne County have a well-established history, and this hazard is likely to continue occurring. Based on NFIR data from 1998-2004, the frequency of occurrence of structural fires in Wayne County is approximately 1,239 per year.

Health & Safety

Structural fires occur in Michigan approximately 22,000 times per year, resulting in roughly 210 deaths and 670 injuries annually. Residential fires account for 74% of structure fires and 80% of fire deaths. Residential and other county land uses are shown in Figure 3. From 1998 through 2004, there were a total of 56 deaths and 330 injuries due to structural fires in Wayne County. This equates to an average of 8 deaths and over 47 injuries per year.[108]

Area Impacted

Structural fires can occur on any parcel on which a structure is present.

Economic Impact

Structural fires can cause significant property and contents loss. From 1998 through 2004, Wayne County experienced a total of $230,531,796 in property and content loss from structural fires, an average of $32,933,114 per year or $26,577 per structural fire.

Critical Facilities/Services

Thirty-five (35) fire departments, acting from 57 fire stations, responded to structural fires within the Wayne County communities covered in the 2019 Plan.[109] There are 44 fire departments in the County, excluding the City of Detroit, as well as those that respond to private, transportation, and port industries.[110]

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[106] NFIRS 5.0 National Reporting, Tally by Incident Type, January 1, 1998, through December 31, 2004, report generated on October 3, 2005, filtered for Wayne County reporting only.
[107] U.S. Fire Administration, "Statistics," accessed November 25, 2024, https://www.usfa.fema.gov/statistics/.
[108] NFIRS 5.0 National Reporting, Tally by Incident Type, January 1, 1998, through December 31, 2004, report generated on October 3, 2005, filtered for Wayne County reporting only.
[109] NFIRS 5.0 National Reporting, Tally by Incident Type, January 1, 1998, through December 31, 2004, report generated on October 3, 2005, filtered for Wayne County reporting only.
[110] U.S. Fire Administration, "National Fire Department Registry Search Results: Michigan: Wayne County," accessed November 25, 2024, https://apps.usfa.fema.gov/registry/results?page=1&FdStateCode=85&CountyCheckBox=on&FdFipsCode1=163.

4.7 Flooding

4.7.1 Dam Failure

The failure of an impoundment in a river, stream, lake, or other waterway results in downstream flooding.

Historical Events

Dam failure can result in loss of life, property, and natural resources miles downstream of the dam. Dam failures are not only caused by flood events, but can also be triggered by poor operation, inadequate maintenance, and vandalism.

Examples of dam failures in Michigan include: 1) the Silver Lake Dam in Champion Township, of Marquette, County (2003) an earthen dam failed causing over $10 million in property damages and subsequent breach of the downstream Tourist Park Dam, 2) in September 1986, an intensive rainfall caused 11 dams to fail in the Lower Peninsula of Michigan, and 3) in August 2018, the Blackhawk Dam in Coldwater Township of Branch County was reported to be in a "state of failure," as water began undermining and flowing through portions of the earthen berm adjacent to the dam gates.

There are 2,400 dams identified statewide, and there have been 287 documented dam failures in Michigan since 1888.[111] In 2020, the failure of the Edenville and Sanford Dams in Gladwin County caused the evacuation of 10,000 people downstream from the dams, damaged at least 2,500 properties, and swept away a chemical plant and hazardous waste sites.[112]

High and Significant Hazard Dams in Wayne County		
	Hazard	**Height**
Nankin Mill Dam	High	17
Newburgh Dam	High	29
Phoenix Dam	High	24
Wilcox Dam	High	27
Waterford Dam	High	22
Flat Rock Dam	High	16.5
French Landing Dam	High	35
Maybury Fish Pond Dam	Significant	18.5

Source: State of Michigan Department of Environmental, Land, and Water Management Division.

Frequency and Probability

[111] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 124.
[112] Erin Einhorn, "Thousands Fled for their Lie When Two Michigan Dams Collapsed. More Disasters are Coming, Experts Say.," *NBC News*, June 13, 2020, https://www.nbcnews.com/news/us-news/thousands-fled-their-lives-when-two-michigan-dams-collapsed-more-n1230841.

Over 300 dams and critical culverts exist in Wayne County.[113] Wayne County has eight high or significant Class I dam hazards.[114] It is probable that a dam failure or a hazard resulting in an upstream dam failure will occur in the future within the County. Using Michigan's long-term failure rate per dam-year (≈0.00092) scaled to Wayne County's inventory (~14 dams total; 8 high/significant class), the annual probability of at least one dam failure in the County is ~0.7 to 1.3 percent, or ~7 to12 percent over 10 years. In consideration of potential upstream dam failure relative to Wayne County, expanding the inventory to include upstream Rouge and Huron River dams yields a higher "impact-to-Wayne" probability; for example, a relevant upstream inventory of ~30 dams implies an approximate ~24 percent chance in 10 years. These estimates should be updated as dam counts, hazard classifications, or inspection conditions change.

Health & Safety

No deaths or major injuries have been reported as a result of dam failure in the State.[115] Still, the risk to human life as a result of dam hazards is moderate to high.[116]

Area Impacted

Floodplain areas downstream of dams are at the greatest risk of impact from a dam break. There are 3,820 enrollees in the National Flood Insurance Program within 100-year floodplains in Wayne County,[117] and there were approximately 9,500 structures[118] located within FEMA-mapped 100-year floodplains within Wayne County in 2004. As of 2024, there are 2,950 flood insurance policyholders enrolled in the National Flood Insurance Program in Wayne County, excluding Detroit policyholders.[119] As the number of flood insurance policyholders decreases, the risk from flooding increases.

Updated exposure and mapping context. Recent analyses show significantly greater flood exposure in Wayne County than is reflected in the 2004 numbers. 145,899 properties — about 18.7 percent of all county parcels — now carry some level of flood risk over the next 30 years.[120] In 2024, FEMA released preliminary updated flood maps for Wayne County, starting a public review cycle that may redefine 100-year flood zone boundaries and expand or contract the pool of affected structures.[121] Local news coverage suggests these new FIRMs could bring more properties into the mapped floodplain that were previously

[113] Wayne County Michigan Pre-Disaster Mitigation Plan, Wayne County Department of Homeland Security & Emergency Management, March 2005.
[114] Michigan Department of Environmental Quality, Land and Water Management Division, List of Dams in Oakland County and Dams Upstream of Wayne County, September 7, 2005
[115] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 126.
[116] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 8.
[117] FEMA (Federal Emergency Management Agency), National Flood Insurance Program, NFIP Insurance Report by State, County, Community, January 23, 2006.
[118] ASTI Environmental, unpublished analysis of FEMA 100-year floodplain overlays and AeroData, Inc. 2004 aerial photography, Wayne County.
[119]FEMA and the National Flood Insurance Program, *Policy information by State and Community*, updated October 31, 2024, https://nfipservices.floodsmart.gov//reports-flood-insurance-data.
[120] First Street Foundation, *Wayne County, MI Flood Map and Climate Risk Report*, accessed September 2025.
[121] "Wayne County Residents Invited to Review Flood Maps," *DBusiness* (July 2024).

excluded, making the 2004 FEMA figures outdated.[122] Information regarding Area Impact should be updated based on the finalized 2024 updated flood zones in the next edition of this HMP.

Economic Impact

The risk of property damage as a result of dam hazards is moderate to high.[123] A dam failure can result in very high property and content losses. Variable costs to repair a damaged dam are anticipated.

Critical Facilities/Services

Flooding events can require substantial resources and assistance from multiple agencies and departments, including local emergency response departments, as well as state and federal departments such as the MDEQ Land and Water Management Division, the Dam Safety Program staff, and FEMA. If flooding from a dam results in significant damage to homes, the American Red Cross may also assist.

4.7.2 Riverine Flooding

The periodic occurrence of overbank flows of rivers and streams results in partial or complete inundation of the adjacent floodplain. Riverine flooding can impact urbanized and rural areas.

Historical Events

On June 30, 2004, a Presidential Disaster Declaration was issued for Wayne County and 22 other counties in Michigan to provide individual assistance to households and individuals affected by flooding.[124] In September of 1986 and 1987, a county/state disaster declaration was issued for downriver floods (Gibraltar and Brownstown) and (Gibraltar, Brownstown, and Riverview), respectively.[125]

On August 11, 2014, southeast Michigan experienced record rainfall of more than six inches in some areas. Metro Detroit and surrounding communities were the hardest hit. Wayne, southern Oakland, and Macomb Counties experienced the worst flooding with four to six inches of rain over a four-hour period. Approximately 118,000 homes and businesses were impacted by damage in the Southeastern Michigan area, estimated at $1.1 billion. The severe and widespread flooding prompted President Obama to declare

[122] Dave Wattrick, "FEMA releases Wayne County flood maps, urges residents," *Detroit Free Press*, July 3, 2024.

[123] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 126.
[124] Small Business Administration, *Declaration of Disaster #3595: A Notice by the Small Business Administration on 07/09/20004*, Federal Register: 04-15572 (69 FR 41563), accessed November 27, 2024, https://www.federalregister.gov/documents/2004/07/09/04-15572/state-of-michigan.
[125] Wayne County Michigan Pre-Disaster Mitigation Plan, Wayne County Department of Homeland Security & Emergency Management, March 2005

a major disaster for Macomb, Oakland, and Wayne Counties.[126] For a full list of federal disasters declarations, see Appendix F.

Over a seven-hour period from April 30 to May 1, 2019, 3.6 inches of rain, approximately a 100-year storm, resulted in widespread flooding in Dearborn Heights, Detroit, and other communities, impacting approximately 3,000 homes in the County, forcing closure of the Southfield Freeway, and affecting residents within a six-county area in southeast Michigan. Wayne County Executive Warren Evans declared a state of emergency, and Governor Gretchen Whitmer followed by declaring a State of Emergency for Wayne County.[127]

In January 2024, Ecorse Creek flooded from melting snow and heavy rainfall, extending into a residential area of Dearborn Heights. The City of Dearborn Heights plans to convert the residential area to a floodplain to prevent flooding in other nearby residential areas.[128]

Frequency and Probability

Although the Michigan Hazard Analysis indicates that Michigan averages one major riverine flood every two years,[129] NOAA's extreme weather database includes reports of six flood and flash flood events in Wayne County since 2013, which does not include the 2019 event described above. Wayne County includes portions of the Detroit River, the Huron River, the Rouge River, Ecorse Creek, and the Combined Downriver Watersheds (Blakely Drain, Frank & Poet Drain, and Detroit River South sub-watersheds). Riverine flooding generally occurs every year in Wayne County, and areas like Hines Drive may flood frequently each year.

Further, climate change is likely to increase the frequency of floods in Michigan. At the local scale, Southeast Michigan has already displayed upward trends in precipitation. From the 1961 to1990 baseline to 1981 to 2010, total annual precipitation in the region increased by approximately 11%.[130] Climate modeling for Detroit projects average annual precipitation to rise from about 31.4 to 33.4 inches (6.4%) in coming decades, with a growing proportion falling in intense downpour events.[131] Analyses of storm records suggest that hourly rainfall intensity in the Detroit metro area has increased more than 25% between 1970 and 2024, consistent with expected climate-driven intensification.[132] Meanwhile, Michigan's state-level extreme precipitation dataset (1979–present) tracks the annual count of days with less than 1 inch of rainfall — a metric you may compute locally to see how Wayne County compares to regional trends. These regional observations align

[126] CBS Detroit, "Obama Declares Disaster in Detroit-Area Flooding," *CBS News Detroit*, September 25, 2014, https://www.cbsnews.com/detroit/news/obama-declares-disaster-in-detroit-area-flooding/.
[127] Charter County of Wayne, "Wayne County Declares State of Emergency Due to Flooding," accessed December 18, 2024, https://www.waynecounty.com/articles/wayne-county-declares-state-of-emergency-due-to.aspx#:~:text=According%20to%20the%20National%20Weather,Lincoln%20Park%2C%20Romulus%20and%20Taylor..
[128] Megan Woods, "Melted Snow Combined with Rain Floods Neighborhoods in Wayne County," *Click on Detroit*, January 26, 2024, https://www.clickondetroit.com/news/local/2024/01/27/melted-snow-combined-with-rain-floods-neighborhoods-in-wayne-county/.
[129] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 97.
[130] Detroit Climate Action Collaborative / GIISA, *The Potential Impacts of Climate Change on Detroit / Southeast Michigan*, showing an 11% increase in total precipitation.
[131] ClimateCheck (Detroit, MI) — projection from ~31.4″ to ~33.4″ average precipitation in Detroit.
[132] *Axios,* "Detroit's rainstorms keep intensifying," April 2025 — reports >25% increase in hourly rainfall intensity.

with the broader Midwest pattern: in many Midwestern states, rainfall during the wettest days has increased over 30%, accelerating flood hazard escalation.[133] Each of these factors will tend to further increase the risk of flooding.[134]

The Wayne County Parks Department has developed a system for quick response, road closures, and public notification regarding the flooding of Hines Drive. Riverine flooding will probably continue to be a hazard in Wayne County.

Health & Safety

Although frequent and widespread, fewer than 10 deaths from riverine flooding were recorded in Michigan in the 25 years prior to 2001, and 140 nationally per year.[135] The most recent confirmed, flood-related deaths in Wayne County occurred July of 1925 in the city of Detroit, resulting in 2 deaths.[136] The risk to human life is generally considered low.[137]

Area Impacted

A riverine flood in Wayne County would primarily affect streets and infrastructure located near floodplains and in areas with inadequate drainage. The Combined Downriver watershed includes 11 communities and encompasses approximately 85.9 square miles. In 2000, 244,259 people lived within its boundaries (2,844 people per square mile).[138] The Ecorse Creek Watershed includes 11 communities and encompasses 27,791 acres or 43.4 square miles.[139] The Rouge River basin has four major tributary branches totaling 127 river miles, mostly located in urbanized areas, including Wayne County.[140] The Rouge watershed extends over 467 square miles within three counties, including Wayne County.[141]

Flooding risks vary across these watersheds. In the Rouge River corridor, flooding is both frequent and disruptive, with areas such as Hines Drive inundated multiple times each year, prompting Wayne County Parks to implement a dedicated closure and public notification system. Ecorse Creek has long been recognized as a flooding hotspot due to its flat topography and urbanization; several federal and local projects have targeted channel improvements and detention basins, but localized flooding of streets and residences continues.[142]

The First Street Foundation, a nonprofit group that utilizes different models than FEMA to identify parcels at risk of flooding, has identified as many as 46,609 Wayne County

[133] Michigan MiTracking, *Extreme Precipitation Metadata* — data availability from 1979 through the present for days with ≥1″ precipitation.
[134] US Environmental Protection Agency, 2015. What Climate Change Means for Michigan. EPA 430-F-16-024. August 2016.
[135] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 8.
[136] *WXYZ-TV Detroit*. "What Caused This? What's Ahead? Questions Answered Regarding Historic Metro Detroit Flood." *WXYZ.com*, August 13, 2014. https://www.wxyz.com/news/what-caused-this-whats-ahead-questions-answered-regarding-historic-metro-detroit-flood
[137] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2001, page 8.
[138] Draft Combined Downriver Watershed Management Plan, CDWIC, August 5, 2005.
[139] Draft Ecorse Creek Watershed Management Plan, August 1, 2005.
[140] Friends of the Rouge, "Our Watershed," accessed December 2, 2024, https://therouge.org/about-us/our-watershed/.
[141] Ibid.
[142] U.S. Army Corps of Engineers, *Ecorse Creek Flood Risk Management Study* (Detroit District), project overview.

parcels, or 6% of parcels, as being in flood zones. The City of River Rouge is reported to have the highest percentage of its total parcels at flood risk, at 81%, with Grosse Pointe Woods next at 60%.[143] As of 2024, there are 2,950 flood insurance policyholders enrolled in the National Flood Insurance Program in Wayne County, excluding Detroit policyholders. As the number of flood insurance policyholders decreases, the risk from flooding increases.

Updated exposure and mapping context. Recent analyses show significantly greater flood exposure in Wayne County than is reflected in the 2004 numbers. 145,899 properties — about 18.7 percent of all county parcels — now carry some level of flood risk over the next 30 years. In 2024, FEMA released preliminary updated flood maps for Wayne County, starting a public review cycle that may redefine 100-year flood zone boundaries and expand or contract the pool of affected structures. Local news coverage suggests these new FIRMs could bring more properties into the mapped floodplain that were previously excluded, making the 2004 FEMA figures outdated. Information regarding Area Impact should be updated based on the finalized 2024 updated flood zones in the next edition of this HMP.

Economic Impact

Flooding is the most costly and common natural disaster in the United States. Property and content loss can be very high. Property damage as a result of flooding in Michigan averages more than $100 million each year.[144] As of May 2020, Michigan had about 20,500 flood insurance policies statewide, covering over $4.07 billion in exposure.[145]

In August 2024, significant rainfall affected western Wayne County, flooding residential dwellings, roadways, and vehicles. Additionally, the Lower Rouge River experienced major flooding. Rainfall was estimated at 1 to 2 inches per hour, and the storm moved at 45 to 60 mph.[146]

From January 1, 1996, to October 31, 2025, Wayne County communities (including Detroit) experienced 110 flooding events, beginning on 86 separate days, causing over a billion dollars in property damage ($1,332,000,000).[147] One hundred thirty-seven properties in the portions of Wayne County covered in this plan have experienced repeated flooding and have filed flood insurance claims for repetitive losses. According to the September 30, 2018, List, damages due to repetitive flooding losses in Wayne County

[143] Keith Matheny, First Street Foundation's flood assessment method finds 70% more parcels at flood risk nationwide than are noted by FEMA, *Detroit Free Press*, June 29, 2020, https://www.freep.com/in-depth/news/local/michigan/2020/06/29/flood-risk-michigan-homes-map-first-street-foundation/3258043001/.
[144] Michigan Department of State Police, Emergency Management and Homeland Security Division, April 2019. *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 145.
[145] Michigan Department of Environment, Great Lakes, and Energy (EGLE). "National Flood Insurance Program (Michigan)," as of May 2020, 20,500 policies, $4,074,845,000 coverage.
[146] NOAA: National Centers for Environmental Information, "Storm Events Database: Flood, Michigan, DTX, Emergency Manger, May 21, 2004," accessed December 3, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=1131293.
[147] NOAA, "National Centers for Environmental Information: Storm Events Database: Michigan: Wayne County: Flash Flood, Flood, and Lakeshore Flood," accessed January 29, 2026, https://www.ncei.noaa.gov/stormevents/choosedates.jsp?statefips=26%2CMICHIGAN.

average $18,326 per property.[148] At the time of writing this HMP, more recent flood-related property damage assessments specifically for Wayne County were not available. This information should be updated, if possible, in the next HMP edition and should be treated as conservative benchmarks until newer information is available.

Critical Facilities/Services

Flooding events can require a substantial amount of resources and assistance from multiple agencies and departments, including local emergency response departments, state and federal departments (e.g., FEMA), and non-profit organizations such as the American Red Cross. If a loss of significant yields of crops results from a flood event, agricultural service agencies such as the Michigan Department of Agriculture or the U.S. Department of Agriculture may be called upon to offer assistance. The National Weather Service and local media issue flood watches and warnings to give advanced notice of potential flooding to areas. Watershed management programs and community/government programs, such as Friends of the Rouge River, the Rouge River Wet Weather Demonstrating Project, the Rouge River Watershed Alliance, and the Huron River Watershed Council, also provide data and information.

In addition to emergency response and watershed coordination, federal mitigation programs provide critical resources for Wayne County communities to reduce long-term flood risk. The Federal Emergency Management Agency administers the Flood Mitigation Assistance (FMA) Program, which funds projects such as property acquisition, elevation, and floodproofing for structures insured under the NFIP.[149] FEMA also administers the Hazard Mitigation Grant Program, which provides funding to states and local governments after a presidentially declared disaster for hazard mitigation planning and projects, including those addressing flooding.[150] More recently, the Safeguarding Tomorrow Revolving Loan Fund, established in 2021, offers states capitalization grants to create low-interest loan programs that communities can use for local mitigation projects, including flood control, drainage improvements, and resilient infrastructure.[151]

National Flood Insurance Program (NFIP) Participation

Part 31, Water Resources Protection, Michigan Act 451 of 1994, as amended, regulates activities that result in the occupation, filling, or grading of land within floodplains along watercourses with a drainage area in excess of two square miles. Such activities require an application, review, and permit issuance from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) prior to floodplain disturbance. Of the 42 communities in Wayne County, excluding Detroit, 38 participate in the National Flood Insurance Program (NFIP).[152] The following communities are not listed as participating:

[148] FEMA (Federal Emergency Management Agency), National Flood Insurance Program, Repetitive Loss Summary for Wayne County, Michigan. provided by the Michigan State Police, Emergency Management Division, September 30, 2018.
[149] FEMA. "Flood Mitigation Assistance (FMA) Program." Last updated 2023. https://www.fema.gov/grants/mitigation/floods
[150] Federal Emergency Management Agency. "Hazard Mitigation Grant Program." Last updated 2024. https://www.fema.gov/grants/mitigation/hazard-mitigation
[151] Federal Emergency Management Agency. "Safeguarding Tomorrow Revolving Loan Fund Program." Last updated 2024. https://www.fema.gov/grants/mitigation/safeguarding-tomorrow-revolving-loan-fund-program
[152] FEMA, Community Status Book, updated December 2, 2024, http://www.fema.gov/national-flood-insurance-program/national-flood-insurance-program-community-status-book.

Belleville, Harper Woods, Highland Park, Melvindale, and Van Buren Township.[153] There are 2,950 flood insurance policyholders enrolled in the National Flood Insurance Program in Wayne County, excluding Detroit policyholders.[154] Analysis of aerial photographs indicates that approximately 9,500 structures were located within the FEMA-mapped 100-year floodplains in 2004.[155] Notably, this map is defined in terms of two categories of flood probability: 1) at least 1% chance of annual flooding and 2) at least 0.2% chance of flooding. Additionally, these flood probabilities were calculated prior to recent climate modeling and are thus likely to be conservative estimates. The City of Allen Park has the oldest effective FEMA flood map date of 2008. The following table summarizes the NFIP participating and non-participating Wayne County municipalities.

Municipality	NFIP Participation Status	Effective FEMA Flood Map Date
ALLEN PARK, CITY OF	PARTICIPATING	10/21/2021
BELLEVILLE, CITY OF	NOT PARTICIPATING	2/2/2012
BROWNSTOWN, CHARTER TOWNSHIP OF	PARTICIPATING	10/21/2021
CANTON, TOWNSHIP OF	PARTICIPATING	2/2/2012
DEARBORN HEIGHTS, CITY OF	PARTICIPATING	2/2/2012
DEARBORN, CITY OF	PARTICIPATING	10/21/2021
ECORSE, CITY OF	PARTICIPATING	10/21/2021
FLAT ROCK, CITY OF	PARTICIPATING	2/2/2012
GARDEN CITY, CITY OF	PARTICIPATING	2/2/2012
GIBRALTAR, CITY OF	PARTICIPATING	10/21/2021
GROSSE ILE, TOWNSHIP OF	PARTICIPATING	10/21/2021
GROSSE POINTE FARMS, CITY OF	PARTICIPATING	2/2/2012
GROSSE POINTE PARK, CITY OF	PARTICIPATING	12/30/2020
GROSSE POINTE SHORES, VILLAGE OF	PARTICIPATING	10/21/2021
GROSSE POINTE WOODS, CITY OF	PARTICIPATING	2/2/2012

[153] Ibid.
[154]FEMA and the National Flood Insurance Program, *Policy information by State and Community*, updated October 31, 2024, https://nfipservices.floodsmart.gov//reports-flood-insurance-data.
[155] ASTI Environmental, unpublished analysis of FEMA 100-year floodplain overlays and AeroData, Inc. 2004 aerial photography, Wayne County.

GROSSE POINTE, CITY OF	PARTICIPATING	10/21/2021
HAMTRAMCK, CITY OF	PARTICIPATING	2/2/2012
HARPER WOODS, CITY OF	NOT PARTICIPATING	2/2/2012
HIGHLAND PARK, CITY OF	NOT PARTICIPATING	10/21/2021
HURON, TOWNSHIP OF	PARTICIPATING	2/2/2012 and 10/21/2021
INKSTER, CITY OF	PARTICIPATING	10/21/2021
LINCOLN PARK, CITY OF	PARTICIPATING	10/21/2021
LIVONIA, CITY OF	PARTICIPATING	2/2/2012
MELVINDALE, CITY OF	NOT PARTICIPATING	12/3/2013
NORTHVILLE, CITY OF	PARTICIPATING	2/2/2012
NORTHVILLE, TOWNSHIP OF	PARTICIPATING	2/2/2012
PLYMOUTH, CHARTER TOWNSHIP OF	PARTICIPATING	2/2/2012
PLYMOUTH, CITY OF	PARTICIPATING	12/2/2008
REDFORD, TOWNSHIP OF	PARTICIPATING	12/3/2013
RIVER ROUGE, CITY OF	PARTICIPATING	2/2/2012
RIVERVIEW, CITY OF	PARTICIPATING	2/2/2012
ROCKWOOD, CITY OF	PARTICIPATING	10/21/2021
ROMULUS, CITY OF	PARTICIPATING	10/21/2021
SOUTHGATE, CITY OF	PARTICIPATING	2/2/2012
SUMPTER, TOWNSHIP OF	PARTICIPATING	2/2/2012
TAYLOR, CITY OF	PARTICIPATING	2/2/2012
TRENTON, CITY OF	PARTICIPATING	2/2/2012
VAN BUREN, CHARTER TOWNSHIP OF	NOT PARTICIPATING	2/2/2012
WAYNE, CITY OF	PARTICIPATING	2/2/2012
WESTLAND, CITY OF	PARTICIPATING	10/21/2021

WOODHAVEN, CITY OF	PARTICIPATING	10/21/2021
WYANDOTTE, CITY OF	PARTICIPATING	2/2/2012

Repetitive Loss

For repetitive loss data, the data collected by FEMA in 2018 is the most up-to-date repetitive loss data available. Updated repetitive loss data was requested from FEMA on June 10, 2025. A response from FEMA concerning the updated repetitive loss data has not been received in time for this report.

In 2018, FEMA identified 169 repetitive loss properties in Wayne County, with 32 of those within the City of Detroit.[156] The 137 repetitive loss properties within the remainder of the County covered by this plan represent a 12% increase from the 122 noted in the 2013 Wayne County Hazard Mitigation Plan update.

Severe repetitive loss properties are defined as residential properties covered under an NFIP flood insurance policy, and: (a) that have at least four NFIP claim payments (including building and contents) over $5,000 each, with the cumulative amount of such claims payments exceeding $20,000; or (b) for which at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. For both (a) and (b), at least two of the referenced claims must have occurred within any 10-year period and must be greater than 10 days apart.[157]

Repetitive loss properties comprise approximately one percent of currently insured properties but account for 25 to 30% of flood claims. They constitute a significant expense of the NFIP. Flood mitigation activities aimed at reducing the potential for further damage to these properties are a priority. By addressing these high-priority at-risk properties, not only would all of the normal benefits of hazard mitigation be enjoyed, but the reduction in insurance claims would be expected to help keep flood insurance costs lower for everyone else in these NFIP-participating communities.[158]

The following table summarizes the number and types of repetitive-loss properties by community in Wayne County.

[156] FEMA (Federal Emergency Management Agency), National Flood Insurance Program, Repetitive Loss Summary for Wayne County, Michigan. provided by the Michigan State Police, Emergency Management Division, September 30, 2018.
[157] FEMA and the National Flood Insurance Program, *A Policyholder's Guide to Severe Repetitive Loss*, July 2023.
[158] The Pew Charitable Trusts, *Repeatedly Flooded Properties Cost Billions*, October 2016, https://www.pewtrusts.org/~/media/assets/2016/10/repeatedly_flooded_properties_cost_billions.pdf?la=en

Jurisdiction	Total Number of Properties	Number classified as "mitigated"	Property type(s)	Total damages
Allen Park	6	0	Single-family Residential	$66,142
Brownstown Twp.	8	4	Single-family Residential	$216,402
Dearborn	1	1	Other residential	$91,425
Dearborn Heights	16	1	Single-family Residential	$390,770
Ecorse	2	0	Single-family Residential	$13,076
Gibraltar	85	83	(see below)	$1,427,272
Grosse Ile Twp.	4	0	Single-family Residential	$57,326
Grosse Pointe	1	1	Single-family Residential	$5,683
Grosse Pointe Park	1	0	Single-family Residential	$22,517
Lincoln Park	2	0	Single-family Residential	$42,933
Northville Twp.	1	0	Single-family Residential	$41,174
Plymouth Twp.	1	0	Single-family Residential	$20,296
Redford Twp.	3	0	Single-family Residential	$21,040
Rockwood	1	1	Single-family Residential	$3,816
Trenton	3	0	(see below)	$17,317
Wyandotte	2	1	(see below)	$73,432
TOTAL	137	92		$2,510,621

In the City of Gibraltar, 83 of the 85 repetitive loss properties are classified as "mitigated." These include 82 single-family residential properties plus one non-residential property. The two Gibraltar unmitigated properties are single-family residential properties. Trenton's three properties involve two single-family residential and one "other residential" property. Wyandotte's mitigated property is multi-family residential, and the unmitigated property noted above is listed as "other non-residential."

4.7.3 Urban Flooding

Urban flooding occurs when storm sewer systems overflow and is typically caused by inadequate drainage following heavy rainfall or rapid snowmelt. Urban flooding is typically the result of intense rainfall, snowmelt, ice jams, dam failures (considered separately above), or a combination of these factors in an area with significant amounts of impermeable surfaces. Secondary hazards associated with urban flooding include infrastructure damage, dam failure, riverine flooding, shoreline flooding, and erosion. Sewered areas and major surface water bodies of Wayne County are shown in Figure 4.

Historical Events

Since the National Centers for Environmental Information Storm Events Database began recording this category in 1996, 60 individual flood or flash flood events have been recorded in Wayne County, up to April 2025.[159]

[159] NOAA: National Centers for Environmental Information, "Storm Events Database," accessed January 27, 2026, https://www.ncei.noaa.gov/stormevents/listevents.jsp?eventType=%28Z%29+Flood&beginDate_mm=10&beginDate_dd=01&beginD

In April 1947, a combination of snow and rainfall that began in late March affected areas surrounding the Rouge River.[160] On May 9, 1996, a flash flood caused flooding on I-94 in Wayne County.[161] On February 22, 1997, the Lower Rouge River at Inkster went above its 10.0-foot flood stage and crested at 10.1 feet.[162]

In February 1998, a rain event caused a State of Emergency Declaration to be issued in Wayne County. Taylor, Dearborn Heights, Westland, and Gross Ile were among the hardest hit communities. Urban flooding was a significant problem. Hundreds of basements and many streets were flooded in the cities west and southwest of Detroit. Rainfall totals during the three-day event were commonly over 2 inches.[163]

On September 11, 2000, widespread and severe urban flooding resulted in a Presidential Disaster Declaration for Wayne County. Over 15,000 residences and other structures in the County suffered flood damage. In Allen Park, an estimated 40% of all streets flooded at some point during the event. Underpasses flooded in Dearborn. The Southfield Freeway was covered with two to three feet of water. A home in Riverview had its basement collapse, and three feet of water covered Fort Street in Wyandotte.[164]

In May 2004, heavy rain caused widespread flooding throughout Southeast Michigan, and Wayne County declared a state of emergency. Underpasses in Taylor were 6 to 10 feet underwater. Flooding damaged approximately 350 homes in Allen Park and approximately 400 homes in Dearborn Heights.[165]

In September 2008, heavy rainfall from two storms impacted western Wayne County from Northville to Sumpter Township. Across Southeast Michigan, 3 to 6 inches of rainfall was reported, with the worst impacts in Oakland County. Most damage from the flooding caused road closures with some basement flooding, resulting in $350,000.00 in damages.[166]

In May 2011, the entirety of Wayne County experienced widespread flooding with rain totals ranging from 2 to 4 inches. The focus of the heavy rainfall was concentrated along the I-94 corridor, resulting in numerous residential areas and streets. The flooding is estimated to have resulted in $100,000.00 in property damage.[167]

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ate_yyyy=1950&endDate_mm=12&endDate_dd=31&endDate_yyyy=2025&county=WAYNE%3A163&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=26%2CMICHIGAN.

[160] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 81.

[161] NOAA: National Centers for Environmental Information, "Storm Events Database."

[162] Ibid.

[163] Ibid., "Storm Events Database: Flood, Michigan, DTX, PDC, February 17, 1998," accessed December 2, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=5634619.

[164] Ibid. "Storm Events Database: Flood, Michigan, DTX, PDC, September 11, 2000," accessed December 3, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=5174390.

[165] NOAA: National Centers for Environmental Information, "Storm Events Database: Flood, Michigan, DTX, Law Enforcement, May 21, 2004," accessed December 3, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=5399933.

[166] NOAA: National Centers for Environmental Information, "Storm Events Database: Flood, Michigan: Northville, 2008" accessed January 27, 2026, https://www.ncei.noaa.gov/stormevents/eventdetails.jsp?id=133290.

[167] NOAA: National Centers for Environmental Information, "Storm Events Database: Flood, Michigan: Cherry Hill," accessed January 27, 2026, https://www.ncei.noaa.gov/stormevents/eventdetails.jsp?id=311636.

In August 2014, Detroit and surrounding Wayne County were hit by an extreme rainfall event—roughly 4.5 to 6 inches in a few hours—that left approximately 1,000 vehicles stranded in flooded roadways across the city and contributed to more than $1.8 billion in property damage in the tri-county area.[168]

Severe rainfall that overwhelmed stormwater drainage systems caused widespread flooding in May 2019 and millions to billions of dollars in damage. The May 2019 flood events closed portions of the Southfield Freeway and streets in Taylor, Dearborn Heights, and Allen Park.[169]

In August 2023, there was a high volume of rainfall with totals ranging from 3 to 5 inches, lasting 6 hours. The rainfall resulted in residential areas and road closures. The most notable road closures were at Dingwell Drive at Detroit Metropolitan Wayne County Airport and at the intersection of I-94 and I-275. The flooding, combined with the strong winds, resulted in an estimated 3 million dollars in property damage.[170]

In August 2024, significant rainfall affected western Wayne County, flooding residential dwellings, roadways, and vehicles. Additionally, the Lower Rouge River experienced major flooding. Rainfall was estimated at 1 to 2 inches per hour, and the storm moved at 45 to 60 mph.[171]

In April 2025, widespread flooding across Wayne County was reported from a rainstorm with 2 to 3 inches of rainfall reported. Several roadways were closed, dwellings and basements were flooded, and businesses were impacted by the flooding caused by the rainstorm. FEMA has yet to post an estimate of the damage caused by the flooding event at the time of this report.[172]

Frequency and Probability

The frequency of urban flooding varies based on seasonal weather patterns, but a broader trend can be estimated from the history of past events. Urban flooding is usually caused by inadequate drainage following heavy rainfall or rapid snowmelt. Urban flooding is more likely to occur during the spring, when thunderstorms and snowmelt are more prevalent, or during mid-summer thunderstorms. Many areas of Wayne County are heavily urbanized and are located along river corridors. Most of these areas are connected to aging municipal storm sewer systems that can exacerbate flooding. Based on the number of flooding or flash flooding events that occurred in Wayne County between 1996 and August of 2024, the average occurrence is 3.2 flood events per year. As development continues and stormwater infrastructure ages, an increase in urban flooding may occur. Additionally,

[168] Jena Brooker, "How Many 500-Year Floods Must Detroit Endure in a Decade?" *Grist*, July 13, 2021. https://grist.org/cities/how-many-500-year-floods-must-detroit-endure-in-a-decade/
[169] DeJanay Booth, "Metro Detroit Rain Shatters 57-year-old Record for April 30," *Detroit Free Press*, May 2, 2019, https://www.freep.com/story/weather/2019/05/02/detroit-area-rain-total-shatters-record/3649336002/.
[170] NOAA: National Centers for Environmental Information, "Storm Events Database: Flood: Michigan: DTX: 4W Northville, August 24, 2023," accessed January 27, 2026. https://www.ncei.noaa.gov/stormevents/eventdetails.jsp?id=1131293.
[171] NOAA: National Centers for Environmental Information, "Storm Events Database: Flood, Michigan, DTX, Emergency Manger, May 21, 2004," accessed December 3, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=1131293.
[172] NOAA: National Centers for Environmental Information, "Storm Events Database: Flood, Michigan: Northville, 2025" accessed January 27, 2026, https://www.ncei.noaa.gov/stormevents/eventdetails.jsp?id=1244552.

scientists predict that climate change will increase the number of extreme rainfall and storm events, leading to more flooding throughout the Midwest and costing taxpayers as much as $480 million annually to adapt stormwater systems to handle the increased runoff.[173]

Health & Safety

Possible loss of life would be primarily from drowning incidents. Other potential health-related problems could be from sewer back-ups and increased pollutant concentrations.

One man drowned in West Bloomfield Township, in neighboring Oakland County, on June 18, 1996, when he drove his car across a flooded parking lot into a pond, which was obscured by flood waters.[174] During July 2000, a stranded family was rescued by a boat in Novi after their car stalled in flood waters.[175]

Area Impacted

An urban flood in Wayne County would primarily affect streets and infrastructure located near floodplains and in areas with inadequate drainage. As of 2020, approximately 9,509 structures are located within the FEMA 100-year floodplain within 42 of the communities covered by this Plan. Figure 5 shows the location of all floodplains and flood-prone areas within the County.

Economic Impact

It is estimated that flood damages in Michigan cost between $60 and $100 million per year.[176]

The 92 individual flood or flash flood events recorded in Wayne County since 1996, up to August 2024, have resulted in property damage totaling an estimated $1.332 billion, averaging more than $14.5 million per year.[177]

From 1985 to 2025, Wayne County experienced five flood disasters that resulted in a Presidential Major Disaster Declaration. These flood disasters damaged homes, businesses, personal property, and agriculture, causing hundreds of millions of dollars in

[173] USGCRP, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018.
[174] NOAA: National Centers for Environmental Information, "Storm Events Database: Flash Flood: DTX: PDC," accessed December 3, 2024,https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=5551677.
[175] Ibid., "Storm Events Database: Flash Flood: DTX: Trained Spotter: PDC," accessed December 3, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=5163844.
[176] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 97.
[177] NOAA: National Centers for Environmental Information, "Storm Events Database: Wayne County, Michigan," accessed December 3, 2024,
https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28C%29+Flash+Flood&eventType=%28Z%29+Flood&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=1996&endDate_mm=08&endDate_dd=31&endDate_yyyy=2024&county=WAYNE%3A163&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=26%2CMICHIGAN.

damage.[178] For a full list of Presidential Major Disaster Declarations in the State of Michigan, see Appendix X.

Critical Facilities/Services

Flooding events can require a substantial amount of resources and assistance from multiple agencies and departments, including local emergency response departments, as well as state and federal agencies such as FEMA and the American Red Cross. Thirty-eight communities in Wayne County participate in FEMA's National Flood Insurance Program (NFIP). See Section 4.7.2 for a complete list of Wayne County municipalities participating in the NFIP, excluding Detroit.

The NFIP was established in 1968 to make flood insurance available in communities that agree to regulate future development in floodplains. In February 2013, 26,247 flood insurance policies were in force in Michigan, which amounts to approximately $4.5 billion worth of coverage.[179] There are 2,950 flood insurance policyholders enrolled in the National Flood Insurance Program in Wayne County, excluding Detroit policyholders.[180] As of 2024, there are 2,950 flood insurance policyholders enrolled in the National Flood Insurance Program in Wayne County, excluding Detroit policyholders. As the number of flood insurance policyholders decreases, the risk from flooding increases.

Updated exposure and mapping context. Recent analyses show significantly greater flood exposure in Wayne County than is reflected in the 2004 numbers. 145,899 properties — about 18.7 percent of all county parcels — now carry some level of flood risk over the next 30 years. In 2024, FEMA released preliminary updated flood maps for Wayne County, starting a public review cycle that may redefine 100-year flood zone boundaries and expand or contract the pool of affected structures. Local news coverage suggests these new FIRMs could bring more properties into the mapped floodplain that were previously excluded, making the 2004 FEMA figures outdated. Information regarding Area Impact should be updated based on the finalized 2024 updated flood zones in the next edition of this HMP.

In 2002, Wayne County established an online subscription emergency alert service that sends notices via email, text message, or pager about flooding along Edward Hines Drive and other emergencies.

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[178] FEMA, Disasters and Declarations," accessed February 4,, 2026, https://www.fema.gov/disaster/declarations?field_dv2_declaration_date_value%5Bmin%5D=1970&field_dv2_declaration_date_value%5Bmax%5D=2026&field_dv2_declaration_type_value=All&field_dv2_incident_type_target_id_selective=All&field_dv2_state_territory_tribal_value%5B0%5D=MI&page=0.

[179] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 84.

[180] FEMA and the National Flood Insurance Program, *Policy information by State and Community*, updated October 31, 2024, https://nfipservices.floodsmart.gov//reports-flood-insurance-data.

4.7.4 Shoreline Flooding & Erosion

Shoreline erosion hazards typically involve property loss as shoreline soil is removed by water action and carried away over time. Shoreline flooding and erosion is limited to areas with coastal environments along Lake Saint Clair, the Detroit River, and Lake Erie.

Historical Events

Shoreline flooding and erosion typically occur along the Great Lakes shoreline and connecting waters, i.e., Lake St. Clair and the Detroit and St. Clair Rivers. This is caused by high water levels, which are frequently exacerbated by strong east winds. During the Summer of 2020, the U.S. Army Corps of Engineers (USACE) reported that all of the Great Lakes hit record-high monthly mean water levels, with Lake St. Clair tying or exceeding its previous records from the 1980s. During this event, the Great Lakes stood approximately 3 feet above their long-term average lake levels for the month of June. The high lake levels have caused both flooding and shoreline erosion in coastal areas across the Great Lakes Region, which includes Wayne County.[181]

No discernible pattern of high and low lake levels has been derived from U.S. Army Corps of Engineers data recorded from 1918 to 2011. However, analysis of Lake Michigan beach ridges and radiocarbon dating of soil cores yield a 4,700-year record of Lake Michigan-Huron water levels. From these data, scientists have identified a general rise and fall cycle lasting approximately 120 to 200 years. They have also identified a shorter-term fluctuation, ranging from 2 to 38 years (average = 32 years) within the longer cycle.[182]

In general, the Great Lakes system experienced extremely low levels in the late 1920s, mid-1930s, and mid-1960s. From 1999 to 2014, the lakes experienced an unprecedented period during which water levels for Lake Michigan-Huron and Superior fell below their long-term average for 15 consecutive years. Record-high water levels were recorded in the late 1980s and continue to be a current issue.[183]

Great Lakes water levels have been trending upward since 2013. That was the low point of the above-referenced 15-year period that resulted in the stranding of recreational boats and forced commercial vessels to lighten their loads. Prior to the current high levels, the most recent high-water period in Michigan was from 1997 to 1998. During this period, the Great Lakes were at or near record levels set in the mid-1980s. In 1985-86, record-high lake levels resulted in a Governor's disaster declaration for 17 shoreline counties. During 1972-73, high water levels caused flooding in 30 counties in Michigan.[184]

In 2019, the City of Rockwood experienced a months-long shoreline flooding event and erosion, lasting from April to November. The Great Lakes experienced high water levels,

[181] Great Lakes Integrated Sciences and Assessment Climate Adaptation Partnerships, "Lake Levels," updated 2021, https://glisa.umich.edu/resources-tools/climate-impacts/lake-levels/.
[182] Tip of the Mitt Watershed Council, "Current, Historic, and Future Water Levels," accessed December 3, 2024, https://watershedcouncil.org/great-lakes/current-historic-and-future-water-levels/.
[183] Ibid.
[184] John Flesher, "Great Lakes Water Levels Surge, Some Record Highs Predicted," *Associated Press*, May 6, 2019, https://www.apnews.com/2af073fe3a634f68b80bdfb419e53a33.

including Lake Erie. The highwater levels resulted in significant erosion, resulting in an estimated 2.50 million in property damage.[185]

Frequency and Probability

Long-term and seasonal variations in precipitation and evaporation rates contribute to fluctuations in water levels. Several manmade factors can also affect water levels, such as diversion of water for resource use, dam regulations, and dredging. Shoreline flooding and erosion that occur along the Great Lakes are caused primarily by natural factors. The NOAA Storm Event Database records 22 lakeshore flood events in Wayne County since 1988, all of which were recorded between 2019 and 2021.[186] Shoreline erosion and flooding are likely to persist in Wayne County, particularly in communities adjacent to Lake St. Clair, the Detroit River, and Lake Erie, and are expected to intensify in frequency and severity due to climate change predictions. Current climate change predictions claim that the Great Lakes will have longer periods of higher-than-average water levels.[187]

In November 2019, an aging dock collapsed at the former Revere Copper and Brass site, which was being used to store limestone aggregate along the Detroit River in the City of Detroit. The collapsed dock has raised concerns about shoreline erosion resulting from a sinkhole that formed on the site and contaminated soils migrating into the Detroit River.[188]

Health & Safety

No deaths or casualties were recorded for the shoreline erosion and flooding events along Lake St. Clair, the Detroit River, and Lake Erie noted above. Still, seiche events do periodically result in drownings. Deaths and casualties from this hazard are of low probability, but the property damage potential is moderate to high. Low-lying areas prone to flooding and erosion should have restrictions that limit or prevent access.

Area Impacted

Communities in Wayne County along the shoreline of Lake St. Clair, the Detroit River, and Lake Erie are Grosse Pointe Shores, Grosse Pointe Farms, Grosse Pointe, Grosse Pointe Park, Detroit, River Rouge, Ecorse, Wyandotte, Riverview, Trenton, Gibraltar, and Brownstown Township. Grosse Ile, being an island, has a shoreline on all sides. Low-lying areas along coastal areas are prone to shoreline flooding during both high and low lake water periods (Figure 5).

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[185] NOAA: NOAA: National Centers for Environmental Information, "Storm Events Database: Wayne County: Flood, Heavy Rain, East Rockwood," accessed January 27, 2026, https://www.ncei.noaa.gov/stormevents/eventdetails.jsp?id=866019.
[186] NOAA: National Centers for Environmental Information, "Storm Events Database: Wayne County: Lakeshore Flood," accessed December 3, 2024, https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28Z%29+Lakeshore+Flood&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=1988&endDate_mm=08&endDate_dd=31&endDate_yyyy=2024&county=WAYNE%3A163&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=26%2CMICHIGAN.
[187] Great Lakes Integrated Sciences and Assessments, *Lake Erie Prospective: A Summary of Anticipated Future Climate and Lake Level Conditions*, September 2022, 10-11.
[188] Keith Matheny, " EGLE: Companies' Response to Detroit River Dock Collapse 'Inadequate,'" *Detroit Free Press*, January 17, 2020.

Economic Impact

No values for economic impact were provided for the 2019-20 lakeshore flooding events. During 1972-73, high water levels caused flooding in over 30 counties, resulting in more than $50 million in public and private damage. Thousands of people were forced to evacuate their homes. Shoreline flooding would have similar economic impacts from damage to or loss of property as urban flooding.

Critical Facilities/Services

The United States Army Corps of Engineers (USACE) implemented its Advance Measures Program, and the State of Michigan implemented three unique shoreline flooding and erosion programs aimed at reducing future flood impacts to shoreline communities and homeowners.[189] The Detroit District USACE has been involved in thousands of projects related to shoreline erosion and flooding. Other critical facilities and services related to riverine and urban flooding can be found in Sections 4.7.2 and 4.7.3.

The US Army Corps of Engineers has identified the following areas in need of shoreline stabilization:

- Brownstown Township, especially in the vicinity of Maple Beach
- City of Gibraltar
- Grosse Ile Township
- City of Trenton
- City of Ecorse (Ecorse Creek)
- Belle Isle, Detroit
- Detroit, vicinity of Detroit Towers condominiums
- Jefferson Chalmers
- Grosse Pointe
- Milk River

4.8 Hazmat Incidents

4.8.1 Fixed Site

A Hazardous Material (Hazmat) Incident—Fixed Site is defined as an uncontrolled release of a hazardous material originating from a building, structure, or fixed equipment that is capable of posing a risk to life, health, safety, property, or the environment.

Historical Events

[189] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 109.

There are dozens of facilities in Wayne County that store, treat, or dispose of hazardous substances. According to Michigan's environmental records, US Ecology Wayne Disposal is one of seven licensed treatment, storage, or disposal (TSDF) facilities in the County.[190]

There are approximately 22,500 hazardous waste generators in the Wayne County area — from small industrial shops, laboratories, and commercial sites to larger facilities.[191]

Frequency & Probability

From 2000 to 2009, there were 589 fixed-site hazmat incidents in Wayne County.[192] Between 2020 and 2023, there were 147 fixed-site hazmat incidents, averaging 36.75 incidents annually.[193] As the County continues to develop and attract new businesses and industry, the probability of this hazard's occurrence is anticipated to increase.

Health & Safety

Given the frequency of hazmat incidents in Wayne County, the number of deaths and injuries from these events is extremely low. From 2000 through 2009, there were three hospitalizations and one fatality from a single hazmat incident.[194] In 2020, only one hazmat incident resulted in the hospitalization of two people, which closed Huron River Drive and impacted Smith and Silver Creeks.[195] A release into the air in 2021 resulted in the hospitalization of one person.[196]

Area Impacted

Wayne County has the highest number of Superfund Amendments and Reauthorization Act (SARA) sites of any county in Michigan, at 922 sites.[197] Most hazmat incidents occur due to unintentional actions, such as improper training or negligence.[198] For most hazardous materials at a site, preparation is necessary to address potential impacts from hazardous material incidents.[199]

Environmental contamination that results from this hazard can extend to off-site locations. A high-profile incident of this was an oil spill on the Rouge and Detroit Rivers discovered on April 10, 2002. Originating from a fixed site draining to the Rouge River, it resulted in oil slicks on the Rouge and Detroit Rivers and Lake Erie, from Zug Island to Pointe

[190] Michigan Department of Environment, Great Lakes, and Energy (EGLE), "Michigan Hazardous Waste Treatment, Storage, and Disposal Facilities," GIS dataset.
[191] Michigan Department of Environment, Great Lakes, and Energy (EGLE), "US Ecology Wayne Disposal, Inc. (WDI) license information and hazardous waste generator statistics. "
[192] U.S. Coast Guard: National Response Center, *2000-2009 Reports*, accessed December 23, 2024, https://nrc.uscg.mil/.
[193] Ibid., *2020 Reports*, *2021 Reports*, *2022 Reports*, and *2023 Reports*, accessed December 23, 2024, https://nrc.uscg.mil/.
[194] Ibid., *2000-2009 Reports*, accessed January 7, 2025, https://nrc.uscg.mil/.
[195] U.S. Coast Guard: National Response Center, *2020 Reports*, accessed January 7, 2025, https://nrc.uscg.mil/.
[196] Ibid., *2021 Reports*, accessed January 7, 2025, https://nrc.uscg.mil/.
[197] Michigan State Police: Emergency Management and Homeland Security Division, *Michigan Hazard Analysis: Supplement to the 2019 Michigan Hazard Analysis*, Publication 103, November 2020. 6-7.
[198] Ibid., 8.
[199] Ibid.

Mouillee. In all, more than 250,000 gallons were recovered from the rivers at a cost of $3 million.[200]

Although not within Wayne County, another high-profile hazmat incident occurred in the nearby community of Madison Heights in 2019 when fluorescent green ooze poured onto I-696 from the embankment. The ooze contained "hexavalent chromium, trichloroethylene, and nonstick 'forever chemicals' known as PFAS." The source of the green ooze was a former plating manufacturer, upgradient to I-696, which had a history of improper storage and disposal of hazardous materials. Although the green ooze hazmat incident occurred outside of Wayne County, it highlights how poorly maintained manufacturing facilities can create hazardous material (hazmat) events at fixed sites.[201]

Economic Impact

The economic impact due to this hazard can be highly variable, especially when including the costs of environmental remediation. According to the U.S. EPA HazMat Response Team, costs for responding to a hazmat incident can range from $1,000 to over $100,000. Some property damage can be expected from this type of event, especially if the release results in a fire or explosion. Additional impact, in the form of lost business revenue, can result if the incident causes a business to close.

Critical Facilities/Services

Although major fixed-site hazmat incidents are not common in Wayne County, the potential for such an incident is high. A significant incident would likely involve response efforts from multiple agencies and departments.

4.8.2 Transportation Incidents

Hazardous Material (Hazmat) Incident—Transportation is defined as the uncontrolled release of a hazardous material during transport that poses a risk to life, health, safety, property, or the environment.

Historical Events

One of the costliest hazmat incidents occurred in Dearborn in March 2015, on I-94, when a semi-truck carrying 11,000 gallons of gasoline and diesel spilled onto the median, causing it to explode and resulting in $666,500 in damages. Another costly hazmat incident occurred in August 2015 on I-75 in Lincoln Park, where 8,000 gallons of gasoline exploded after a semi-truck crash, causing $930,585 in damages.[202]

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[200] Jim Lynch, "Detroit Oil Spill Remains a Myster 10 Years Later," Society of Environmental Journalists, last modified May 1, 2012, https://www.m.sej.org/headlines/detroit-oil-spill-remains-mystery-10-years-later.
[201] Keith Matheny, "4 Years Later, Cleanup of Green Ooze Pollution on I-696 Still Not Complete," *Detroit Free Press*, December 20, 2023, https://www.freep.com/story/news/local/michigan/oakland/2023/12/20/green-ooze-696-hexavalent-chromium-madison-heights-electro-plating-services/71745409007/.
[202] Keith Matheny, "Michigan's 5 Costliest Hazmat Accidents in the Past Decade All Involved Tanker Trucks," *Detroit Free Press*, July 25, 2023, https://www.freep.com/story/news/2023/07/25/michigans-5-costliest-hazmat-accidents-in-the-past-decade/70392893007/.

A nearby hazmat incident occurred in 2023 when a train carrying hazardous materials derailed in Van Buren Township. Local authorities found the railcars to be uncompromised. However, nearby residents had to be evacuated, and transportation routes were closed to the general public.[203]

A hazmat incident occurred on I-75 near M-10 in May 2024, causing the northbound lanes of I-75 and M-10 to be closed. The incident was caused by the rollover accident of a semi-truck carrying diesel fuel.[204]

Frequency & Probability

Almost a million shipments of hazardous materials traverse the United States each day by highway, rail, air, water, and pipeline. Approximately 95% of those shipments, and more than half of the hazmat tonnage transported, move via trucks on highways and roads.[205]

From 2000 to December 2009, there were 330 transportation-related hazmat incidents in Wayne County, 4 of which occurred on aircraft, 149 on roadways, 115 on railroads, and 62 on vessels.[206] This equals an average of almost 33 incidents each year in the decade of 2000 to 2009.

Between 2010 and 2019, Michigan experienced 3,318 hazmat transportation incidents. Of these, 2,976 were highway incidents, followed by 290 railway incidents, 49 air incidents, and three waterway incidents. Overall, Michigan averaged 297.6 highway hazmat incidents for the decade of 2010 to 2019.[207]

Hazardous materials are more frequently shipped by truck rather than by rail in the United States. In 2014, there were over 700 rail derailments involving hazardous materials, compared to 355 incidents in 2022 nationwide. Meanwhile, the number of truck hazmat incidents has increased from 13,888 in 2013 to 23,178 in 2022. However, the scale of truck hazmat incidents is lower in economic costs than that of rail hazmat incidents.[208]

Health & Safety

[203] Lauren Sforza, "Train Carrying Hazardous Materials Derails Outside Detroit." *The Hill*, February 16, 2023. https://thehill.com/homenews/state-watch/3861535-train-carrying-hazardous-materials-derails-outside-detroit/.
[204] Brandon Carr, "Hazmat Situation Caused by Semi Rollover Closes NB I-75 to NB M-10 in Detroit," *Click on Detroit*, May 1, 2024, https://www.clickondetroit.com/news/local/2024/05/02/hazmat-situation-caused-by-semi-rollover-closes-nb-i-75-to-nb-m-10-in-detroit/.
[205] Michigan Department of Transportation, *Hazardous Materials Routing Synopsis Report, Wayne County: Proposed Recommendations*, December 2012, 18.
[206] U.S. Coast Guard: National Response Center, *2000-2009 Reports*.
[207] Michigan State Police: Emergency Management and Homeland Security Division, *Michigan Hazard Analysis: Supplement to the 2019 Michigan Hazard Analysis*, 19.
[208] Dante Chinni, "Railroad Hazmat Incidents Decline but Carry Massive Financial Impacts," *NBC News*, February 26, 2023, https://www.nbcnews.com/meet-the-press/data-download/railroad-hazmat-incidents-decline-carry-massive-financial-impacts-rcna72361.

Compared to fixed-site hazmat incidents, transportation-related incidents are more likely to result in death or injury. Deaths and injuries are typically limited to the operators of the vehicle.[209]

Area Impacted

Wayne County has 134 miles of freight railroads, approximately 460 miles of interstate and major state highways, and 175 miles of county roads. Although large-scale off-site impacts are not common with hazmat transportation incidents, they are certainly possible within Wayne County. Off-site impacts can include evacuation, road closures, and environmental contamination.

Economic Impact

The economic impact of this hazard can be highly variable, especially when including the costs of environmental remediation. According to the U.S. EPA HazMat Response Team, costs for responding to a hazmat incident can range from $1,000 to over $100,000. Damage to transportation equipment is expected with this event; however, these costs are the responsibility of the transporter, including any resulting accidents.[210] Costs to the public can include response efforts, commuter delays, and damage to transportation infrastructure.

Critical Facilities/Services

Transportation-related hazmat incidents occur somewhat frequently in Wayne County, with a high potential for such incidents. As demonstrated by the October 3, 2003, incident, a significant incident may involve a response from multiple agencies and departments. Additional impacts include environmental remediation and restoring public confidence.

4.9 Infrastructure Failure

An infrastructure failure is the failure of a critical public or private utility infrastructure, which results in a short-term loss of service.

4.9.1 Water Systems Failure

Historical Events

Wayne County has not experienced significant water loss due to failures in the water distribution system. However, Wayne County's 3,700-mile water distribution network is aged and degraded. EGLE estimates that up to 50 to 60% of water in communities is lost due to water distribution system failures, regardless of population size.[211] While not directly related to Wayne County's water distribution network, the County and those surrounding

[209] Michigan State Police: Emergency Management and Homeland Security Division, *Michigan Hazard Analysis: Supplement to the 2019 Michigan Hazard Analysis*, 20.
[210] EPA, "Who Pays," last modified September 30, 2024, https://www.epa.gov/emergency-response/who-pays.
[211] Tammy Webber, "Trillions of Gallons Leak from Aging Drinking Water Systems, Further Stressing Shrinking US Cities," *Associated Press*, March 4, 2024, https://apnews.com/article/water-loss-infrastructure-broken-pipes-poor-neighborhoods-2d747180d294ba62cdbf0906f9305802.

it lost water service for several days following the 2003 blackout, and 4.3 million customers were on a boil advisory for six days.

Supply system components, including transmission and distribution pipelines, make up most of the state's water infrastructure. Significant portions of these systems exceed their design lives by 50 years. Approximately 80% of the Detroit community water system transmission and distribution network was constructed prior to 1940.[212]

Frequency & Probability

Water system failures can be attributed to various causes, including construction and excavation activities, underground freezing, power outages, and system blockages.

Numerous water line breaks occur every year, most of which are related to poor insulation and sub-freezing temperatures. The majority of water line breaks do not create a water crisis situation. However, this hazard is estimated to be somewhat more likely to occur in the future as water system structures age and county-wide development continues. A water main break in May 2012 caused a 4-foot flood and led to the closure of the Lodge Freeway.[213] A water main break in the City of Northville in May 2019 led to a drinking advisory.[214] In January 2023, a water main break caused flooding in a residential area of Lincoln Park, affecting a street and a basement, and resulting in low water pressure.[215]

Health & Safety

The availability of clean drinking water is crucial to the health and safety of the public. Water service interruptions can cause untreated or poorly treated drinking water to enter the water supply, resulting in boil-water advisories and public health concerns. Public Sector Consultants report that, statewide, drinking water system owners, such as municipalities, underfund system improvements by an estimated $284 to $563 million annually.

Area Impacted

The water system for Wayne County is operated and/or maintained by the Detroit Water and Sewerage Department (DWSD) and/or local municipalities (Figure 4). The impact of line breaks is highly variable.

Economic Impact

Water is vital to the operation of schools, hospitals, and businesses, as well as to maintaining public health. Information regarding the economic impact of water system

[212] American Society of Civil Engineers (ASCE), Michigan Section, 2023 Report Card for Michigan's Infrastructure, accessed December 16, 2024, infrastructurereportcard.org/michigan.
[213] CBS Detroit, "Lodge Freeway Closed Due to Water Main Break," *CBS News: Detroit*, May 31, 2012, https://www.cbsnews.com/detroit/news/water-main-break-floods-lodge-freeway/.
[214] The Detroit Free Press Staff, "Northville Boil Water Alert to Remain in Effect Through Weekend," *Detroit Free Press*, May 17, 2019, https://www.freep.com/story/news/local/michigan/wayne/2019/05/17/northville-boil-water-alert/3709039002/.
[215] Pamela Osborne and Brandon Carr, "Water Main Break Floods Woman's Home in Lincoln Park," *Click on Detroit*, January 2, 2023, https://www.clickondetroit.com/news/local/2023/01/03/water-main-break-floods-womans-home-in-lincoln-park/.

failures is not available. Service interruption may be extremely costly, depending on the number of customers affected and the duration of the event.

Critical Facilities/Services

Maintaining a functional water system is a critical service. Loss of water service can make it difficult to operate other critical facilities, such as schools, hospitals, businesses, and sports/entertainment venues. In 2004, a water main break in the Detroit Police Headquarters temporarily shut down the 911 call center.

4.9.2 Electrical Systems Failure

Historical Events

The largest and arguably most infamous electrical system failure in the United States occurred on August 14, 2003. This system failure started at 4:15 p.m. in southern Ohio, and within seconds, 50 million people in North America were left without electricity. On September 23, 2003, the President issued an emergency declaration for Michigan in response to the widespread power outage and related emergency conditions. In Wayne County, the blackout knocked out power to over 2 million utility customers, disrupting homes, businesses, transportation systems, and essential services such as water and sewage pumps that led to boil-water advisories and public health concerns as residents went without reliable electricity for extended periods. This cascading electrical failure halted traffic signals, darkened communications networks, and forced emergency responses to protect public safety in extreme summer heat. In many ways, this event was a worst-case scenario electrical failure.[216]

Frequency & Probability

DTE Energy provides electrical service for the majority of Wayne County. Electrical failures, such as the August 2003 blackout, although rare, can occur due to problems within the electrical system and secondary causes, including weather and human or animal interference. Ice storms have an established history of causing electrical service interruptions. Electrical outages are often related to severe weather events, which occur 30 to 40 days annually within Wayne County.

DTE states that the risks posing the greatest threat to the electrical system are storm-related downed wires and outages, as well as substation-related forced outages. On average, an electrical failure in Wayne County totals 3.4 days annually, which is higher than the national average of 1.8 days without power annually.[217]

DTE continuously evaluates its system and has developed programs to mitigate risk. In response to review comments on the draft Plan from FEMA, Wayne County solicited

[216] Kayla Clarke, "20 Years Ago: Massive Blackout Hits Metro Detroit, Northeast Leaving 50 Million Without Power," *Click on Detroit*, August 14, 2023, https://www.clickondetroit.com/news/local/2023/08/14/20-years-ago-massive-blackout-hits-metro-detroit-northeast-leaving-50-million-without-power/.
[217] Whitney Burney, "Data Show Michigan Suffers from Some of the Lengthiest Power Outages Nationwide," *ABC WXYZ Detroit*, May 30, 2024, https://www.wxyz.com/news/data-shows-michigan-suffers-from-some-of-the-lengthiest-power-outages-nationwide.

information about hazard mitigation of gas and electrical lines. DTE representatives provided a summary of their protocols for reinstating power following outages. DTE states that it will implement these strategies using its corporate resources. As such, it is not provided as an action plan with the HMP.

As the County continues to grow and demand for electrical service increases, this hazard may occur more frequently and with greater consequences. Additionally, at least one new gas-fired high-efficiency plant is required to offset the coal plants expected to go offline and stabilize the grid in southeast Michigan.[218]

Health & Safety

Electrical service is incredibly important in maintaining the health and safety of the public. Electricity is required to heat and cool homes, operate traffic signals, and operate hospitals and emergency services. Power outages can be particularly dangerous during times of extreme heat or cold. In addition, power outages can have a negative impact on the infirm. The number of people impacted by a power outage varies significantly with each event.

Economic Impact

Electricity is a vital component of operating businesses and county services. Information regarding the economic impact of electrical outages is not available. An outage can be extremely costly, depending on the number of affected customers and the duration of the event.

Critical Facilities/Services

As demonstrated by the August 2003 blackout, electricity is an integral part of every service the County provides to its residents. The blackout caused traffic backups, loss of water service, and gasoline shortages, making it difficult to provide even the most common services. Fortunately, large-scale electrical failures are not common. However, the blackout was a good “test” for the County’s systems to determine effectiveness under disaster conditions.

4.9.3 Communications Systems Failure

Historical Events

Wayne County operates internal communication systems, including the 911 Call Center and an emergency public radio system.

Telephone service for Wayne County residents is available from numerous service providers. The most widely used was formerly SBC and is now AT&T. In April 2003, a significant ice storm affected Wayne County. Ice downed phone lines, cutting service to numerous customers throughout the County. In 2003, SBC experienced four major

[218] American Society of Civil Engineers (ASCE), Michigan Section. 2018 Report Card for Michigan's Infrastructure. infrastructurereportcard.org/michigan.

communications failures throughout the state of Michigan.[219] Each failure was a result of severe weather or flooding.

A communications failure occurred in Wayne County in 2024 when a ransomware attack disrupted Wayne County Government's digital communications, shutting down the Sheriff's Office, Treasurer's Office, and Register of Deeds Office.[220] Digital communications at the Wayne County Government offices were down for two weeks, requiring county employees to use analog record-keeping systems.[221]

The continuing transition from land to cellular communications has resulted in more citizens having only a cellular phone. This can result in better communications during storm events than would otherwise occur during power outages, but also leave citizens more vulnerable to problems experienced by cellular providers.

Frequency & Probability

Communications failures most frequently result from severe weather events or other interferences that affect phone lines, such as animals or auto accidents involving utility poles. Very rarely does a communications failure result from a problem within the communications system.

Communications failures in both public and private systems are possible with any major storm event, such as ice storms, lightning, or severe winds, which occur on average 30 to 40 times each year. Power outages can also interrupt the operation of the 911 call center.

As the County continues to grow and demand for communications services increases, this hazard is anticipated to occur more frequently and with greater consequences.

Health & Safety

Communications systems are a vital link between the public and emergency response services. As a result, failure of the system can have secondary impacts on the health and safety of the affected public. The number of people who experience a loss of service due to a communications failure is directly related to the severity of the event. However, people requiring emergency services during a failure are at greater risk of impact.

Area Impacted

A failure of private telephone communications is limited to the service area network. However, a failure of the emergency communications system can impact the entire county.

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[219] SBC News Release, *SBC Michigan Provides Excellent Service Quality in 2003*, February 3, 2004.
[220] Technician IT Support, "Detroit-Area Government Services Hit by Cyberattack: Wayne County Offices Impacted," LinkedIn, October 4, 2024, https://www.linkedin.com/pulse/detroit-area-government-services-hit-cyberattack-wayne-county-ghdoc.
[221] Walter Murphy, "Wayne County Systems Returning to Normal After Cyber Incident, Officials Say," *CBS News Detroit*, October 15, 2024, https://www.cbsnews.com/detroit/news/wayne-county-operations-cyber-incident/.

Economic Impact

The majority of the economic impact from this hazard would result in a loss of productivity for affected businesses.

Critical Facilities/Services

The 911 Call Center and emergency dispatch systems are vital services provided to residents of Wayne County. Power outages and downed lines can greatly impact the County's ability to operate these systems. Backup generators are utilized to maintain emergency communications during power outages. If phone lines to the 911 Call Center are down, the calls are automatically rerouted to an alternate call center to maintain 911 phone services.

4.9.4 Stormwater Systems Failure

Historical Events

In September 2000, August 2014, and May 2019, extensive rains in southeast Michigan flooded municipal storm sewers, causing sewer backups in thousands of Wayne County homes and businesses. The major cause of the sewer backups was a temporary loss of power at pumping stations and insufficient capacity of the storm sewer system due to the heavy rains. Sewage backups caused extensive damage to affected homes and businesses, creating a public health hazard due to potential human exposure to untreated sewage. Following both the 2000 and 2014 events, Wayne County was granted Presidential Major Disaster Declarations, which provided disaster assistance to affected businesses and individuals.[222] Combined sewer overflows, which dump sewage into storm sewer systems during high-flow events, have repeatedly been a concern within the Rouge River watershed. Between January 3rd and 5th, 2005, the Detroit Water and Sewage Department discharged 2.7 billion gallons of combined sewage due to the higher-than-normal rain amounts received.[223]

Due to heavy rainfall in the Summer of 2021, a third of the Great Lakes Water Authority's Conners Creek and Freud facilities' water pumps failed, causing flooding. The amount of stormwater overwhelmed the pumps, resulting in flooding in Detroit, Dearborn, and other areas of Wayne County. A faulty priming pump that sprayed water onto a circuit breaker caused additional pump failures, resulting in power outages at the pump stations.[224]

In 2021, heavy rainfall caused stormwater systems to fail in municipalities bordering the Rouge, including Dearborn. Stormwater systems combined with sewer systems overflowed into the River Rouge, sending raw sewage into the river.[225]

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[222] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2001, page 122.
[223] The News-Herald, *Combined Sewers Still Create Waterway Woes*, January 19, 2005
[224] Eli Newman, "Water Pumps Failed to Work During Heavy Rains that Caused Metro Detroit Flooding, Great Lakes Water Authority Says," *Detroit Public Radio: WDET 101.9 FM*, July 2, 2021, https://wdet.org/2021/07/02/water-pumps-failed-to-work-during-heavy-rains-that-caused-metro-detroit-flooding-great-lakes-water-authority-says/.
[225] Brett Kast, "Flooding Impact: How Diluted Raw Sewage Gets into Metro Detroit Waterways," *ABC WXYZ Detroit*, June 29, 2021, https://www.wxyz.com/news/region/wayne-county/flooding-impact-how-diluted-raw-sewage-gets-into-metro-detroit-waterways.

Frequency & Probability

There are two primary types of stormwater sewers in Wayne County: open drains and enclosed underground systems. The primary problems associated with open drains are log jams, plugged drains, and siltation. The major dilemma with stormwater sewers, whether open drains or enclosed systems, is that their capacity is insufficient to meet the County's current needs. An increased amount of developed land has resulted in less pervious ground cover; therefore, more stormwater must drain to the storm sewer system.

Problems with the stormwater sewer system are evident during periods of high rain or snowmelt. Some storm sewer flooding can be expected with any major rain or snowmelt event. Small, frequent events occur regularly and are planned for. It is anticipated that this hazard will become more frequent and more severe as the system ages and new development requires greater system flow capacity.

Health & Safety

The stormwater sewer system plays a crucial role in protecting human health and safety. Flooding resulting from system failures can pose significant safety risks and lead to sewer backups in combined storm and sanitary systems, presenting a major health concern. Backups and overflows that result in the combination of sanitary and stormwater increase the risk of disease and environmental impacts downstream.

Area Impacted

County drains are found throughout Wayne County. The Wayne County Department of Environment, Facilities Management Division, and the Detroit Water and Sewerage Department (DWSD) are charged with the responsibility of maintaining the County's drain and sewer systems and implementing and maintaining ordinances or permits that pertain to them. The area impacted is dependent upon the drainage area for the failed storm sewer. Areas with combined sewers (stormwater sewer systems combined with the sanitary sewer system) can be at increased risk for sewer backups and basement flooding.

Economic Impact

As demonstrated by the September 2000 system failure, flooding can cause significant property damage. Storm sewer system upgrades can also be very costly to implement. Funding is available for maintaining county drains; however, maintenance funding is limited for approximately 200 county drains established under the 1956 Drain Code.

Critical Facilities/Services

Maintaining a functional water system is a critical service provided by Wayne County. The storm sewer system is crucial for protecting property, both public and private, and maintaining public health. Additionally, scientists predict that climate change will increase the number of extreme rainfall and storm events, leading to more flooding throughout the Midwest and costing taxpayers as much as $480 million annually to adapt stormwater systems to handle the increased runoff.

4.9.5 Sewer Systems Failure

Historical Events

Failures of the sanitary sewer system pose significant risks to public health and safety. A system failure can result in sewer backups in homes or businesses, as well as the discharge of untreated sewage into rivers and lakes.

In May of 2004, high volumes and equipment failure left many downriver residents with water and sewage in their basements. Also, combined sewer overflows (CSOs) found throughout the County regularly allow untreated, partially treated, or diluted sewage to enter local waterways when input volumes exceed treatment capacity.[226]

Frequency & Probability

A major system failure occurs within the County approximately once every 20 to 25 years on average. Smaller problems are more frequent. During major storm events, a loss of power can occur at certain pump stations. Outages and higher-than-normal rain volumes create the potential for an overflow discharge to local rivers or lakes or, possibly worse, into residents' homes. It is expected that problems will become more frequent as the system ages.

Health & Safety

Human exposure to untreated sewage presents a health and safety threat. Discharges of untreated sewage to lakes or rivers can also significantly impact the environmental health of local waterways. Area beaches are routinely closed during portions of the summer due to unsafe concentrations of sewage-related contaminants.

Area Impacted

Sanitary sewer systems are found throughout the County and are operated and/or maintained by the DWSD and/or the local municipality.

There are 16 CSOs or Sanitary Sewer Overflows (SSOs) operators within the County.[227] CSOs discharge to local county drains or watercourses and may affect a sizable area within, and downstream of, Wayne County.

The number of sewer users impacted by each failure depends on the severity of the event. Lakes or rivers could also be impacted due to sewer overflow discharges, making them temporarily unsafe for recreational activity.

Economic Impact

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[226] Jim Kasuba, "Treatment Plant Remained Operational During Storm," *News-Herald*, May 25, 2004, https://www.thenewsherald.com/2004/05/25/treatment-plant-remained-operational-during-storm/.
[227] Michigan Department of Environment, Great Lakes, and Energy, "CSO/SSO List," accessed December 17, 2024, https://mienviro.michigan.gov/ncore/external/overflow/list.

Information regarding the economic impact of sanitary sewer system failures is not available. The sanitary sewer system is a vital part of the operating system for a wide range of businesses. It is anticipated that a failure could be extremely costly, depending on the number of customers affected and the duration of the event.

Critical Facilities/Services

The DWSD provides a critical service of maintaining a functional sanitary sewer system. The USEPA estimates that $690 million is needed to repair and improve Michigan's secondary treatment needs, and an additional $702 million for wastewater conveyance systems.[228]

The loss of sanitary sewer service can hinder the operation of other vital facilities, including schools, hospitals, businesses, recreational areas, and sports or entertainment venues.

4.10 Nuclear Power Plant Accidents

A nuclear power plant accident may involve an actual or potential release of radioactive material at a nuclear facility in a quantity that threatens the health and safety of off-site populations.

Historic Events

There are three nuclear power plants operating in Michigan. The federal Nuclear Regulatory Commission regulates the operation of these facilities. There has never been an off-site release of radioactive material from a nuclear power plant in Michigan. However, an on-site release occurred on October 5, 1966, at the Enrico Fermi-1 Atomic Power Plant in Monroe County, Michigan. The release was a result of a fuel meltdown; however, the radioactive material was contained within the reactor containment building. Enrico Fermi-1 was shut down in 1972. In 1988, Enrico Fermi-2 opened next to the site of Enrico Fermi-1.

Frequency & Probability

Five protective action order areas have been established in the vicinity of the Enrico Fermi-2 Nuclear Power Plant. The Wayne County communities of Brownstown Township, south of Vreeland Road, and the Cities of Flat Rock, Gibraltar, and Rockwood are within Zone 4 (Figure 6). Although there has never been an off-site release from the plant, a release from the plant has the potential to impact Wayne County and its communities.

Health & Safety

An accident at a nuclear power plant could result in radioactive materials becoming airborne or directly impacting areas adjacent to the plant. The severity of radiological contamination from such an event is directly proportional to the type and amount of

[228] American Society of Civil Engineers (ASCE), Michigan Section. 2018 Report Card for Michigan's Infrastructure. infrastructurereportcard.org/michigan.

radioactive material released, weather conditions at the time of the release, and the wind direction following the release.

Wayne County communities within the protective action order areas of the Enrico Fermi-2 Atomic Power Plant are largely upwind of the facility, given prevailing wind patterns. For areas within these zones, the primary concern is the radiological contamination of food sources. Procedures have been developed by the plant and emergency response agencies to prevent radiation from contaminating food supplies and to prevent contaminated foods from being consumed. The risk to human health is considered low.

Area Impacted

As noted above and shown in Figure 6, all or portions of Brownstown Township and the cities of Flat Rock, Gibraltar, and Rockwood are located within Protective Action Order Area 4 of the Enrico Fermi-2 Atomic Power Plant. However, the actual area affected by a release would depend significantly on the type and quantity of radioactive material released, weather conditions at the time of the release, and the location in relation to wind direction following the release.

Economic Impact

Due to the low frequency of this event in the United States, it is challenging to determine its economic impacts. It is anticipated that the impact could be very high, depending on the severity of the event.

Critical Facilities/Services

Nuclear power plant owners/operators work closely with emergency planners to develop response plans in the event of a release of radioactive materials. In Michigan, the responsibility to respond to such events is shared by the plant owner/operator and all levels of government. Response to an off-site release would likely involve multiple agencies and departments from all levels of government.

4.11 Oil and Gas Well Accidents

An oil or gas well incident involves an uncontrolled release of oil, natural gas, or hydrogen sulfide gas, a byproduct of production wells.

Historic Events

On November 24, 2023, an explosion occurred at an operational oil well off Young Street in White Lake Township, Oakland County, near Wayne County. The well, which has been operational since 1995, experienced a significant incident that led to the evacuation of approximately 30 properties. The cause of the explosion was under investigation, and EGLE was overseeing the cleanup and remediation efforts. [229]

[229] Kowall, Rik. "Young Road Oil Well Updates." White Lake Township MI, 2025, www.whitelakeTownship.com/supervisor/page/young-road-oil-well-updates.

Frequency & Probability

Since 1973, an oil or gas well incident has occurred in Michigan every three to four years. Between 1989 and 2008, seven oil or gas pipeline accidents were reported, resulting in one death and three injuries, averaging one event every 2.85 years.

Health & Safety

Several hazards are associated with oil and gas wells. Producing wells can generate hydrogen sulfide gas as a by-product. Hydrogen sulfide gas is extremely toxic and presents several chemical safety hazards to responders and surrounding populations. Accidental releases, fire, and explosion can also result from such an event.

In Michigan, death and injury rates from oil and gas well accidents are very low. From 1973 to 2001, there was one reported death and two injuries from accidents. In those cases, death and injury resulted for those employees servicing the wells.[230]

Area Impacted

Land with oil and gas wells and the surrounding areas are most at risk for impact from well accidents. As shown in Figure 7, the location of wells is concentrated in the northwestern portion of the County.

Oil and gas well accidents often result in the release or potential release of hazardous gases. As a result, areas adjacent to the site of the incident may be evacuated as a precaution. In Michigan, there have been no oil or gas well accidents that have resulted in off-site property damage. However, areas of evacuation can be large enough to include residents within a one-half-mile radius.

Economic Impact

Accidents of this nature are not common in Michigan and have not resulted in significant property damage or other loss. Therefore, information regarding the economic impact of oil and gas wells is limited, and further investigation is not warranted at this time.

Critical Facilities/Services

Oil and gas wells within Wayne County are owned and operated by private companies; however, response to an accident would involve public agencies. The level of public response would depend on the severity of the accident. Due to the possibility of evacuation with this accident, involvement from multiple emergency response agencies would likely be required.

[230] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis*, December 2001, page 9, 142-143.

4.12 Petroleum and Natural Gas Pipeline Accidents

A petroleum or natural gas pipeline incident involves the uncontrolled release of petroleum, natural gas, or hydrogen sulfide gas from a pipeline.

Historical Events

In 2007, a house in Canton Township was destroyed in an explosion believed to have been caused by a natural gas leak.[231] In 1999, a massive explosion and fire ripped through the Ford Rouge power plant in Dearborn, killing six and injuring 14, with evidence suggesting a gas buildup led to the incident.[232] In 2010, a furniture store in Wayne exploded, killing two people due to a natural gas pipeline leak.[233] In 2023, an explosion caused by a natural gas leak in Northwest Detroit destroyed a residential building and damaged eight other residential buildings.[234]

Beginning in late August 2021, gas leaked from the Ford Flat Rock Assembly Plant into the city's sanitary sewer system. This incident posed initial explosion risks, followed by concerns about air quality due to the potential presence of toxic substances. Evacuations were recommended for residents in the affected area, known as Zone 1. A unified command, including agencies like the U.S. Environmental Protection Agency (EPA) and the Michigan Department of Environment, Great Lakes, and Energy (EGLE), was established to address the situation. [235]

Frequency & Probability

Michigan is a major producer and consumer of petroleum and natural gas products. Therefore, transmission and distribution pipelines are common throughout the state. The State of Michigan has the largest natural gas storage capacity in the United States, accounting for one-eighth of the Country's Total natural gas storage capacity.

The Michigan Hazard Analysis lists seven reported oil or gas pipeline accidents between 1989 and 2008, resulting in one death and three injuries, and an average of one event every 2.85 years. Two pipeline accidents are reported to have occurred in Wayne County by the U.S. National Transportation Safety Board.[236] This hazard is expected to increase in likelihood as the pipeline structures age.

Health & Safety

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[231] Steve Pepple, "Natural Gas Leak Blamed for House Explosion," *MLive*, November 21, 2007, https://www.mlive.com/annarbornews/2007/11/natural_gas_leak_blamed_for_ho.html.
[232] *Detroit Free Press*, "Ford Rouge power plant explosion remembered 20 years," February 1, 2019.
[233] MTI Industries, Inc., "Wayne Fire Marshal Says Natural Gas Caused 2010 Frank's Furniture Store Explosion," March 1, 20213, https://www.mtiindustries.com/wayne-fire-marshal-says-natural-gas-caused-2010-frank-s-furniture-store-explosion/.
[234] Luke Laster, "Explosion that Rocked Detroit Home, Neighborhood Said to be Caused by Gas," *CBS Detroit*, October 3, 2023, https://wwmt.com/news/local/sussex-street-house-explosion-detroit-neighborhood-gas-dte-energy-injuries-community-damage-todd-bettison-investigation-wayne-county-east-michigan.
[235] "TESTING CONFIRMS FLAT ROCK "ZONE 2" CLEAR of IMPACT from FORD GAS LEAK." Waynecounty.com, 2024, www.waynecounty.com/departments/hhvs/testing-confirms-flat-rock-zone-2-clear-of-impact-from.aspx
[236] U.S. National Transportation Board, "CAROL Quary: Michigan: Pipeline," accessed December 20, 2024, https://data.ntsb.gov/carol-main-public/basic-search.

Pipeline accidents can pose a significant threat to the public due to the potential for fires, explosions, and ruptures. Based on available information, Wayne County has not experienced pipeline-related fatalities or injuries in the past five years. From 1990 to 2005, there were no deaths and 25 injuries from the 47 accidents that occurred in Wayne County.[237]

Area Impacted

As shown in Figure 8, the major natural gas and petroleum products lines run throughout the County. Smaller natural gas distribution lines can be found throughout the County. Consumers Energy provides natural gas services to the majority of the County, while Michigan Consolidated Gas Company provides service to a smaller number of customers.

Natural gas or petroleum pipelines can be found throughout the County, which means that pipeline accidents can occur anywhere. Typically, pipeline accidents only impact the immediate area. However, as a precaution, evacuations of adjacent buildings can be required.

Economic Impact

Between 2010 and 2021, gas transmission and gathering pipeline incidents in the U.S. resulted in approximately $1.49 billion in property damage across 1,369 incidents, averaging about $1.09 million per incident.[238] During the same period, hazardous liquid pipeline incidents resulted in approximately $2.96 billion in property damage across 4,359 incidents, averaging $678,000 per incident.[239] These costs are largely due to damage to the pipeline structures. Other impacts include loss of life and property, as well as decreases in product availability.

Critical Facilities/Services

Local fire and police departments respond to pipeline accidents, and these incidents may also require assistance from hazardous materials (HazMat) teams. Gas leaks frequently prompt service calls to the Wayne County fire departments.

4.13 Public Health Emergencies

A public health emergency is a widespread and/or severe epidemic, incident of contamination, or other situation that presents a danger to or otherwise negatively impacts the general health and well-being of the public.

Historical Events

[237] U.S. Coast Guard, National Response Center, www.nrc.uscg.mil/foia.html, Standard Query Report, Pipelines, Wayne County Michigan, report generated on October 15, 2005.
[238] BA, Matt Kelso. "Pipeline Incidents Continue to Impact Residents." FracTracker Alliance, 7 Dec. 2018, www.fractracker.org/2018/12/pipeline-incidents-impact-residents/.
[239] "2021 Pipeline Incidents Update: Safety Record Not Improving." FracTracker Alliance, 14 Apr. 2021, www.fractracker.org/2021/04/2021-pipeline-incidents-update-safety-record-not-improving/.

The Flint water crisis, which exposed more than 100,000 residents to elevated lead levels, began in 2014 after the city changed the source of its drinking water from Lake Huron and the Detroit River to the Flint River. The change in water and insufficient treatment resulted in lead being leached from pipes into the drinking supply.[240]

President Obama declared a federal emergency in January 2016, and Flint residents were instructed to use only bottled or filtered water for drinking, cooking, cleaning, and personal hygiene purposes.[241] Reports indicate that over 97% of Flint's lead service lines have been replaced as of mid-2025.[242] An estimated 1,800 nonresidential lines remain to be finalized. [243] In addition to elevated lead levels, insufficient chlorination in the Flint water supply was also linked to one of the largest outbreaks of Legionnaires' disease in recent decades.[244]

In 2008, Michigan residents were affected by a nationwide *Salmonella* outbreak involving more than 700 cases in 46 states and Canada. In Michigan, 38 cases were confirmed, including 12 hospitalizations, across the Lower Peninsula. Institutional settings such as schools, colleges, long-term care facilities, and correctional centers were focal points for the outbreak.[245]

Beginning in February 2020, Michigan and most of the world grappled with the COVID-19 pandemic, leading to social distancing measures and a stay-at-home order.[246] As of March 12, 2024, there were an estimated 394,621 COVID-19 cases and an estimated 5,525 deaths due to COVID-19 in Wayne County, excluding the City of Detroit.[247] On March 27, 2020, a disaster was declared affecting all counties in Michigan, including Wayne County, making federal Public Assistance Category B (emergency protective measures) funding available to eligible applicants such as local governments and nonprofit organizations to support public health response and safety activities during the pandemic.

Frequency & Probability

Public health emergencies can arise from a wide range of causes and exhibit varying levels of severity, thus making it difficult to establish a frequency of occurrence. The

[240] U.S. Center for Disease Control and Prevention, "Story: Flint Water Crisis," last modified April 8, 2024, https://www.cdc.gov/casper/php/publications-links/flint-water-crisis.html.
[241] Merrit Kennedy, "Lead-Laced Water in Flint: A Step-by-Step Look at the Makings of a Crisis," *NPR*, April 20, 2016, https://www.npr.org/sections/thetwo-way/2016/04/20/465545378/lead-laced-water-in-flint-a-step-by-step-look-at-the-makings-of-a-crisis.
[242] City of Flint. "Progress Report on Flint Water." Accessed September 26, 2025. https://www.cityofflint.com/progress-report-on-flint-water/
[243] Michigan Department of Environment, Great Lakes, and Energy. "Flint Water System Marks Ninth Year of Compliance." September 10, 2025. https://www.michigan.gov/flintwater/news/2025/09/10/flint-water-system-marks-ninth-year-of-compliance
[244] Zahran, Sammy, McElmurray, Shawn P., Kilgore, Paul E., Mushinsko, David; Press, Jack: Love, Nancy G.: Sadler, Richard; Swanson, Michele S. (February 1, 2018), "Assessment of the Legionnaires' disease outbreak in Flint, Michigan." *Proceedings of the National Academy of Sciences. 115(8): E1730-E1739*.
[245] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, page 360.
[246] Ken Haddad, "Michigan Coronavirus Timeline: Key Dates, COVID-19 Case Tracking, State Orders," *Click on Detroit*, April 27, 2020, https://www.clickondetroit.com/health/2020/03/24/michigan-coronavirus-timeline-key-dates-covid-19-case-tracking-state-orders/.
[247] Michigan, State of, "Coronavirus: Michigan Data," last modified March 12, 2024, https://www.michigan.gov/coronavirus/stats.

Michigan Hazard Analysis lists seven major public health emergencies in Michigan between 1973 and 2010, approximately one every five years.[248]

It is important to note that some of the exact causes of a public health emergency (e.g., foodborne illness) occur regularly within Wayne County. However, these cases are isolated to a few individuals and have a limited impact on the general public.

The safety of municipal drinking water supplies is a growing public health concern. Michigan communities are struggling to treat their groundwater and/or surface water supplies adequately. The Cities of Flint and Ann Arbor, Oscoda Township, and 12 Michigan counties are were faced (as of 2018) with either changing their drinking water source(s) or improving treatment efficacy to address a host of water quality parameters including, hexavalent chromium; VOCs; trihalomethanes; 1,4 dioxane; PFAS/PFOS; arsenic, naturally occurring radioactive materials, and others.[249]

Public health hazards are anticipated to become more likely to occur as the population ages and the County population increases.

Health & Safety

Public health emergencies pose a significant threat to human health and safety. A public health emergency can take many forms and spread by various means. As a result, it is not feasible to determine a death or injury rate for this hazard. No deaths were reported in Michigan associated with the seven public health emergencies noted above, but over 400 people were injured. Public health emergencies are particularly concerning for populations with weakened or underdeveloped immune systems.

Area Impacted

Due to the nature of public health emergencies, impacts from this event tend to be widespread rather than confined to a specific location. It is essential to recognize that a public health emergency can originate outside of Wayne County, yet still impact communities within the County.

Economic Impact

Economic impacts from this hazard can be severe if the source is infrastructure-related, for example, if improvements are needed to the public water supply system. However, it is more likely that economic impacts will result from lost wages and medical expenses for affected individuals. Additional impact may result if a business is determined as the source of the emergency (i.e., a restaurant must close). To mitigate the financial strain of the COVID-19 pandemic, Wayne County received over $36 million in federal funding from FEMA to support response efforts, including vaccine distribution.

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[248] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, 2019 ed., page 354-355.
[249] American Society of Civil Engineers (ASCE), Michigan Section. 2018 Report Card for Michigan's Infrastructure. infrastructurereportcard.org/michigan.

Critical Facilities/Services

A major public health emergency would likely involve varying degrees of response from local, state, and possibly federal public health agencies.

4.14 Subsidence

4.14.1 Natural

A lowering or collapse of the land surface due to loss of subsurface support.

Historical Events

No hazardous subsidence events resulting solely from natural causes have been documented in Wayne County. The county is underlain primarily by glacial till, lacustrine clays, and bedrock of the Detroit River Group, which do not typically produce sudden sinkhole collapses associated with karst terrain or faulting. Instead, Wayne County experiences gradual, naturally driven land subsidence.[250]

Recent geophysical and satellite remote sensing studies have shown that Detroit and surrounding Wayne County are subsiding at an average rate of approximately 1.7 millimeters per year (about 0.07 inches annually), primarily due to glacial isostatic adjustment and natural compaction of unconsolidated lakebed sediments.[251] This slow rate does not cause discrete, acute subsidence, but over time, it can reduce ground elevations, exacerbate drainage challenges, and amplify relative flood risks along rivers and coastal areas of the County.[252]

Frequency and Probability

While localized sinkholes can occur due to factors such as aging infrastructure or underground voids, the risk associated with natural subsidence in Wayne County remains minimal.

Health & Safety

In the event of a sinkhole, potential health and safety issues are dependent on the location and size of the sinkhole. A sinkhole occurring near or within a street or public access area could potentially cause injury. Injury could also occur if subsidence occurred beneath a building, causing structural damage or collapse. Following the event, the sinkhole poses a risk to the health and safety of people in the area if it is not properly marked and

[250] *Fox 2 Detroit.* "Why Is Detroit Sinking? New Study Measures Subsidence in Southeast Michigan." May 19, 2025. https://www.fox2detroit.com/news/why-is-detroit-sinking-new-study-measures-subsidence-in-southeast-michigan
[251] *ClickOnDetroit (WDIV).* "Detroit Is Slowly Sinking, Scientists Warn." May 19, 2025. https://www.clickondetroit.com/news/local/2025/05/19/detroit-is-slowly-sinking-scientists-warn/
[252] *Planet Detroit*. "Detroit among Top U.S. Cities Experiencing Subsidence, Raising Flood Concerns." May 20, 2025. https://planetdetroit.org/2025/05/detroit-among-top-u-s-cities-experiencing-subsidence-raising-flood-concerns/

barricaded. Workers are at risk for cave-ins or confined space issues if entrance within the sinkhole is required to correct the problem.

Area Impacted

The area of impact would be the land immediately surrounding the subsidence or sinkhole and any transportation and utility networks disrupted by it.

Economic Impact

Economic impacts from a sinkhole could include disruptions to transportation, communication, and utilities, as well as costs associated with filling the sinkhole and repairing roadways and utilities. If a sinkhole were to occur beneath a building foundation, costs to stabilize, repair, or rebuild could be substantial, depending on the area and depth of the subsidence.

Critical Facilities/Services

Response agencies would primarily include localized police and fire departments, utility services, and road service agencies, such as the Wayne County Road Commission or the Michigan Department of Transportation (MDOT).

4.14.2 Mining

A lowering or collapse of the land surface due to loss of subsurface support in mining areas.

Historical Events

Wayne County lies over a regional salt bed. These salt deposits, laid down 400 million years ago, are closer to the surface in the Detroit area and have been very important to the local economy.[253] Solid mining involved sinking a shaft 1160 feet below the surface and carving out rooms of salt.[254] The solid salt mine in Detroit closed in 1983 and reopened in 1998.[255] Hundreds of miles of tunnels and excavation areas exist beneath the city.[256] There were six fatalities in the Detroit salt mine around the turn of the Twentieth Century due to the accidental discovery of hydrogen sulfide gas.[257] There have been no known sinkholes as a result of mining activities.

Frequency and Probability

[253] Detroit Salt Company, "History of the Detroit Salt Mine," accessed December 18, 2024, http://detroitsalt.com/history.
[254] Ibid., "Interesting Detroit Salt Mine Facts," accessed December 18, 2024, http://detroitsalt.com/facts.
[255] Ibid., "History of the Detroit Salt Mine."
[256] Morgan Russ, "The Secret City Beneath Out Feet: Inside Detroit's Epic Salt Mines," *Click on Detroit*, October 16, 2023, https://www.clickondetroit.com/features/2022/06/16/the-secret-city-beneath-our-feet-inside-detroits-epic-salt-mines/.
[257] Ibid.

While localized sinkholes can occur due to factors such as aging infrastructure or underground voids, the risk associated with mining activities in Wayne County remains minimal.

Area Impacted

The area impacted would be the immediate surroundings of the sinkhole.

Economic Impact

Economic impacts from subsidence could include disturbances to transportation and costs associated with filling the sinkhole. If subsidence were to occur beneath a building foundation, the potential cost to stabilize, repair, or rebuild could be substantial, depending on the size of the sinkhole.

Critical Facilities/Services

Response agencies would primarily include localized police and fire departments, utility services, and road service agencies, such as the Wayne County Road Commission or the Michigan Department of Transportation (MDOT).

4.14.3 Water / Sewer

A lowering or collapse of the land surface due to loss of subsurface support over water and sewer lines.

Historical Events

Sinkholes or subsidence events appear to be fairly infrequent in Wayne County: one known sewer or waterline-related subsidence event occurred in February 2000, when a leaking underground pipe formed a 15-foot-wide sinkhole in Detroit that enveloped an automobile.[258] Sinkholes are more frequently experienced in neighboring Macomb County. A sinkhole in Fraser required the evacuation of three homes; it occurred in the same vicinity as a 160-foot by 60-foot by 30-foot-deep sinkhole in 2004, and a 1978 sinkhole caused by a break in a local sewer interceptor.[259]

Frequency and Probability

The infrequency of this type of subsidence in Wayne County makes it difficult to predict the probability of future occurrences. However, it is notable that multiple subsidence events have occurred in neighboring counties. Based on the number of underground utilities, specifically water mains, within the County, there is a good probability that a sinkhole event can occur from this non-natural source. The probability of this occurrence increases with the age of these water systems.

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[258] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 180.
[259] Emma Ockerman, "Sinkholes Aren't Unusual Near 15 Mile Road," *Detroit Free Press*, December 24, 2016, https://www.freep.com/story/news/local/michigan/macomb/2016/12/24/sinkholes-macomb-county/95829674/.

Health & Safety

In the event of subsidence, potential health and safety issues are dependent on the location and size of the sinkhole. A sinkhole occurring near or within a street or public access area could potentially cause injury. Injury could also occur if subsidence occurred beneath a building, causing structural damage or collapse. Following the event, the sinkhole poses a risk to the health and safety of people in the area if it is not properly marked and barricaded.

Area Impacted

The areas of impact would be the land immediately surrounding the subsidence or sinkhole, as well as any transportation and utility networks disrupted by it.

Economic Impact

Economic impacts from a sinkhole could include disruptions to transportation, communication, and utilities, as well as costs associated with filling the sinkhole and repairing roadways and utilities. If a sinkhole were to occur beneath a building foundation, costs to stabilize, repair, or rebuild could be substantial, depending on the area and depth of the subsidence.

Critical Facilities/Services

Response agencies would primarily include localized police and fire departments, utility services, and potentially road services such as the local road commission or MDOT.

4.15 Thunderstorm Hazards

Thunderstorm hazards include hail, lightning, and severe wind. Wayne County receives an average of 32 thunderstorm days per year.[260]

4.15.1 Hail

These are conditions where atmospheric water particles from thunderstorms form into rounded or irregular lumps of ice that fall to the earth.

Historical Events

In Wayne County, 26 hailstorms were recorded between 2013 and April 2024.[261]

[260] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, April 2019, page 33.
[261] National Oceanic and Atmospheric Administration: National Centers for Environmental Information, "Storm Events Database: Wayne County, Michigan: Hail," accessed December 18, 2024, https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28C%29+Hail&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=1998&endDate_mm=09&endDate_dd=30&endDate_yyyy=2024&county=WAYNE%3A163&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=26%2CMICHIGAN.

In June 2024, A severe thunderstorm warning was issued for Oakland, Wayne, and Macomb counties due to storms producing 60 mph wind gusts and quarter-sized hail, which damaged roofs, siding, and trees.

July 2023: A severe storm produced golf-to-tennis-ball hail (up to 2.50 inches) near Redford Heights and 1-inch hail near Northville as the line crossed western Wayne County. Trees and power lines were reported down in the area.[262]

June 2023: Late-afternoon storms south of I-96 generated multiple severe hail reports; 0.75-inch hail was observed just northwest of New Boston in Wayne County.[263]

August 2014: A thunderstorm moving across the northern county edge produced hail up to 1 inch across northern Wayne and far southeast Oakland.[264]

April 2014: Evening storms over southeast Michigan produced nickel-size hail (≈0.88 inch) along with widespread wind damage; impacts included the Detroit metro area. The hail and winds caused structural damage (siding, roof) and downed trees in metro Detroit.[265]

Frequency and Probability

Wayne County experiences a hailstorm approximately twice per year. The Michigan Hazard Analysis notes 155 hailstorms in 67 years for Wayne County.[266] Most storms in Michigan result in hailstones approximately ¼-inch in diameter to golf ball-sized hailstones measuring 1¾ inches, but baseball-sized hailstones have been recorded in most Michigan counties. Hail events are highly likely to occur in the County.

Health & Safety

The human health and safety risk associated with hail is low. However, hail is often associated with tornado activity. Tornadoes are discussed in Section 4.16.

Area Impacted

Hailstorms are typically localized as they move through Michigan. Although the entire county could be affected, impacts will more likely be localized to residents directly under the center of the storm.

Economic Impact

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[262] National Weather Service Detroit/Pontiac. "Storm Data and Unusual Weather Phenomena – July 2023," pp. 6–7 (entries: *WAYNE COUNTY—1.5 NNE Redford Heights, Hail 2.50"; 1.5 W Northville, Hail 1.00"*, July 20, 2023). Accessed September 29, 2025.
[263] National Weather Service Detroit/Pontiac. "Storm Data and Unusual Weather Phenomena – June 2023," p. 1 (*WAYNE COUNTY—1.5 NNW New Boston, Hail 0.75"*, June 15, 2023). Accessed September 29, 2025.
[264] National Weather Service Detroit/Pontiac. "Storm Data and Unusual Weather Phenomena – August 2014," p. 1 (*…up to 1" hail across far southeast Oakland and northern Wayne counties*). Accessed September 29, 2025.
[265] National Weather Service Detroit/Pontiac. "April 29, 2014, Severe Weather" (event summary: nickel-size hail and 50–58 mph gusts). Accessed September 29, 2025.
[266] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, April 2019, page 39

Nationally, hail damages each year exceed $3.1 million. Hailstorms can impact infrastructure, power lines, roads, and businesses. Property damage, loss of business revenue, and response costs can result from hail events. Hail is especially damaging to crops, property, and automobiles.

Critical Facilities/Services

Response to a hail-related emergency would be localized. Utilities may require repair and maintenance due to hail damage.

The National Weather Service, NOAA, and local media, through radar, weather data, and spotters, can alert the public of severe storms capable of producing large hail, severe winds, and lightning. Warning sirens can alert those not near a radio or television of approaching storms. Warning sirens are located throughout the County; those located within the 42 communities participating in this Plan are shown in Figure 9.

4.15.2 Lightning

The discharge of electricity from within a thunderstorm.

Historical Events

On July 3, 1985, lightning struck four teenage boys in Dearborn Heights, within Wayne County, killing two and injuring two.[267]

On September 19, 1997, a cluster of thunderstorms produced a lightning strike in Westland (Wayne County), reported in a merged event, where an apartment building in Westland was damaged, and approximately $5,000 in property damage was recorded.[268]

On July 21, 1998, southeast Michigan was hit particularly hard by a string of thunderstorms. The storms produced over 4,300 lightning strikes, some of which caused fires that destroyed a house and an apartment building in Sterling Heights, Macomb County. Sixteen people were left homeless, and the storms resulted in damages totaling $275,000. Governor John Engler and President Clinton issued state and federal disaster declarations for Wayne and Macomb Counties.[269]

Lightning Statistics

Location of Lightning Strikes

- 40% are at unspecified locations
- 27% occur in open fields and recreation areas (not golf courses)
- 14% occur to someone under a tree (not on golf course)
- 8% are water-related (boating, fishing, swimming, etc.)
- 5% are golf-related (on golf course or under tree at golf course)
- 3% are related to heavy equipment and machinery
- 2.4% are radio, transmitter, and antenna-related

Months of Most Strikes
July - 30%
August - 22%
June - 21%

Time of Most Strikes
2:00p.m. - 6:00 p.m.

Source: National Oceanic and Atmospheric Administration (NOAA) and the National Lightning Safety Institute (NLSI) for the periods 1959-1994.

[267] UPI, "Thunderstorms that killed two Michigan teenagers with lightning roamed," July 3, 1985.
[268] National Centers for Environmental Information (NCEI), *Storm Events Database – Event Details* ID 5614173 (Westland, lightning — apartment damage), September 19, 1997.
[269] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, April 2019, page 51.

On November 11, 2000, a severe thunderstorm complex affecting southeast Michigan produced heavy rain over Wayne County (Belville area) and also caused a lightning strike that damaged the 911 telephone system at the Milford Police Department, resulting in substantial electronic equipment losses.[270]

On August 11, 2021, a house fire in Novi was believed to have been caused by a lightning strike during overnight storms. The fire resulted in extensive damage to the home, including the destruction of the roof. Fortunately, the family of four was able to evacuate unharmed. Investigators cited the heavy lightning activity in the area as a possible cause of the fire. [271]

Frequency

Over 50% of lightning casualties occur in June and July, and another 28% of deaths occur in May and August.[272] Lightning occurrences occur every year; therefore, lightning events are likely to continue in the future within the County.

Health & Safety

Michigan averages 1.5 deaths and 10.7 injuries per year from lightning strikes.[273] Lightning deaths are usually caused by the electrical force shocking the heart into cardiac arrest or throwing the heartbeat out of rhythm. Lightning can also cause severe skin burns that can lead to death if complications from infection ensue. Lightning strikes impact a single person at a rate of 91%, and only 9% of strikes impact two or more victims.[274] Approximately 20% of lightning strike victims die, and 70% of survivors suffer serious long-term effects such as memory and attention deficits, sleep disturbance, fatigue, dizziness, and numbness.[275]

Between 1959 and 2005, the National Weather Service recorded 101 deaths and 711 lightning-related injuries, consistently ranking Michigan near the top in these categories. During the period from 1959 to 1995, Michigan was ranked second nationally in lightning injuries and 12th nationally in lightning deaths.[276]

Area Impacted

The effects of lightning are very localized; however, thunderstorms can cover a large area.

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[270] NCEI, *Storm Events Database – Event Details* ID 5174452 (Belville / Wayne Co. flash flooding & lightning), November 11, 2000.
[271] Childers, Shelley. "Fire Crews Believe Fire at Metro Detroit Home Caused by Lightning Strike." WXYZ 7 News Detroit, 16 May 2017, www.wxyz.com/news/fire-crews-believe-fire-at-metro-detroit-home-caused-by-lightning-strike. Accessed 14 Apr. 2025.
[272] Oakland County Michigan Emergency Management, *Hazard Study,* August 1998, page 17.
[273] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 34.
[274] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 34.
[275] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 34.
[276] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, April 2019, page 47.

Economic Impact

Property damage estimates from lightning strikes in Wayne County between January 1, 1996, and April 30, 2023, equaled $857,000, an average of $40,809 per year.[277]

Nationally, property damage from lightning is estimated at several billion dollars. In Michigan, property damage was estimated at $20.0 million since 1990.[278] Cost estimates for property damage vary greatly, but a conservative estimate is $2 million per year in Michigan. Property damage from lightning is often a result of fires or electrical system damage. Lightning strikes cause 2% of Michigan's wildfires.[279]

Because lightning-related damage information is compiled from several different sources, it is difficult to determine the collective damage figures resulting from lightning strikes accurately.

Critical Facilities/Services

Initial response to a lightning strike would be provided by local emergency responders (fire, police, emergency medical care, etc.). Power outages as a result of a lightning strike can impede emergency response. Electric utility companies across the County estimate as much as $1 billion per year in damaged equipment and lost revenue from lightning.[280]

Communication services (cell and communication towers, computer systems, phone services, etc.) can be damaged and destroyed by lightning strikes. Utility companies (DTE Energy, Consumers Energy, SBC, AT&T, cable companies, etc.) and the services they offer are often affected by lightning strikes.

Lightning is directly associated with severe thunderstorms. The National Weather Service and local media can alert the public to severe storms capable of producing large hail and lightning. Warning sirens can alert those not near a radio or television of an approaching storm. Warning sirens are located throughout the County. Figure 9 displays community siren locations applicable to this Plan.

4.15.3 Severe Wind

Winds greater than 58 miles per hour, not including tornadoes, are classified as windstorms, severe, or straight-line winds. Often occurring during thunderstorms, severe winds may be very damaging. Severe winds have the potential to cause injury or loss of life from breaking and falling trees, property damage, and flying debris. Although tornadoes tend to result in more deaths than severe winds, property damage from straight-line winds is often more widespread than from tornadoes, usually affecting multiple counties at a time.

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[277] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis (National Hazards)*, EMHSD Publication 103, Volume 1 Edition, 2024, page 12.
[278] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 34.
[279] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2001, page iv.
[280] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 34.

Historical Events

On April 30, 1984, a windstorm struck the entire Lower Peninsula, resulting in widely scattered damage, one death, and several injuries. Wind gusts up to 90 miles per hour (mph) were measured in some areas. Damage was extensive, with 6,500 buildings, 300 mobile homes, and 5,000 vehicles damaged. Over 500,000 electrical customers lost power. [281]

In 1998, severe winds impacted the southern half of Michigan's lower peninsula. In two hours, wind gusts reached 130 mph, causing $172,000,000 in damages, destroying 250 residential dwellings, and destroying 34 business properties.[282] A cold front moved into Wayne County in October 2011, causing severe wind gusts up to 45 mph. Numerous tree branches and power lines fell, leading to power outages for 85,000 people.[283]

High winds were experienced across southeast Michigan on the afternoon of November 24, 2014. Peak winds of 59 mph were recorded at Detroit Metropolitan Wayne County Airport. Numerous downed power lines and trees were reported across Southeast Michigan, and approximately 150,000 people were without power.[284]

On October 17, 2000, the President declared a major disaster for the State of Michigan following a series of severe thunderstorms, high winds, and widespread flooding that damaged infrastructure, homes, and public services in Wayne County and across the state.

On June 30, 2004, a disaster was declared after severe storms, tornadoes, and flooding struck Michigan from May 20 through early June 2004, resulting in significant damage across the state, including Wayne County. Records show flooding in areas like Taylor and Allen Park with several feet of water in underpasses and damage to hundreds of homes, as well as thunderstorm wind gusts near or above 60 mph reported in the region.

On November 15, 2020, a powerful low-pressure system moved across the Great Lakes, bringing strong winds to Southeast Michigan. Wayne County experienced wind gusts up to 64 mph at Detroit Wayne Airport. These high winds caused widespread damage to trees and power lines, resulting in approximately 370,000 customers losing power across Lower Michigan. [285]

[281] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2001, page 196.
[282] Mark Torregrossa, "Two Hours of Weather Terror: A Look Back at May 31, 1998," *MLive*, May 31, 2016, https://www.mlive.com/weather/2016/05/two_hours_of_weather_terror_a.html.
[283] National Oceanic and Atmospheric Administration: National Centers for Environmental Information, "Storm Events Database: Wayne County, Michigan: Strong Wind: 2011-10-15," accessed December 19, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=347629.
[284] Khalil Al Hajal, "High Winds Could Continue in Wayne County, Where 50,000 Lost Power," *MLive*, November 24, 2014, https://www.mlive.com/news/detroit/2014/11/high_winds_could_continue_in_w.html.
[285] US. "High Wind Event December 11, 2021." Weather.gov, 2021, www.weather.gov/dtx/High-Wind-December-11-2021. Accessed 14 Apr. 2025.

Frequency and Probability

NOAA's Storm Events Database reports 477 high-wind and thunderstorm wind events in Wayne County between 1985 and 2024.[286] The Michigan Hazard Analysis reports that Wayne County experienced 351 severe wind events between 1996 and 2017, averaging approximately 17 per year.[287] Severe winds are a high probability event for the County.

Health & Safety

Since 1990, Michigan has averaged approximately two deaths and 20 injuries per year as a result of severe winds.[288] The public is most at risk from falling trees, electrical lines, blowing debris, and collapsing buildings or roofs. Severe winds can be a direct effect of tornadoes, as discussed in Section 4.16.

Area Impacted

Severe winds would affect entire populations, but the greatest risk would be to populations housed in mobile homes. There are approximately 2,240 acres of manufactured home parks in Wayne County, excluding Detroit.[289]

Economic Impact

Between 1996 and 2017, Wayne experienced an estimated $99,770,000 in property damage from severe wind events.[290] Property damage is the greatest contributor to economic loss. Power outages resulting from high winds can also have a significant economic impact, with costs associated with restoring and repairing power lines, as well as revenue loss for businesses due to prolonged outages.

Critical Facilities/Services

The National Weather Service, NOAA, and local media can alert the public to severe storms capable of producing severe winds. Warning sirens, located throughout the County, can alert those not near a radio or television of an approaching storm. Initial response activities due to emergencies from high winds would primarily involve local response from police, fire, and medical emergency services.

Utility companies are responsible for repairing lines and shutting down power or gas services that pose a safety threat. Additionally, private or governmental tree removal services, including urban forestry services, are crucial in implementing preventive

[286] National Oceanic and Atmospheric Administration: National Centers for Environmental Information, "Storm Events Database: Wayne County, Michigan: Strong Wind, Thunderstorm Wind," accessed December 19, 2024, https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28Z%29+Strong+Wind&eventType=%28C%29+Thunderstorm+Wind&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=1985&endDate_mm=09&endDate_dd=30&endDate_yyyy=2024&county=WAYNE%3A163&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=26%2CMICHIGAN.
[287] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 25.
[288] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 52.
[289] SEMCOG, *Land Use in Southeast Michigan 1990-2000*, Specific to Wayne County, Excluding Detroit, April 2004.
[290] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, April 2019, page 77.

measures. Following severe wind incidents, these services are often involved in clearing downed trees from power lines, roadways, and buildings. Following the initial response, regional, state, and local agencies may assist in cleanup and aid.

4.16 Tornadoes

A violently rotating column of air extending downward to the ground from a cumulonimbus cloud.

Historical Events

Between 1950 and 2001, approximately 4% of tornadoes in Michigan were classified as violent tornadoes (F4 or F5 intensity).[291] However, these few violent tornadoes have been responsible for 88% of Michigan's tornado-related deaths.[292] One F4 tornado was recorded in Wayne County between 1950 and July 2001.[293]

Prior to 2000, Wayne County was included in multiple federal disaster declarations, primarily due to severe storms and flooding. These events include FEMA-363-DR (December 1, 1972) and FEMA-371-DR (April 12, 1973), both declared following severe storms and flooding that caused widespread damage and required federal assistance for emergency response and infrastructure repair. Additional declarations, such as FEMA-495-DR (March 19, 1976), addressed complex storm events involving tornadoes, icing, and flooding, while FEMA-631-DR (September 8, 1980) was issued in response to flooding and severe storms resulting from prolonged rainfall. Later events, including FEMA-1181-DR (July 11, 1997) for severe storms, tornadoes, and flooding, and FEMA-1237-DR (August 5, 1998) for severe storms and high winds, further underscore the county's historical vulnerability to intense weather systems.

On July 2, 1997, a series of thunderstorms went through south-central and southeast Michigan, spawning 16 tornadoes, thirteen of which occurred in southeastern Michigan counties.[294] In 1997, a tornado touched down in Highland Park and made its way to Hamtramck, causing 90 injuries and 90 million in damages.[295] In 2008, an EF2 tornado was reported to have touched down in Plymouth and traveled to Livonia, damaging trees and the roofs of two apartment buildings.[296]

On July 15, 2021, President Biden issued a major disaster declaration for Michigan in response to severe storms, flooding, and tornadoes that struck the state on June 25–26, 2021. The storms brought widespread heavy rainfall, with some areas receiving 3–8 inches in a short period, causing extensive flooding of roads, neighborhoods, and infrastructure, particularly in Wayne and Washtenaw counties. The National Weather

[291] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, pages 61.
[292] Ibid.
[293] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2001.
[294] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 65.
[295] National Oceanic and Atmospheric Administration: National Centers for Environmental Information, "Storm Events Database: Wayne County, Michigan: Tornado: 1997-07-02," accessed December 19, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=5607602.
[296] Ibid., "Storm Events Database: Wayne County, Michigan: Tornado: 2008-09-13," accessed December 19, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=131311.

Service confirmed an EF-2 tornado near Port Austin with winds up to 120 mph, alongside other damaging wind events across the state. The storm complex caused significant property and infrastructure damage, community disruption, and prompted coordinated local, state, and federal recovery efforts.

On February 8, 2024, President Biden issued a major disaster declaration to support recovery in Wayne County, Michigan, after severe storms, tornadoes, and flooding struck the region August 24–26, 2023, overwhelming local response capabilities and causing widespread damage. The intense storm system brought torrential rainfall and flash flooding across western and southern Wayne County, including areas like Canton, and downriver communities, leading to submerged roadways, closure of major roads and interstates such as I-94 at I-275, stranded vehicles, flooded homes, downed trees and power lines, and overwhelmed stormwater systems. A tornado touched down in Western Wayne County, damaging numerous trees, including a tree in Livonia that killed a young child and injured the child's mother.[297]

On March 30, 2025, Michigan witnessed its largest tornado outbreak in 24 years, with 14 confirmed tornado touchdowns, including EF-1 tornadoes in Gibraltar and Belleville, and an EF-0 in Canton Township.

Frequency and Probability

Between 1950 and 2012, 28 tornadoes, ranging from F0 to F4, were recorded in Wayne County, resulting in 136 injuries.[298] From 1986 to 2024, 16 recorded tornadoes resulted in 99 injuries and damages totaling $94,690,000.[299] Based on this data, the annual probability of an injury-producing tornado in Wayne County is approximately 34%. Wayne County experiences approximately Tornadoes in Michigan, which are most frequent in the spring and early summer when warm, moist air from the Gulf of Mexico collides with cold air from the Polar Regions to generate severe thunderstorms.[300] Most tornadoes in Michigan occur in the southern Lower Peninsula, where an average of 17 tornadoes are reported annually.[301]

Michigan has experienced an unusually active tornado season in 2025, with a significant increase in tornado activity compared to the state's historical averages. Experts suggest that climate change may be influencing the frequency and intensity of severe weather events, including tornadoes.[302] Altered jet stream patterns can lead to stalled weather systems, resulting in prolonged and more damaging storms. Additionally, warming

[297] Ibid., "Storm Events Database: Wayne County, Michigan: Tornado: 2024-06-05," accessed December 19, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=1186598.
[298] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, April 2019, page 71.
[299] National Oceanic and Atmospheric Administration: National Centers for Environmental Information, "Storm Events Database: Wayne County, Michigan: Tornado," accessed December 19, 2024, https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28C%29+Tornado&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=1985&endDate_mm=09&endDate_dd=30&endDate_yyyy=2024&county=WAYNE%3A163&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=26%2CMICHIGAN.
[300] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2001.
[301] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 62.
[302] "Is tornado frequency increasing in parts of the U.S.?" — summary discussion (NOAA) of a study by Gensini & Brooks (Northern Illinois University / National Severe Storms Laboratory)

temperatures and increased atmospheric instability can create favorable conditions for tornado formation.[303]

Health & Safety

Michigan's tornadoes have killed more people than those in many other tornado-prone states. Michigan ranks in the top 10 in single killer tornadoes, deaths per 10,000 square miles, and killer tornadoes as a percentage of all tornadoes. Between 1950 and 2022, 246 tornado-related deaths were reported in Michigan.[304]

There are approximately four tornado-related deaths per year in Michigan.[305] A tornado that occurred on July 2, 1997, in Highland Park accounted for 90 injuries.[306]

Area Impacted

A tornado would affect the entire population in its path. The most vulnerable population would be mobile home residents. According to 2000 land use data, there are approximately 2,240 acres of manufactured home park development in the County, excluding Detroit.[307] Van Buren and Canton Township have the highest number of manufactured home establishments, with approximately 300 acres each.

Economic Impact

Property damage is the greatest contributor to economic loss. The amount of damage varies greatly with the severity of the tornado. Also, damage or destruction to utility lines (primarily overhead lines) can result in the loss of power and other utilities anywhere from a few moments to several days. Tornadoes can also destroy or damage agricultural fields, disrupt transportation services due to debris and/or downed power lines, and destroy trees and other flora.

Property damage from tornadoes in Michigan averages more than $15 million per year.[308] Between January 1, 1950, and September 30, 2024, property damage by tornadoes totaled over $125,900,000 in Wayne County.[309]

A tornado that touched down in the Highland Park area on July 2, 1997, caused $90 million in property damage. This was one of a series of 13 tornadoes that swept through southeast Michigan that same day. These caused an additional 2,900 damaged or destroyed homes, 200 damaged or destroyed businesses, over $25 million in public damage, and nearly $30

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[303] "The Climatological Relationship Between United States Tornado Risk and Extratropical Cyclones" (preprint, arXiv)
[304] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2024, page 26.
[305] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 60.
[306] National Oceanic and Atmospheric Administration: National Centers for Environmental Information, "Storm Events Database: Wayne County, Michigan: Tornado: 1997-07-02."
[307] SEMCOG, *Land Use in Southeast Michigan 1990-2000*, Specific to Wayne County, Excluding Detroit April 2004.
[308] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 62.
[309] National Oceanic and Atmospheric Administration: National Centers for Environmental Information, "Storm Events Database: Wayne County, Michigan: Tornado," accessed December 19, 2024, https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28C%29+Tornado&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=1950&endDate_mm=09&endDate_dd=30&endDate_yyyy=2024&county=WAYNE%3A163&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=26%2CMICHIGAN.

million in private damage elsewhere. Tornadoes directly caused two deaths, and 120 injuries were reported. Three hundred fifty thousand electrical customers lost power.[310]

Critical Facilities/Services

Tornado warning systems and agencies play a major role in limiting the number of deaths and injuries related to tornadoes. Warning sirens are located throughout the County. Figure 9 displays community siren locations applicable to this Plan. The National Weather Service and local media (television and radio) provide advanced warnings to communities. Community warning sirens can be heard for several miles.

Initial response activities following tornadoes would primarily involve local response from fire, police, and emergency medical services.

Utility companies, such as Consumers Energy, DTE Energy, SBC, etc., would be essential for repairing lines and shutting down power or gas services that threaten safety. Following the initial response, regional, state, and local agencies may also assist in cleanup and aid.

4.17 Transportation Accidents

A transportation accident is a crash or other accident involving an air, land, or water-based passenger carrier. Note: transportation accidents involving hazardous materials are addressed separately in Section 4.8.2, HazMat Incidents – Transportation.

4.17.1 Air

Historical Events

Air transportation accidents result from four major causes:

- collision between two aircraft in the air,
- crash during in-air cruising due to mechanical failure, sabotage, etc.
- crash during takeoff or landing, or
- collision between two aircraft during taxi or staging.

The majority of air transportation accidents occur during takeoff or landing, and therefore, impacted areas are typically located near airports or runways. Response to air transportation accidents may involve fire control, survivor rescue and first aid, site security, and crowd and traffic control.

Hazard History

[310] Ibid.

One of the most fatal airplane accidents in Wayne County occurred on August 16, 1987, near Detroit Metropolitan Wayne County Airport in Romulus. Flight 255 crashed just after takeoff, killing 154 of 155 people on board as well as two people on the ground.[311]

A plane carrying the University of Michigan men's basketball team skidded off a runway at Willow Run Airport in March 2017 when a jammed part prevented the pilots from bringing the aircraft nose up during takeoff. Of the 110 passengers and six staff on board, only one was injured in the crash.[312]

During the Thunder Over Michigan Air Show in 2023 at Willow Run Airport, a Soviet-era MiG-23 fighter jet crashed after both the pilot and a crew member ejected due to engine failure. The aircraft landed in a parking lot at the Waverly on the Lake Apartments in Belleville, causing damage to unoccupied vehicles. Both individuals sustained minor injuries and were transported to a nearby hospital. [313]

Frequency

As shown in Figure 10, there are five airports within Wayne County. The airports provide commercial flights, industrial shipping, corporate jets, and charter planes. Two of the airports are owned by Wayne County; the other three airports are privately owned and operated. The Detroit Metropolitan Wayne County Airport handles approximately 24.4 million air passengers annually, accounting for roughly 87% of the air traffic of all Michigan airports.[314] Between 1990 and 2024, there were 44 air transportation incidents or accidents in Wayne County.[315]

Two airports in Wayne County offer commercial passenger air transportation. Air transportation incidents in Wayne County will continue to occur, and the probability of this hazard is anticipated to fluctuate with air traffic volume.

Health & Safety

Death and injury are limited in most aircraft accidents. Between 1990 and 2024, there have been three aviation accidents resulting in fatalities in Wayne County.[316] However, although rare, major crashes can be very deadly, as in the 1987 crash noted above.

Area Impacted

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[311] National Transportation Safety Board, *Aircraft Accident Report: Northwest Airlines, Inc. McDonnell Douglas DC-9-82, N312RC, Detroit Metropolitan Wayne County Airport, Romulus, Michigan, August 16, 1987,* by the United States Government, page v.
[312] David Koeing, "Michigan Basketball Plane Crash: NTSB Blames Jammed Part on Accident," *Detroit Free Press*, May 7, 2019, https://www.freep.com/story/sports/college/university-michigan/wolverines/2019/03/07/michigan-basketball-plane-crash/3095406002/.
[313] Johncox, Cassidy. "FAA Investigating after Fighter Jet Crashes amid Thunder over Michigan Air Show." WDIV, WDIV ClickOnDetroit, 14 Aug. 2023, www.clickondetroit.com/news/local/2023/08/14/faa-investigating-after-jet-catches-fire-crashes-amid-thunder-over-michigan-air-show/.
[314] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, July 2012, page 305.
[315] National Transportation Safety Board, "CAROL Query: 01/01/1990 to 01/01/2024: Detroit, Michigan: Aviation," accessed December 19, 2024, https://data.ntsb.gov/carol-main-public/basic-search.
[316] National Transportation Safety Board, "CAROL Query: 01/01/1990 to 01/01/2024: Detroit, Michigan: Aviation: Fatal Injury," accessed December 19, 2024, https://data.ntsb.gov/carol-main-public/basic-search.

Due to the fact that the majority of aircraft accidents occur during landing or takeoff, the area most at risk of impact is the airport or heliport and the immediately adjacent areas.

Economic Impact

Economic impact would result from damage to the aircraft and damage to any structures or improvements on the ground at the site of the accident. Damages to aircraft would typically be the responsibility of the private owner. Because the two airports are owned by Wayne County, damage to airport infrastructure at these facilities could be the responsibility of the County. Additional economic impact on the County may result if an accident disrupts services at the airport.

Critical Facilities/Services

Local fire and police departments respond to air transportation accidents. Emergency response assistance is available through mutual aid arrangements.

Airports within Wayne County are an important service provided to area businesses. A significant accident at an airport could temporarily impede the County's ability to provide this service.

4.17.2 Highway

Historical Events

Based on 2023 data, the intersection of Schoolcraft Road and Telegraph Road in Redford Township was the most accident-prone, with 154 crashes leading to 47 injuries. Other notable intersections include Middle Belt Road at Schoolcraft Road in Livonia and Joy Road at M-39 in Detroit.

Frequency & Probability

Vehicle accidents are common to all communities and can happen along any roadway. Most accidents are due to driver error or inclement weather conditions. Accidents involving modes of mass public transportation are of particular concern due to the high number of passengers that could be impacted.

In 2021, there were 282,640 traffic accidents on Michigan roads, resulting in 1,068 fatalities.[317] The number of fatalities per 100 million vehicle miles traveled decreased from 1.25 in 2020 to 1.17 in 2021, which is a significant decrease from the rate of 1.00 observed from 20008 to 2019.[318] In 2003, over 18% of all traffic crashes reported in Michigan occurred in Wayne County.[319] However, pedestrian and bicyclist deaths had increased at alarming rates: 173 and 28 in 2021, respectively.[320] In 2019, 140 pedestrian deaths, and

[317] Ibid., page 83.
[318] Ibid.
[319] State of Michigan, Office of Highway Safety Planning, 2003 Michigan Traffic Crash Facts, Reported Statewide Traffic Crashed By County In Michigan.
[320] Michigan Section of the American Society of Civil Engineers, *2023 Report Card for Michigan's Infrastructure*, page 83.

during 2017 to 2019, there was an average of 22 bicyclist deaths along roadways.[321] The majority of the pedestrian and bicyclist deaths from 2017 to 2021 have occurred in Wayne County.[322]

Health & Safety

With over 15,000 injuries per year from crashes in Wayne County, traumatic injuries are a major concern, especially head trauma, spinal injuries, and fractures. Eight of Michigan's ten most dangerous I-75 segments are located in Wayne and Oakland counties.

Economic Impact

The National Highway Traffic Safety Administration estimated the total economic cost of traffic crashes in Michigan to be $9,590,000,000 in 2018.[323] This total encompasses all types of accidents and accounts for costs associated with lost productivity, medical expenses, legal fees, emergency services, insurance premiums, travel delays, property damage, workplace losses, and human capital losses. Assuming that 18% of these accidents were in Wayne County, and assuming 2018 costs are representative of most years, the economic cost to the County would be over $1,726,200,000 annually. It is anticipated that the rate of economic loss would be higher for public passenger transportation, given that more passengers are present and the higher cost of a bus versus a private automobile.

Critical Facilities/Service

The highway transportation system in Wayne County plays a vital part in the County's ability to provide services to the public. Traffic crashes are notorious for causing temporary traffic delays that complicate the County's ability to maintain a well-operating transportation network.

4.17.3 Rail

Historical Events

Passenger rail accidents are typically associated with derailments or collisions with motor vehicles attempting to cross railroad tracks. In 2016, a man was killed by a train in Romulus while working near the railroad.[324] A freight train derailed in Romulus in 2023, where 14 railcars were derailed.[325] Another train derailed at Van Buren Township in 2023,

[321] Michigan Section of the American Society of Civil Engineers, *2023 Report Card for Michigan's Infrastructure*, page 83.
[322] Ibid.
[323] U.S. Department of Transportation, *States Using the 5.9GHZ Safety Band*, 2018.
[324] ABC WXYZ Detroit, "Man Working Near Romulus Railroad Tracks Hit and Killed by Train," *ABC*, July 25, 2016, https://www.wxyz.com/news/region/wayne-county/man-working-near-romulus-railroad-tracks-hit-and-killed-by-train.
[325] Marnie Munoz, "Officials Probe Train Derailment in Romulus," *Detroit News*, November 2, 2023, https://www.detroitnews.com/story/news/local/wayne-county/2023/11/02/train-derailment-romulus/71421212007/.

where no injuries or hazardous materials were reported.[326] While infrequent, accidents involving cars and trains at crossings are the leading source of rail fatalities.

Frequency & Probability

As shown in Figure 10, there are 134 miles of freight rail lines and 62 miles of passenger rail lines in Wayne County. Amtrak provides passenger rail service with service between Pontiac, Detroit, Dearborn, and other southeast Michigan destinations.

Between 2015 and 2024, there were 425 railroad transportation accidents in Wayne County, Michigan, averaging nearly 42.5 accidents annually.[327] However, rail-automobile accidents have decreased notably during this period; the 44 vehicle-train crashes recorded in 2009 represented a 64.8% decrease over the preceding 10-year period.[328] The most common rail accident was nonfatal entry-on-duty injuries at 183 over the 2015 to 2024 period.[329] There were 121 highway-rail accidents recorded from 2015 to 2024.[330]

Approximately half of the public railroad crossings in Michigan have active warning devices, but accidents still occur. The likelihood of this hazard occurrence is anticipated to fluctuate with the rate of rail traffic within the County.

Health & Safety

Death and injury to passengers involved in highway-railroad accidents are rare in Wayne County. From 2015 through 2024, there have been 11 deaths and 47 injuries as a result of the highway-railroad hazard.[331]

Area Impacted

Areas adjacent to a railroad are most at risk for impact from this hazard due to the potential for derailment. From 2015 to 2024, 52 derailment accidents were reported in Wayne County.[332] Secondary impacts may result from accidents of this type if railroad crossings are blocked, resulting in traffic delays.

Economic Impact

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[326] Chandra Fleming, "Train Derails in Van Buren Township; Haggerty Road Back Open," *Detroit Free Press*, February 16, 2023, https://www.freep.com/story/news/local/michigan/2023/02/16/train-derailed-van-buren-township-haggerty-road-closed/69910784007/.
[327] Federal Railroad Administration, "1.12 – Ten Year Accident / Incident Overview by Calendar Year (January-December): Michigan, Wayne County: All Railroads Selected," accessed December 19, 2024, https://safetydata.fra.dot.gov/OfficeofSafety/publicsite/Query/TenYearAccidentIncidentOverview.aspx.
[328] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, July 2012, page 310.
[329] Federal Railroad Administration, "1.12 – Ten Year Accident / Incident Overview by Calendar Year (January-December): Michigan, Wayne County: All Railroads Selected."
[330] Ibid.
[331] Federal Railroad Administration, "1.12 – Ten Year Accident / Incident Overview by Calendar Year (January-December): Michigan, Wayne County: All Railroads Selected."
[332] Ibid.

The greatest economic loss is property damage to train equipment and railroad tracks. The owner/operator of the equipment and railroad is responsible for this loss.

Critical Facilities/Services

Given the frequency of this event, it is not anticipated that county services or facilities will be greatly impacted. Impact on county services may result if an accident blocks a railroad crossing, thus causing traffic problems.

4.17.4 Marine

Historical Events

Most shipwrecks in Michigan occur in waters exhibiting treacherous weather and currents, particularly in the areas of Lakes Superior and Huron. However, the steamer C.K. Collins did catch fire in the Detroit River along Wayne County in 1854, killing 23 people.[333]

The number of shipwrecks in the Great Lakes decreased dramatically between the 1800s and the 1930s. Marine travel has undergone significant changes, and most boat traffic is now recreational. Additionally, weather prediction, communications, technology, ship design and construction, and emergency response have all improved over time. The most significant recent accident occurred with the sinking of the Edmund Fitzgerald in 1975.[334]

Nineteen commercial marine passenger ferries operate from Michigan shorelines. Public marine passenger ferries are regulated and inspected by the U.S. Coast Guard to ensure public safety. To date, there has not been a significant accident involving public marine transportation in Michigan. Response to marine accidents differs significantly from air and land transportation accidents in that they can require underwater search and rescue. Typically, marine accidents involve recreational boating incidents and are often linked to individuals operating vehicles under the influence of alcohol. Like rail-automobile accidents, Michigan boating accidents are declining over time. The 131 boating accidents recorded in 2009 represent a 40% decrease over the preceding 10-year period.[335]

4.18 Winter Hazards

4.18.1 Ice and Sleet Storms

Freezing rain is rain that freezes on contact with surfaces, causing a coating of ice on exposed surfaces.

Historical Events

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[333] J.B. Mansfield, "History of the Great Lakes, Volume 1: Chapter XXXVII," Great Lakes Maritime History, accessed December 19, 2024, https://www.linkstothepast.com/marine/chapt37.php.
[334] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, July 2012, page 311.
[335] Michigan Department of State Police, Emergency Management and Homeland Security Division, *Michigan Hazard Analysis,* MSP/EMHSD Publication 103, July 2012, page 314.

Five ice storms and sleet events were recorded in Wayne County between January 1, 1950, and September 30, 2024.[336]

On March 13, 1997, freezing rain caused 425,000 homes and businesses in the Metropolitan Detroit area to lose power. Several thousand residents were without power for as long as four days. In addition to power lines, falling trees damaged dozens of cars and houses, and most schools were closed, and numerous auto accidents occurred.[337]

On January 31, 2002, after heavy snowfall, it turned into freezing rain. Western Wayne County experienced the most damage from the freezing rain. The ice-covered heavy snow caused tree limbs to collapse on residential dwellings and automotive vehicles. The roof of a pharmacy in Westland collapsed due to the ice and snow. A young girl was hospitalized after being struck by a falling tree limb covered by ice and snow in Detroit. Several roadways were flooded due to the brief warm temperatures, but the storm drains were covered in ice and snow.[338]

Wayne County experienced freezing rain, accumulating up to a half-inch of ice in 2007. Tree limbs collapsed, and over 150,000 households were without power for up to three days.[339]

In February 2023, a storm with heavy rain, snow, sleet, and freezing rain hit southeast Michigan, including Wayne County. Damage to trees and power outages were experienced across the region, and nearly 500,000 DTE customers lost service during the storm.[340]

Frequency and Probability

NOAA's Storm Events Database reports five ice storms for Wayne County since 1990.[341] Since 1970, Michigan has experienced over 500 winter weather events, including snowstorms, ice storms, and sleet.[342] The probability of ice and sleet storms occurring in Wayne County is high, and they are most likely to occur from December to March.

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[336] National Oceanic and Atmospheric Administration: National Centers for Environmental Information, "Storm Events Database: Wayne County, Michigan: Ice Storm, Sleet," accessed December 19, 2024, https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28Z%29+Ice+Storm&eventType=%28Z%29+Sleet&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=1950&endDate_mm=09&endDate_dd=30&endDate_yyyy=2024&county=WAYNE%3A163&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=26%2CMICHIGAN.

[337] National Oceanic and Atmospheric Administration: National Centers for Environmental Information, "Storm Events Database: Wayne County, Michigan: Ice Storm, Sleet: 1997-03-13," accessed December 20, 2024,

[338] Ibid., "Storm Events Database: Wayne County, Michigan: Ice Storm, Sleet: 2002-01-31," accessed December 20, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=5278005.

[339] Ibid., "Storm Events Database: Wayne County, Michigan: Ice Storm, Sleet: 2007-01-15," accessed December 20, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=8276.

[340] Ibid., "Storm Events Database: Wayne County, Michigan: Ice Storm, Sleet: 2023-02-22," accessed December 20, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=1079427.

[341] National Oceanic and Atmospheric Administration: National Centers for Environmental Information, "Storm Events Database: Wayne County, Michigan: Ice Storm, Sleet."

[342] Ibid., "Storm Events Database: Wayne County, Michigan: Ice Storm, Sleet, Winter Storm, Winter Weather," accessed December 20, 2024, https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28Z%29+Ice+Storm&eventType=%28Z%29+Sleet&eventType=%28Z%29+Winter+Storm&eventType=%28Z%29+Winter+Weather&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=1970&endDate_mm=09&endDate_dd=30&endDate_yyyy=2024&county=ALL&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=26%2CMICHIGAN.

Health & Safety

It is difficult to determine the number of deaths and injuries caused directly by ice or sleet storms. However, secondary effects, such as auto accidents, downed power lines, and heart attacks from overexertion, usually cause these deaths and injuries. The majority of deaths related to ice storms are traffic-related.

Area Impacted

Due to the widespread nature of ice and sleet storms, the entire population could be impacted either directly or indirectly, e.g., through power outages. According to the 2000 Land Use Data, Wayne County, excluding Detroit, has approximately 6,816 acres of roadway, 917 acres of utility, and 1,036 acres containing electrical transmission lines.[343]

Economic Impact

Economic loss would include property damage and costs of response, e.g., clearing roadways, downed power lines, or trees.

From 1970 to June 2005, ice and sleet storms caused nearly $30 million in property damage, averaging nearly $550,000 per year. Michigan suffered $100 million in property damage from major storms between 1976 and 2005.[344]

Critical Facilities/Services

Response to an ice/sleet-related emergency would primarily be localized. Initial response activities due to emergencies from sleet and freezing rain would primarily involve local responses from police and medical emergency services.

Utilities may require repair and maintenance due to sleet and freezing rain. In the event that occurred on April 3, 2003, regional or out-of-state services may be required to assist in cleanup and repair activities. Additionally, private or governmental tree removal services are often involved following severe wind incidents to remove trees from roadways and yards, as well as from areas near power lines.

The National Weather Service, NOAA, and local media can alert the public to severe storms that can produce sleet and freezing rain.

4.18.2 Snow Storms

A period of rapid accumulation of snow accompanied by high winds and cold temperatures.

Historical Events

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[343] SEMCOG, *Land Use in Southeast Michigan 1990-2000*, Specific to Wayne County, Excluding Detroit, April 2004.
[344] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 115-116.

Between January 1, 1950, and September 30, 2024, 33 heavy snow events, five winter weather events, and 18 winter storms were reported in Wayne County.[345]

On January 26, 1977, a Presidential Emergency Declaration was issued for 15 counties in the southern part of the State. Many residents were isolated in rural residences or stranded in public shelters.[346]

From March 12 to 14th, 1993, a snowstorm now called "The Storm of the Century" struck the eastern U.S., dumping 56 inches of snow in some areas and causing $2 billion in property damage. The storm impacted 26 states and affected approximately 50% of the nation's population. A total of 270 deaths and over 600 injuries were attributed to the storm.[347]

On March 19, 1996, snow accumulations of 5.8 inches combined with high winds resulted in power outages to 173,000 homes and businesses in southeast Michigan.[348]

On January 27, 1999, there was a statewide emergency declaration for severe winter weather that affected Wayne County and necessitated federal support for emergency protective measures.

On December 11, 2000, a powerful snowstorm dumped heavy snow across southeast Michigan. Seven inches were reported in Grosse Pointe Farms, 8 to 10 inches were reported in Hamtramck, 12 inches were reported in Belleville, 8 to 11 inches were reported in Wayne, and 5 inches were reported in Grosse Ile, with power outages in Trenton.[349]

In March 2023, a winter storm impacted Wayne County, and snow accumulation reached 8 to 11 inches. The winter storm was accompanied by icefall and severe winds, which caused power loss for 200,000 customers in Southeast Michigan.[350]

Frequency and Probability

Wayne County averages more than two major events per year. The probability of winter snowstorms occurring in Wayne County is high, and they typically occur from December to March. [351]

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[345] National Oceanic and Atmospheric Administration: National Centers for Environmental Information, "Storm Events Database: Wayne County, Michigan: Heavy Snow, Lake-Effect Snow, Winter Storm, Winter Weather," accessed December 20, 2024, https://www.ncdc.noaa.gov/stormevents/listevents.jsp?eventType=%28Z%29+Heavy+Snow&eventType=%28Z%29+Lake-Effect+Snow&eventType=%28Z%29+Winter+Storm&eventType=%28Z%29+Winter+Weather&beginDate_mm=01&beginDate_dd=01&beginDate_yyyy=1950&endDate_mm=09&endDate_dd=30&endDate_yyyy=2024&county=WAYNE%3A163&hailfilter=0.00&tornfilter=0&windfilter=000&sort=DT&submitbutton=Search&statefips=26%2CMICHIGAN.
[346] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 46.
[347] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2012, page 48-49.
[348] National Oceanic and Atmospheric Administration: National Centers for Environmental Information, "Storm Events Database: Wayne County, Michigan: Heavy Snow, Lake-Effect Snow, Winter Storm, Winter Weather: 1996-03-19-20," accessed December 20, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=5540129.
[349] Ibid., "Storm Events Database: Wayne County, Michigan: Heavy Snow, Lake-Effect Snow, Winter Storm, Winter Weather: 2000-12-11," accessed December 20, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=5177530.
[350] Ibid., "Storm Events Database: Wayne County, Michigan: Heavy Snow, Lake-Effect Snow, Winter Storm, Winter Weather: 2023-03-04," accessed December 20, 2024, https://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=1081898.
[351] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* April 2019, page 124.

The average annual snowfall in Michigan ranges from 30 to 200 inches. Wayne County had an average season snowfall of approximately 30 inches between the 1950-51 and 1978 to 1980 seasons. Snowstorms are likely to occur in the future in Wayne County. [352]

Health & Safety

Deaths caused directly by the event are difficult to determine. Deaths related to snowstorms are usually caused by secondary effects such as delays in emergency vehicle response, auto accidents, downed power lines, and heart attacks from overexertion. The direct risk to human life from snowstorms is low.[353]

Area Impacted

Blizzards are the most dramatic of all snowstorms, bearing strong winds and an enormous amount of snowfall. Snowstorms can impact a large area of a community, especially if they result in heavy accumulations of snow. Due to the widespread nature of snowstorms, the entire population can be impacted either directly or indirectly, e.g., through power outages. Wayne County has approximately 6,816 acres of roadway.[354]

Economic Impact

Primary costs would include property damage and snow removal. Economic losses are dependent upon the degree of storm severity. Schools and businesses may be closed if snowfall is severe enough or if a State of Emergency is declared that prohibits traffic on roadways. The Michigan Hazard Analysis recorded 46 snowstorms or blizzards impacting Wayne County between 1996 and 2017, resulting in an estimated $960,000 in damage and economic loss.

Critical Facilities/Services

Response to a snow-related emergency would primarily be localized. Initial response activities due to snowstorm emergencies would primarily be associated with local responses from medical emergency services, public works departments, and agencies such as the Wayne County Road Commission and the Michigan Department of Transportation (MDOT). Municipalities would have increased costs in snow removal activities.

Transportation would be affected as roads and airports could see heavy delays or short-term to long-term closures. Schools and businesses may be closed for a day or several days.

The National Weather Service, NOAA, and local media play a critical role in alerting the public to severe storms that can produce snowstorms and blizzard conditions.

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[352] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2001, page 235.
[353] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2001, page 11.
[354] SEMCOG, *Land Use in Southeast Michigan 1990-2000*, Specific to Wayne County, Excluding Detroit, April 2004.

4.19 Terrorism/Active Assailant Incidents

An intentional, unlawful use of force, violence, or subversion against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political, social, or religious objectives. An Active Assailant may or may not be affiliated with a terrorist organization and may not otherwise be considered a terrorist. In the US, many active assailant events have been lone-shooter driven. For this Plan, they are described together, despite their differing ideological objectives.

Historical Events

The most recognized forms of terrorism include assassination, bombings, and extortion. These acts are often identified with particular groups or organizations. The Middle East and portions of Europe, South America, and Asia have been greatly impacted for many years by acts of terrorism and sabotage. In more recent years, the United States has been a victim of acts of terrorism.

Wayne County has experienced instances of terrorism in the past several decades. In 2001, a homemade bomb left outside the St. Paschal Babylon Catholic Elementary School in Taylor, Michigan, was inadvertently carried inside, where it detonated, injuring 10 people. In July 2000, an individual pulled wiring from around 100 streetlights throughout Detroit and, in one case, attached it to a nearby fence, electrifying the area. The city was forced to cut power to more than 600 streetlights for repairs that were estimated to cost $26,000.[355]

Terrorist events may simply involve the threat of action or thwarted attempts. In 2018, a Detroit man pleaded guilty to threats made in 2016 against the police. The case was declined by the Wayne County Prosecutor for lack of evidence, but was taken up by Michigan's Attorney General.[356] Similarly, a local high school student was arraigned on two counts of terrorism and two counts of making bomb threats for writing the threats on the bathroom walls at Salem and Plymouth High Schools.[357] The threats came less than a month following the shooting at Marjorie Stoneman Douglas High School in Parkland, Florida.

In the spring of 2020, a Detroit man was charged with a false report or threat of terrorism after sending a social media message to an acquaintance threatening to kill Michigan Governor Gretchen Whitmer and Attorney General Dana Nessel.[358] In the fall of 2023, a Wayne County man was charged with False Report or Threat of Terrorism and Using a

[355] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis*, December 2001, Page 162-163.
[356] Sarah Cwiek, "Detroit Man Pleads Guilty to Terrorism Charge for Facebook Rant Against Police," *Michigan Radio*, February 7, 2018, https://www.michiganradio.org/post/detroit-man-pleads-guilty-terrorism-charge-facebook-rant-against-police.
[357] Allie Gross, "Canton Teen Charged with Terrorism After School Threat," *Detroit Free Press*, March 8, 2018, https://www.freep.com/story/news/local/michigan/wayne/2018/03/08/plymouth-canton-school-bomb-threat/406759002/.
[358] Derick Hutchinson, "Detroit man charged with threatening to kill Gov. Gretchen Whitmer, AG Dana Nessel," *Click On Detroit,* last modified May 15, 2020, https://www.clickondetroit.com/news/local/2020/05/15/detroit-man-charged-with-threatening-to-kill-gov-gretchen-whitmer-ag-dana-nessel/.

Computer to Commit a Crime after he made threats to a Trenton Public Schools student and a school using social media.[359]

On November 30, 2021, four students were killed, and seven others were injured in a mass school shooting in Oxford, MI.[360] The assailant, a 15-year-old student, pleaded guilty last year to one count of terrorism causing death, four counts of first-degree murder, and 19 other charges related to the deadly shooting.[361] In the winter of 2023, a gunman shot and killed three students and injured five others on the Michigan State University campus.[362] The gunman then killed himself.[363]

Cases such as these have occurred throughout Michigan. In 1927, a man detonated 1000 pounds of explosives underneath a local school in Bath, Michigan. The explosion killed 41 people and injured nearly 60 more, and stands as the worst school-related attack in U.S. history.[364]

In 2019, the University of Michigan campus in Ann Arbor was placed on lockdown as local, state, and federal officials searched for a possible gunman. What students suspected were gunshots, triggering the incident, were later determined to be balloons popping. Social media was an important tool in notifying the student body and the surrounding community to seek cover.

Frequency & Probability

It is challenging to determine the frequency of terrorist activity in Wayne County based on historical events, as the interpretation of trends depends on the data sources used and the time frame of comparison. James Alan Fox, a professor of criminology at Northeastern University, notes that the year 2022 had the largest number and highest fatalities of mass shootings, with an average of two mass shootings per month.[365]

Mass shootings are relatively rare. Fox found that, on average, they occur 20 to 30 times per year, with approximately one of those located at a school. He and his associate found that shootings involving students have been declining, with four times fewer students being killed as a result now than in the early 1990s.[366]

A study reported in the *Journal of Child and Family Studies* found that more people have died or been injured in mass school shootings in the United States in the past 18 years

[359] Charter County of Wayne Michigan: News & Resources, "Grosse Ile Man Charged in School Threat Case," accessed December 11, 2024, https://www.waynecounty.com/elected/prosecutor/grosse-ile-man-charged-in-school-threat-case.aspx.
[360] Aditi Sangal, "Michigan school shooter sentenced to life in prison without parole," *CNN,* last modified December 8, 2023, https://www.cnn.com/us/live-news/ethan-crumbley-sentencing-oxford-shooting-12-08-23/index.html.
[361] Ibid.
[362] Archie, Ayana, "3 students and a suspect are dead after Michigan State University shooting," *NPR,* last modified February 14, 2023, https://www.npr.org/2023/02/13/1156701701/michigan-state-shooting-updates.
[363] Ibid.
[364] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis*, December 2001, Page 166.
[365] Anya Zoledziowski, "2022 is the Deadliest Year Yet for U.S. Mass Shootings, New Data Show," *Vice News*, November 25, 2022, https://www.vice.com/en/article/2022-mass-shooting-us-record/.
[366] Antonis Katsiyannis, Denise K. Whitford, and Robin Parks Ennis**,** Historical Examination of United States Intentional Mass School Shootings in the 20th and 21st Centuries: Implications for Students, Schools, and Society**.** *Journal of Child and Family Studies*, 2018; DOI: 10.1007/s10826-018-1096-2.

than in the entire Twentieth century. Despite a lack of an established frequency for this hazard, it is likely to occur in the future.[367]

Health & Safety

Due to the nature of terrorist attacks, it is difficult to establish a death or injury rate from historical events. Not all acts of terrorism are intended to cause death or injury, nor do all of those intended for harm do so, as seen with the several homemade bombs found and safely detonated throughout Wayne County. However, all of these occurrences result in a general feeling of insecurity and fear that harms social and economic systems in the affected areas.

Area Impacted

Terrorism can take many forms, and the aim of terrorist attacks can vary from the destruction of property to harming people to disrupting the quality of life. Depending on the type of terrorist attack, property damage can be extensive.

Further information on this matter is sensitive to law enforcement and homeland security, and therefore is not available to the general public.

Economic Impact

It is difficult to determine the economic impact of terrorist acts. Given that terrorism can take many forms and have widely different consequences, there is the potential for terrorist acts to cause great economic damage.

Critical Facilities/Services

Terrorist acts carried out on public infrastructure can directly impact the County's ability to operate essential facilities and provide services. Significant terrorist acts would require a large-scale response from all levels of government.

Special Consideration

Homeland security is addressed under the County-wide threats and needs assessment. Terrorist acts, outside of active assailant events, are not considered in this Plan.

4.20 Weapons of Mass Destruction

Weapons intended to cause widespread damage and a high number of casualties. Weapons of mass destruction typically fall into four categories: 1) missiles, 2) biological weapons, 3) nuclear weapons, or 4) chemical weapons. Currently, there are 29 states known to have one or more types of weapons of mass destruction, including the U.S. A

[367] Ibid.

number of nations and organizations may also be capable of obtaining weapons of mass destruction. [368]

Frequency & Probability

Weapons of mass destruction have never been used to carry out an attack in Wayne County. Although Wayne County does not have a history of attacks using weapons of mass destruction, the possibility of such an event does exist.

Health & Safety

Given the nature of weapons of mass destruction, the successful use of these weapons would cause great loss of life and injury. Death and injury rates are highly variable with each attack and the form of weapon used. The atomic bombs dropped on Hiroshima and Nagasaki during World War II killed an estimated 193,000 people initially.[369]. As a reference, these bombs each carried 15 kiloton yields, while a 50 megaton yield weapon was developed by 1961.[370] Chemical and biological weapons are often feared as they are easier to produce and are lethal in smaller amounts.[371] These weapons, while they have historically killed fewer people and are harder to deliver successfully, can result in the death of thousands as well as the disruption of agriculture and water infrastructures.[372]

Depending on the type of weapon used, the effects on human health can linger for years, continuing to present a hazard.

Area Impacted

Further information on this matter is sensitive to law enforcement and homeland security and, therefore, is not available to the general public.

Economic Impact

It is difficult to estimate the economic impact of a successful attack using weapons of mass destruction. It is anticipated that such an event would be incredibly damaging to life, property, and infrastructure, as well as the local, state, and possibly federal economy.

Critical Facilities/Services

An attack using weapons of mass destruction against public infrastructure can directly impact the County's ability to operate essential facilities and provide services. Successful attacks would require a large-scale response from all levels of government. As stated

[368] Federation of American Scientists, "States Possessing, Pursing, or Capable of Acquiring Weapons of Mass Destruction," last modified July 29, 2000, https://irp.fas.org/threat/wmd_state.htm.
[369] Imperial War Museums, "Atomic Bombs that Ended the Second World War," accessed December 18, 2024, https://www.iwm.org.uk/history/the-atomic-bombs-that-ended-the-second-world-war.
[370] Owen Jarus, "The 9 Most Powerful Nuclear Weapon Explosions," *Live Science*, March 11, 2022, https://www.livescience.com/most-powerful-nuclear-explosions.
[371] Gert G. Harigel, "Chemical and Biological Weapons: Use in Warfare, Impact on Society and Environment," Carnegie Endowment for International Peace, January 18, 2021, https://carnegieendowment.org/research/2001/01/introduction-to-chemical-and-biological-weapons?lang=en.
[372] Ibid.

above, the County has identified and evaluated locations within the County that are potential targets for weapons of mass destruction.

Special Consideration

Homeland security is addressed under a separate Threat and Needs Assessment. Therefore, weapons of mass destruction are not considered in this Plan.

5. Hazard Assessment

5.1 Hazard Assessment

Hazards (Table 4) were ranked according to historical risk (frequency and impact), according to committee and community survey responses, and by comments on open-ended questions in the survey. These rankings formed the basis for individual evaluations and group discussions during committee meetings that resulted in a final list of hazards of particular significance to the County. The final selection of the top hazards was based on a combination of risk and impact rankings, as described below.

5.1.1 Survey

The first survey received 38 responses from the Advisory Committee in electronic form, which included 40 hazards categorized as both technological and human hazards. A total of 36 participants participated in the survey, which was presented to the Advisory Committee for review and evaluation at the first workshop.

The first survey asked respondents to rank the importance of 37 hazards on a scale of 1 (most significant) to 5 (least significant). Significance was defined as an evaluation of the negative consequences of the hazard on the population, economy, and environment of the County. Additionally, the survey included open-ended questions asking respondents to list the most significant hazards. Respondents were asked to determine significance based on the severity of the impact, probability of occurrence, and preparedness of the County to respond. These comparisons and responses were used to initially rank the relative significance of each hazard, considering frequency and consequence during the first workshop. Hazard rankings in the top five are highlighted in Table 4.

5.1.2 Risk Analysis Workshop

Survey results noting highly ranked hazards were then used during the Advisory Committee workshop to identify the top hazards for further evaluation. Although the top five hazards, in various rankings, are highlighted in Table 4 below, this list was not intended to be a final ranking. Still, it was used to start a discussion on the selection of hazards significant to the County. Of particular importance were those hazards ranked highly across more than one column.

The committee discussed and removed hazards that were historically significant due to their high frequency but were not of concern for future mitigation programs, specifically, most criminal acts, structural fires, and transportation accidents. Secondly, hazards that were beyond the scope of this program were removed, specifically nuclear power plant accidents.

Table 4. 2025 Survey Hazard Ranking Results, with 2020 and 2013 Workshop Rating:

		2024 First Survey Results				
	Hazard	Open Ended Question Rank	No. Times Listed	Overall Ranking Average Score	Hazard History Rank 2020	2019 Survey Rank
Natural Hazards	Celestial Impact - Meteorites and Space Debris		0	29		
	Drought		2	18		
	Earthquake		5	12		
	Extreme Temperatures - Extreme Hot or Cold		10	6		5
	Fire - Wildfires		1	24	4	
	Flooding - Riverine or Shoreline		15	2		3
	Fog			29		
	Great Lakes Shoreline Hazards			29		
	Invasive Species		5	12		
	Solar Flares			29		
	Subsidence - Natural		1	24		
	Thunderstorms - Hail, Lightning, Severe Wind		25	1		1
	Tornadoes		15	2		4
	Winter Hazards - Snow, Ice & Sleet		15	2		2
Technological Hazards	Energy Failures and Shortages			29		
	Fire - Scrap Tire			29		
	Fire - Structural		2	18	3	
	Flooding - Dam and Levee Failure			29		4
	Flooding - Urban		3	17		
	Hazmat Incidents - Fixed Site		2	18		2
	Hazmat Incidents - Transportation		5	12		1
	Infrastructure Failure - Bridges, Roads		6	8		5
	Infrastructure Failure - Communications		2	18		3
	Infrastructure Failure - Electrical Systems		8	7		
	Infrastructure Failure - Sanitary/Storm Sewers		5	12		
	Infrastructure Failure - Water System		4	16		
	Nuclear Power Plant Accidents			29		
	Oil and Gas Well or Pipeline Accidents			29		
	Subsidence - Mining or Infrastructure			29		
Human Related Hazards	Civil Disturbance			29		5
	Criminal Acts - Mass Shootings/Active Assailant(s)		6	8		4
	Criminal Acts - Vandalism and Arson			29	.2/5	5
	Criminal Acts - Homicide/Robbery/Carjacking			29		
	Cyber Attacks - Network Disruptions		13	5		
	Gas/Oil Shortages or Supply Disruptions			29		
	Public Health Emergencies - Pandemics, Epidemics, Food/Water		6	8		1
	Terrorism/Sabotage		2	18		
	Transportation Accidents - Air		1	24		
	Transportation Accidents - Marine			29		
	Transportation Accidents - Rail			29		
	Transportation Accidents - Surface Roads/Highways		6	8		
	Water Supply Failure		2	18		
	Weapons of Mass Destruction			29		
Additional Hazards To Consider	Opioid Crisis			29		
	Basement Flooding		1	24		
	Lead in the Water		1	24		
				29		
				29		
				29		
				29		
	-			29		
	-			29		
				29		
				29		
				29		
				29		

	Historic Frequency Ranking	Survey Open Ended	Survey Prompted Rank	Weighted Rank (1 high, 5 low)	2013 Plan Workshop Rank
Natural Hazards					
Celestial Impact	43		38	39	
Drought	40		27	30	
Earthquake	35		37	37	
Extreme Temperatures - Extreme Hot or Cold	21, 20	5	7	9	1, 5
Fire - Wildfires	4		36	36	
Flooding - Riverine or Shoreline	13	3	21	6	
Fog	13		33	31	
Invasive Species	30		34	34	
Subsidence - Natural	28		39	32	
Thunderstorms - Hail, Lightning, Severe Wind	10, 23, 7	1	1	3	
Tornadoes	23	4	6	7	
Winter Hazards - Snow, Ice & Sleet	10, 15	2	2	12	
Technological Hazards					
Fire - Scrap Tire	42		35	35	
Fire - Structural	3		23	20	
Flooding - Dam Failure	15	9	28	33	
Flooding - Urban	13	4	12	16	6
Hazmat Incidents - Fixed Site	22		18	11	3
Hazmat Incidents - Transportation	28	2	9	15	
Infrastructure Failure - Bridges, Roads, Overpasses	23	1	3	8	
Infrastructure Failure - Communications	23	5	15	5	4
Infrastructure Failure - Electrical Systems	15	3	8	1	4
Infrastructure Failure - Sanitary/Storm Sewers	41, 23	6	13	2	
Infrastructure Failure - Water System	8		11	13	4
Nuclear Power Plant Accidents	43	7	14	21	
Oil and Gas Well or Pipeline Accidents	37, 10	8	25	14	
Subsidence - Mining or Infrastructure	28		29	38	
Human Hazards					
Catastrophic Events/National Emergencies	40	3	16	24	
Civil Disturbance	15	5	19	22	
Criminal Acts - Mass Shootings/Active Assailant(s)	30	4	5	19	
Criminal Acts - Vandalism and Arson	5, 2	5	20	27	
Criminal Acts - Homicide/Robbery/Carjacking	—				
Gas/Oil Shortages or Supply Disruptions	34	7	30	18	
Information Technology Intrusion	—	6	17	29	
Public Health Emergencies - Pandemics, Epidemics,Food/Water	32	1	4	23	2
Terrorism/Sabotage	35		26	17	
Transportation Accidents - Air	15	7	22	10	
Transportation Accidents - Marine	6		32	28	
Transportation Accidents - Rail	9	7	31	26	
Transportation Accidents - Surface Roads/Highways	1	2	10	4	
Weapons of Mass Destruction	43		24	25	

The Advisory Committee reviewed the hazard ranking in the 2020 Plan and the results of the first survey. Workshop participants discussed both the frequency and impacts of various hazards in four categories: Duration of impact on the Population and economy, safety, Welfare, and Loss of Life; loss of Property; and Infrastructure Failure or Damage. The Committee also discussed the importance of each hazard and its impacts on the population, environment, and economy within each of the 11 asset classes present in the County, including residential areas, business districts, industrial sites, and others.

Following the discussion, the following 14 hazards were initially selected for further review and analysis:

- Thunderstorms – including Hail, Lightning, and Severe winds
- Tornadoes
- Winter Hazards – including Snow, Ice, and Sleet
- Flooding – all types
- Cyber Attacks – Network Disruptions

- Transportation Accidents – Rail
- Criminal Acts – Mass Shootings/Active Assailant(s)
- EV Battery Fires
- Transportation Accidents – Highway
- Acts of Terrorism
- Hazmat Incidents
- Lead in Water – Service Piping
- Infrastructure Failure causing Flooding
- Bridge Closures

Further discussion noted that electrical and communication systems failures were often related to the underlying weather event/hazard, and that the historical frequency of bridge failure was somewhat low. As a result, the list of 14 hazards was reduced to 10 deemed significant for the County and selected for further analysis. The top hazards selected by the Advisory Committee were:

- Thunderstorms – including Hail, Lightning, and Severe Wind
- Flooding – all types
- Tornadoes
- Criminal Acts – Mass Shootings and Active Assailants
- Cyber Attacks
- Transportation Accidents – Rail
- Infrastructure Failure Causing Flooding
- Winter Hazards – including Snow, Ice, and Sleet
- Acts of Terrorism
- Hazmat Incidents – including Stored Energy Systems

This selection was intended to focus discussion and evaluation and was not intended to eliminate any hazard from consideration. The committee was then asked to select and weight criteria for individually evaluating the top hazards. Using a paired comparison methodology, workshop participants identified the most important criteria for evaluating hazards and assigned weights to each criterion. Participants were asked to brainstorm (individually and then in small groups) to create a list of criteria specifically applicable to Wayne County. A total of seven criteria were originally identified. The selected four most important criteria and their relative weights during the ranking process are provided below.

- Duration of Impact (Economic and Population (weighted 7)
- Public Health Safety and Welfare and Loss of Life (weighted 14)
- Loss of Property (weighted 7.1)
- Infrastructure Failure or Damage (weighted 7.9)

Ranking Criteria For Hazards - Goal Setting

2024 Plan Update Meeting Results (Average Value)

Summary	Duration of Impact (Economic and Population)	Public Health Safety and Welfare and Loss of Life	Loss of Property	Infrastructure Failure or Damage	Sum
Duration of Impact (Economic and Population)		1.7	2.6	2.6	7.0
Public Health Safety and Welfare and Loss of Life	4.3		5.0	4.7	14.0
Loss of Property	3.4	1.0		2.7	7.1
Infrastructure Failure or Damage	3.4	1.3	3.3		7.9

With respect to the criterion, the
5 = much greater
4 = greater than
3 = the same as
2 = lower than
1 = much lower

The group then evaluated the impact of each hazard on each of the four criteria, using this information to rank each hazard according to its impact and risk.

The final hazard rank from the workshop and risk rank for each hazard were then factored together to identify the most critical hazards for the County. The committee identified the most critical hazards as public health emergencies, active assailant incidents, and failures in water and sewer system infrastructure.

Hazard and Risk Assessment as Ranked by Advisory Committee:

		2024 Workshop Results		
	Hazard Event	**Workshop Rank**	**Hazard Risk Rank**	**Action Plan Needed**
1	Thunderstorms - Hail, Lightning, Severe Wind	9	4	2
2	Flooding - (All Types)	3	6	3
3	Tornadoes	6	3	2
4	Criminal Acts - Mass Shootings/Active Assailant(s)	8	5	2
5	Cyber Attacks - Network Disruptions	7	7	4
6	Transportation Accidents - Rail	3	10	3
7	Infrastructure Failure Causing Flooding	1	9	3
8	Winter Hazards - Snow, Ice & Sleet	10	8	4
9	Acts of Terrorism	2	1	1
10	Hazmat Incidents (Including Stored Energy Systems)	3	2	1

The need for a county-wide action plan to address each of the most significant hazards was evaluated based on a table that compared the workshop rank (in columns) to the hazard risk rank (in rows), as shown here.

Action Plan Assessment		
	Rank	
Risk	1-5	6-10
1-5	1	2
6-10	3	4

The first workshop prioritized and evaluated the top 10 hazards described above, as well as 11 critical assets. The assets considered include the following (in order of critical ranking):

- Residential Areas.
- Hospitals/Response Facilities
- Utility Facilities
- Roads, Railroads, and Bridges

- Industrial Sites
- Open Space
- Central Business District
- Sports/Entertainment Arenas
- Public Facilities
- Schools, Churches
- Commercial Sites

Individual assets were evaluated to determine their vulnerability to each hazard. The effect of a hazard on each asset, and for each of the three criteria, was evaluated in an interactive process. This was used to rank the most critical assets. The most important hazards identified in the first part of the workshop were then evaluated for the likelihood of impacting a specific asset and the consequence of such an impact on that asset.

The risk to each asset was then ranked, and the criticality of the asset and asset risk rank were then factored together to identify the most vulnerable assets in the County. As indicated below, assets with a criticality and risk rank in the top half were considered most vulnerable (as indicated by an assessment ranking of 1). The committee considered the most vulnerable assets to be:

- Hospitals/Response Facilities
- Utility Facilities
- Schools/Churches

Vulnerability Assessment of Critical Assets as Ranked by Advisory Committee:

Critical Asset	Criticality Rank	Asset Risk Rank	Vulnerability
Commercial Sites	10	6	4
Hospitals/Response Facilities	4	1	1
Industrial Sites	9	4	2
Open Space	11	11	4
Public Facilities	7	3	2
Residential Areas	1	8	3
Roads, Railroads, Bridges	2	7	3
Utility Facilities	2	2	1
Schools, Churches	5	5	1
Sports/Entertainment Arenas	8	10	4
Central Business Dist.	5	9	3

The Vulnerability Assessment was based on this table, which compares the criticality rank (in columns) to asset risk rank (in rows):

Vulnerability Assessment		
	Criticality	
Risk	1-5	6-11
1-5	1	2
6-11	3	4

5.2 Local Municipality Input

The overall goals of a community with respect to hazard mitigation are to protect the local population from natural, technological, and human health hazards that may occur and to reduce the potential impact of these disasters on vulnerable areas or populations within the community. Representatives from each community in Wayne County were contacted

to identify hazards of particular concern to that community and specific hazard vulnerabilities within the community. Representatives of the 42 Wayne County communities discussed in this Plan were asked to review their section(s) of the 2025 HMP and revise their hazard priorities and mitigation strategies as appropriate. If comments were not received from individual communities through the survey instruments used or during one of the workshops, they were reached out to during the draft review process. The following sections summarize the contents of each community response regarding potential hazards and the critical assets that could be affected. Descriptions of the communities' land use and population are taken from Southeast Michigan Council of Governments (SEMCOG) community profiles. Descriptions of each community's policies and programs are taken from a review of their Codes of Ordinances, Zoning Ordinances, etc.

5.2.1 City of Allen Park

The City of Allen Park is primarily a residential community of approximately 27,600 people, a slight decrease based on the Census Bureau's Population Estimates Program. The City is largely built out, with only 6% of its land area remaining vacant, 3.6% dedicated to recreation and open space, and no land area designated for agricultural use. The City's largest land uses are single-family residential and transportation, communication, and utility (TCU) at 34.6% and 34.2%, respectively. The City is located in the frequently flooding Ecorse Creek Watershed, and 55% of the community is categorized as impervious surface.

Allen Park is actively involved in updating its Master Plan, therefore presenting an opportunity to integrate hazard mitigation concepts. As part of this update, the City is also considering future developments, particularly in areas such as the Ecorse Road and Allen Road corridors.

Hazard Priorities

During and after heavy thunderstorms, increased stormwater in the north branch of Ecorse Creek has caused significant flooding in the City of Allen Park. In particular, the area bordered by M-39, I-94, and Outer Drive is the most vulnerable. This area has a history of sewer failures resulting in basement flooding. City representatives have also expressed concern about the potential health risks to residents resulting from sewers backing up into their homes.

Tornadoes were also mentioned as a significant risk to the city's population. Of greatest concern was the impact on residents of the senior citizen communities located within Allen Park.

I-94 and M-39 are heavily traveled routes located in Allen Park. Both highways have a history of numerous vehicular accidents. There is a particular risk associated with the large volume of trucks carrying hazardous materials through the community.

Of additional concern is the potential for a hazardous material accident at one of the city's industrial complexes. Also mentioned were the risks of a high-pressure gas main rupture and an incident involving trains that transport hazardous materials through the community.

Existing Authorities, Policies, & Programs and Ability to Expand These

Allen Park participates in the National Flood Insurance Program and amended their Code of Ordinances in 2012 to adopt the FEMA Firm Maps and administer Appendix G of the Michigan Construction Code to minimize losses due to flood conditions in specific flood hazard areas. Allen Park is a member of the Alliance for Downstream Watersheds and works in partnership with other communities to manage stormwater under a Phase II Municipal Separate Stormwater System (MS4) permit. In addition to including tools to regulate floodplain development, their Code of Ordinances includes protections to reduce the potential for structural fires and regulate hazardous waste. Areas for possible improvement could include regulatory mechanisms to mitigate the impact of existing impervious surfaces during land redevelopment or to protect smaller remaining areas of open space, such as incentives to install green infrastructure, remove structures from the floodplain, or establish a stormwater utility.

5.2.2 City of Belleville

The City of Belleville is primarily a residential community of approximately 4,094 people, based on the SEMCOG 2019 estimate, on the shores of Belleville Lake, an impoundment on the Huron River. The City's largest land use is single-family residential at 37.1%, and 43.2% of the community is categorized as impervious surface. The City's population appears to be aging, with 2000-2018 growth in most age categories over 55 and losses in age groups younger than 55; the City is projected to lose population between now and 2045.

Belleville is focusing on increasing housing density within existing urban areas through the Residential Intensification Project. As of April 2024, Belleville has enacted a new zoning bylaw to streamline land use regulations.

Hazard Priorities

Tornadoes, ice storms, and thunderstorms accompanied by high winds threaten the City of Belleville and its residents. Power outages and extreme temperatures can significantly impact the population, particularly the elderly. The citizens considered most at risk for weather-related emergencies are the residents of the city's two senior citizen facilities and those living in mobile home communities located in the northeast and southeast areas of Belleville.

According to city officials, trains and trucks transporting hazardous materials, industrial facilities, and a natural gas pipeline that traverses the city create the potential for a hazmat emergency. To better respond to these and all potential emergencies in Belleville, officials have suggested that more reliable communication equipment is needed for the police and fire departments. City officials also identified a need for a program to respond to active shooters, particularly in schools.

Existing Authorities, Policies, & Programs and Ability to Expand These

Belleville does not participate in the national flood insurance program as of April 30, 2025. It is a member of the Huron River Watershed Council and the Alliance of Downriver Watersheds. The City lies within the Ann Arbor Urbanized Area and, as such, falls under the Phase II municipal (MS4) stormwater permit program and works in partnership with

other communities to manage stormwater under a Phase II Municipal Separate Stormwater System (MS4) permit. In addition to including tools to regulate floodplain development, their Code of Ordinances includes protections to reduce the potential for structural damage or wildfires and regulate hazardous waste. Possible areas for improving regulatory mechanisms to reduce the impact of existing impervious surfaces and protect the city's remaining open lands could include incentives to install green infrastructure or regulations to protect natural features.

5.2.3 Brownstown Township

Brownstown Township is primarily a residential community, with an estimated population of approximately 32,611, a slight increase based on the Census Bureau's Population Estimates Program. Single-family residential and vacant land are comparably the largest land use/cover classifications in the Township at 29.5% and 24.4%, respectively. Unlike the two communities described previously, Brownstown Township retains a significant area of open space, comprising 41% of the land, with 31% of the area covered by trees. The Township is at the downstream end of the Huron River Watershed, and portions of the Township abut Lake Erie.

Brownstown Township is actively updating its Master Plan to guide future land use and development, therefore presenting an opportunity to integrate hazard mitigation concepts. The township is seeking community input through public open houses to inform the direction of the Plan.

Hazard Priorities

Tornadoes, thunderstorms, and severe winter weather are considered significant threats to the residents of Brownstown Township. At greatest tornado and high-wind risk are the residents of mobile home communities and senior citizen facilities located within the township. Representatives of the township have identified a need for early warning sirens that would alert all citizens to the likelihood of an approaching tornado.

Telegraph Road and I-75 experience heavy vehicular traffic traveling through Brownstown Township. Many of these vehicles transport hazardous materials through the community. In addition, natural gas pipelines, trains carrying hazardous materials, and the potential for structural fires or accidents at the Wayne County Waste Treatment Facility all present a hazmat risk to the community's residents. The presence of a nuclear power plant in the vicinity was also noted as a potential source of risk. Representatives of the community also mentioned concerns about the potential for civil disturbance, health emergencies, and criminal acts.

Existing Authorities, Policies, & Programs and Ability to Expand These

Brownstown Township participates in the National Flood Insurance Program and regulates fill within the floodplain and resulting flood hazard under Part 228 of its Code of Ordinances. Brownstown is a member of the Alliance of Downriver Watersheds and works in partnership with other communities to manage stormwater under a Phase II Municipal Separate Stormwater Sewer System (MS4) permit. Recognizing that the Township includes unique wetlands and wildlife due to its proximity to Lake Erie and the Huron River, while also wishing to protect private land rights, the Township eschews a variety

of environmental regulations. Still, it has created an Environmental Commission to review development proposals.

Possible areas for improvement could include a commitment to the recommended actions outlined in the Lower Huron Watershed Management Plan. Although many of the projects described therein aim to improve water quality, they do so by reducing stormwater runoff and in-stream erosion. It's recommended that the Township also continue to work with the US Army Corps of Engineers to control Lake Erie shoreline flooding and erosion.

5.2.4 Canton Township,

Canton Township is a residential community of approximately 98,232 people, based on the SEMCOG 2019 estimate, which has experienced exponential growth since the 1950s and 1960s. Its largest land uses are single-family residential and TCU, at 33.7% and 16.1%, respectively. Additionally, 31% of the Township is comprised of impervious surfaces, but it retains significant areas of open space, accounting for 43%.

The township is in the process of updating the new Master Plan, therefore presenting an opportunity to integrate hazard mitigation concepts. Additionally, the Plan will implement strategies for environmental sustainability and conservation.

Hazard Priorities

Community representatives from Canton Charter Township identified convective weather, including tornadoes, severe winds, and lightning, as the hazards of greatest concern. Examples of flooding damage to roads, businesses, residences, and public and private open spaces include areas along Ford Road from Canton Center to Sheldon, in Cherry Hill Village, and areas adjacent to retention ponds. High winds have damaged areas near Sheldon and Lilley Roads between Palmer and Michigan Avenue. Concerns related to severe weather include the potential loss of power, the lack of overnight warming and cooling centers for residents, and the adequacy of evacuation and response capacity for planned sporting events, including an annual soccer tournament which draws 40-45,000 people for the entire weekend. Power loss was noted to have a negative impact on traffic circulation, communication, and business revenue.

The highest-priority technological hazards in Canton Township primarily relate to infrastructure failure, including electrical systems, roads, and water systems. In the 2013 HMP, Canton officials expressed concern about structural fires, particularly those that could impact one of the senior assisted living facilities. Residential areas that do not have hydrants require additional assistance in the event of fire. In 2025, Canton Township officials noted that high-rise fires are no longer a significant concern since most high-rise buildings have emergency sprinkler systems. For the 2025 HMP update, Canton Township officials have noted that the highest technological hazard is the electric grid's ability to sustain and support an increase in electric vehicles (EVs) within the township. Due to the increasing number of electric vehicles, the township will need to prepare for a rise in electric vehicle fires, which require extensive measures to extinguish. Battery fires, especially lithium-ion types in EVs, present unique challenges — once thermal runaway begins, the battery can re-ignite even after extinguishment, release toxic gases, and

require large volumes of suppression (often over hours).[373] These risks are similarly relevant to manufacturing plants, battery storage facilities, recycling/landfill sites, and cargo transport. In those settings, a battery fire can trigger cascading failures, thermal propagation, or secondary explosions.[374] As EV adoption grows and battery capacities increase, the probability of such incidents is expected to rise in the next decade.[375]

Canton officials also identified concerns regarding active shooter(s)/active assailant(s) as a key concern for the 2020 and 2025 HMP update. Although active assailants have a low occurrence probability, they have the potential to be a high-consequence event. Previously, hazards relating to health emergencies, civil disturbance, criminal acts, and traffic accidents were listed as a source of concern in the Township. In 2020, the entire region experienced closures due to COVID-19, and a similar event remains a concern for Canton Township. Another concern related to public health emergencies is the possibility that long-term care (LTC) facilities may lack planning for self-sustaining responses during a public health crisis, which could place a greater demand on emergency health services. The LTC facilities' concern stems from the potential for increased demand on ambulances to transport LTC patients to other facilities during a public health crisis. Public conflicts relating to cultural and religious diversity were also reported.

In the 2025 HMP update, Canton Township officials have concerns regarding drones/unmanned aerial systems, which pose a threat to aviation, security, and general public privacy rights. Roadways throughout the Township have high posted speeds, and accidents on roads with posted speeds of 45 mph are usually very serious and sometimes fatal, as noted previously. However, traffic congestion has become a greater concern than speed, since congestion adversely impacts emergency response timing. Ford Road and Michigan Avenue are the roadways with the highest number of traffic accidents in the township. A bike trail through the Township has experienced at least one car-related fatality. The main concern for pedestrian accidents is along the main thoroughfares in the township.

Canton Township has experienced several flooding events. Flooding remains a persistent concern throughout the township.

Existing Authorities, Policies, & Programs and Ability to Expand These

Canton Township participates in the National Flood Insurance Program and conducted an extensive analysis to determine the number of parcels within flood hazard areas in past HMP development. Chapter 8 of their Code of Ordinances regulates construction activities in flood-prone areas. Canton Township's Code also includes its stormwater ordinance, which in turn has protections for wetlands and steep slopes; it even has an ordinance regulating logging and logging road construction.

[373] M. Held, et al., "Thermal runaway and fire of electric vehicle lithium-ion batteries," *Applied Energy* (2022) — discusses mechanisms of thermal runaway, re-ignition behavior, toxic gas release, and challenges in suppression.
[374] J. A. Jeevarajan et al., "Battery Hazards for Large Energy Storage Systems," *ACS Energy Letters* (2022) — experimental study on combustion behavior of lithium iron phosphate batteries, fire propagation, implications for large installations.
[375] Z. Jia et al., "Advances and perspectives in fire safety of lithium-ion batteries," review article (2025) — outlines trends, fire dynamics, safety strategies, and expected growth in battery fire concerns with scaling.

Canton Township, like many Wayne County communities, still exhibits lower-than-ideal tree canopy and higher imperviousness than recommended. Increased tree canopy coverage has benefits for both reducing stormwater runoff and reducing extreme temperatures. Increasing tree cover has the potential to exacerbate electrical infrastructure failure in storms if lines are above ground and trees aren't trimmed. Additional authorities, programs, or policies could be developed to plant trees, install green infrastructure, reduce the potential for structural damage or wildfire, and regulate hazardous waste. Implementing recommendations from Wayne County Public Health from their analysis of COVID-19 preparedness is also recommended, especially in light of the Township's aging population.

5.2.5 City of Dearborn

The City of Dearborn is primarily a residential community, with approximately 101,636 people, based on SEMCOG's 2019 estimate. However, it also contains significant acreage used for industry. The City's largest land uses are TCU, single-family residential, and industrial at 24.8%, 24.7%, and 14.1%, respectively. The City is both within the Rouge River Basin and the frequently-flooded Ecorse Creek Watershed. Fifty-seven percent of the community consists of impervious surfaces, while less than half of that (25%) remains in open space.

Dearborn is implementing climate action strategies funded by the Inflation Reduction Act and the Bipartisan Infrastructure Law. These strategies include infrastructure investments and changes to municipal ordinances, zoning, and permitting to promote environmental justice and climate resilience. The city's approach integrates health and environmental considerations into all public policy decisions to protect residents from climate change impacts.

<u>Hazard Priorities</u>

The most significant natural hazards for the City of Dearborn include flooding and severe weather, which can be accompanied by power outages in both summer and winter. Dearborn City buildings have been designated as cooling shelters during business hours in the event of extreme summer heat, and the City has supplied dry ice to residents during power outages longer than 24 hours.

The City of Dearborn has the potential for a hazardous materials (HazMat) emergency. According to City representatives, there are locations within the city where hazardous chemicals are either stored or used in production. M-39 and I-94 are major highways that serve as routes for trucks, many of which carry hazardous materials through the City. Trains carrying hazardous materials, especially in the eastern portion of the City, are also a concern.

On February 1, 1999, in Dearborn, an explosion in one of several large boilers at the Ford Motor Company Rouge Power Plant killed six workers, critically injured another 14, and caused extensive structural damage. State officials who investigated the accident concluded that human error played a major part in th explosion, when a work crew failed to shut off one of two gas mains leading to the boiler's furnace. That error caused a buildup of natural gas in the boiler that was somehow ignited and caused the explosion. The force of the explosion split open the 60-foot-high furnace, blew off the roof of the power plant, ignited fires on five floors, and sprayed surrounding workers with super-heated wated that

caused severe burns. The blast, which forced the shutdown of the Rouge Complex and other Ford plants for several days, was the second worst industrial accident in Michigan in 20 years and the deadliest at an automobile plant in over 50 years. It also turned out to be the most expensive workplace disaster in American history, with the final costs of at least $1 billion. The seven-month probe by state officials was the largest and most complex in the history of state workplace safety investigations.

City officials identified high-rise buildings, including offices, apartments, senior citizen facilities, and a hospital, as a source of concern for structural fires, particularly in cases that may require the evacuation of the elderly. Dearborn has many older factories, particularly in the eastern section of the City, and at least one instance of a factory explosion. One such instance being that of the Ford-Rouge explosion of 1999, previously discussed in section 4.12 of this HMP. There has also been concern about the potential for arson fires in these areas. Because a fire in some of these locations could present particular challenges to firefighters, Dearborn officials believe that there is a need for additional personnel, as well as enhanced fire department and EMS training. Buildings of concern for structural fires identified by individual communities are presented in Figure 11, showing a relatively higher concentration of vulnerable structures in and around Dearborn.

Approximately 35% of Dearborn's population is of Middle Eastern descent. City officials are concerned about the threat of hostilities directed against this segment of the population. An annual event that has attracted out-of-state instigators of civil unrest was provided as an example. City officials believe that there is a need to better educate the public about issues related to ethnic diversity within the community.

Existing Authorities, Policies, & Programs and Ability to Expand These

Dearborn participates in the National Flood Insurance Program, and their website contains extensive information regarding new floodplain maps and flood insurance requirements for residents of the Ecorse Creek Watershed. Their Code of Ordinances regulates construction in floodplains, solid waste, and storm and sanitary sewer systems. The City of Dearborn does not appear to be a member of the Alliance for Downstream Watersheds or the Alliance of Rouge Communities. Participation with these groups may offer resources shared among the participants that could assist the City in further reducing flooding. Again, mechanisms to reduce the impact of existing impervious surfaces as land is redeveloped or to protect remaining areas of open space may be possible ways to expand existing authorities, programs, and policies.

5.2.6 City of Dearborn Heights

Nearly half of the City of Dearborn Heights is dedicated to single-family residential land use at 46.5%, with an estimated population of approximately 60,872, a slight increase based on the Census Bureau's Population Estimates Program. Another 24.2% of the City is dedicated to TCU. Like neighboring Dearborn, the City is both within the Rouge River and Ecorse Creek Watersheds.

Dearborn Heights has recently implemented several land use changes aimed at enhancing community safety, preserving neighborhood character, and promoting sustainable development.

Hazard Priorities

Thunderstorms, high winds, associated power outages, and flooding, particularly along Ecorse Creek, have impacted the City of Dearborn Heights. When they occur, the outages are typically widespread and of varying size and duration. Public officials noted the need for a more comprehensive public warning and information distribution system.

Human hazards in the community relate primarily to criminal acts that result in personal injury and property loss.

Existing Authorities, Policies, & Programs and Ability to Expand These

Dearborn Heights participates in the National Flood Insurance Program and administers Chapter 15 of its Code of Ordinances to minimize losses due to flood conditions in flood hazard areas. Chapter 11 of their Code establishes the role and powers of the City Emergency Management Coordinator. Dearborn Heights is a member of the Alliance for Downstream Watersheds and the Alliance of Rouge Communities, working in partnership with other communities to manage stormwater under a Phase II Municipal Separate Stormwater System (MS4) permit. In addition to including tools to regulate floodplain development and emergency management, their Code of Ordinances includes protections to reduce the potential for structural fires, regulate food waste, manage stormwater, and ensure the integrity of water, sewer, electrical, and gas infrastructure.

Although the City has a number of hazard mitigation-related policies already adopted and participates with regional partners to address water quality and quantity concerns, 52% of the community is covered by impervious surfaces at the same time that they struggle with flooding and work with area partners to remove existing structures from the floodplain of the North Branch of Ecorse Creek. As elsewhere, areas for possible improvement could include regulatory mechanisms to reduce the impact of existing impervious surfaces or to protect remaining areas of open space, such as incentives to install green infrastructure, remove structures from the floodplain, or create a stormwater utility.

5.2.7 City of Ecorse

Approximately 8,941 people live in the City of Ecorse. Industry and transportation (TCU) dominate the City's land use types, 26% and 25.2%, respectively, followed by single-family residential at 21.7%. The City is located within the Ecorse Creek Watershed, and 51% of the community is categorized as impervious surface, with 25% designated as open space.

The city is focusing on environmental sustainability and recreational improvements. Initiatives include the Ecorse Creek Vision Plan, which aims to enhance the creek's ecological health and recreational opportunities. Additionally, the 2023–2027 Parks and Recreation Plan outlines strategies for expanding and improving public parks and green spaces.

In response to changing housing needs, Ecorse has updated its zoning ordinances to accommodate a broader range of housing options. The 2020 zoning update includes provisions for mixed-use developments and higher-density residential areas, aligning with the goals of the 2023 Master Plan to accommodate a growing and diverse population.

Hazard Priorities

The representatives of the City of Ecorse are concerned about thunderstorms, winter hazards, tornadoes, and associated flooding and widespread power outages. The lack of tornado sirens in this community increases their concern. Although the entire population could be affected by a tornado, residents at the two mobile home communities located in the city are at the greatest risk.

Due to the large number of industries in Ecorse, city representatives expressed concern about the potential for hazmat emergencies within the community. Accidents on streets, at train tracks and rail yards, at manufacturing sites and other businesses, or involving gas pipelines were included as vulnerable locations for these potential emergencies. The community is also within the zone that could potentially be affected by a nuclear power plant incident.

Existing Authorities, Policies, & Programs and Ability to Expand These

Ecorse participates in the National Flood Insurance Program and administers Chapter 11 of its Code of Ordinances to minimize losses due to flood conditions in flood hazard areas. Ecorse is a member of the Alliance for Downstream Watersheds and works in partnership with other communities to manage stormwater under a Phase II Municipal Separate Stormwater System (MS4) permit. In addition to including tools to regulate floodplain development, their Code of Ordinances includes protections to reduce the potential for structural damage or wildfires, regulates food service and waste disposal, and ensures infrastructure maintenance.

Areas for possible improvement could include regulatory mechanisms to reduce the impact of existing impervious surfaces or to protect remaining areas of open space, such as incentives to install green infrastructure, remove structures from the floodplain, or establish a stormwater utility.

5.2.8 City of Flat Rock

The estimated population of Flat Rock was 10,289, reflecting a 2.4% decrease from the 2020 Census count of 10,541. Approximately half of the City's area is either vacant land, 23.9%, or single-family residential housing, 28.1%. Open space in the City makes up 41%, with 24.3% tree canopy cover. The City is on the banks of the Huron River and the impoundment behind the Flat Rock Dam. Thirty-one percent of the community is categorized as an impervious surface.

The Huron-Clinton Metroparks, in collaboration with the City of Flat Rock and other partners, is conducting a feasibility study to explore the future of the Huron and Flat Rock Dams. The goal is to determine the best course of action to enhance the ecological health of the Huron River and improve recreational opportunities for the community.

Hazard Priorities

I-75 and Telegraph Road are two heavily traveled roads where numerous vehicular accidents occur. Of particular concern to the community are accidents involving vehicles carrying hazardous materials. The rupture of a gas pipeline, a hazmat emergency at one of the community's manufacturing facilities, or the derailment of a railcar carrying hazardous materials were all mentioned as potential hazards to the city.

The City of Flat Rock is concerned about flooding of the Huron River. The area most susceptible to this hazard was identified as the area along Huron River Drive between Evergreen and Garden Roads.

Weather-related emergencies, particularly the threat of a tornado or a severe winter storm, were also mentioned. Representatives discussed the need to reactivate the Fermi sirens already located in the city. These sirens could then be used in conjunction with existing tornado sirens to provide additional protection to the citizens of Flat Rock.

Existing Authorities, Policies, & Programs and Ability to Expand These

Flat Rock participates in the National Flood Insurance Program, and Chapter 46 of its Code of Ordinances regulates construction in flood areas.

The City is a member of the Alliance for Downstream Watersheds and the Huron River Watershed Council, working in partnership with other communities to manage stormwater under a Phase II Municipal Separate Stormwater System (MS4) permit. In addition to including tools to regulate floodplain development, their Code of Ordinances also includes mechanisms for fire protection, limiting the spread of invasive species, and managing stormwater.

Areas for possible improvement could include regulatory mechanisms to mitigate the impact of existing impervious surfaces or to protect remaining areas of open space, such as incentives to install green infrastructure, remove structures from the floodplain, or establish a stormwater utility. Given the City's hazard priorities, tools to mitigate potential hazardous materials spills are also advisable.

5.2.9 Garden City

The estimated population of Garden City is 26,325, reflecting a 3.9% decrease from the 2020 Census count of 27,380. More than three-quarters of Garden City's area is utilized for single-family housing and TCU, 57.7% and 23.4%, respectively. Very little open space or vacant acreage remains, and the City has a 54% impervious surface area.

In 2018, Garden City residents approved a $15 million bonded road millage to address deteriorating road conditions. A continuation of this millage was approved in 2022, with projects commencing in 2023. The improvements include concrete reconstruction, asphalt resurfacing, joint and crack sealing, and spray patching, aiming to enhance transportation infrastructure.

Hazard Priorities

Extreme weather, including extreme hot and cold temperatures, tornadoes, severe winds, and storms that result in flooding and electrical power loss, has been identified as a key natural hazard, concern, and resulting technological hazard. Winter hazards and tornado concerns were mentioned by the officials of Garden City in 2013, along with the need for a backup electrical system for the community's shelter building and City Hall.

Existing Authorities, Policies, & Programs and Ability to Expand These

Garden City also participates in the National Flood Insurance Program and amended its Code of Ordinances in 2012 to adopt the FEMA Firm Maps and administer Appendix G of the Michigan Construction Code to minimize losses due to flood conditions in specific flood hazard areas.

Garden City is a member of the Middle 3 and Lower 2 Subwatershed Advisory Groups within the Rouge River system and works in partnership with other communities to manage stormwater under a Phase II Municipal Separate Stormwater System (MS4) permit. Additionally, since the 1970s, the municipality has been working to remove combined sewer systems and sanitary sewer overflows. These cause both public health and flooding concerns for the municipality.

Areas for possible improvement could include regulatory mechanisms to mitigate the impact of existing impervious surfaces during land redevelopment or to protect smaller remaining areas of open space, such as incentives to install green infrastructure, remove structures from the floodplain, or establish a stormwater utility.

5.2.10 City of Gibraltar

Gibraltar has an estimated population of approximately 4,835 residents, reflecting a slight decline from the 2020 Census count of 4,997. Unlike the communities discussed to this point, the City of Gibraltar is dominated by vacant land and open space, accounting for 42.2% and 18.6%, respectively. Single-family residential housing is the third-largest land use, accounting for 13.8%.

Hazard Priorities

The City of Gibraltar has a history of flooding. The southeast section of the city is particularly vulnerable to this hazard. Of particular concern are homes that have not been elevated above potential flood levels. Berms installed along the Gibraltar waterfront, combined with low Great Lakes water levels in recent years, have somewhat mitigated this hazard. Still, current near-record-high lake levels make this a greater priority. City officials identified shoreline flooding, severe weather, and a possible accident at the Fermi II Nuclear Power Plant as their chief concerns. The City of Gibraltar is also within the potential zone of effect of a nuclear power plant incident.

Previously, in 2013, the City had identified the presence of industrial sites, an old landfill, active railroad tracks, and a tanker cleaning facility as creating hazardous materials risks to the City. Hazards include not only the potential for spill accidents and surface and groundwater contamination from leachate, both on-site and during transportation, but also the potential for industrial fires. The level of railroad traffic exposes the community to the risk of unknown substances and their associated hazards, and the inaccessibility of the tracks heightens this risk due to the presence of woodlands and wetlands.

Uncertain funding for the collection and treatment of landfill leachate increases the risk to surface and groundwater, including the Detroit River and the Great Lakes. Due to the interconnectedness of waterways throughout this area, this risk poses a significant public health hazard.

Existing Authorities, Policies, & Programs and Ability to Expand These

Gibraltar participates in the National Flood Insurance Program. Chapter 18 of their Code of Ordinances regulates land uses in flood hazard areas. In addition to floodplain management, their Code also includes regulatory authority and policies regarding stormwater management, emergency services & emergency management, soil erosion, marine safety, and plumbing and electrical infrastructure. The City of Gibraltar is a member of the Lower Huron Watershed Advisory Group, and the City also borders a portion of Lake Erie and the Detroit River.

Areas for possible improvement could include regulatory mechanisms to limit the amount of impervious surface to the existing 21% and protecting open space to stay ahead of a changing climate, such as incentives to install green infrastructure, remove structures from the floodplain, or create a stormwater utility.

5.2.11 Grosse Ile Township

Grosse Ile Township is an island in the Detroit River, home to approximately 10,404 people. The Population has remained relatively stable since 2010 and is projected to continue doing so between 2020 and 2045. The largest land use categories are single-family residential, at 40.9%, and vacant land, at 24.4%. Even with the large percentage of developed housing, only 20% of the Township is covered by impervious surfaces.

The township has a history of environmental stewardship, including the establishment of the Grosse Ile Land & Nature Conservancy in 1993. This nonprofit organization collaborates with residents and the U.S. EPA to protect and restore natural areas, such as the 40.5-acre Nature Area located on the former Grosse Ile Municipal Airport site. These efforts aim to preserve biodiversity and provide educational opportunities for the community.

In January 2024, Grosse Ile Township initiated its first Master Plan update in over two decades. This comprehensive plan will guide the community's growth, redevelopment, and land use decisions, ensuring they align with the collective vision of residents. The plan will address various aspects, including housing, parks, infrastructure, and environmental conservation, to maintain the township's small-town charm while supporting sustainable development.

<u>Hazard Priorities</u>

There are a number of industrial facilities located a short distance from Grosse Ile Township. The likelihood of a hazmat incident at one of these locations and the direction of prevailing winds create the potential for a hazmat emergency on Grosse Ile. The evacuation of residents is a concern to township officials. The adequacy of the evacuation route via the bridges between the Island and the mainland is a concern to township officials.

Because a small airport is located at the southern tip of the township, accidents involving aircraft are also of concern to officials. The Township is also within the range of possible effects from a nuclear incident, and high Great Lake levels have caused flooding and shoreline erosion.

<u>Existing Authorities, Policies, & Programs and Ability to Expand These</u>

Grosse Ile Township participates in the National Flood Insurance Program and regulates construction in flood-prone areas under Chapter 116 of its Code of Ordinances. Other regulatory authorities include the regulation and cleanup of hazardous materials, outdoor burning, motor vehicle safety, stormwater management, and protection of natural features. Grosse Ile Township is the only community in Wayne County with a wetland protection ordinance recorded with EGLE. They also have a local woodland protection ordinance. As noted previously, these are useful tools for local flood protection and for mitigating extreme temperatures and increased potential for power loss during periods of high heating or cooling demand. Their Wetland and Waterways Protection regulations also control shoreline stabilization.

Areas for possible improvement could include regulatory mechanisms to mitigate the impact of existing impervious surfaces during land redevelopment or to protect smaller remaining areas of open space, such as incentives to install green infrastructure, remove structures from the floodplain, or establish a stormwater utility.

5.2.12 City of Grosse Pointe

The City of Grosse Pointe is primarily a residential community with a population of approximately 5,314 residents in 2025. This reflects a decline from the 2020 Census count of 5,651, indicating a decrease of about 5.96% over the past five years. It is largely developed, with only 5.3% of the land remaining vacant, and no agricultural land use. The City's largest land uses are single-family residential and TCU, at 60.8% and 23.8%, respectively; 44% of the community is categorized as impervious surface.

The city has updated its Master Plan to guide future land use decisions over the next 15-20 years. The plan aims to protect the city's residential character while increasing housing options. It emphasizes the need for greater housing diversity to accommodate both young families and retirement-age residents. The plan also encourages the redevelopment of vacant or obsolete storefronts and homes, as well as the retrofitting of underutilized areas such as large parking lots.

Hazard Priorities

Power outages caused by high winds or ice storms have long been a problem for Grosse Pointe residents. The City has made progress in developing an emergency power backup system, particularly for the Department of Public Safety. However, additional power backup is needed for sewage pumps in the event of large storms and associated flooding.

Existing Authorities, Policies, & Programs and Ability to Expand These

Grosse Pointe participates in the National Flood Insurance Program and administers oversight of proposed construction in flood hazard areas under Article XIII of the City's Code of Ordinances. In addition to tools to regulate floodplain development, the Code also includes health and sanitation, civil emergencies, infrastructure, fire prevention, stormwater management, and shoreline protection.

Possible improvements could include regulatory mechanisms to mitigate the impact of existing impervious surfaces and protect remaining areas of open space, such as incentives to install green infrastructure, removing structures from the floodplain, and establishing a stormwater utility.

5.2.13 Grosse Pointe Farms

The City of Grosse Pointe Farms is primarily a residential community of approximately 9,757 people (2023 estimate). The City's largest land uses are single-family residential and transportation, communication, and utility (TCU) at 55.8% and 18.7%, respectively. Open space and recreation is the third largest category at 14.3%. The amounts of impervious and open space land cover are approximately equal: 37% and 33%, respectively.

In July 2024, the city committed to a $1.5 million investment in infrastructure upgrades, focusing on 1) Road Improvements: enhancing road conditions to ensure safety and accessibility, and 2) Public Facilities: upgrading city-owned buildings and amenities to better serve residents. A generator was added to the water pumping facility, and there is a sewer/rainwater separation project that is ongoing to provide relief to the system during heavy rainfall.

Hazard Priorities

Thunderstorms and the associated flooding and power outages have had negative effects in Grosse Pointe Farms. In the event of power outages or stormwater pumps failing, this can contribute to flooding problems.

Existing Authorities, Policies, & Programs and Ability to Expand These

Grosse Pointe Farms participates in the National Flood Insurance Program and regulates proposed construction within floodplain areas under Section 12-06 of the Code of Ordinances. In addition to including tools to regulate floodplain development, their Code of Ordinances includes fire code regulations, infrastructure requirements, and soil erosion controls.

Possible areas for improvement could include regulatory mechanisms to maintain imperviousness at its current levels or reduce the number of existing impervious surfaces, such as incentives to install green infrastructure, remove structures from the floodplain, or establish a stormwater utility. Large portions of the Lake St Clair break wall within the city (on Lakeshore Drive) need repair/replacement.

5.2.14 Grosse Pointe Park

The City of Grosse Pointe Park is primarily a residential community with a population of approximately 12,335 people. The City's largest land uses are single-family residential housing and transportation, communication, and utility (TCU) at 67% and 25.2%, respectively. Impervious surfaces constitute 39% of the municipality's landmass.

The 2022 City Master Plan outlines several strategies to enhance land use, including replacing lead water service lines, separating sanitary and stormwater systems, installing electric vehicle charging stations, and incorporating pervious pavers and street trees in new developments.

Hazard Priorities

Tornadoes, ice storms, and thunderstorms accompanied by high winds create a threat to the City of Grosse Pointe Park and its residents. The resulting damage and power outages have a significant effect on the population. The capacity of emergency power backup systems at the Department of Public Safety and the adequacy of the tornado warning system are concerns, along with the availability of the necessary equipment needed to remove fallen trees and clear roads.

Due to the community's close proximity to the City of Detroit, civil disturbances and criminal activity affecting Grosse Pointe Park are a concern. The drain on Public Safety resources has also been an issue for the community. The City is also a coastal community at the confluence of Lake St. Clair and the Detroit River, prone to shoreline flooding.

Existing Authorities, Policies, & Programs and Ability to Expand These

Chapter 11 of the City's Code governs floodplain management and the administration of Appendix G of the Michigan Building Code. It also monitors Lake St. Clair water levels and responds to imminent flooding by constructing temporary barriers if necessary. Grosse Pointe Park participates in the National Flood Insurance Program.

The Grosse Pointe Park Code of Ordinances includes tools to regulate floodplain development and protections against fire.

Additional policies and programs could include partnerships to address more of the City's hazard priorities, such as building safe rooms for tornado safety, providing adequate power backup, and exploring ways to reduce or reimburse costs associated with cross-border emergency responses in the City of Detroit.

5.2.15 Grosse Pointe Shores

Grosse Pointe Shores is a community with a population of 2,647 residents. This marked a decline from 3,008 in 2010, representing a decrease of approximately 12.3% over the decade, with almost entirely single-family housing and transportation-related uses, accounting for 71.8% and 19.1%, respectively. Although 34% of the City is impervious surfaces, existing housing must provide a significant amount of greenery; SEMCOG describes the City's land cover as 36% open space with 28% tree canopy cover. Approximately half of the City's population is 55 years or older, with the median being 53.4.

The Edsel and Eleanor Ford House, located in Grosse Pointe Shores, is undertaking a $7 million shoreline restoration project funded by a federal grant. The project includes two components: 1) Habitat Restoration, which involves creating vernal pools and wetlands to support native wildlife, and 2) Public Amenities, which involves developing viewing platforms and boardwalks to enhance public access and education. This initiative aims to enhance water quality, mitigate erosion, and offer recreational opportunities for residents.

Hazard Priorities

Weather-related hazards have the potential to impact the community. The potential exists for a structural fire at the Grosse Pointe Yacht Club or Ford House, which could be a drain on the community's resources. Structural fires at the Grosse Pointe Yacht Club or Ford House could also have an adverse impact on water infrastructure in the city.

Existing Authorities, Policies, & Programs and Ability to Expand These

Grosse Pointe Shores participates in the National Flood Insurance Program and impacts flood areas under Article V of the City Code of Ordinances. In addition to including floodplain development regulatory policies, the City's Code of Ordinances includes provisions for law enforcement, fire protection, telecommunications, and other utilities.

Areas for possible improvement could include implementing repairs to protective mitigation to safeguard key structures from fire and planning for the elderly residents of the community in the event of power loss or other hazards.

5.2.16 Grosse Pointe Woods

The City of Grosse Pointe Woods is home to 15,854 people. The dominant land uses are single-family housing (57.8%) and transportation and utilities (TCU) (20.6%); 43% of the community is categorized as impervious surface. Grosse Pointe is the only one of the "Pointes" that is not on the coast.

Hazard Priorities

Tornadoes, ice storms, and thunderstorms accompanied by high winds create a threat to the City of Grosse Pointe Woods and its residents. The resulting damage and power outages have a significant impact on the population, including congestion due to malfunctioning traffic lights and medical issues in senior housing resulting from food spoilage and other hazards. Officials discussed the capacity of the emergency power backup system at the city's municipal building and the Department of Public Works' pump station, along with the readiness of a mobile generator. To help address concerns about power outages, new generators were installed at City Hall and the Public Safety Building to ensure municipal operations continue during power outages. Additionally, a new generator was installed at the Torrey Road pump station to keep the Grosse Pointe Woods storm drain system running during power outages.

A Wayne County pumping station is located within the city. Since chlorine is stored at this location, the possibility of a hazardous materials (hazmat) emergency affecting the safety of the citizens of Grosse Pointe Woods is a concern. In response to the chlorine concern, the pump station has been properly marked. Additionally, firefighters have toured the pump station and conducted a review of response activities in the event of a potential fire at the station.

There have been concerns about water regulation from the city's water tank to residents. Flow meters and transponders regulate water from the water tank to residential dwellings. To address the concerns, new flow meters and transponders have been installed in the water tank.

In recent years, structural fires have been a primary community concern, often related to downed power lines. The replacement of outdated fire gear and equipment was noted as a community need. Since the fire equipment concern was noted, the City of Grosse Pointe Woods has been upgraded and added to the fire department.

The close proximity to the City of Detroit and that city's potential for civil disturbance, terrorist acts, active shooters, and criminal activity that could adversely affect the citizens

of Grosse Pointe Woods is a concern to City officials. The need for additional training to respond effectively to these types of emergencies was discussed. In response to concerns about active shooters, the emergency services of Grosse Pointe Woods have implemented active shooter training, which occurs twice a year.

Existing Authorities, Policies, & Programs and Ability to Expand These

Although the FEMA Status Book Report for the National Flood Insurance Program lists Grosse Pointe Woods as participating in the Program, we were unable to find regulatory language within the City Code or Zoning Ordinance describing the program. The City Code does include regulatory mechanisms regarding fire protection, utilities and infrastructure, waterways, emergency services, and preparedness.

Areas for policy and/or program improvements could include ensuring that the Flood Insurance Program requirements are being met, as well as implementing programs that enhance preparedness for the weather-related natural hazards noted above as priorities.

5.2.17 City of Hamtramck

The population of Hamtramck is approximately 23,228, less than half of its peak in the 1930s. Land use in the City is dominated by single-family housing and transportation (TCU), 30.6% and 28.1%, respectively. Still, a notable portion of the City also supports industrial uses, at 16.9%. Seventy percent of the community is categorized as impervious surface.

Hazard Priorities

The City of Hamtramck officials are concerned about tornadoes, thunderstorms accompanied by high winds, and winter storms involving snow and ice. Heavy snow or ice storms that block the streets and increase traffic accidents are of particular concern to the Public Safety Department. The adequacy of snow removal equipment and the timeliness of snow removal in relation to emergency response time remain a concern in this community.

Within the City of Hamtramck, there are sites that stock hazardous materials. Several sites stock hazardous materials in amounts that, by law, mandate notification of the Hamtramck Fire Department. According to officials, the potential for a hazardous materials (hazmat) emergency at one of these locations poses a danger to citizens and visitors to the city. In addition, hazardous material is carried by trucks on I-75 and by trains traveling through the eastern portion of the City; a gas pipeline also runs through the community. These present additional risks to the population if hazardous materials were to escape as a result of an accident.

Crime remains a top priority. Criminal acts, including street robberies, and the associated need for sharing information between road patrols, investigators, and the public have placed a demand on public resources.

Existing Authorities, Policies, & Programs and Ability to Expand These

Hamtramck does not participate in the National Flood Insurance Program; however, its Code of Ordinances includes regulations affecting hazard-related topics, such as fire

protection, police departments, weapons, sewers, and other public utilities. Possible improvements could include regulatory mechanisms to reduce the impact of existing impervious surfaces or to address the storage and reporting of hazardous materials.

5.2.18 City of Harper Woods

The City's population of 15,034 has stayed fairly flat since 2000. At 52.3%, Harper Woods is primarily residential, with TCU making up another 25.2%. Forty-one percent of the City is covered with impervious surfaces, whereas the City only has a 19% tree canopy cover.

The city has been updating zoning and land use policies to incorporate green infrastructure solutions such as permeable pavements, rain gardens, and improved stormwater drainage systems to reduce runoff and mitigate flooding risks.

Hazard Priorities

Thunderstorms and severe winter weather have resulted in power outages and downed trees, negatively affecting the City of Harper Woods. Of particular concern is the power outage at City Hall and its associated effects on public safety. Local officials identified the need for improvements to reduce the likelihood and limit the effects of power failure.

The heavily traveled I-94 highway, which runs through Harper Woods, has a history of vehicular accidents. Of particular concern to City representatives are accidents involving vehicles carrying hazardous materials through the community. Based on the current level of hazmat training, hazmat equipment, and the number of public safety personnel currently employed, the ability to properly respond to an emergency of this type is a concern.

Officials are concerned about criminal acts, including auto thefts, robberies, and residential break-ins in the community. Public notification about threats and the hiring of additional law enforcement personnel have placed demands on the community. Limitations on Harper Woods' public safety personnel's radio interoperability with their counterparts in Detroit continue to present a danger to the citizens of both communities.

Existing Authorities, Policies, & Programs and Ability to Expand These

Harper Woods does not participate in the national flood insurance program as of April 30, 2025; however, its Code of Ordinances includes regulations governing health and sanitation, the police department, water and sewer systems, fire prevention, and civil defense and emergency preparedness.

Possible areas for improvement could include regulatory mechanisms focused on the stated local concern of hazardous materials transport and safety.

5.2.19 City of Highland Park

Similar to Hamtramck, the City of Highland Park has experienced a decline in population since its peak in the 1930s. The current population is 8,443, according to the 2023 census. The major land uses of TCU, including single-family residential, vacant, and industrial, are fairly similar in overall coverage, with percentages of 27.6%, 20.9%, 19.8%, and 16.3%, respectively.

The city is addressing longstanding water infrastructure issues by installing master meters and replacing lead service lines. This initiative aims to improve water quality and billing accuracy, with completion expected by September 2025.

Highland Park was selected for the federal Communities Local Energy Action Program (LEAP), which provides technical assistance to develop clean energy plans. The initiative includes the installation of solar-powered streetlights and promoting energy resilience.

The city is developing a new ordinance to reduce impervious surfaces, aiming to decrease runoff and alleviate pressure on the sewer system. This measure is expected to lower environmental hazards and utility costs.

Hazard Priorities

City officials identified transportation-related hazmat accidents, public health emergencies, and severe summer weather, including thunderstorms, high winds, and hail, as their priority hazard concerns for the 2020 HMP update.

In the 2013 HMP, Highland Park officials noted that there were a large number of vacant homes and a high incidence of arson in the City of Highland Park, and that building fires posed a significant hazard to the community. They also expressed concern for potential hazmat material emergencies at any one of the many industrial facilities located within the city. According to officials, the lack of sufficient public safety personnel to adequately respond to these emergencies increases the danger to the city's residents. Representatives also discussed the need for additional fire and hazardous materials (HazMat) training for both new and existing public safety personnel.

Officials had previously noted that ice and snowstorms, and their impact on the streets of Highland Park, were a concern. Lacking sufficient resources to clear streets during and after storms restricts the ability of public safety personnel to respond effectively to emergencies.

Existing Authorities, Policies, & Programs and Ability to Expand These

Highland Park does not participate in the national flood insurance program as of April 30, 2025; however, its Code of Ordinances includes provisions to regulate building and housing, fire prevention, and sewers and utilities. Additional programs or policies could address some of the concerns noted above regarding hazards.

5.2.20 Huron Township

The current population of 16,329 has been steadily increasing each decade since the 1920s. Huron Township is the first community described herein with a significant agricultural land use component. Agriculture accounts for 36.9% of the Township, with a notable 17.4% allocated to recreation and open space. Single-family housing is the second-highest land use category in the Township, accounting for 23.3%. Land cover is only 10% impervious, and the Township exhibits a tree canopy coverage of 38%.

The former Pinnacle horse racing site has been redeveloped into logistics centers, including Amazon warehouses and a Home Depot distribution facility. This shift from entertainment to industrial use has significantly altered the local landscape and economy.

Huron Township's Master Plan emphasizes a balance between industrial development and maintaining a high quality of life for residents. The presence of three Metroparks, which cover 30% of the township, is seen as a valuable asset, providing recreational opportunities and enhancing community appeal.

Hazard Priorities

Tornadoes, ice storms, and thunderstorms accompanied by high winds create a threat to the citizens of Huron Township. The resulting power outages have a profound impact on the population, particularly on the elderly. Officials mentioned that the residents of the township's three mobile home communities were at an increased risk of a tornado touching down in the area. Both tornado and hail damage have been reported since the development of the 2006 Plan. Tornado warning sirens have been installed near the Township's northern boundary, but Figure 9 still shows a clear gap in coverage for most of the Township.

I-275, railroads, pipelines, and industrial facilities, all located within Huron Township, present the potential for hazardous material emergencies that could affect Township residents. Because the Township lies along a flight path for Detroit Metropolitan Airport, there is a potential for a plane crash within the community. The adequacy of police and fire personnel in responding to these multiple hazards may be a concern.

Representatives mentioned the issue of flooding the Huron River, particularly in the southeast section of the Township, in 2006. Dry conditions at the time of the last update made this less of a concern, only to have high water conditions return recently.

Existing Authorities, Policies, & Programs and Ability to Expand These

Huron Township participates in the National Flood Insurance Program and administers floodplain protections under Chapter 288 of its Code of Ordinances. Other regulatory mechanisms related to hazard mitigation include dangerous buildings, open burning, water, sewer, street, and other utility systems, as well as fire protection.

Possible areas for improvement could include regulatory mechanisms to protect open space and/or mechanisms to protect agricultural resources from drought, fire, or invasive species.

5.2.21 City of Inkster

The City of Inkster had an estimated population of 25,056 in 2023, reflecting a decline from the 2020 Census count of 26,088, and consists of approximately 1/3 single-family residential at 36.1%, but it also includes a significant amount of open space/recreational lands, primarily along the Lower Rouge River. Forty-two percent of the City consists of impervious land cover, which likely contributes, along with stormwater from communities upstream, to the flashy nature of the Lower Rouge.

The city is actively pursuing land use and zoning reforms to revitalize its urban landscape, enhance community well-being, and stimulate economic growth.

Hazard Priorities

Tornadoes, structural fires, flooding, and hazardous material (hazmat) accidents were all mentioned as potential hazards that could adversely affect the citizens of Inkster. Lack of sufficient staffing in the police and fire departments increases the danger posed by these hazards.

Existing Authorities, Policies, & Programs and Ability to Expand These

The City participates in the National Flood Insurance Program and administers its reviews of proposed floodplain development under Chapter 155: Zoning Code. In addition to floodplain management, their Code of Ordinances includes regulatory mechanisms concerning stormwater management, convalescent homes and other care establishments, and water and sewer systems.

Possible areas for improvement could include regulatory mechanisms to reduce impervious surfaces, protect low-lying areas from flooding, and/or address concerns regarding hazardous material storage and reporting.

5.2.22 City of Lincoln Park

The City of Lincoln Park is home to 40,245 people, and SEMCOG predicts that all age classes in the City under 65 years of age will decline from 2015 to 2045, whereas the 65-84 and the 85+ age classes will increase by 56% and 93%, respectively. As such, the concerns for extreme temperatures or other hazardous conditions seem well-warranted. The City of Lincoln Park was the only city in Wayne County to increase its population by over 10%. City land users are dominated by single-family residential and transportation, communication, and utility (TCU) at 85% and 15%, respectively.

Hazard Priorities

Extreme temperatures have the potential to impact the residents of the City of Lincoln Park, particularly the elderly. City officials expressed concerns about the limitations of air conditioning and water systems during severe summer weather.

The potential for a hazardous material emergency exists in relation to pipelines and transport along both railroads and I-75. The highly technical requirements for preparedness in responding to hazardous material incidents have placed demands on responders to stay up to date. Preparation for emergency response is complicated by the proximity of transportation corridors to residential areas.

The potential for criminal acts and civil disturbances exists in the City. A policy for responding to active killers has been developed, and training for police and schools is being implemented.

Existing Authorities, Policies, & Programs and Ability to Expand These

Lincoln Park participates in the National Flood Insurance Program. Its floodplain protection programs are administered using a flood hazard area overlay zone, as outlined in Section 1294.36 of its Code of Ordinances. Additionally, the Code includes regulations regarding railroads, sanitation and health, building and housing, and fire protection.

Lincoln Park is a member of the Alliance for Downstream Watersheds and partners with other communities manage stormwater under a Phase II Municipal Separate Stormwater System (MS4) permit.

Possible areas for improvement could include policies or programs for hazardous materials safety and /or improving care for seniors during extreme weather events, COVID-19, or other pandemics.

5.2.23 City of Livonia

The City of Livonia saw rapid population growth until the 1970s. According to the 2020 U.S. Census, the City of Livonia has a population of 95,535, a land area of 36 square miles (approximately 6 miles wide by 6 miles long), and approximately 500 miles of roadways. Livonia has an estimated 32,000 individuals with access and functional needs (AFN). The City is largely built out, with over 38,000 units of single-family housing being the dominant land use (42%). Impervious surfaces characterize 47% of the City.

The City of Livonia is located in southeast Michigan and is surrounded by the most populated counties in Michigan, including Oakland, Macomb, St. Claire, Washtenaw, and Monroe. Major municipalities include the City of Detroit, Ann Arbor, Dearborn, and Southfield.

The City of Livonia is also part of the Detroit Southeast Michigan Urban Area Security Initiative (UASI) program, which supports high-threat, high-density urban areas in their efforts to build and sustain the capabilities necessary to prevent, protect against, mitigate, respond to, and recover from acts of terrorism. The UASI program is intended to provide financial assistance to address the unique multi-disciplinary planning, organization, equipment, training, and exercise needs of high-threat, high-density Urban Areas, and to assist these areas in building and sustaining capabilities to prevent, protect against, mitigate, respond to, and recover from threats or acts of terrorism using the Whole Community approach.

Geographic features that could pose threats include a significant number of older, mature trees, as designated by Tree City U.S.A. Other geographic features include Hines Park, a low-lying designated floodplain that forms part of the Newburgh and Nankin lakes area, as well as small inland bodies of water. Although the City has many small rivers and creeks that flood during heavy rains, the city remains higher in elevation, with tributaries that flow into the Middle Rouge River, which traverses the city southeasterly into the communities lying south of Livonia. Since Livonia has a higher topography in the northwest corner, a significant loss of water or a break in the system could result in a loss of pressure to higher elevations. The City is approximately 600 to 700 feet above sea level.

Hazard Priorities

Livonia has two major freeway systems that connect southeast Michigan to the rest of the state, traversing through its jurisdiction: I-275 (running north and south) and I-96 (running east and west). The potential for a hazardous material emergency exists in relation to transport along I-275, I-96, and CSX railroad lines located south of I-96 (running east and west). There are four grade-separated railroad crossings located at Middlebelt, Farmington, Merriman, and Newburgh roads, while Inkster, Levan, Stark, and Eckles roads have at-grade crossings. The City of Livonia has a very extensive hazardous

material and industrial footprint that extends the entire length of the city from Schoolcraft to Plymouth Roads, located in Sections 25 through 30 (each section is one square mile). Many of the industries in this section are listed as Extremely Hazardous Sites (EHS). As such, Livonia officials noted hazardous materials incidents as a chief concern. The Great Lakes Water Authority (GLWA) has a large 48-inch transmission water main that runs along I-96 and crosses under the freeway between Merriman and Middlebelt Roads. A water main break or problem with this critical water main may result in partial/serious flooding on I-96 and create major traffic issues with our major east / west arteries for southeast Michigan.

As with any large suburban municipality, Livonia is home to many high-profile businesses, two school districts, one University, and one large Community College that provides training for the regional Southeast Michigan police and fire academies. The City of Livonia hosts several large public events each year, including a major carnival held near the end of June. Due to the size, duration, and operational complexity of these events, they present identifiable public safety risks, including the potential for criminal activity, which must be considered in hazard identification, risk assessment, and mitigation planning.

In prior HMPs, Livonia officials expressed concern about winter storms due to their frequency, their impact on traffic accidents and congestion, business slowdowns, and the draining of government resources. These concerns persist, with a focus on flooding and other infrastructure issues as secondary effects of winter storms. However, the increased frequency and severity of both winter and summer storms have become a greater concern for Livonia officials in the 2025 Hazard Mitigation cycle.

Existing Authorities, Policies, & Programs and Ability to Expand These

Livonia participates in the National Flood Insurance Program and administers flood protection reviews under Article XXVIII of Ordinance 543, the City's Zoning Ordinance. Other regulations concern health and safety, wellness, and public services.

Areas for possible improvement could include policies, programs, and partnerships related to hazardous materials storage and transport, as well as preparation for severe weather storms that have the potential to impact Livonia operations and critical infrastructure.

5.2.24 City of Melvindale

Land use in the City of Melvindale is dominated by transportation, communication, and utility (TCU), which constitutes 40.2%; single-family housing is a somewhat distant second at 25%. With such a high level of transportation-related land use, the city's land is characterized as 58% impervious.

Hazard Priorities

The potential for hazmat accidents involving either trucks, trains, or local industry and businesses exists in Melvindale. I-75 on the eastern border of Melvindale is the route for many large trucks carrying hazardous materials through the city. A train derailment with the potential of a chemical spill is a risk to the neighborhoods along the tracks in the central and eastern portions of the City. A chemical accident at one of the industrial facilities within the city is a risk to all citizens of Melvindale. Officials stressed the need for

additional personnel in the fire and police departments, as well as additional training for hazmat emergencies.

The City of Melvindale is concerned about flooding caused by storm sewer failures. Officials identified the locations with the greatest frequency of flooding as Allen Road, Outer Drive, Dix Road, and Wabash near the railroad yard.

Existing Authorities, Policies, & Programs and Ability to Expand These

Melvindale does not participate in the national flood insurance program as of April 30, 2025. The City is a member of the Alliance for Downstream Watersheds. Their Code of Ordinances includes protections to reduce the potential for structural fires, health and sanitation issues, fire protection, and environmental protections, including toxic releases and incendiary fires.

Possible improvements could include regulatory mechanisms to reduce existing impervious surfaces and protect remaining areas of open space, such as incentives to install green infrastructure, removing structures from the floodplain, and creating a stormwater utility.

5.2.25 City of Northville

The City of Northville is a small community with approximately 6,100 residents. Single-family housing constitutes 33.6% of the land use; TCU coverage, at 21.4%, is the second-most prevalent land use in the City. Impervious surfaces make up 45% of the municipality.

There is currently a large residential development taking place in the city on the old Northville Downs property. The development comprises residential, commercial, and green spaces. Upon completion, the development will add approximately 600 more residents to the city's population.

Hazard Priorities

The City is concerned about the potential of a structural fire in the downtown area due to the advanced age of many buildings. The interconnected nature of some buildings further increases the vulnerability to structural fires. The City of Northville is an older community with many historical homes. These homes could pose a greater fire risk.

The threat of a train derailment is a hazard the City faces. If a derailment involves hazardous materials, it could lead to serious consequences and pose a risk to the community.

The City of Northville has an aging population that is more susceptible to extreme heat. There are currently no designated cooling centers within the city. Citizens are directed outside the city to cooling centers. This population would be more at risk of public health emergencies such as COVID-19.

The city's current infrastructure is outdated and susceptible to damage from downed trees, limbs, and electrical wires. Power outages are common during major storms.

The City of Northville's water tower is located in Oakland County. If the tower fails, it could affect the water supply to Northville residents.

Fog can develop at any time, especially in the morning hours. Fog could affect visibility on city roads, including 8 Mile Road, a highly traveled road.

Existing Authorities, Policies, & Programs and Ability to Expand These

Northville participates in the National Flood Insurance Program and administers flood-prone area protections under Article 23, Flood Hazard Zones, of the City's Zoning Ordinance. Currently, the City also maintains a page on its website with information about floodplains and how to read the FEMA FIRM maps. This information also describes a current study and a public comment period regarding a letter of map revision for a portion of the Walled Lake Branch of the Middle Rouge River.

The City is a member of the Alliance of Rouge Communities to manage stormwater under a Phase II Municipal Separate Stormwater System (MS4) permit. In addition to tools regulating floodplain development, their Code of Ordinances and Zoning Ordinance also include protections for trees and woodlands, emergency services provisions, and fire prevention regulations.

Additional tools could include an inventory of locations needing flood mitigation, coordination with the railroads to receive notification of train contents, and regulatory mechanisms to reduce existing impervious surfaces and protect remaining areas of open space, e.g., incentives to install green infrastructure, remove structures from the floodplain, create a stormwater utility, target tree canopy, etc.

5.2.26 Northville Township

Northville Township is home to 32,164 people, and its population is aging. Single-family housing accounts for 33.5% of the land use, while the Township also contains significant open space and recreational lands, comprising 29.9%. Twenty-seven percent of the community is categorized as an impervious surface.

The last Future Land Use map for Northville Township was created in 2007, with subsequent amendments made in 2017. Not much has changed in land use.

Hazard Priorities

Severe winds, thunderstorms, tornadoes, and associated power loss in Northville Township are considered a significant threat to all citizens. At particular risk are the residents of the senior citizen communities located in the Township. Areas of the Rouge River along Northville Road have a history of flooding. According to officials, the areas most susceptible to this hazard are in the vicinity of Jamestown Circle and just west of Franklin Road.

Northville Township includes a Consumers Power station, a battery plant, high-pressure gas pipelines, and railroad tracks carrying trains with hazardous material cargo. A hazmat emergency at any of these locations presents a significant risk to the community's citizens.

The community has recently been focused on training to mitigate the hazard of active shooters in schools and other locations.

Existing Authorities, Policies, & Programs and Ability to Expand These

Northville Township participates in the National Flood Insurance Program and administers flood-prone area protections under Chapter 82 of the Township's Code of Ordinances. In addition to tools regulating floodplain development, their Code of Ordinances also includes regulations for hazardous waste cleanup, oil and gas operations, and Sewer and water infrastructure.

Additional programs and policies could address the community concerns noted regarding hazardous materials and the development of safe rooms for tornadoes and high winds.

5.2.27 City of Plymouth

The City of Plymouth is home to 9,038 people. Single-family housing constitutes 35.8%, and TCU makes up 21.7% of the Township's land use. Fifty-six percent of the community is categorized as an impervious surface.

Hazard Priorities

The City of Plymouth has a history of flooding problems. Large storms and the associated flooding of Tonquish Creek, particularly in the vicinity of Ann Arbor Trail and Harvey Streets and the areas immediately surrounding this location, are of greatest concern to city officials.

Two railroad lines run through the City of Plymouth. According to City representatives, a hazmat emergency could have a devastating effect on the citizens of Plymouth. Trains could block intersections in the city, interfering with timely emergency response, particularly in the event of a derailment at a road crossing.

The 35th District Court's presence in the City of Plymouth creates the potential for civil disturbances to affect citizens.

Existing Authorities, Policies, & Programs and Ability to Expand These

Plymouth participates in the National Flood Insurance Program and administers flood-prone area protections under Article XV of the City's Code of Ordinances. In addition to tools regulating floodplain development, Plymouth's Code of Ordinances also includes regulations for soil erosion control, stormwater management, fire prevention and emergency services, law enforcement, and communications and infrastructure.

Additional programs and policies could be implemented to mitigate the impacts of impervious surfaces and resulting flooding concerns, as well as address the community's concerns regarding railroad crossings.

5.2.28 Plymouth Township

Plymouth Township has remained relatively stable since 2000, with just over 27,000 individuals. The largest period of growth in the Township's population was between 1960

and 1970. Single-family residential uses occupy a significant portion of the land area within Plymouth Township. As of 2020, the single-family residential land use category accounts for 44% of the land area. The next largest categories are industrial, with 12% of land area, and recreation/open space at 11% of land area. Within the past 5 years, the amount of agricultural/vacant land experienced the largest decrease in land size by 28%. These land use patterns indicate that Plymouth Township is nearing its maximum build-out and that new development projects may likely involve the redevelopment of underutilized or grayfield sites. There has been a slight increase in housing units over the past eight years, primarily in the form of smaller, infill residential developments. There is a large concentration of owner-occupied housing, with over 81% of properties being owner-occupied, and the median property value for owner-occupied housing is $295,700.

The Township's Planning Commission is involved in various current projects, including site plan amendments for businesses like Comerica Bank and Plymouth Flex, as well as special land uses for MAGNA Autosystems and an outdoor storage facility.

Hazard Priorities

Large storms, along with their associated power outages and flooding, present the most significant hazard to the citizens of Plymouth Township due to their frequency. The effects include road flooding and downed trees that interfere with emergency response, structural fire when energized power lines come in contact with buildings, and risks to the elderly. Evacuation from large senior complexes is a source of concern. Tornadoes have also affected the Township, causing property damage and the public burden of cleaning up many downed trees. Winter storms place additional demands on emergency response due to increased traffic accidents and personal injuries from slipping on ice and while shoveling snow.

The potential for incidents involving hazardous materials exists along the I-275 and M-14 highways and the CSX railroad. Limited resources to effectively manage a major incident have necessitated assistance from other governmental units in the past. The at-grade railroad crossings in the Township can result in car-train accidents that require hazardous materials (HazMat) response. The high volume of railroad traffic transporting hazardous substances poses a significant hazard in the Township.

Existing Authorities, Policies, & Programs and Ability to Expand These

The Township participates in the National Flood Insurance Program and administers flood-prone area protections under Chapter XII of the City’s Zoning Ordinance regulating land development.

The Township also participates as a member of the Alliance of Rouge Communities. In addition to tools regulating floodplain development, its Code of Ordinances includes protections for trees and water, as well as sewer regulations.

Additional tools could include protections for remaining areas of open space (e.g., incentives to install green infrastructure, removing structures from the floodplain, creating a stormwater utility, targeting tree canopy, etc.) and/or means to better prepare for winter weather and power outages.

5.2.29 Redford Township

Redford Township is primarily a residential community of approximately 49,504 as of the 2020 Census. This is slightly higher than the 2010 census population. The Township's largest land uses are single-family residential and TCU at 45.5% and 26.9%, respectively. Fifty-two percent of the community is categorized as an impervious surface.

Redford Township is undertaking significant land use changes through initiatives like Re-Envision Redford, aiming to create a more diverse, walkable, and sustainable community. This includes revising the zoning code, development policies, and a comprehensive Master Plan for 2040, with a focus on housing options, transportation, and economic growth; therefore, presenting an opportunity to integrate hazard mitigation concepts.

Hazard Priorities

The potential for hazmat accidents involving trucks, trains, gas pipelines, or industrial facilities exists within Redford Township. According to township officials, the lack of a sufficient number of public safety personnel, especially those trained in responding to hazmat emergencies, poses a significant risk to citizens.

A tornado touching down in the township would be a significant threat to all citizens. In particular, the residents of the two mobile homes and two senior citizen communities are the most vulnerable.

Existing Authorities, Policies, & Programs and Ability to Expand These

Redford Township participates in the National Flood Insurance Program and administers flood protection under Chapter 46 of its Code of Ordinances.

Allen Park is a member of the Alliance of Rouge Communities and partners with other communities to manage stormwater under a Phase II Municipal Separate Stormwater System (MS4) permit. In addition to tools to regulate floodplain development, its Code of Ordinances includes protections for civil emergencies, telecommunications and other infrastructure, fire protection, and health and sanitation.

Possible areas for improvement include establishing safe locations in the event of tornadoes, improving flood control, and reducing impervious surfaces.

5.2.30 City of River Rouge

The population of River Rouge is declining, currently standing at an estimated 6,873. The City's dominant land uses are industrial and TCU, at 26.1.6% and 24.3%, respectively. Forty-two percent of the community is categorized as an impervious surface.

River Rouge has been experiencing changes in land use, particularly regarding its zoning and the potential for mixed-use development. The land use changes primarily revolve around revitalizing its industrial areas for green economy initiatives and encouraging infill development through pre-approved housing plans. The city is also focusing on the redevelopment of its existing housing stock and addressing issues such as blight and improving water quality. Additionally, there is a push to attract new businesses and create more family-friendly housing options.

Hazard Priorities

Tornadoes and thunderstorms accompanied by high winds threaten the City of River Rouge and its residents. The resulting damage and power outages pose a significant risk to all citizens, especially the senior population. The residents of the high-rise senior citizen facility located on Vigger Road are most vulnerable to these storms. Officials expressed the need for additional training and equipment to better prepare for and respond to these hazards.

Due to the large amount of industry in River Rouge, there exists the potential for a hazmat incident where hazardous materials are either transported or stored within the community. Officials discussed the need to provide additional security to protect vulnerable locations from the possibility of a terrorist incident. They also expressed a need for additional homeland security training for public safety departments. City representatives suggested that all city departments be required to receive emergency management training.

Existing Authorities, Policies, & Programs and Ability to Expand These

River Rouge participates in the National Flood Insurance Program. Areas for improvement could include programs to ensure an adequate power supply in emergencies and to reduce the potential impact of hazardous materials incidents.

5.2.31 City of Riverview

The City of Riverview has a population of 12,056. Its largest land uses are single-family residential and open space/recreation, at 22.6% and 22.2%, respectively. The City is along the Detroit River, and 36% of the community is categorized as impervious surface.

The city has undergone several changes in land use and zoning in recent years, particularly in relation to transportation infrastructure and residential development. A notable change occurred at the intersection of East Michigan Avenue and Riverview Drive. In October 2024, modifications were made that included blocking off a right-turn lane from Riverview Drive onto East Michigan Avenue and reducing the number of left-turn lanes from Michigan Avenue onto Riverview Drive.

Hazard Priorities

The City of Riverview has a history of flooding after large storms and snowmelt. According to officials, the areas of greatest concern are the Huntington Creek Drain between Fort Street and Civic Park, King Road near Westfield, and, in particular, the Frank and Poet Drain along Valley View between Williamsburg and Sibley. This drain originates at Detroit Metro Airport and has experienced significant flooding due to stormwater runoff and releases upstream. The elderly population of the City is particularly vulnerable during times of flooding due to increases in emergency response times.

Due to the large amount of industry in the City of Riverview, there exists the potential for a hazardous material emergency. Railcars, tanker trucks, gas pipelines, and manufacturing facilities in the eastern section of the city were mentioned as potential areas of concern for this hazard. Additionally, officials discussed the need to continue efforts to protect these vulnerable locations from terrorist activities. In the event of a major emergency, a need for a mass evacuation plan, as well as improved communications

within the department and with Wayne County, was discussed. The importance of establishing a unified command to respond effectively to these major disasters was emphasized.

Existing Authorities, Policies, & Programs and Ability to Expand These

Riverview participates in the National Flood Insurance Program and administers flood protection under Article 10 of its Code of Ordinances.

The City of Riverview is a member of the Alliance for Downstream Watersheds and works in partnership with other communities to manage stormwater under a Phase II Municipal Separate Stormwater System (MS4) permit. In addition to tools to regulate floodplain development, its Code of Ordinances includes standard regulations concerning new development but little else related to hazard mitigation.

Other regulatory mechanisms or programs to reduce flooding or improve preparedness for hazardous materials spills/accidents could be areas for possible improvement.

5.2.32 City of Rockwood

The City of Rockwood is home to approximately 3,315 people, according to U.S. Census Bureau estimates, remaining steady since 2010. Single-family residential, extractive, TCU, and vacant lands are the largest land uses, 22.1%, 18.8%, 17.5%, and 14.4%, respectively. The City is located along the lower Huron River; 22% of the community is categorized as impervious surface compared to 36% open space.

The city is planning the development of a Commerce Park, with concept plans indicating potential building areas totaling approximately 638,300 square feet. This project aims to attract new businesses and support economic growth in the region.

Hazard Priorities

The potential for major storms and tornadoes, along with associated power outages and flooding, was identified as a primary hazard to the City of Rockwood. City representatives were concerned about an insufficient warning of a tornado. Flooding along the Huron River, shoreline erosion, and the potential effects of a Belleville Dam failure were also mentioned as sources of concern to city officials.

Due to the proximity of the Fermi Nuclear Plant within 10 miles and the potential effect on Rockwood if there were an emergency at the plant, officials feel that there is a need for an evacuation plan for the City.

I-75 is a heavily traveled highway that runs north and south through the City of Rockwood. This highway has a history of many vehicular accidents. Of particular concern to city officials are accidents involving trucks carrying hazardous materials. The additional demands on manpower that this type of emergency response requires are a source of concern to the City. Additionally, there is a threat of hazmat emergencies involving railways, sewage treatment plants, or industrial locations within the city. The need to better notify citizens in the event of these disasters was discussed.

Existing Authorities, Policies, & Programs and Ability to Expand These

The City participates in the National Flood Insurance Program and administers its program under Chapter 90 of its Code of Ordinances. In addition to including tools to regulate floodplain development, their Code of Ordinances also includes policies regulating emergency response expenses, hazardous materials spills, soil erosion, fire prevention, stormwater management, and water and sewer services. Rockwood is a member of the Alliance for Downstream.

Areas for possible improvement could include programs to reduce the risk of hazardous materials incidents and/or traffic-related emergencies.

5.2.33 City of Romulus

The population of Romulus is 23,916, and the City's principal land is TCU, with the airport, vacant land, and single-family residential at 35.6%, 22.3%, and 17.9%, respectively. Impervious surfaces constitute 27% of the municipality's land use.

Romulus has implemented several zoning ordinance amendments to accommodate the evolving needs of land use. These include updates to multi-family residential standards, the creation of a Southern Gateway Overlay District, and modifications to the Airport District regulations.

Hazard Priorities

Community representatives identified severe storms, tornadoes, and associated flooding and power outages, along with extreme temperatures in both summer and winter, as the natural hazards of greatest concern. Damage could result to roads, businesses, and residences, as well as in areas adjacent to retention ponds. Concerns related to severe weather include loss of power, damage to water-related infrastructure, and lack of overnight warming/cooling centers for residents. Power loss was noted to have a negative impact on traffic circulation, communication, and business revenue.

Hazards relating to Detroit Metro Airport being located entirely within the City perimeter include health emergencies and terrorism. The presence of tank storage facilities near airports, railroads, highways, pipelines, and other industrial sites creates the potential for hazardous materials emergencies. The hazard extends to the local water supply in the event of a release. The community has a need for more comprehensive mutual aid agreements between communities and improved accessibility to information about potential hazardous material (hazmat) sites and their associated contingency plans.

The City has several municipal buildings, schools, and the 34th District Court building, all of which could be targets of intrusion or civil disturbance. Officials discussed the need for a vulnerability assessment of these institutions.

Existing Authorities, Policies, & Programs and Ability to Expand These

Romulus participates in the National Flood Insurance Program and administers its floodplain protections under Article X of their Code. In addition to including tools to regulate floodplain development, their Code of Ordinances includes regulations concerning emergency preparedness and a woodland protection ordinance that likely assists with

flood reduction. Romulus is a member of the Alliance for Downstream Watersheds and works in partnership with other communities to manage stormwater under a Phase II Municipal Separate Stormwater System (MS4) permit. Areas for possible improvement could include regulatory mechanisms and other programs to facilitate cooperative management of concerns stemming from the airport use and emergency response.

5.2.34 City of Southgate

Southgate's population is 29,778. Southgate is about 70% developed, with the bulk of undeveloped parcels located in the City's northwestern corner. Most of the open space in that area is zoned for light industrial use. Additionally, a small undeveloped section in west central Southgate, which is zoned for single-family residential development, is designated as a wetland according to MIRIS and NWI maps. There are also several small vacant commercial parcels situated along the City's major thoroughfares. Its land uses are primarily single-family residential and TCU: 35.5% and 22.8%, respectively. Impervious surfaces constitute 53% of the municipality's land use.

Southgate has recently been updating its Master Plan, a process that began in the fall of 2024. Southgate strives to enhance economic vitality, preserve residential neighborhoods, and promote progress in implementing the City's vision and values.

Hazard Priorities

Tornadoes, thunderstorms accompanied by high winds, and snow and ice storms create a threat to the City of Southgate and its residents. The resulting power outages have a significant effect on the population, especially senior citizens. Those who are at the greatest risk from these hazards are the residents of senior citizens' facilities located within the city. People living at the mobile home community located on Dix Toledo Highway in the northern section of the city are most vulnerable to the danger of tornadoes. The area bounded by Trenton/Dix on the west, Brest on the north, Fort Street on the East, and Eureka to the South has historically been prone to major basement flooding during severe rain events.

I-75 is a heavily traveled highway that runs through the City of Southgate. This highway has a history of many vehicular accidents. Of particular concern to city officials are accidents involving trucks carrying hazardous materials. The potential of train accidents and gas pipeline ruptures is an additional hazardous material vulnerability. The ability to adequately respond to these potential disasters, as well as other emergencies, is a concern to the officials of Southgate.

The close proximity of Detroit Metro Airport and the City's location along a flight path to the airport concerns city officials. The lack of manpower and resources to respond properly to a plane crash was discussed.

Existing Authorities, Policies, & Programs and Ability to Expand These

Southgate participates in the National Flood Insurance Program under Chapter 1464 of their Code of Ordinances. Southgate is a member of the Alliance for Downstream Watersheds and works in partnership with other communities to manage stormwater under a Phase II Municipal Separate Stormwater System (MS4) permit. In addition to including tools to regulate floodplain development, their Code of Ordinances includes

provisions regulating soil erosion and sedimentation, vacant properties, fire prevention, and utilities.

Areas for possible improvement could include regulatory mechanisms and programs to mitigate the impact of potential gas line or hazardous materials accidents, as well as weather-related emergencies.

5.2.35 Sumpter Township

Sumpter Township has an approximate population of 12,000, a slight increase from previous plans. At 40%, agriculture is the dominant land use, followed by single-family residential housing at 36%. Only 5% of the community is categorized as an impervious surface.

The township completed Phase I of a sewer lining project along Willis Road, addressing issues related to high groundwater levels and leaking manholes.

Hazard Priorities

The occurrence of a tornado could be devastating to the people and property of Sumpter Township. At greatest risk are residents of the five mobile home communities located within the township. Thunderstorms accompanied by high winds and ice storms have caused trees and limbs to fall across electric lines, resulting in power outages that can last several days. Officials discussed the need to remove trees and limbs from the area of power lines. Also discussed were backup generators and funds for a structure to store cots and other supplies needed by the public in certain mass emergencies.

The need for additional manpower for the public safety departments was also mentioned. Due to the township's location, emergency response to air and tanker accidents is a potential need.

Existing Authorities, Policies, & Programs and Ability to Expand These

Sumpter Township participates in the National Flood Insurance Program and administers its flood reduction program under Chapter 12 of its Code of Ordinances. In addition to including tools to regulate floodplain development, their Code of Ordinances includes regulations governing emergency preparedness, soil erosion control, and infrastructure. Sumpter Township is a member of the Alliance for Downstream Watersheds, but is outside of the urbanized area, so it is not part of the Phase II Municipal Separate Stormwater System (MS4) permit program. Possible additional authorities and programs could include regulatory mechanisms to maintain the low amount of impervious surfaces and to protect smaller remaining areas of open space, in addition to addressing the weather-related emergencies noted as community priorities.

5.2.36 City of Taylor

The population of Taylor is 61,015. The City’s principal land uses are single-family residential, TCU, and vacant at 30.5%, 18.9%, and 18.5%, respectively. The municipality’s land use is categorized as impervious surfaces at 39%.

Taylor's Zoning Ordinance has been periodically updated to reflect changing land use patterns and community priorities. The most recent comprehensive update was in 2009

Hazard Priorities

Tornadoes, thunderstorms accompanied by high winds, and other severe weather, including extreme temperatures in summer and winter, continue to be a chief concern to officials in the City of Taylor. Many of these storms result in trees or branches falling on power lines or blocking city roads. The resulting power failures adversely affect the community. The senior population, including residents of senior communities in Taylor, is at the greatest risk from these power outages.

Similarly, city officials noted that accidents resulting in hazardous material spills remain a high priority for the 2020 Hazardous Materials Plan (HMP) update. I-75, I-94, and Telegraph Road are heavily traveled routes with a high frequency of traffic accidents. The potential for a hazardous material emergency also exists on one of the railways, at fuel storage facilities and pipelines, and at the many industrial facilities located in Taylor.

Because of its close proximity to Detroit Metropolitan Wayne County Airport, the community is at risk of an airplane crash. City officials are concerned about the ability to respond properly to these emergencies, especially in conjunction with neighboring communities.

Existing Authorities, Policies, & Programs and Ability to Expand These

Taylor participates in the National Flood Insurance Program, minimizing losses due to floods using an overlay zone under Article 10 of their Code of Ordinances. In addition to tools regulating floodplain development, their Code of Ordinances includes provisions regulating utilities and traffic. Other programs could address concerns with the neighboring Metro Airport.

5.2.37 City of Trenton

The City of Trenton's 2020 census reports 18,544 residents living along the Detroit River. TCU is the primary land use, accounting for 32.4%, and single-family housing is the next most prevalent, at 25.6%. Trenton attributes much of its economic prosperity to the river and its strategic location among railroads, interstates, and the Detroit Metropolitan Airport. Additionally, the oldest park in Wayne County, Elizabeth Park, is situated along the riverfront.

In January 2025, Congresswoman Debbie Dingell (MI-06) announced that the Federal Railroad Administration is awarding $73,446,704 to the Michigan Department of Transportation to complete a road grade separation between M-85 and Canadian National Railroad in Trenton. This project will eliminate a dangerous crossing on one of the Downriver Region’s busiest traffic corridors.

Hazard Priorities

Tornadoes and winter weather hazards, especially those resulting in prolonged power outages and flooding, are serious concerns. There is a history of flooding in Trenton, particularly along the Frank & Poet Drain and the Detroit River. A related concern is the

potential failure of the Trenton Wastewater Treatment Facility, which could result in basement flooding. This hazard also presents a significant health threat to the citizens.

Cybersecurity is a very real problem and hazard. The City of Trenton was successfully targeted and lost significant information. Mitigation has included contracting with a professional IT vendor, which provides quarterly training for all employees.

With the removal of the DTE Energy Trenton Channel Power Plant and its replacement by the Slocum Energy Battery Energy Storage System, key safety responses must evolve. As this is new technology, new answers to safety and response will be needed, and this effort has been started.

The City of Trenton has significant rail corridors. The most vulnerable area is along West Jefferson and Van Horn.

Existing Authorities, Policies, & Programs and Ability to Expand These

Trenton participates in the National Flood Insurance Program under Chapter 46 of the Code of Ordinances, which also includes regulations concerning emergency services and emergency management, health and sanitation, law enforcement, utilities, and marine safety.

Areas for additional programs and policies could include mechanisms to develop tornado safety rooms or address shoreline erosion.

5.2.38 Van Buren Township

The Township population is approximately 30,083. Major land uses in the Township include single-family residential, TCU, vacant, and agriculture, at 26.6%, 20.8%, 14.5%, and 13.9%, respectively. Of the municipality's land use, 16% is categorized as impervious surfaces.

The 2020 Master Plan envisioned the future development of growth-focused areas while also preserving farmland, open space, and natural features in agricultural areas. Despite concerns from environmental groups, Waste Management received state approval to expand a neighboring landfill onto a 44-acre Van Buren Township property containing a rare wetland ecosystem. The expansion will impact habitats for endangered species and a state-protected bur oak.

Hazard Priorities

Tornadoes, winter weather hazards, thunderstorms, and accompanying high winds and ice storms that result in power outages and property loss are of the greatest concern to Township officials. The presence of dead trees around electrical lines was cited as a potential contributor to this hazard. The capacity to support displaced residents was also listed as a concern.

The presence of I-94 and associated service drives in Van Buren Township creates the potential for a major highway accident to interfere with local emergency response and regular traffic circulation. Under these circumstances, the need for public safety officers to direct traffic instead of addressing other safety needs is a burden for the local

community. I-275, two railroads, and a cargo-based airport additionally contribute to the risk of hazardous materials incidents.

Existing Authorities, Policies, & Programs and Ability to Expand These

Van Buren Township does not participate in the national flood insurance program as of April 30, 2025. It is a member of the Alliance for Downstream Watersheds, and portions of the Township are regulated under the Phase II Municipal Separate Stormwater System (MS4) permit program.

Their Code of Ordinances includes provisions for civil emergencies, emergency services, Boat safety, utilities, and telecommunications.

Potential areas for improvement could include programs to prepare for large weather events and resulting power loss.

5.2.39 City of Wayne

The City of Wayne has a population of approximately 16,797. Dominant land uses include single-family residential at 25.2%, TCU at 19.3%, and recreation/open space at 13.1%. Impervious surfaces constitute 49% of the community. The City of Wayne is strategically located in western Wayne County near the convergence of many of the transportation corridors of the Region. Developed along Michigan Avenue, the community was established along one of the state's highways. Rail connections followed, which helped to draw industry to the area. With convenient access to I-94, I-275, and the Wayne County Detroit Metropolitan Airport, the City remains at a central area in the region.

The 2021 Master Plan short-term strategy for zoning is to adopt new downtown and corridor zoning districts that correspond to the future land use districts. The medium-term strategy is to consolidate the Residential districts and provide design standards to accommodate missing middle housing typologies.

Hazard Priorities

Severe weather in both summer and winter, and associated power outages, have been the major natural hazard concern in the City of Wayne. Dead tree branches around power lines and aging infrastructure were noted as sources of this problem.

The age of urban infrastructure and associated hazards from gas mains and structural fires were cited as the greatest technological hazards. The presence of two railroads in the City was also mentioned as having the potential for derailments, at-grade automobile crossing accidents, and hazardous materials emergencies.

Existing Authorities, Policies, & Programs and Ability to Expand These

Wayne participates in the National Flood Insurance Program, administering their program under Chapter 1478 of the City's Code of Ordinances. In addition to including tools to regulate floodplain development, their Code of Ordinances includes regulations governing blight, the construction of fallout shelters, and fire protection.

Areas for possible improvement could include working with DTE regarding tree trimming and their programs for gas line safety. Stormwater management provisions that limit impervious surfaces could also help mitigate the exacerbation of flooding issues the community may experience.

5.2.40 City of Westland

Westland's population is 84,218, and its dominant land use is single-family residential, at 37.5%. Of the municipality's land use, 45% is categorized as impervious surfaces.

Hazard Priorities

Officials from the City of Westland discussed the effects of ice storms on city roads, as well as other storms that generate high winds and result in power outages. Ford Road, near I-275, is an area of numerous vehicular accidents due to ice on the road.

Due to the potential for hazardous material accidents in Westland and surrounding communities along highways and railroad corridors, emergency communication between the public safety departments of these communities needs to be improved. Additionally, hazmat equipment needs to be distributed to all municipal employees of the City of Westland.

Existing Authorities, Policies, & Programs and Ability to Expand These

Westland participates in the National Flood Insurance Program and administers its program under Section 22-39 of their Code of Ordinances. Their ordinances also include provisions regulating emergency preparedness, energy conservation, fire protection, and utilities. Potential additions to the City's policies and programs could include regulatory mechanisms to mitigate the impact of existing impervious surfaces and to protect remaining areas of open space, such as incentives to install green infrastructure, remove structures from the floodplain, and establish a stormwater utility.

5.2.41 City of Woodhaven

The population of Woodhaven is 84,218, and single-family housing is the principal land use in the community, accounting for 37.5%; 45% of the community is comprised of impervious surfaces.

Land use changes have included the conversion of farmland to residential areas and the growth of industrial and commercial zones. The city has also seen improvements to infrastructure, including parking and traffic flow, within the Downtown Development Authority (DDA) district. Additionally, there are ongoing efforts to address vacant properties and encourage new development.

Hazard Priorities

Severe storms pose a significant threat to the city. According to officials, the residents of the mobile home community located south of Van Horn and east of Peters are at greatest risk from a tornado. Snow and ice storms resulting in traffic accidents, especially on I-75, were also discussed.

Due to the large number of industries in the City of Woodhaven, city representatives have expressed concern regarding the potential for hazardous material (hazmat) emergencies within the community. Accidents on streets and highways, at the train tracks or rail yards, at manufacturing or other industrial facilities, or involving gas tank farms and pipelines were included as vulnerable locations for these emergencies. The need was discussed for a well-organized evacuation plan to be implemented in the event of a hazmat or other emergency requiring the relocation of citizens.

The likelihood of a pandemic resulting from the avian influenza (bird flu) and, particularly, the avian Influenza A (H5N1) virus was of concern to representatives of the City of Woodhaven. The lack of the necessary vaccine to immunize the population was discussed. The senior citizen population was identified as being at the greatest risk for this health hazard.

Existing Authorities, Policies, & Programs and Ability to Expand These

Woodhaven participates in the National Flood Insurance Program and administers it under Chapter 50 of its Code of Ordinances. Other regulatory tools in the City's Code of Ordinances include emergency management, emergency services, fire protection, health and sanitation, law enforcement, utilities, transportation, and sewer infrastructure.

Potential additions could include regulatory mechanisms to mitigate the impact of existing impervious surfaces and protect open space, such as incentives to install green infrastructure, remove structures from the floodplain, or establish a stormwater utility. Additionally, after-action lessons from the County's preparedness and response to COVID-19 should be implemented to better care for the City's senior population and others.

5.2.42 City of Wyandotte

The City of Wyandotte has a population of 23,874. Single-family residential housing is the predominant land use, and 56% of the community is categorized as an impervious surface.

The City is currently working with SmithGroup on a complete overhaul of the City's Zoning Ordinance. One of the primary objectives of the Zoning Ordinance overhaul is to integrate and encourage the zoning ordinance to address the missing middle housing. The revised zoning ordinance will allow for a mixture of housing types along corridors, adjacent to single-family detached neighborhoods, near the downtown, and for mixed residential redevelopment sites.

Hazard Priorities

Severe storms and associated power outages and flooding are a source of concern in the City of Wyandotte. Additionally, the City has a history of flooding due to sewer system failures. As a combined result of a power outage, associated delay and restarting pumps, and resulting capacity exceedance at the Wayne County Wastewater Treatment Facility, sewers have backed up and flooded numerous homes in Wyandotte. The area of highest frequency of flooding occurs in the southern portion of the city, in the area between Pennsylvania and Eureka Roads, west of Biddle. Officials discussed the potential health risks to citizens resulting from sewage backing up into their homes.

Due to the large number of industries in the City of Wyandotte, there is a potential for a hazmat emergency. Representatives discussed vulnerable locations, including railroads, chemical and other manufacturing plants, the Municipal Water and Power Plant, the Wayne County Wastewater Treatment Facility, and high-pressure pipelines. Officials expressed the need for additional public safety personnel, hazmat training, and hazmat emergency equipment to better prepare for these potential disasters.

Criminal activity has become a growing concern due to shifts in the economy and changes in police staffing levels. School security has also become a concern.

Existing Authorities, Policies, & Programs and Ability to Expand These

Wyandotte is a coastal community that participates in the National Flood Insurance Program. It administers its local program under Article VIII, Division 5, Subdivision III of its Code of Ordinances—other regulatory tools in the City's Code address sewers and traffic. Additional policies or programs could focus on the sewer backups and the potential for hazardous material releases noted above.

5.3 Hazard Evaluation

Based on survey results, community input, and workshop evaluation results, the top hazards to be evaluated during mitigation planning were identified. Special consideration was given to those hazards being evaluated and mitigated by other programs.

Specifically, terrorism and weapons of mass destruction are being evaluated under the Homeland Security Program. Due to security considerations, information from that program was not available for consideration in this Plan. Therefore, these two hazards were not considered when selecting and prioritizing hazard mitigation alternatives. Hazards from nuclear power plant accidents have also been evaluated under other county planning initiatives and, due to security considerations, are not considered in this Plan.

The hazards selected for developing mitigation strategies combined the top hazards identified in the survey, the top hazards identified by the communities, and the hazard ranking conducted during the workshop. Hazard selection evaluated both potential impact and risk. The process was described previously in the discussion of the Risk Analysis Workshop.

The impact rank and risk rank for each hazard were used to identify the most critical hazards for the County. Hazards with an assessment ranking of 1 were of the greatest concern, followed by others in the top seven hazards listed below.

		2024 Workshop Results		
	Hazard Event	**Workshop Rank**	**Hazard Risk Rank**	**Action Plan Needed**
1	Thunderstorms - Hail, Lightning, Severe Wind	9	4	2
2	Flooding - (All Types)	3	6	3
3	Tornadoes	6	3	2
4	Criminal Acts - Mass Shootings/Active Assailant(s)	8	5	2
5	Cyber Attacks - Network Disruptions	7	7	4
6	Transportation Accidents - Rail	3	10	3
7	Infrastructure Failure Causing Flooding	1	9	3
8	Winter Hazards - Snow, Ice & Sleet	10	8	4
9	Acts of Terrorism	2	1	1
10	Hazmat Incidents (Including Stored Energy Systems)	3	2	1

5.4 Vulnerability Assessment

5.4.1 Current Assessment

Civil Disturbance

A civil disturbance in Michigan occurs once every 8 to 10 years.[376] A labor dispute, sporting event, or demonstration at a college, government facility, detention facility, or military facility is the most likely cause of a civil disturbance in the County.

Wayne County features numerous places of public gathering, including major entertainment venues, festivals, national events, major league athletic facilities, places of potential political protest, and governmental facilities, but most of these are located within the City of Detroit, which is not part of this Plan. The most vulnerable locations/events outside of Detroit include the following:

- Courthouses and Federal Buildings
- Detention Facilities
- Universities

Figure 12 displays universities and other vulnerable locations, such as the Henry Ford Museum, with Dearborn being the most vulnerable, as it has five secondary educational institutions along with a populous and active downtown area.

Criminal Acts – Vandalism and Arson

The 2017 Michigan State Police Michigan Incident Crime Reporting (MICR) online database indicates that 68,184 "damage against property" incidents were reported in

[376] Listing of US Civil Unrest Incidents, Armstrong Economics: www.armstrongeconomics.com/statistics/listing-of-us-civil-unrest-incidents

Wayne County from 2013 through 2017, resulting in an average of 13,637 vandalism offenses per year.[377]

In 2003, an arson or suspicious fire occurred every 62 minutes in Michigan.[378] Since 2013, Wayne County has experienced 4,081 arson fires, averaging 816 per year.[379] This is notably less than the 6,565 total and 1,094 average annual arson fires reported in Wayne County's 2013 Hazard Mitigation Plan.

Any property is a potential target for arson and vandalism. However, abandoned buildings and historic sites are the most vulnerable to acts of arson. Fire departments are critical assets for responding to acts of arson. Thirty-five fire departments respond to structural fires within the Wayne County communities covered in this plan.

Top 5 Community Land Use in Wayne County-Drought Vulnerabilities
Active Agriculture and Cropland

Community	Agriculture (acres)	Agriculture (%)
Sumpter Township	4,051	16.8
Huron Township	3,251	14.2
Van Buren Township.	2,977	12.9
Canton Township	1,069	4.6
Romulus	955	4.2

Source: SEMCOG, 2008 *Land Use and 2010 Leaf-off Land Cover*: Wayne County, Excluding Detroit. May 2019.

Highland Park has a notably high housing vacancy rate of 34.3%, indicating a significant number of vacant and abandoned properties. River Rouge also faces challenges with property vacancy, reporting a housing vacancy rate of 22.5%[380]. Dearborn had the most incidents of property crime according to the US Census Bureau in 2021, followed by Livonia and Taylor.

Drought

At least four drought events have been recorded for Wayne County since 2000, and climate patterns continue to trend toward drier, hotter summers.[381] Wayne County contains approximately 13,060 acres of active agricultural land that is vulnerable to drought. Figure 13 shows the location of active agricultural lands in Wayne County. The most vulnerable agricultural resource is cropland.

Sumpter Township, Huron Township, and Van Buren Township are the top three communities for total active agriculture and cropland acreage.[382]

Earthquakes

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[377] Michigan State Police, Michigan Incident Crime Reporting, Crime Statistics, Wayne County, 2013, 2014, 2015, 2016, and 2017. http://www.micrstats.state.mi.us/MICR/Reports/Report02.aspx
[378] Michigan State Police, Fire Marshall Division, *2003 Michigan Fire Clock*
[379] Michigan State Police, Michigan Incident Crime Reporting, Crime Statistics, Wayne County, 2013, 2014, 2015, 2016, and 2017. http://www.micrstats.state.mi.us/MICR/Reports/Report02.aspx
[380] https://www.canr.msu.edu/urban-collaborators/FinalPosterWCLB.jpg
[381] NOAA National Centers for Environmental Information Storm Events database query https://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=26%2CMICHIGAN, May 14, 2019
[382] SEMCOG, 2008 *Land Use and 2010 Leaf-off Land Cover*: Wayne County, Excluding Detroit, May 2019.

Top 5 Community Land Use in Wayne County, Excluding Detroit – Extreme Temperature Vulnerabilities
Utilities

Community	Acres
Trenton	150
River Rouge	110
Romulus	66
Dearborn Heights	63
Westland	57

Source: SEMCOG, Land Use in Southeast Michigan, 1990-2000, Specific to Wayne County, Excluding Detroit, April 2004.

Most earthquakes in Michigan are minor tremors that cause little to no damage. Several mildly damaging earthquakes have been felt since the early 1800s. The most vulnerable assets to earthquakes are the County's water, sewer, and natural gas services and natural gas/petroleum pipelines. The entire county has access to gas service through either Consumers Energy or DTE Energy. Municipal and county-operated water, stormwater, and sanitary sewers are also vulnerable. Current sewers within Wayne County and pipeline locations are shown in Figures 4 and 8, respectively.

Extreme Temperatures

Extreme temperature periods occur annually in the state, affecting the entire county. Underground utilities, primarily water and gas service areas, are vulnerable to extreme cold. These vulnerable areas are shown in Figure 14. The entire county has natural gas services available through Consumers Energy or DTE Energy. Trenton, River Rouge, and Romulus have the highest utility land use acreage in the County, excluding Detroit.[383]

The elderly, young, disabled, and impoverished are also vulnerable to extreme temperatures. Hospitals are vulnerable due to an increase in cases of heat stroke, heat exhaustion, frostbite, hypothermia, and other temperature-related illnesses.

Based on age alone, almost 21% of the Wayne County population is vulnerable to extreme temperatures.[384] Grosse Pointe Farms has the highest median age of population, with half the population at 51 years or older, according to the US Census Bureau.

Forest/Field Fire

A total of 1,669 forest/field fires occurred between 1998 and 2004 in Wayne County.[385] Woodlands, wetlands, grassland, shrubland, and areas near railroad rights-of-way are

Top 5 Community Land Use in Wayne County – Forest/Field Fire Vulnerabilities
Forest Land

Community	Acres
Grosse Ile Township	1,272
Northville Township	1,130
Livonia	866
Plymouth Township	806
Van Buren Township.	719

Grassland/Shrubland

Community	Acres
Sumpter Township	3,288
Huron Township	2,901
Canton Township	2,789
Romulus	2,744
Van Buren Township	2,466

Source: SEMCOG, 2008 *Land Use and 2010 Leaf-off Land Cover*: Wayne County, Excluding Detroit. May

[383] SEMCOG, *Land Use in Southeast Michigan, 1990-2000*, Specific to Wayne County, Excluding Detroit, April 2004.
[384] U.S. Census Bureau, *Profile of General Demographic Characteristics*: 2000, Wayne County, Michigan
[385] Federal Emergency Management Association Website, www.nfirs.fema.gov, NFIRS 5.0 National Reporting, October 3, 2005, Filtered for Wayne County Reporting Only.

vulnerable to forest/field fires. Wayne County contains approximately 6,904 acres of forest land.[386] Wayne County contains approximately 27,336 acres of grassland and shrubland.[387] The 35 fire departments in the participating Wayne County communities are critical assets for responding to forest/field fires. Figure 15 presents the coverage of forest woodland, grassland, shrubland, railroads (along which fires often occur), and the location of fire department headquarters in the County.

Grosse Ile Township, Northville Township, and Livonia have the highest forest acreage in the County. Sumpter Township, Huron Township, and Canton Township have the highest total acreage of grassland and shrubland in the County.

Scrap Tire Fire

Within Wayne County, there are 13 registered scrap tire facilities and approximately 107 unregistered facilities.[388] The Michigan Department of Environmental Quality's Scrap Tire Program has identified many unregistered scrap tire facilities that need remediation. A third of the unregistered sites are very small, typically storing fewer than 500 tires. The majority of the listed stores had between 500 and 2,000 tires on site, and the largest site held over 53,000 tires at the time of the last survey.[389]

Due to the toxic smoke produced by tire fires and their potential environmental impact, residents living near these facilities are considered vulnerable. Figure 16 shows the location of the registered scrap tire facilities within a 1-mile radius of census block groups.

Scrap tire collection facilities are located near Redford Township, Inkster Township, Wyandotte, and Brownstown Township. There are approximately 11,548 people within a one-mile radius of registered tire facilities in Wayne County. Unregistered scrap tire locations store fewer tires than registered facilities. Therefore, areas adjacent to unregistered sites are considered less vulnerable than areas near registered facilities. Also shown in Figure 16 are the locations of fire stations in the County.

Structural Fire

Structural hazards are commonly known as " universal hazards" because they can occur anywhere. From 1998 through 2004, 8,674 structural fires in Wayne County were reported to the Federal Emergency Management Agency's National Fire Incident Reporting System.[390] This translates to an average of approximately 1,240 structural fires per year in Wayne County. Older houses are particularly vulnerable to structural fires. Figure 17 shows housing units and fire stations within the County.

[386] SEMCOG, *Land Use in Southeast Michigan, 1990-2000*, Specific to Wayne County, Excluding Detroit April 2004.
[387] SEMCOG, *Land Use in Southeast Michigan, 1990-2000*, Specific to Wayne County, Excluding Detroit April 2004.
[388] Michigan Department of Environmental Quality, Southeast Michigan District, Scrap Tire Program, Tire Site Database.
[389] Ibid.
[390] NFIRS 5.0 National Reporting, Tally by Incident Type, January 1, 1998, through December 31, 2004, report generated on October 3, 2005, filtered for Wayne County reporting only.

Dearborn has the highest number of housing units built before 1939, at 9,280 units, according to the US Census Bureau. Highland Park, Grosse Pointe, and Gross Pointe Park have the highest number of housing units built before 1939 per capita.

Flooding

Wayne County has had two documented dam failures.[391] Urban and riverine flooding depend on seasonal weather patterns, and seven flood and flash flood events have been recorded since 2013.

Vulnerable areas include communities with aging sewer infrastructure and areas near the Detroit and Huron Rivers, which have lower elevation levels. Suburban sprawl has led to impermeable surfaces that exacerbate flash flooding.

Approximately 9,509 structures are located within the FEMA 100-year floodplain in Wayne County. Figure 5 shows the location of dams, as well as floodplains and specific areas in the County that experience high flooding.

Hazmat Incidents – Fixed Site

The majority of hazmat material releases in Wayne County are to water, followed by those to land and air.[392] Vulnerable locations are Sara Title III sites (sites that store hazardous substances) in the County and areas within a one-mile radius of these sites. There are 153 Sara Title III sites in Wayne County, 40 of which are located outside the City of Detroit.[393]

Between 1990 and October 2005, Ecorse, Detroit, River Rouge, Taylor, and Trenton had the highest number of releases from fixed-site hazardous material (hazmat) locations.[394] Police and fire stations are crucial assets for responding to hazardous material (hazmat) fixed-site releases. Areas with a greater population are more at risk for secondary health-related incidents resulting from a fixed-site hazmat release.

Hazmat Incidents – Transportation Incident

From 1990 to April 1, 2013, there were 664 transportation-related hazmat incidents, 420 occurring on highways and 244 on Wayne County railroads.[395] This translates to an average of approximately 29 incidents per year in the County. Between 1999 and October 2005, the highest number of releases from transportation-related hazmat incidents involved the release of oil.[396] Vulnerable locations to a transportation hazmat incident are the areas within a one-mile radius of the railroads and major roadways, particularly I-75,

[391] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2001, page 76.
[392] U.S. Coast Guard National Response Center Website, www.nrc.uscg.mil/foia.html, Standard Query Report for Wayne County, Fixed Incidents, October 2005.
[393] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* April 2012, page 234.
[394] U.S. Coast Guard National Response Center Website, www.nrc.uscg.mil/foia.html, Standard Query Report for Wayne County, Fixed Incidents, October 2005.
[395] U.S. Coast Guard National Response Center Website, www.nrc.uscg.mil/foia.html, Standard Query Report for Wayne County, Transportation, April 2013.
[396] Ibid

I-696, I-96, I-94, and I-275. Areas with a greater population are more vulnerable to these incidents. Police and fire stations are critical assets for responding to hazardous material (hazmat) fixed-site releases, providing evacuation and cleanup assistance. The locations of the railroads and major highways are included in Figure 18.

Infrastructure Failures

The Wayne County Department of Public Works, along with the Detroit Water and Sewer Department, operates and maintains storm drains throughout the County (Figure 19) as well as other water, wastewater, and storm sewer infrastructure. Minor problems with the sanitary and storm sewers are common during major rain or snowmelt events. Interruptions in the water system are localized and intermittent, typically occurring only after power outages and extreme temperatures. The primary consequence of this hazard is potential public health impacts. As a result, schools, hospitals, and elderly care facilities have been identified as the most vulnerable. The downriver communities have been identified as having the greatest occurrence of problems with infrastructure failures involving the sanitary sewer system. Therefore, schools, hospitals, and elderly care facilities in these communities are at a higher risk of vulnerability.

Electrical service is provided to Wayne County residents by Wyandotte Municipal Services (Figure 20). Private communication services are provided by several companies, with AT&T serving the largest number of customers. Wayne County also operates a 911 Call Center and public safety radios. Failures of the electrical and communications systems are more likely to occur during severe storms. Populations in schools, hospitals, and elderly care facilities have been identified as being at increased vulnerability to this hazard.

Nuclear Power Plant Accidents

There are three nuclear power plants in Michigan. The closest active plant, Enrico Fermi-2, was opened in Monroe County in 1998. A portion of Brownstown Township and the cities of Flat Rock, Gibraltar, and Rockwood are within Protective Action Order Areas 4 of the Enrico Fermi-2 Nuclear Power Plant (Figure 6). The primary vulnerability to a nuclear power plant incident is the radiological contamination of food sources. Agricultural lands, restaurants, and grocery stores are the most vulnerable.

Oil and Gas Well Accidents / Petroleum and Natural Gas Pipeline Accidents

There have been no oil or gas well-related incidents in Wayne County in the past 5 years.[397] Although there have never been any significant incidents in Wayne County, the presence of active and producing wells within the County makes this hazard possible. Between 1973 and 2001, there was an oil or gas well incident in Michigan every 3 to 4 years.[398]

Pipelines can pose a significant threat to the public due to the threat of fires, explosions, and ruptures. The most vulnerable are heavily populated residential areas, schools,

[397] Michigan Department of Environmental Quality, Southeast Michigan District, Geological and Land Management Division, staff telephone interview July 7, 2004.
[398] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis*, December 2001, page 9.

churches, and hospitals. Local fire and police departments would respond to a pipeline incident. Gas leaks are a frequent call for service for Emergency Response Teams. Populations located within a 1-mile radius of a well or pipeline are most vulnerable, and urbanized areas are more vulnerable than rural areas, based solely on population densities. The locations of natural gas distribution pipelines, natural gas transmission lines, petroleum gas pipelines, oil/gas bottom wells, and oil/gas surface wells are shown in Figure 7.

There are approximately 120 miles of natural gas distribution pipelines, 363 miles of natural gas transmission lines, and 107 miles of petroleum gas pipelines in Wayne County. Approximately 1,028,514 people are located in the census blocks within 1 mile.

Public Health Emergencies

Public Health Emergencies can arise from a wide range of causes and can result in varying levels of severity. Persons most susceptible are those with weakened or undeveloped immune systems. Therefore, older populations are the most vulnerable. Livonia and Southgate have some of the oldest populations in Wayne County. Grosse Pointe Farms has the highest median age of the population, with half the population at 51 years or older, according to the US Census Bureau. Figure 20 shows the distribution of nursing homes and hospitals throughout the County.

Top 5 Community Land Use In Tornado Vulnerabilities

Communications

Community	Acres
Riverview	40
Romulus	31.5
Taylor	29
Gibraltar	29
Lincoln Park	21

Electrical Transmission Lines

Community	Acres
Canton Township	243
Sumpter Township	210
Van Buren Township	191
Huron Township	95
Trenton	85

Manufactured Home Park

Community	Acres
Van Buren Township	297
Canton Township	293
Huron Township	253
Sumpter Township	251
Romulus	159

Source: SEMCOG, Land Use in Southeast Michigan, 1990-2000, Specific to Wayne County, Excluding Detroit, April 2004

Subsidence

Subsidence in the County is most likely due to sinkholes caused by water mains and stormwater utility breaks. The probability of this occurrence increases as infrastructure ages. Figure 4 presents the Wayne County sewer service areas.

Thunderstorm Hazards and Tornadoes

Wayne County receives 40-60 thunderstorm days per year.[399]

[399] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis,* December 2001, page 184.

Vulnerable and critical assets associated with thunderstorms (hail, lightning, and severe wind) and tornadoes are the warning siren systems, communications/ electrical infrastructure, police and fire facilities, and manufactured home sites. Private urban tree removal services and municipal forestry departments are also critical to responding to wind hazards.

Wayne County, excluding Detroit, has approximately 188 acres and 916 acres devoted to land uses associated with communication and utilities, respectively. There are also over 2,240 acres of manufactured home parks in the County.

Canton Township, Van Buren Township, and Sumpter Township are the most vulnerable to communication, utility, and electrical transmission line failure based on total acreage. Van Buren Township has the highest acreage for manufactured home park land use. Figure 9 includes the locations of the County's warning sirens and fire department headquarters (within participating communities).

Transportation Accidents

Wayne County has five airports. Between 1990 and 2005, there were 28 air transportation incidents in Wayne County, nearly two incidents per year.[400] From 1987 to the present (2019), five accidents occurred at or in the vicinity of the Detroit Metropolitan Wayne County Airport. The majority of transportation accidents occur during takeoff or landing; therefore, impacted areas are typically those located near airports or runways. The locations of the airports within the County are provided in Figure 21, along with census blocks within a five-mile radius of the airports. There are over 300,000 people located within five miles of at least one airport in the County.

Automobile accidents occur several times daily in the County and can occur anywhere in the County. Wayne County averaged 54,042 traffic accidents in 2016-2017; of these, an average of 164 occurred each year, resulting in fatalities.[401] According to a news release from the Michigan Auto Law firm, almost "30% of all Michigan car crashes and a staggering 26% of fatalities are stemming from just 20 intersections." The public's impact from private automobile accidents is primarily limited to the individuals and families of those involved in the accident. However, the secondary impacts, whether permanent or transient, on traffic systems and roadway structures, can affect a much greater number of people. The most dangerous intersections outside of Detroit in Wayne County (2023) *are*[402]*:*

Schoolcraft @ Telegraph Location: Redford Township Total Crashes: 154 Injuries: 47	Middle Belt @ Schoolcraft Location: Livonia Total Crashes: 80 Injuries: 15	Ford @ Telegraph Location: Dearborn Total Crashes: 71 Injuries: 21
Dix Ave @ M-39 Location: Lincoln Park	Ann Arbor @ I-275 Location: Plymouth Township	

[400] National Transportation Safety Board, www.ntsb.gov, Aviation Database Query, Wayne County, Michigan, report generated September 19, 2005.
[401] MLive Public Records Search, May 1, 2019.
[402] https://www.themichiganlawfirm.com/blog/2016/6/6/top-20-most-dangerous-michigan-intersections

Total Crashes: 65 Injuries: 13	Total Crashes: 59 Injuries: 15

On average, there are 13 recorded railroad accidents each year in Wayne County.[403] The majority of these recorded incidents involve minor derailments, most often on private property, and result in only mechanical damage to the train or its cars. Areas adjacent to railroads are the most vulnerable to railroad accidents. The locations of railroads, police stations, fire stations, and critical vulnerable assets in the County are included in Figure 22.

Winter Hazards

Michigan averages one major snow or winter storm every other year and one major ice and sleet storm event annually.[404] Communications and utilities are vulnerable to winter hazard events. They would include such companies as DTE Energy, Consumers Energy, AT&T, Charter Communications, Comcast, local television networks, local radio networks, communication towers, and local emergency services and cell phone service providers.) Bridges and major roadways are vulnerable in that most incidents related to winter hazards are secondary effects, such as auto accidents. Public facilities, such as road yards (including those managed by the Road Commission and MDOT), are vulnerable assets in snow removal and road salt services.

During major events, schools are likely to close, and hospitals are likely to see an increase in patients with ailments such as heart attacks from overexertion and auto accident injuries. Police and fire stations are vulnerable to emergency response activities related to winter hazard incidents. Private or governmental tree removal services are also vulnerable to winter hazards.

Top 5 Community Land Use In Wayne County, Excluding Detroit – Winter Hazard Vulnerabilities

Communications

Community	Acres
Riverview	40
Romulus	31.5
Taylor	29
Gibraltar	29
Lincoln Park	21

Electrical Transmission Lines

Community	Acres
Canton Township	243
Sumpter Township	210
Van Buren Township	191
Huron Township	95
Trenton	85

Utilities

Community	Acres
Trenton	150
River Rouge	110
Romulus	66
Dearborn Heights	63
Westland	57

Source: SEMCOG, Land Use in Southeast Michigan, 1990-2000, Specific to Wayne County, Excluding Detroit, April 2004

5.4.2 Specific Local Vulnerabilities

To improve the presentation of information concerning specific hazards and the vulnerability of each community to these hazards and other risks,

[403] Federal Railroad Administration, http://safetydata.fra.dot.gov, all reports for all railroads in Wayne County, 1999 through December 2005, reports generated on December 13, 2005.
[404] Michigan Department of State Police, Emergency Management Division, *Michigan Hazard Analysis*, April 2012.

community representatives were asked to identify community assets and locations that are specifically vulnerable to these hazards.

For the most part, all Wayne County communities are vulnerable to the same natural, technological, and human-caused hazards. There are, however, some differences based on infrastructure, land cover, proximity to the Great Lakes and Detroit River, and hazard history. Specifically, hazards for which communities are at a greater risk include drought, wildfire, lake shore flooding and erosion, flooding due to dam failure, and subsidence/sinkholes.

5.4.3 Future Assessment

The majority of this Hazard Mitigation Plan focuses on current hazards and the locations and populations within Wayne County vulnerable to those hazards. Anticipated changes in population and land use within the County, however, allow some prediction of how these hazards and vulnerabilities may also change over time. A review of growth trends and predictions for Wayne County and southeast Michigan identifies the following four hazard categories as concerns to be considered by Wayne County officials. These are discussed in order of the hazard and risk rankings determined by the Advisory Committee.

Extreme Temperatures

The population of Wayne County and much of southeast Michigan is aging. Between 2020 and 2050, the percentage change in people aged 65 to 84 years and those older than 84 is estimated at 81.78% and 41.94%, respectively, whereas most younger cohorts are expected to decline. An estimated 1,103,149 people will be of retirement age by 2050. Wayne County will need to prepare for the needs of a substantially older population.[405]

Extreme temperatures may be among the hazards considered in this planning process, with the greatest implications for the elderly. Specific vulnerabilities include heating and cooling shelters where older individuals without access to air conditioning or sufficient heating may be brought for care. The County's aging population may have additional planning implications for emergency response agencies in cases of structural fires and other hazards requiring evacuation.

Flooding

Non-tropical, billion-dollar, inland flood events have increased in the United States, including four separate billion-dollar inland flood events in 2016.[406] This doubled the previous annual record, as no more than two of these events had occurred in a year since

[405] SEMCOG, "Population and Households: Population and Households Estimates for Southeast Michigan, 2024: Historic Population and Employment by Minor Civil Division, Southeast Michigan," accessed February 13, 2025, https://www.semcog.org/community-profiles#People.
[406] Adam Smith, "2016: A Historic Year for Billion-Dollar Weather and Climate disasters in U.S.," National Oceanic and Atmospheric Administration, January 9, 2017, https://www.climate.gov/news-features/blogs/beyond-data/2016-historic-year-billion-dollar-weather-and-climate-disasters-us#:~:text=Three%20of%20these%20flood%20events,impacted%20the%20U.S.%20in%202016.

1980.[407] In 2019, the U.S. was again impacted by two large-scale inland flood events across several Midwestern and Southern Plains states.[408] The scale of the damage is still being assessed, but it may be comparable to the historic 1993 Midwestern flood.[409]

Also in 2017, Hurricane Harvey caused unprecedented amounts of rainfall, up to 50 inches over Houston, one of America's largest cities. More than 30 inches of rainfall fell on 6.9 million people, while 1.25 million experienced over 45 inches and 11,000 had over 50 inches, based on 7-day rainfall totals ending August 31.[410]

This perhaps should be expected, as heavy rainfall events and their ensuing flood risks are increasing because warmer temperatures are "loading" the atmosphere with more water vapor. Over time, this increases the potential for extreme rainfall events, and how we build determines our resilience to the increasing risk of flood events.[411]

The analysis conducted by the First Street Foundation to identify land parcels at risk of flooding was described in Section 4.7.2. Whether their models are better or worse than FEMA's analysis is not the subject of this report; however, they have developed a tool that may be of use for Wayne County municipalities. It is an interactive map that notes the number of at-risk parcels in 2020 versus projected numbers in 2050. Data is provided by zip code.[412] Changes over time for different communities and zip codes differ due to the amount of area left in various communities that have not yet been developed.[413]

Infrastructure Failure

Although the Michigan legislature authorized one-time investments and federal infrastructure funding, the allocated funds are insufficient to address the system's needs fully.[414] Approximately 1,234 or 11% of the state's 11,156 bridges were deemed structurally deficient in 2021.[415] The 2023 American Society of Civil Engineers assessment indicates that 33% of Michigan's paved roadways are in poor condition. Transportation funds for roadways, including bridge maintenance and improvements, and for maintaining existing transit services, are expected to fall $17 billion short of projected needs over the

[407] National Oceanic and Atmospheric Administration: National Centers for Environmental Information, "U.S. Billion-Dollar Weather and Climate Disasters," accessed February 13, 2025, https://www.ncei.noaa.gov/access/billions/events/US/1980-2024?disasters[]=flooding.
[408] Ibid.
[409] Ibid.
[410] National Oceanic and Atmospheric Administration, "Hurricane Harvey: A Look Back Seven Years Later," August 26, 2024, https://www.nesdis.noaa.gov/news/hurricane-harvey-look-back-seven-years-later.
[411] U.S. Environmental Protection Agency, "Climate Change Indicators: Heavy Precipitation," last modified January 15, 2025, https://www.epa.gov/climate-indicators/climate-change-indicators-heavy-precipitation#:~:text=Climate%20change%20can%20affect%20the,heavier%20rain%20and%20snow%20storms.
[412] Detroit Free Press, June 29, 2020. *First Street Foundation's flood assessment method finds 70% more parcels at flood risk nationwide than are noted by FEMA*. https://www.freep.com/in-depth/news/local/michigan/2020/06/29/flood-risk-michigan-homes-map-first-street-foundation/3258043001/
[413] Keith Matheny, "What's Your Home's Flood Risk? New Study Measures it for Every Parcel Nationwide," *Detroit Free Press*, June 29, 2020, https://www.freep.com/in-depth/news/local/michigan/2020/06/29/flood-risk-michigan-homes-map-first-street-foundation/3258043001/.
[414] American Society of Civil Engineers, "2023 Michigan Infrastructure Report Card," accessed February 13, 2025, https://infrastructurereportcard.org/state-item/michigan/.
[415] Ibid.

next 30 years.[416] Monies available for maintaining and improving sewers are, likewise, expected to fall $14 to $26 billion short of infrastructure needs.[417] Wayne County communities may be especially hard hit by this lack of public funding, as the decreasing population and job losses within portions of Wayne County will result in fewer tax dollars to fund improvements.[418] Many of the communities exhibiting these demographic trends, including decreasing population and a loss of local jobs, are also those with some of the oldest existing infrastructure.

Transportation Accidents and Transportation-Related Hazmat Incidents

Road congestion and traffic accidents are, and will continue to be, a particular concern in Wayne County. Within southeast Michigan, Wayne County is second only to Oakland County in the number and percentage of congested road miles. The Southeast Michigan Council of Governments (SEMCOG) has determined that 184.8 miles of road in Wayne County are congested. That equals 9% of the County's roadways, but approximately 26% of the congested roads in the region. More commuters are driving on Wayne County roads than in any of the other counties in southeast Michigan, with over 1 million people commuting within, into, or out of the County to get to work each day.

Due to the number of congested road miles and vehicles, Wayne County has more traffic accidents than any other in southeast Michigan. In 2023, Wayne County had 190 fatal crashes, resulting in 201 fatalities. These statistics have implications for both the number of transportation accidents and the number of transportation-related hazmat incidents in the County. Likewise, future trends in the County may have implications for the potential increased risk of these hazards in the future.[419]

By the year 2030, more than 20% of the population in the cities of Northville, Plymouth, Livonia, Redford, Westland, Garden City, Dearborn, Wayne, Taylor, Allen Park, Melvindale, Lincoln Park, Ecorse, Southgate, Riverview, Trenton, Flat Rock, Rockwood, Highland Park, Harper Woods, Grosse Pointe Woods, Grosse Pointe Shores, Grosse Pointe Park, Grosse Pointe Park, and Plymouth Township will be over the age of 65.[420] Elderly drivers are more likely to travel during times when crashes are more likely to occur, such as rush hour and nighttime.[421] However, elderly drivers are more likely to be injured or die in an automotive crash than most younger driver age demographics.[422]

The confluence of increasing road congestion, an aging population, and increased truck traffic presumably exacerbates the potential for transportation accidents, including accidents involving the transport of hazardous materials. As County officials review and

[416] SEMCOG, *Land use Change in Southeast Michigan: Causes and Consequences,* March 2003.
[417] Ibid
[418] SEMCOG, *2020 Regional Development Forecast: Population, Households and Employment for Cities, Villages, Townships and Detroit Subcommunities*, April 1996.
[419] Michigan State Police, *2023 Statewide Traffic Crash Data Year End Report*, 2023.
[420] SEMCOG, *2030 Regional Development Forecast (RDF) Population by Age by Community*, September 2002.
[421] National Highway Traffic Safety Administration and the American Society on Aging, *Drive Well: Promoting Older Driver Safety and Mobility in Your Community*, revised January 2007, 7.
[422] Ibid., 6-7.

plan improvements for those areas currently identified as problem intersections and roads, hazard mitigation should be included in the planning process.

Flooding – Urban/Riverine

Although many communities in Wayne County are older and more densely developed than other areas of southeast Michigan, Detroit, along with inner core communities, is experiencing reductions in population, households, and jobs. Wayne County saw a net increase of 13,400 acres of developed land from 1990 to 2000. During the same period, Wayne County lost 43% of its remaining farmland.[423]

Housing development trends for most of the region show a shift toward less dense development patterns. New subdivisions in St. Clair County use more than two acres of land, on average, for a single new housing unit. SEMCOG reports that the region grew by 5% from 1990 to 2000. During the same period, developed land in southeast Michigan increased by 17%. SEMCOG's data shows that land in much of the region is being developed at a rate greater than three times that of population growth.[424]

New housing in Wayne County, by contrast, continues to maintain higher densities of three housing units per acre on average. Continued higher-density development within Wayne County, more sprawling development, higher population growth in neighboring upstream communities, and the loss of agricultural land, including other open spaces, have the potential to increase and exacerbate flooding within Wayne County. SEMCOG predicts that the area covered by impervious surfaces, such as roads, parking lots, driveways, and rooftops in the region will increase from 14% to 24% in the future as communities build out according to existing master plans. Exacerbating this increase in imperviousness is the corresponding loss of the existing "natural infrastructure" of woodlands and wetlands, farmland, and other open space, which serve to intercept, store, and return storm water to the atmosphere. Studies compiled from across the country demonstrate that increased imperviousness results in imbalances in hydrology and degradation of water quality and stream integrity.[425]

In an undeveloped landscape, most of the water falling as rain or snow is intercepted by the forest canopy or other vegetation. This water is returned to the atmosphere through the processes of evaporation and transpiration without ever reaching the ground surface. Water that does reach the ground is able to percolate through the soil surface. Plants utilize some of this water, and the remainder continues to flow downward through the soil until it reaches the water table, where it recharges local groundwater supplies.[426]

As the landscape is developed, the protective layer of trees, shrubs, and grass is stripped away and replaced by hardened surfaces. When it rains, much more water reaches the ground surface than previously, and this water is then unable to infiltrate through the soil surface. Instead, it runs off of roofs and roads, often carried more quickly through piped

[423] SEMCOG, *Land use Change in Southeast Michigan: Causes and Consequences*, March 2003.
[424] SEMCOG, *Land use Change in Southeast Michigan: Causes and Consequences*, March 2003.
[425] T.R. Schueler, 1994, "The Importance of Imperviousness," *Watershed Protection Techniques* 1(3):100-111.
[426] King County Water and Land Resources Division, *Forest Cover, Impervious-Surface Area, and the Mitigation of Urbanization Impacts of King County, Washington*, by Derek B. Booth, (September 2000).

drainage systems to local streams, rivers, and lakes. The result is an expected increase in both the frequency and the magnitude of area flooding.[427]

Studies show that the magnitude of peak-stream flow increases by a factor of two to three with low-level suburban development, specifically with an impervious area of 10 to 20%. In highly urbanized areas, not only are the major peak flows amplified, but smaller storms, which previously produced no runoff under pre-development conditions, generate substantial stream flows. Under these conditions, moderate to large storms result in storm discharge lasting 30 to 100 times longer than under pre-development conditions. Hydrologic modeling of these changes also shows that the frequency of flood-producing storms increases, with the five-year (20% probability of occurring in any one year) flood peak increasing in frequency from 9 to 29- fold, so that the "five-year" storm becomes much more commonplace, occurring from 2 to 6 times per year.[428]

The loss of forest cover in a watershed exacerbates these changes, so even low-density development, with minor increases in impervious cover, results in altered stream hydrology. [429] The loss of forest cover combined with climate change will further exacerbate flooding. Scientists predict an increase in the number of extreme rainfall and storm events, leading to more flooding throughout the Midwest and costing taxpayers as much as $480 million annually to adapt stormwater systems to handle the increased runoff.[430]

Approximately 49% of Wayne County's population lives within the Rouge River Watershed. The Ecorse Creek and Combined Downriver Watersheds and areas draining directly to Lake Saint Clair are home to an additional 34% of Wayne County residents. These areas, particularly portions of the Rouge and the North Branch of Ecorse Creek, already experience severe flooding. Studies and stormwater management initiatives are underway to reduce flooding in these areas; however, existing land use patterns and future land development make these efforts an uphill battle. Additional flooding is likely to occur not only in areas currently identified as problem flood zones, but also in areas that are expected to experience population growth, particularly in outlying headwater areas.[431]

6. Hazard Mitigation

6.1 Goals and Objectives

The following five goals were selected by the Advisory Committee in 2013 and were confirmed as goals to focus mitigation activities under this (2025) Plan:

1. Protect and preserve human health and well-being

[427] Ibid.
[428] D.B. Booth, 1990. Stream-Channel Incision Following Drainage-Basin Urbanization, *Water Resources Bulletin* 26(3): 407-417.
[429] Booth, D.B., Hartley, D., and R. Jackson, 2002. Forest Cover, Impervious Surface Area, and the Mitigation of Stormwater Impacts. *J. Am. Water Res. Assoc*. 38(3): 835-845.
[430] USGCRP, 2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018
[431] SEMCOG, *Land use Change in Southeast Michigan: Causes and Consequences*, March 2003.

2. Maintain and fortify critical assets, structures, and infrastructure to preserve the quality of life.

3. Ensure interagency cooperation and coordination for preparedness

4. Enhance emergency response capabilities (including and especially communications)

5. Review and improve county-wide contingency plans for maintaining quality of life

6.1.1 Mitigation Selection Criteria

The Advisory Committee developed the evaluation criteria used to select mitigation strategies. The 2013 evaluation criteria were reviewed, and additional potential evaluation criteria were identified and discussed during the second workshop in 2025. The Advisory Committee voted and selected the top five criteria listed below, weighing them using the method of paired alternatives to provide the weighting factor listed below.

Criteria (Weighting in parentheses):

- Protection of Critical Facilities and Infrastructure (16.6)
- Ability to accomplish (12.9)
- Technical Feasibility (11.7)
- Planning Effort Required (9.6)
- Cost Effectiveness (9.2)

6.2 Survey Results

The second survey presented mitigation alternatives organized by the hazard addressed by each strategy, as discussed in Section 2. Responses to open-ended survey questions and discussions in the second workshop generated additional strategies, totaling 331 mitigation strategies for consideration. The survey results were ranked based on the number of respondents who indicated a strategy was important or very important. Participants used the ranking to prioritize the strategies during the workshop. Discussion during the workshop resulted in 16 survey strategies for consideration in the Action Plan. These strategies are listed in Section 6.4.

6.3 Local Strategies

The following describes the individual mitigation strategies identified by each community, along with the specific hazard addressed by each strategy. Strategies are listed in the order in which they were presented in the survey materials. These priorities and suggested mitigation strategies reflect local municipal concerns. Their inclusion within this County Plan does not necessarily imply County funding will be provided for these activities.

6.3.1 City of Allen Park

2013 Mitigation Strategies: 1) Provide additional funding for the replacement or relining of older sewer lines that back up and cause flooding within the city. Remove diseased or dead ash

	trees to prevent them from falling into Ecorse Creek and exacerbating flooding and sewer backups (Hazard Addressed: Urban Flooding, Riverine Flooding). Priority: High Progress since last update: Ongoing: Sewer lines being replaced or relined in priority order by contractor. 2) Provide funding for additional training of public safety personnel in responding to hazardous material emergencies (Hazard Addressed: Hazmat Incidents – Fixed Site and Transportation). Priority: High Progress since last update: Ongoing: All fire personnel trained in hazmat response, and two staff persons have specialty training and are part of the regional HazMat Response Team. 3) Allocate funds to equip the city's community center so the facility can serve as an emergency shelter in case of a disaster that requires the evacuation or relocation of citizens. Specifically, the need for a backup generator was mentioned (Hazard Addressed: Tornadoes/Severe Weather, Hazmat Incidents). Progress since last update: Ongoing: New roof installed on community center, which serves as both morgue and shelter in the event of disaster/emergency.
2020 Mitigation Strategies:	1, 2, & 3 above) Allen Park Fire Department personnel indicate that progress has been made on all three of these actions, but that they remain priorities until completed. Person/Agency Responsible: Allen Park Fire Department Known/Potential Funding: Engineering/Fire Dept general funds Anticipated Completion Timeline: 2025 How action will be prioritized: Council budget process: Dept. budget process
2025 Mitigation Strategies:	Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.2 City of Belleville

2013 Mitigation Strategies:	1) Provide back-up generators to be used during power failures, especially at senior citizen facilities and the emergency shelter (Hazard Addressed: Severe Weather/Tornadoes). Progress since last update: The City has succeeded in funding some backup generators, but the need for more remains. 2) Upgrade or replace the current communication equipment used by the public safety departments (Hazard Addressed: All). Progress since last update: Implementation of 800 MHz communication systems throughout the County has improved communications between communities. Priority: High
2020 Mitigation Strategies	1) Continue to provide back-up generator power where lacking at senior citizen facilities (Hazard Addressed: Severe Weather/Tornadoes). Since 2020, the backup generators have been dropped due to the lack of funding. 2) Continue improvements in communication systems and agreements between communities (Hazard Addressed: All). Since 2020, both the police and fire departments have updated their communication equipment. Person/Agency Responsible: Belleville Police/Fire Known/Potential Funding: General fund/grants Anticipated Completion Timeline: 2023 How action will be prioritized: Council budget process
2025 Mitigation Strategies	Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.3 Brownstown Township

2013 Mitigation Strategies:	1) Provide funding for the installation of new warning sirens and the repair and activation of existing sirens in the township (Hazard Addressed: Tornadoes/Severe

Weather). Progress since last update: Completed. The Township now has 13 tornado sirens and also utilizes local radio stations and Nixle for emergency notifications.

Priority: High

2) Provide resources for continuous hazmat training (Hazard Addressed: Hazmat Incidents). Progress since last update: Staff have received ONGOING training, but this remains a goal moving forward.

3) Allocate funds to hire and/or train additional public safety personnel, especially for addressing mass emergencies such as tornadoes and hazmat accidents (Hazard Addressed: Tornadoes/Severe Weather). Progress: ONGOING

4) Activate Wayne County's resources at a lower level of emergency in the township, responding to emergencies that require outside assistance (Hazards Addressed: All). Progress: ONGOING

2020 Mitigation Strategies: Mitigation strategies 2, 3, and 4 above remain ongoing concerns. The Township will continue these strategies as listed above.

5) Additionally, Brownstown Township will work with Wayne County, FEMA, the U.S. Army Corps of Engineers, and others to address coastal flooding and erosion.

Person/Agency Responsible: Township & Wayne County

Known/Potential Funding: Grants

Anticipated Completion Timeline: 2025

How action will be prioritized: Council/County budget processes

2025 Mitigation Strategies: Strategies from the 2020 hazard mitigation plan are currentl ongoing.

6.3.4 Canton Township

2013 Mitigation Strategies: 1) Use comprehensive land use and transportation plans to establish policies regarding the placement and design of critical facilities and infrastructure. Assure that future

development does not impede existing hazard mitigation and response activities (Hazards Addressed: All).

Progress since last update: The Township has constructed a third fire station since the 2013 HMP update and is considering adding a fourth. Additionally, the Township is redeveloping the Ford Road corridor to make sure that this heavily traveled roadway remains open and accessible for emergency vehicles.

2) Plan for access to a back-up water supply to be used for public health and extended fire-fighting needs in the case of a drought or water system failure (Hazards Addressed: Fires, Severe weather – summer and winter, Health Emergencies, Infrastructure Failure).

Priority: High

Progress since last update: The Township has constructed a secondary supply tank for additional water storage. This task is considered completed.

3) Arrange for a method of “rolling blackouts” in electrical systems that are at risk of overloading (Hazards Addressed: Infrastructure Failure, Criminal Acts).

Progress since last update: The Township has been meeting with DTE to develop a Local Energy Assurance Plan (LEAP). It has not yet been adopted, but this is anticipated.

4) Review the feasibility of constructing concrete “safe rooms” in shelter areas in mobile home parks, fairgrounds, parks, shopping malls, and other vulnerable areas (Hazards Addressed: Tornadoes/Severe Weather).

Progress since last update: The Township reports that there has been no progress on this initiative due to a lack of funding and changes in priorities. It is not likely to remain a priority in the 2020 HMP update.

5) Pre-plan for debris removal after a hazard response event, including staging, storage, and disposal (Hazards Addressed: All).

Progress since last update: The Canton Township Fire and Public Works Departments have been working together to conduct a damage assessment based upon past experiences and are beginning to develop the plan for debris removal and disposal.

6) Establish maintenance and improvement standards requiring that roads, bridges, and driveways are sufficient for and are accessible to emergency vehicles and fire equipment (Hazards Addressed: All).

Progress since last update: This mitigation strategy was focused on a few narrower, private roads in the Township. A combination of tree trimming and the use of smaller tankers, rather than hook and ladder trucks, has provided a solution to the problem. This strategy is considered completed.

7) Create and revise public information materials on each hazard and warning system as it applies to the Township (Hazards Addressed: All).

Progress since last update: The Township continually works to improve its outdoor warning systems and communications. They now contract with Nixle and Everbridge to provide public and internal emergency notifications.

8) Facilitate and encourage the creation of escape plans and disaster supply kits for residents and businesses (Hazards Addressed: All).

Progress since last update: The Township's Emergency Manager and Fire Inspector work together to visit businesses throughout the Township, working with them to create and implement emergency preparedness plans. They have conducted these exercises with assisted living, other nursing/health care facilities, and churches, and are now reaching out to other businesses.

2020 Mitigation Strategies:

1) Township officials indicated that the hazard priorities and mitigated strategies listed above, with the exception of Numbers 2 and 6, which are considered complete, remain priorities for the 2020 HMP update. The other mitigation strategies are considered ONGOING. Additionally, Canton Township is working toward the National Weather Service StormReady designation.

Person/Agency Responsible: Emergency Mgt/Fire Dept.

Known/Potential Funding: General fund & grants

Anticipated Completion Timeline: 2024

How action will be prioritized: Council budget process/grant availability.

2025 Mitigation Strategies:

1) Install pre-emption devices at all major traffic intersections throughout Canton Township. Additionally, install the pre-emption devices in every fire apparatus, ambulance, and police vehicle. (Hazards Addressed: Emergency response time, traffic safety)

2) Install generator transfer switches on every major traffic intersection in Canton Township to facilitate the functionality of the traffic lights during power outages. (Hazard Addressed: Emergency response times, traffic safety, continuity of operations)

3) Install fiber optic lines to the Canton Department of Public Works building and the Canton Fire Station Number 4, which is currently under construction.

4) Secure funding and install bi-directional antennas within the Public Safety Building and at all Plymouth Canton Community Schools to ensure radio communication interoperability within school buildings. (Hazards Addressed: Public safety, radio communications)

5) Improve electrical reliability throughout Canton Township with DTE Energy to replace ageing equipment, seek opportunities to place vulnerable overhead lines underground, tree trimming, install generators for critical facilities for potential power outages, and improve technology to maintain sections of the power grid. (Hazards Addressed: Reduce potential for shock and electrical fires, improve response time in case of emergencies)

6) Install “No Left Turn” signs at each driveway along Ford Road until the completion of the Boulevard project. Hazards Addressed: Improve traffic safety, reduce crash responses)

7) Continue flood mitigation planning throughout Canton Township while working with Wayne County Government and various homeowner associations (HOAs) to maintain storm drains. Additionally, remove logs and debris blocking various creeks, along with tributaries throughout Canton Township. (Hazards Addressed: Flooding, infrastructure failure)

Priority: High

8) Pre-plan for debris removal after a significant disaster, including staging, storage, and disposal of materials

through the development of an approved debris management plan. (Hazards Addressed: All)

6.3.5 City of Dearborn

2013 Mitigation Strategies:

1) Provide public officials and citizens with better awareness regarding issues facing ethnic diversity within the community (Hazard Addressed: All).

Progress since last update: City officials, particularly Police Department personnel, work with the Arab Community Center for Economic and Social Services (ACCESS) and local imams to conduct outreach and training concerning local emergency planning

2) Hire additional firefighters and EMS personnel and provide funds for training those individuals, as well as current public safety (Hazard Addressed: Fire/ Hazmat Incidents).

Priority: High

Progress since last update: The City has hired additional emergency preparedness and response personnel and further increased capacity by merging with the City of Melvindale Fire Department. Additionally, the City runs its own training academy. Additional staffing and training have been possible with the help of FEMA's Assistance to Fire Fighters Grants Program. This task is considered completed.

3) Provide funds to address the flooding issues in Dearborn (Hazard Addressed: Infrastructure Failure/Riverine and Urban Flooding).

Priority: High

Progress since last update: The City applied for and received FEMA Hazard Mitigation Grant funding in 2014, including installation of two shut-off gates in the West Dearborn Sewage District and construction of an overflow structure. This allowed the City to address combined sewer overflow problems that previously caused flooding of Oakwood Hospital and other key locations. Although flooding can still be a problem, the City largely avoided flooding earlier in 2019 that impacted other communities in the region. This is now considered a lower priority.

4) Address the issue of public safety personnel's inability to establish radio contact with their counterparts in the City of Detroit, in the event of an emergency involving both communities (Hazard Addressed: Hazmat Incidents).

Progress since last update: Dearborn was one of the last communities in the County to implement 800 MHz cellular communications systems. They are now in the process of identifying local blank spots and developing MOUs with neighboring municipalities for shared channel use.

2020 Mitigation Strategies:

1) Continue to address impediments to establishing and maintaining radio communications with surrounding communities, including the City of Detroit (Hazard Addressed: ALL).

2) The City describes its Community Emergency Response Team (CERT) program as one of the most active in the State of Michigan. They wish to continue educating volunteers regarding disaster preparedness and basic response skills; to develop a city-wide collaborative emergency management team of public and private stakeholders (e.g., local government officials, public safety personnel, hospital officials, schools, and major industry representatives. They will continue to offer tabletop exercises regarding preparedness for and response to armed persons and/or active shooter scenarios, severe weather, and other hazards (Hazards Addressed: All).

Person/Agency Responsible: Emergency Management

Known/Potential Funding: General fund & grants

Anticipated Completion Timeline: Ongoing

How action will be prioritized: Budget process, grant availability

2025 Mitigation Strategies

1) Continue to coordinate with Wayne County, the State of Michigan, and the United States Corps of Engineers to find solutions to Rouge River flooding issues (Hazard Addresses: Flooding).

Priority: High

Flooding in both communities is mainly caused by intense rainfall and thunderstorms. The Rouge River, which divides Dearborn and forms part of the boundary between Dearborn and Melvindale, significantly influences flood dynamics. The city's relatively flat landscape allows heavy

rainfall to quickly flood low-lying areas since the Rouge River has difficulty channeling the excess water eastward.

The growing number and intensity of heavy rainfall events in Dearborn emphasize how important it is to enhance infrastructure, engage in planning, educate the public, and prepare for emergencies.

2) Public safety initiatives in helping the residents understand the effects of flooding and to better prepare before the incident occurs.

3) Pre-plan for debris removal after a hazard response event, including staging, storage, and disposal (Hazards Addressed: ALL).

4) Continue to seek grants and funding for flooding-related mitigation (Hazard Addressed: ALL).

5) Continue education training, such as disaster preparedness, to all citizens of the City of Dearborn and the City of Melvindale, highlighting senior citizens and access and functional needs (Hazard Addressed: Communication, Health Emergencies, Infrastructure Failure).

6) Continue training on Incident Command System, host exercises such as tabletop and full-scale exercises, specific to train derailment and HAZMAT-related incidents. These exercises will focus on mitigation, preparedness, response, and recovery (Hazards Addressed: Fire Hazards, Hazmat Incidents, Terrorism/Active Assailant Incidents, Transportation Accidents, and Criminal Acts).

Person/Agency Responsible: Emergency Management

Known/Potential Funding: General fund & grants

Anticipated Completion Timeline: Ongoing

How action will be prioritized: Budget process, grant availability

2025 HMP Cycle Mitigation Strategy Projects:

Project: East Dearborn Grade Protection Stations and Outfall 016 Headwall Structure for Reduction of Urban and Basement Flooding

Lead Agency: City Engineering Division, Great Lakes Water Authority

Primary Funding Source: HMGP 4607 (about $7.2 million), supplemented by a non-federal matching share of just under $800,000

Anticipated Timeline: 2026 federal grant arrangement for a phased project. Phase 1 will focus primarily on the engineering, design, surveying, and permitting of the project, and Phase 2 will focus on the construction of the designed improvement to the sewer collection system, benefiting more than 12,500 residents of the area. Conceptual layouts are complete, and the design phase is at least 30% complete as of 2025. One year after project funds are available, Phase 1 will be complete, and Phase 2 work can begin. Phase 2 work is then expected to be completed during the two years that follow, ideally reaching completion by 2029.

Location: The eastern portion of the City of Dearborn, at several locations within the area bounded by Greenfield Avenue, Orchard Avenue, Warren Avenue, and Michigan Avenue.

Description: To mitigate the effects of precipitation from severe storms or rainfall, which have caused basement flooding during large events (e.g., June 2021). The combined storm/sanitary sewer system gets overwhelmed by water and river inflow through the system. The projects will isolate the sewer-separated neighborhoods from high surcharge levels in the combined sewer system and thus prevent river inflow into the systems during high river level conditions. The grade protection stations prevent the combined sewer system from backing up into the sanitary sewer system during heavy precipitation events. The headwall structure discourages overtopping of water into the sewer system during high-river events and prevents the separated storm system from backing up into the combined sewer system.

6.3.6 City of Dearborn Heights

2013 Mitigation Strategies: 1) Continue to coordinate with Wayne County, the State of Michigan, and the U.S. Army Corps of Engineers to find solutions to Ecorse Creek flooding issues (Hazards Addressed: Flooding).

Priority: High

	Progress since last update: The city was awarded FEMA Hazard Mitigation Grants in 2016 and 2018 to purchase and remove a total of 27 homes from the Ecorse Creek floodplain, returning these areas to green space. Although flooding remains an issue along the creek, this has significantly reduced the potential loss of life and property due to riverine flooding. City officials are also evaluating the construction of a retention basin near Annapolis Street that would alleviate flooding. 2) Develop a more comprehensive public warning and information system (Hazards Addressed: All). Priority: High
2020 Mitigation Strategies	Progress since last update: Nixle now provides alerts throughout Dearborn Heights for a variety of hazards and events, improving the emergency notification capabilities of the community. Although progress has been made, the City of Dearborn Heights will continue to implement these same strategies under the 2020 HMP update. Person/Agency Responsible: City Emergency Mgt/County Homeland Security Known/Potential Funding: General fund & grants Anticipated Completion Timeline: 2024 How action will be prioritized: Department budget processes
2025 Mitigation Strategies	Strategies from the 2020 hazard mitigation plan are currently ongoing. **2025 HMP Cycle Mitigation Strategy Projects:** <u>*Project:* Property Acquisitions in Floodplain</u> *Lead Agency:* City of Dearborn Heights. *Primary Funding Source:* HMGP 4494 (about $3.2 million), supplemented by non-federal matching share and other funds to total about $3.5 million. *Anticipated Timeline:* By 2027.

Location: Ecorse River floodplain area, Currier Street, Hanover Street, Polk Street, North Brookside, Powers Avenue, Monroe Street, Dudley Street.

Description: The acquisition and demolition of 18 flood-prone properties and three alternate properties located in the floodplain of the Ecorse River. As part of the demolition process, the foundation and driveways will be removed along with any detached garages and sheds. The acquisition and demolition of these properties will establish permanent open space in this area, which will result in a reduction of flood-related damages and lessen the impact of riverine and urban flooding on the local community. Deed restrictions will be placed on the acquired parcels to prohibit future development and dedicate the land to open space in perpetuity.

Project: Property Acquisitions in Floodplain

Lead Agency: City of Dearborn Heights.

Primary Funding Source: HMGP 4547 (about $2.7 million), supplemented by non-federal matching share and other funds to total about $3 million.

Anticipated timeline: Projected to be completed in 2027.

Location: The properties reviewed for potential inclusion in this grant include locations on Currier Street, Hanover Street, and Gertrude Street.

Description: The acquisition and demolition of up to 15 residential structures located in the floodplain of the Ecorse River. The acquisition and demolition of these properties will establish permanent open space in this area, which will result in a reduction of damages and lessen the impact of flooding on the local community. Deed restrictions will be placed on the acquired parcels to prohibit future development and dedicate the land to open space in perpetuity.

6.3.7 City of Ecorse

2013 Mitigation Strategies:

1) Provide funding for hazmat training, so there is a sufficient level of preparedness to respond to hazmat emergencies (Hazard Addressed: Hazmat Incidents). Progress since last update: Funding continues to be an issue for priority programs in the City of Ecorse.

2) Install tornado siren (Hazard Addressed: Tornadoes/Severe Weather). Progress since last update:

Additional emergency alert sirens are still needed for coverage within the City.

Priority: High

3) Provide funding to hire additional manpower for the public safety departments; to be able to properly respond to transportation accidents and criminal activities, as well as conduct necessary fire inspections and investigations. (Hazard Addressed: Criminal Acts, Transportation Accidents, Fire). Progress since last update: Additional staff have been hired and trained since the last HMP update, but means of providing ongoing training and equipment are still needed.

2020 Mitigation Strategies:

1, 2, and 3) The same mitigation strategies listed above remain priorities for the 2020 HMP update.

4) The City of Ecorse will also work with Wayne County, FEMA, the U.S. Army Corps of Engineers, and others to address coastal flooding and erosion.

Person/Agency Responsible: City Manager/County Coordinator

Known/Potential Funding: Grants

Anticipated Completion Timeline: 2022

How action will be prioritized: City budgeting, grant availability

2025 Mitigation Strategies:

1) Provide funding for hazmat training, so there is a sufficient level of preparedness to respond to hazmat emergencies (Hazard Addressed: Hazmat Incidents). Progress since last update: The City of Ecorse has joined the DMA HazMat, which provides mutual aid in responses to the release of hazardous materials. The City of Ecorse has emergency response members participating on the DMA HazMat team.

2 and 3) The same mitigation strategies listed above remain priorities for the 2020 HMP update.

4) The City of Ecorse will also work with Wayne County, FEMA, the U.S. Army Corps of Engineers, and others to address coastal flooding and erosion. Progress since the last update: The City of Ecorse has directed grant funding

to address coastal flooding and erosion control. Additional funding is required for erosion control.

Priority: High

5) An ongoing issue is the aging and deteriorating water and sewer systems, many of which are between 75 and 100 years old. The City of Ecorse has applied the funding it has received to replace lead service lines, water mains, and sewer lines. However, not all ageing water and sewer lines require more grant funding, along with city budgeting.

6.3.8 City of Flat Rock

2013 Mitigation Strategies: 1) Address flooding (Hazards Addressed: Flooding).

2020 Mitigation Strategies: 1) In July 2019, the City of Flat Rock experienced some of its worst flooding since the late 1970s due to heavy rain. This continues to be a priority for local officials and will remain in the 2025 HMP update.

Priority: High

Person/Agency Responsible: City Manager/County Coordinator

Known/Potential Funding: General fund/grants

Anticipated Completion Timeline: Ongoing

How action will be prioritized: City budget process

2025 Mitigation Strategies: Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.9 Garden City

2013 Mitigation Strategies: 1) Provide funds to purchase generators, to be used in case of power outages at community shelters and City Hall (Hazard Addressed: Infrastructure Failure – Electrical, Severe Weather). Progress since last update: The City issued a Request for Bids in July 2019 for the installation of a new generator.

Priority: High

2020 Mitigation Strategies:	1) Funding for other backup generators and locations remains a priority. Person/Agency Responsible: City Manager/Emergency Mgr Known/Potential Funding: General fund, grants Anticipated Completion Timeline: 2023 How action will be prioritized: Department budget process
2025 Mitigation Strategies	Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.10 City of Gibraltar

2013 Mitigation Strategies:	1) Provide funding to be used to elevate homes located in flood areas of the city (Hazard Addressed: Riverine and Urban Flooding). Progress since last update: Riverine flooding remains a priority for the City of Gibraltar, which was hit by heavy flooding earlier in 2019. High water levels in the Detroit River and Lake Erie have also created flooding in coastal areas. Priority: High
2020 Mitigation Strategies:	1) Develop a railway incident hazardous material response plan that is specific to Gibraltar and surrounding downriver communities (Hazards Addressed: Hazmat Incidents) 2) Address problems of contaminated landfill leachate (Hazards Addressed: Public Health Emergencies, Hazmat Incidents) 3) Update and maintain consistency in evacuation and emergency response plans, particularly related to Fermi II and hazardous materials (Hazards Addressed: Hazmat Incidents, Public Health Emergencies). 4) Continue to develop strategies for reducing stormwater-related and coastal flooding and erosion. Priority: High

Person/Agency Responsible: City Manager/Engineering

Known/Potential Funding: General Funds & grants

Anticipated Completion Timeline: Ongoing

How action will be prioritized: City budget process

2025 Mitigation Strategies — Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.11 Grosse Ile Township

2013 Mitigation Strategies: 1) Provide funding to improve or replace the County bridge linking Grosse Ile with the mainland. (Hazard Addressed: Hazmat Incidents).

Progress since last update: The County ("Free") bridge has been studied and found to require repair. It has had a few temporary closures in 2019 and will likely be closed for longer periods in 2020 for more extensive construction.

2020 Mitigation Strategies: 1) As noted above, work on the County bridge is ONGOING and will continue in 2020.

In November 2021, extensive underwater repairs were conducted on the Grosse Ile Parkway Bridge due to erosion of its support piers. The repairs included installing cofferdams and grouting to stabilize the piers, as well as replacing deteriorated steel components in the superstructure. These efforts restored the bridge's load rating to 40 tons, accommodating heavier vehicles and enhancing safety.

Additionally, in September 2023, state officials announced $20 million in funding for further repairs and fortification of the Grosse Ile Parkway Bridge. This funding aims to address ongoing safety concerns and ensure the bridge's longevity.

2) Grosse Isle Township will work with Wayne County, FEMA, the U.S. Army Corps of Engineers, and others to address coastal flooding and erosion.

Person/Agency Responsible: Township Board/Manager

Known/Potential Funding: General funds & grants

Anticipated Completion Timeline: Ongoing

How action will be prioritized: Township budgeting

2025 Mitigation Strategies

Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.12 Grosse Pointe

2013 Mitigation Strategies:

1) Provide a solution to the problem of not being able to establish radio contact with the City of Detroit when faced with public safety emergencies (Hazard Addressed: All). Progress: COMPLETE

2) Provide funding for emergency power back-up systems in the event of outages (Hazard Addressed: Tornadoes/Severe Weather). Progress: COMPLETE

Priority: High

2020 Mitigation Strategies

1) A recent structural fire within the City of Grosse Pointe resulted in the deaths of two boys. As a result, preventing death and injury and property loss and damage from structural fires has been identified as a key hazard priority for Grosse Pointe and surrounding cities. The strategy proposed to address this is described under Grosse Pointe Woods, below:

2) The City of Grosse Pointe will also work with Wayne County, FEMA, the U.S. Army Corps of Engineers, and others to address coastal flooding and erosion.

Priority: High

Person/Agency Responsible: City Manager/County Coordinator

Known/Potential Funding: Grants

Anticipated Completion Timeline: Ongoing

How action will be prioritized: Council budget, grant availability

2025 Mitigation Strategies:

Strategies from the 2020 hazard mitigation plan are currently ongoing.

2025 HMP Cycle Mitigation Strategy Projects:

Project: Grosse Pointe Sewer Separation for Urban Flooding Reduction

Lead Agency: City and its engineering consultant, Anderson, Eckstein and Westrick, Inc.

Primary Funding Source: HMGP 4607 (about $21.6 million), supplemented by non-federal matching share and other funds to total about $30.5 million

Anticipated Timeline: Phase 1 involves design and bidding process, during approximately the first half of 2026, followed by award and contract preparation and construction during the subsequent year. Phase 2 involves approximately nine months to prepare plans, specifications, and permits, approximately two months for advertising and receiving/reviewing bids, and preparation of contracts, bonds, and insurance, followed by construction for one additional year. Phase 3 is similar, with nine months of preparation and 12 months of construction. The project as a whole is anticipated to be completed by the end of 2027.

Location: Northern and eastern portions of the city (from Waterloo Avenue to Mack Avenue and from Washington Avenue to Fisher Avenue).

Description: The purpose of the project is to reduce basement flooding by a reduction in the amount of storm water that otherwise would end up in the sewer system and treatment plant, thus also reducing potential public health impacts from potential exposure to, and system discharges of, untreated sewage in the combined sewer system. An estimated 3,400 persons will benefit from this project.

Priority: High

6.3.13 Grosse Pointe Farms

2013 Mitigation Strategies: 1) Provide funding to replace the water filtration system with a system that utilizes hydro liquid chloride (Hazard

Addressed: Hazmat Incidents – Fixed Site). Progress since 2006: COMPLETE

2) Provide a solution to the problem of not being able to establish radio contact with the City of Detroit when faced with public safety emergencies (Hazard Addressed: All). Progress: COMPLETE

2020 Mitigation Strategies:

1) Structural Fire is a key priority for collective action, all of the "Pointes". The strategy to address this is described under Grosse Pointe Woods, below:

2) Grosse Pointe Farms will work with Wayne County, FEMA, the U.S. Army Corps of Engineers, and others to address coastal flooding and erosion.

Priority: High

Person/Agency Responsible: Fire Chief

Known/Potential Funding: Dept budget & grants

Anticipated Completion Timeline: Ongoing

How action will be prioritized: Dept. budgeting & grant availability

Large portions of the Lake St Clair break wall within the city are in need of repair/replacement.

2025 HMP Cycle Mitigation Strategy Projects:

2025 Mitigation Addition:

Project: Combined Sewer Separation to Reduce Urban Flooding.

Lead Agency: City of Grosse Pointe Farms.

Primary Funding Source: HMGP 4494 (about $3.5 million), supplemented by non-federal matching share and other funds to total about $3.9 million.

Anticipated Timeline: Completed by 2027.

Location: The proposed mitigation project to be scoped includes partial combined sewer separation of the high surcharge areas south of Moross, and complete separation of the storm flows north of Moross through the construction of new storm sewers, a new stormwater pump station near the intersection of Chalfonte and

Moross, and a stormwater force main along Moross from Chalfonte to Lake St. Clair.

Description: The City of Grosse Pointe Farms will use grant funding for engineering and design work for a three-part project including project scoping, evaluation, design, and development of a grant application for the chosen mitigation project. The work will include an evaluation of alternatives, collection of detailed survey data and field investigations, as necessary, the development of plans and specifications, the coordination of permitting and submit permit applications where applicable, the development of an Engineer's Opinion of Probable Cost, and the development of construction schedule. The grant will result in a "shovel-ready" construction project. Once engineering and design has been completed, the proposed project scope of work will require evaluation for compliance with the National Environmental Policy Act , other laws and executive orders before any physical site work may begin.

Priority: High

6.3.14 Grosse Pointe Park

2013 Mitigation Strategies:

1) Provide a solution to the problem of not being able to establish radio contact with the City of Detroit (Hazard Addressed: All).

Progress since last update: Implementation of broader 800 MHz communications systems has improved communications between neighboring communities, and Grosse Pointe Park will continue to improve intergovernmental emergency communications.

2) Provide funding for generators to be used in cases of power outages. Determine the availability of necessary equipment to be used to clear streets that are blocked as a result of storms. Install a tornado siren within the community. Enhance the community's ability to properly prepare and respond to the needs of the community in the event of weather-related emergencies (Hazard Addressed: Tornadoes/Severe Weather).

Priority: High

Progress since last update: This remains a priority issue for inclusion in the 2020 HMP update.

2020 Mitigation Strategies:

1) Preventing deaths, injuries, and property damage from structural fires has been identified as a key regional hazard priority. The strategy proposed to address this is described under Grosse Pointe Woods, below:

2) Continue to seek funding for the installation of backup power generation and emergency notification systems.

Priority: High

3) Grosse Pointe Park will work with Wayne County, FEMA, the U.S. Army Corps of Engineers, and others to address coastal flooding and erosion.

Priority: High

Person/Agency Responsible: Fire Chief

Known/Potential Funding: Fire Department budget & grants

Anticipated Completion Timeline: Ongoing to complete by 2025

How action will be prioritized: Department budgeting/grant availability

2025 Mitigation Strategies:

Grosse Pointe Park did not participate in the 2025 update planning process.

6.3.15 Grosse Pointe Shores

2013 Mitigation Strategies:

1) The officials of Grosse Point Shores indicated in 2013 that they were sufficiently prepared to deal with emergencies within their community.

2020 Mitigation Strategies:

1) Recent events have identified structural fire as a key hazard priority for collective action in all of the "Pointes." The strategy to address this is described under Grosse Pointe Woods, to develop a mutual aid agreement with all Grosse Pointe municipalities. Through this mutual agreement, all Grosse Pointe municipalities will receive and extend fire aid services. The mutual aid is still in progress.

2) Grosse Pointe Shores will work with Wayne County, FEMA, the U.S. Army Corps of Engineers, and others to address coastal flooding and erosion. The discussions over coastal flood hazards with the other parties are still in progress.

Priority: High

The coastal erosion of the area between Woodland Shore Road and the 788 Lake Shore Road (Grosse Pointe Yacht Club) is our greatest threat at this time. We are in danger of the lake levels and high winds washing out our sanitary sewers and storm sewer outfall. In addition, the erosion has in many areas washed out the greenbelt between the lake and the northbound lanes of the Wayne County Road (Lake Shore Road). This erosion over time will create a collapse and a sinkhole in the road, endangering vehicle and pedestrian traffic. Elected officials in Grosse Pointe Shores have been in discussion with Wayne County, and a study of the deteriorated seawall has been authorized. The Grosse Pointe Yacht Club coastal erosion plan is still in progress.

Person/Agency Responsible: Fire Chief.

Known/Potential Funding: Fire Department budget & grants.

Anticipated Completion Timeline: Ongoing to complete by 2025.

How action will be prioritized: Department budgeting/grant availability.

2025 Mitigation Strategies:

1) Install a new water main and fire hydrants for Lake Shore Road. The planning for the installation of the new water main and fire hydrants began in 2021. Budgeting for the new water main is planned for the 2026 fiscal year for the City of Grosse Pointe Shores.

2)New sewage lines are planned for installation on Oxford and Renaud Roads. Budgeting for the new sewage lines is planned for the 2026 fiscal year for the City of Grosse Pointe Shores.

6.3.16 Grosse Pointe Woods

2013 Mitigation Strategies:

1) Provide necessary funds to be used to increase the capacities of the back-up power system located at the Municipal Building and at the Department of Public Works Pump Station. Provide a mobile generator that can be transported to emergencies at various locations within the community. (Hazard Addressed: Tornadoes/Severe Weather, Infrastructure Failure).

Priority: High

Progress since last update: The Public Safety Building does have a generator that allows continued dispatch service during power outages. However, the generator is approximately 30 years old and is in need of replacement. The City has identified a need of approximately $148,000 to replace the generator. Generators have been installed at the city hall complex and the Torrey Road pump station.

2) Provide funding for additional training for the Department of Public Safety. Provide funding to be used for coordinated regional training (Hazard Addressed: All).

Progress since last update: The City anticipates shared Fire Department personnel training programs with the City of Detroit, using Grosse Pointe Woods' share of fireworks funds. The City of Grosse Pointe Woods attended a meeting with the Detroit Fire Academy to discuss regional needs for training, emergency responses, and fire departments' needs for new equipment. This may still require additional funding for overtime and/or equipment, so funding remains an ongoing need. Additionally, regional responses discussions remain ongoing.

The City Fire Department has implemented a plan to replace five sets of gear each year and has one set left to

	replace (Hazards Addressed: All). This remains an ongoing process.
2020 Mitigation Strategies:	1) Emergency management directors in the Grosse Pointe communities met recently to discuss creating joint, mandatory, K-4th-grade education programs related to fire safety. They seek to update or replace their existing fire prevention mobile smokehouse for open houses and elementary school programs beginning in the fall of 2020. Since the 2020 HMP was completed, the City of Grosse Pointe Woods has implemented a fire prevention team. A grant application for the replacement of the mobile smokehouse. However, the city's grant application was denied, and the search for funding to replace the smokehouse is ongoing. Person/Agency Responsible: Fire Chief Known/Potential Funding: Fire Department budget & grants Anticipated Completion Timeline: Ongoing to complete by 2025 How action will be prioritized: Department budgeting/grant availability
2025 Mitigation Strategies	Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.17 City of Hamtramck

2013 Mitigation Strategies:	1) Coordinate and plan for snow removal to increase street accessibility to emergency crews and residents (Hazard Addressed: Severe Weather – Winter) 2) Collect and maintain information about Hazmat sites, including on-site inspections and computerized record-keeping (Hazard Addressed: Hazmat Incidents)
2020 Mitigation Strategies:	1) The City will continue the ONGOING strategies it has listed above. Person/Agency Responsible: Emergency Manager Known/Potential Funding: General fund

Anticipated Completion Timeline: Ongoing

How action will be prioritized: City budget review

2025 Update and Mitigation Strategies:

1) In the last couple of years, the Department of Public Works has bolstered its snow removal ability by purchasing plow trucks and other equipment and increasing manpower so that it can clear the streets promptly

2) The Hamtramck Fire Department has switched over to Mobil Eyes software for inspections. This program allows us to identify the hazards that are on-site and upload them instantly into the program. This information is available to all personnel and is carried on our ladder truck, which is first due at all responses to these hazardous sites. The fire department has an aggressive pre-incident survey schedule to have duty crews walk through all high-hazard sites.

3) The city has been working on several major projects to repair the aging infrastructure to relieve the flooding problem. They have also purchased equipment and hired personnel to scope and clean the sewers.

Priority: High

4) The police department is reorganizing some of its divisions to make it more efficient. They have introduced new VR training, community outreach, and citizen patrol programs. They have also worked to increase the number of police reserve officers to supplement their department during large events.

6.3.18 City of Harper Woods

2013 Mitigation Strategies:

1) Provide funds to hire additional personnel for the city's public safety departments. Provide additional hazmat equipment and training for these departments (Hazard Addressed: Hazmat Incidents – Transportation). Progress: ONGOING

2) Hire additional police officers to assist in combating civil disturbances and criminal activities within the community (Hazard Addressed: Criminal Acts). Progress: ONGOING

3) Provide a solution to the problem of not being able to establish radio contact with the City of Detroit when faced with public safety emergencies (Hazard Addressed: All).

Progress since last update: Use of Nixle as an alert system has improved communications with both residents and neighboring communities. This remains an ONGOING priority. Harper Woods seeks to enter into MOUs with other communities for shared communications and response.

4) Monitor and remove trees that could be a hazard to power lines and improve problem areas in the power grid to reduce the number of power failure incidents (Hazard Addressed: All).

Progress since last update: Some tree trimming has been conducted, but this will remain an ongoing project.

2020 Mitigation Strategies:

1) The City will continue with the ONGOING strategies it has listed above.

Person/Agency Responsible: City Police/Fire

Known/Potential Funding: Department budget/Millage if needed

Anticipated Completion Timeline: Ongoing

How action will be prioritized: City budget process

2025 Mitigation Strategies:

Harper Woods did not participate in the 2025 update planning process.

6.3.19 City of Highland Park

2013 Mitigation Strategies:

1) Hire additional manpower so that there is a sufficient level of preparedness to respond to major emergencies. Provide funding for training in hazmat response and arson investigations (Hazard Addressed: Hazmat Incidents/Arson). Progress: Ongoing need.

2) Provide resources needed to clear streets during and after winter storms (Hazard Addressed: Severe Weather/Winter Hazards). Progress: Being evaluated.

2020 Mitigation Strategies:

1) The mitigation strategies identified in 2013 will continue as priorities in the 2020 update.

Person/Agency Responsible: City Police/Fire

Known/Potential Funding: Department budget/Millage if needed

Anticipated Completion Timeline: Ongoing

How action will be prioritized: City budget process

2025 Update and Mitigation Strategies:

The Fire Department is now fully staffed. The Police Department is 87% staffed, with an expectation of 91% by October.

1) The City of Highland Park is missing an alert horn/siren for emergency situations. They would also like to get an emergency text alert system.

Priority: High

6.3.20 Huron Township

2013 Mitigation Strategies:

1) Install additional tornado sirens (Hazard Addressed: Tornadoes/Severe Weather). Progress since last update: Seven emergency alert sirens were installed and activated in 2016. Township officials will utilize the sirens to notify residents of severe weather, including high winds, hail, and tornadoes, but also for hazardous material spills, wildfires, or other similar incidents. This task is considered completed.

Priority: High

2) Require electrical companies to clear limbs and dead trees away from power lines (Hazard Addressed: Severe Weather/Severe Wind/Winter Hazards).

Progress since last update: Maintenance to trim trees in priority areas has been conducted, but this remains an ongoing priority.

2020 Mitigation Strategies:

2 above) The Township will continue with the ongoing strategy for clearing power lines to reduce the frequency and severity of electrical power outages as described above.

Person/Agency Responsible: City Police/Fire, City Manager

Known/Potential Funding: General fund, grants, private companies

Anticipated Completion Timeline: 2025

How action will be prioritized: City budget process

2025 Mitigation Strategies*:* Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.21 The City of Inkster

2013 Mitigation Strategies: 1) Hire additional manpower so that there is a sufficient level of preparedness to respond to all major emergencies. (Hazard Addressed: Severe Weather/Tornadoes, Structural Fire, Hazmat Incidents, All).

Progress since last update: Inkster received a SAFER (Staffing for Adequate Fire & Emergency Response) grant award of $1,682,760 for the 2016 award year, which allowed improved staffing.

The City has also installed four sirens able to send variable-tone signals to address multiple hazards. As of 2025, the City is currently working to update its Emergency Warning System software and technology. Additionally, the City has been providing handheld portable radios to all city departments for continued communications between city departments in case of emergencies.

2020 Mitigation Strategies: 1) The City of Inkster will continue to prioritize adequate emergency preparedness and response personnel in its police and fire departments. As of 2025, the City has hired a full-time fire inspector to help address the storage and reporting of hazardous materials.

2) Inkster will explore projects and policies that reduce riverine and stormwater runoff-related flooding along the Lower Rouge River and elsewhere in the City.

Priority: High

Update: Still in progress. The City of Inkster is currently updating its Emergency Warning System software/technology. The City of Inkster has progressed in the ability to communicate between all city departments by providing all departments with handheld radios with an assigned channel to communicate in the event of emergencies. The Fire Department has hired a full-time Fire Inspector to address hazardous materials storage and reporting.

Person/Agency Responsible: City Police/Fire/DPS

Known/Potential Funding: General fund, grants

Anticipated Completion Timeline: 2025

How action will be prioritized: City budget review, grant availability

2025 Mitigation Strategies:

The City will continue to prioritize adequate emergency preparedness and response personnel in its Police and Fire Departments. Inkster will explore projects and policies that reduce riverine and stormwater runoff-related flooding along the Lower Rouge River and elsewhere in the City.

Priority: High

Person/ Agency Responsible: City Police/ Fire/ DPS

Known/ Potential Funding: General Fund, grants

How action will be prioritized: City budget review, grant availability

6.3.22 City of Lincoln Park

2013 & 2020 Mitigation Strategies:

1) Update emergency response plan for traffic and railroad accidents, particularly for hazardous material incidents adjacent to residential areas (Hazard Addressed: Hazmat Incident). As of 2025, the update of the emergency response plan is ongoing, including training with pipeline representatives and funding requests for emergency generators.

2) Development and implementation of training for police and schools on emergency response to an active killer incident (Hazard Addressed: Criminal Acts). As of 2025, the training for responding to active shooters is ongoing. The training does include training with surrounding communities. The City of Lincoln Park is working to update SOG's for active shooter responses.

Person/Agency Responsible: Emergency Manager

Known/Potential Funding: General fund, grants

Anticipated Completion Timeline: Annually

How action will be prioritized: Department budget process

2025 Update and Mitigation Strategies:	Still in progress. Training with pipeline representatives, including tabletop exercises. Funding has been requested for generators at warming and cooling centers. Currently in the process of updating and refining SOGs in the Fire Department and Police Department for Active Shooter events. Continued training for Active Shooter events with the surrounding communities.

6.3.23 City of Livonia

2013 Mitigation Strategies:	1) Establish easements for stream access to clear log jams (Hazards Addressed: Flooding, Public Health). Progress: Ongoing Priority: High 2) Create detention basins as proposed in the Storm Water Management Plan (Hazards Addressed: Flooding, Infrastructure failure). Progress: Ongoing Priority: High 3) Educate vulnerable populations about how to care for themselves or obtain help during emergencies (Hazards Addressed: All). Progress: Ongoing 4) Distribute printed materials about preparing a family disaster preparedness kit (Hazards Addressed: All). Progress: Ongoing 5) Provide portable pumps, dump tanks, and suction hoses to supply a secondary water supply for firefighting during times of drought and power outages (Hazards Addressed: Fire, Infrastructure Failure, Severe Weather, Drought). Progress: Ongoing Priority: High
2020 Mitigation Strategies:	1 through 5) The City will continue with the ONGOING strategies it has listed above. Person/Agency Responsible: Emergency Manager Known/Potential Funding: General fund, grants Anticipated Completion Timeline: 2025

How action will be prioritized: Annual budget process

2025 Mitigation Strategies:

1) Eliminate all lead or galvanized service leads throughout the City of Livonia by the end of 2027. The City will identify the remaining 22,000 service lines of over 38,000 (Hazards Addressed: Mitigate and reduce lead action levels): Progress: Ongoing

2) Create underground detention or ponds, including rain gardens, following the Wayne County Storm Ordinance as part of the Storm Water Management Plan (Hazards Addressed: Frequently flooded areas and Infrastructure Failure): Progress: Ongoing

Priority: High

3) Educate vulnerable populations, such as the elderly, disabled, and special needs, about how to care for themselves or obtain help during emergencies, such as DTE-supplied generators or designated shelter(s) (Hazards Addressed: All). Progress: Ongoing

4) Improve electrical reliability throughout the City with DTE Energy to replace old equipment, including generators for critical facilities until power is restored, improve technology to maintain sections of the grid (Hazards Addressed: Reduce potential for shock and electrical fires, improve response time in case of emergencies) Progress: Ongoing

5) Tree trimming and removal of diseased and dying trees within the City of Livonia right-of-way streets, parks, golf courses, City-owned properties, and other critical locations to reduce damage during tornadoes, high winds, or major storm events (Hazards Addressed: Increase reliability to the electrical grid, damage to property, and infrastructure) Progress: Ongoing

6) Improve electrical reliability throughout the City with DTE Energy by seeking opportunities to place vulnerable overhead lines underground and/or tree trimming when other city infrastructure or construction projects provide the opportunity. (Hazards Addressed: Increase reliability of the electrical grid, damage to property, and infrastructure) Progress: Ongoing

7) Expand the implementation of and training of city employees and other partner organizations in preparedness efforts, including first responder exercises

and training that include active aggressor response for open space venues. (Hazards Addressed: Mitigate and respond to threats and hazards levels): Progress: Ongoing

8) Develop, research, and establish new City municipal buildings. This project will revitalize and improve City-owned facilities to enhance efficiency, reliability, and resilience while strengthening critical infrastructure. Where appropriate, existing governmental buildings will be renovated, deconstructed, or replaced with newly constructed facilities to improve operational efficiency and ensure continuity of government operations during and after emergency events. (Hazards Addressed: Increase reliability, efficiency and public service to critical infrastructure) Progress: Beginning research.

9) Livonia Fire Stations 3,4,5 and 6. Update and improve building operational capability. Replace and restore outdated structures and equipment. Provide for self-generated power for ongoing operations during power outages and other critical infrastructure failures. (Hazards Addressed: Increase reliability of the electrical grid, damage to property, and infrastructure) Progress: Ongoing

10) New Police headquarters and Emergency management department with upgraded EOC. Provide better communications and interoperability with city departments, partner municipalities, state, and federal agencies. (Hazards Addressed: Increase reliability, efficiency, and public service to critical infrastructure) Progress: Beginning phases and research.

6.3.24 City of Melvindale

2013 Mitigation Strategies:

1) Hire and train additional police and fire personnel to help in protecting the population and natural resources from adverse effects of hazardous material incidents and other emergencies (Hazard Addressed: Hazmat Incidents – Fixed Site and Transportation).

Progress since last update: Melvindale and Dearborn have merged their Fire Departments, which has helped both cities level out their staffing and training needs.

2) Lessen the impact that flooding has on the people, property, and environment of the City of Melvindale

(Hazard Addressed: Infrastructure Failure, Riverine and Urban Flooding).

Priority: High

Progress since last update: In 2017, the U.S. ACOE completed the North Branch Ecorse Creek Flood Risk Management General Reevaluation Report, an analysis of alternatives to reduce flooding of Ecorse Creek. Alternative number 6, construction of a 250-acre-feet detention basin at the intersection of Powers Avenue and Inkster Road in Dearborn Heights, improvements to multiple road crossings, and a greenway, was found to maximize the cost-benefit ratio.

2020 Mitigation Strategies:

2 above) The City will continue to work with the Army Corps of Engineers, FEMA, and neighboring communities to develop agreements and contracts and provide funding for implementation of flooding solutions for the North Branch of Ecorse Creek.

Priority: High

Person/Agency Responsible: Emergency Manager/Agencies

Known/Potential Funding: General fund, grants

Anticipated Completion Timeline: Ongoing

How action will be prioritized: Budget review, grant availability

2025 Mitigation Strategies:

1) Continue to coordinate with Wayne County, the State of Michigan, and the United States Corps of Engineers to find solutions to Rouge River flooding issues (Hazard Addresses: Flooding).

Priority: High

Flooding in both communities is mainly caused by intense rainfall and thunderstorms. The Rouge River, which divides Dearborn and forms part of the boundary between Dearborn and Melvindale, significantly influences flood dynamics. The city's relatively flat landscape allows heavy rainfall to quickly flood low-lying areas since the Rouge River has difficulty channeling the excess water eastward.

The growing number and intensity of heavy rainfall events in Dearborn emphasize how important it is to enhance infrastructure, engage in planning, educate the public, and prepare for emergencies.

2) Public safety initiatives in helping the residents understand the effects of flooding and to better prepare before the incident occurs.

3) Pre-plan for debris removal after a hazard response event, including staging, storage, and disposal (Hazards Addressed: ALL).

4) Continue to seek grants and funding for flooding-related mitigation (Hazard Addressed: ALL).

5) Continue education training, such as disaster preparedness, to all citizens of the City of Dearborn and the City of Melvindale, highlighting senior citizens and access and functional needs (Hazard Addressed: Communication, Health Emergencies, Infrastructure Failure).

6) Continue training on Incident Command System, host exercises such as tabletop and full-scale exercises, specific to train derailment and HAZMAT-related incidents. These exercises will focus on mitigation, preparedness, response, and recovery (Hazards Addressed: Fire Hazards, Hazmat Incidents, Terrorism/Active Assailant Incidents, Transportation Accidents, and Criminal Acts).

Person/Agency Responsible: Emergency Management

Known/Potential Funding: General fund & grants

Anticipated Completion Timeline: Ongoing

How action will be prioritized: Budget process, grant availability

6.3.25 City of Northville

2013 Mitigation Strategies:

1) Replace the emergency generator at City Hall and Fire Station to provide a reliable command center in the event of an emergency (Hazard Addressed: All).

Progress since last update: Remains a priority

2) Improve interoperability of the 800 Mhz communication system between municipalities (Hazard Addressed: All).

Progress since last update: The 800 MHz communications systems have improved across the County, with more communities now participating. Northville is now using the Nixle service for community bulletins and emergency alerts as well.

3) Evaluate and implement measures to mitigate flooding (Hazard Addressed: Flooding).

Priority: High

Progress since last update: Flooded roadways were still a problem following intense rainfall in May 2019

4) Establish a policy and place for the evacuation of elderly residents from senior housing and rehabilitation centers (Hazard Addressed: Severe Weather – Summer and Winter, Tornadoes).

Progress since last update: The City and local nonprofit organizations maintain lists of shelters and food resources for homeless populations, but the identification of particular locations for emergency /hazard situations remains an ongoing need.

2020 Mitigation Strategies:

1 through 4) Continue to implement the mitigation measures noted above.

Person/Agency Responsible: Fire Chief

Known/Potential Funding: General fund, grants

Anticipated Completion Timeline: 2022

How action will be prioritized: Budget review, grant availability

Completed: 1) Implement Additional Hazmat Training and 2) Update Tornado Warning System

2025 Mitigation Strategies:

1) Develop and Implement Public Education Programs and Outreach on Natural Disaster Awareness, Readiness, Best Practices, and Resources Available to the public.

2) Review the lot coverage ordinance to reduce runoff.

3) Promote and increase Nixel registration.

4) Adding a School Resource Officer to Northville Public Schools.

Ongoing:

1) Design a Flood Control System
2) Conduct Ongoing Training and Coordination with Mutual Aid Partners
3) Mitigate Stormwater Runoff

6.3.26 Northville Township

2013 Mitigation Strategies:

1) Install tornado sirens in the community (Hazard Addressed: Tornadoes). Progress: Being Evaluated

Priority: High

2) Provide an engineering study to lessen the impact that floods have on people, property, and the environment (Hazard Addressed: Flooding, Severe Weather). Progress: Being Evaluated

Priority: High

3) Provide necessary training and equipment to first responders (Hazard Addressed: All). Progress: Ongoing

4) Development and implementation of training for police and schools on emergency response to an active shooter incident (Hazard Addressed: Criminal Acts). Progress: Ongoing

2020 Mitigation Strategies:

1 through 4 above) The Township will continue to pursue implementation of the Ongoing strategies listed above.

Person/Agency Responsible: Emergency Manager

Known/Potential Funding: General fund, grants

Anticipated Completion Timeline: Ongoing

How action will be prioritized: Budget review, grant availability

2025 Mitigation Strategies: Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.27 City of Plymouth

2013 Mitigation Strategies: 1) Request financial assistance from the railroad companies for the purchase of hazmat equipment. In addition, provide for advanced technology which will route emergency vehicles around congested railroad crossings when responding to emergencies (Hazard Addressed: Hazmat Incidents – Transportation). Progress: ONGOING

2) Provide an engineering study to lessen the impact that floods have on people, property, and the environment (Hazard Addressed: Flooding). Progress: The City posted information regarding pre-disaster hazard mitigation grant funding on their website following the federal disaster declaration from the 2014 flooding throughout southeast Michigan. This remains a priority hazard for the City.

Priority: High

3) Train emergency responders regarding hazardous material response (Hazard Addressed: Hazmat Incidents - Transportation) Progress: Ongoing

4) Train police in civil disturbance response together with Western Wayne Mobile Field Force (Hazard Addressed: Civil Disturbance). Progress: Ongoing

2020 Mitigation Strategies: 1) The City will continue with the ongoing strategies it has listed above.

Person/Agency Responsible: Emergency Mgr/City Manager

Known/Potential Funding: General fund, grants, railroad funds

Anticipated Completion Timeline: Ongoing

How action will be prioritized: Budget review, grant & investment availability

2025 Mitigation Strategies: Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.28 Plymouth Township

2020 Mitigation Strategies:

1) Mitigation strategies are currently being reviewed for appropriateness.

Person/Agency Responsible: Emergency Manager

Known/Potential Funding: TBD

Anticipated Completion Timeline: TBD

How action will be prioritized: Township budget process

2025 Mitigation Strategies:

Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.29 Redford Township

2013 Mitigation Strategies:

1) Install additional tornado sirens (Hazard Addressed: Tornadoes/Severe Weather). Progress: Being evaluated

Priority: High

2) Provide funding needed to establish a technical response unit to deal with all types of hazardous material accidents (Hazard Addressed: Hazmat Incidents – Fixed Site and Transportation). Progress: Being evaluated

3) Township officials have also suggested that their ice arena could serve as a cooling center for elderly residents within the Township (Hazard Addressed: Severe Weather/Extreme Heat). Progress: The City maintains lists of shelters and food resources for homeless populations and domestic abuse victims, but the identification of particular locations for emergency /hazard shelters remains an ongoing need.

2020 Mitigation Strategies:

1 through 3 above) The Township will continue to pursue implementation of the ongoing strategies listed above

Person/Agency Responsible: Emergency Mgr/City Manager

Known/Potential Funding: General fund, grants

Anticipated Completion Timeline: Ongoing

How action will be prioritized: Budget review, grant availability

2025 Mitigation Strategies:

Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.30 City of River Rouge

2013 Mitigation Strategies:

1) Provide necessary training and equipment for public safety departments to better prepare their personnel in responding to weather-related emergencies (Hazard Addressed: Severe Weather/Winter Hazards/Tornadoes). Progress: Ongoing

2) Provide funding to be used for training all departments in the area of homeland security. Provide additional protection against potential terrorist activities targeted at one of the community's vulnerable locations (Hazard Addressed: Terrorist). Progress: Ongoing

2020 Mitigation Strategies:

1 and 2) The mitigation strategies listed above remain priorities for the City.

2) The City of River Rouge will work with Wayne County, FEMA, the U.S. Army Corps of Engineers, and others to address coastal flooding and erosion.

Priority: High

Person/Agency Responsible: Emergency Mgr/County Coordinator

Known/Potential Funding: General fund, grants

Anticipated Completion Timeline: 2025

How action will be prioritized: Budget review, grant availability

2025 Mitigation Strategies:

Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.31 City of Riverview

2013 Mitigation Strategies:

1) Lessen the impact that floods have on people, property, and the environment. Insist that the community is notified when the floodgates are to be opened at Detroit Metro Airport. Reduce flooding in the City of Riverview, especially flooding of the Frank and Poet Drain (Hazard Addressed: Riverine and Urban Flooding).

Priority: High

Progress since last update: The City experienced flooding along the Frank and Poet Drain again in 2019, and it remains a priority concern.

2) In cases of major emergencies, provide additional personnel to assist with evacuations. Address the need for better communication with the County for responding to the needs of the city during an emergency. Provide stockpiles of fuel, food, and water to be used in cases of emergency (Hazard Addressed: Hazmat Incidents – Fixed Site and Transportation, Terrorism).

Progress since last update: Some chemical manufacturers and/or companies using and storing significant quantities of hazardous materials have closed or moved since the HMP was updated in 2013; however, spills and/or fires at remaining facilities along railroad lines in the City remain a concern.

2020 Mitigation Strategies:

1) & 2) The City finds that the two mitigation strategies listed above are still significant issues and should be carried forward in the updated plan.

Person/Agency Responsible: Emergency Manager/City Manager/Federal Agencies

Known/Potential Funding: General fund, grants

Anticipated Completion Timeline: Ongoing

How action will be prioritized: Budget review, grant availability

2025 Mitigation Strategies:

As of 2025, the mitigation strategies implemented in 2013 and 2019 are still ongoing. To reduce the risk of street and home flooding, the City of Riverview is planning some sewer upgrades to the Fort Street/Huntington Subdivision.

6.3.32 City of Rockwood

2013 Mitigation Strategies:	1) Install tornado sirens in the City of Rockwood (Hazard Addressed: Tornadoes). Progress: Being evaluated Priority: High 2) Provide resources to develop an efficient system of evacuation during emergencies within the city or in neighboring communities. Allocate funds to be used to purchase a 911 warning system to alert citizens or potential emergencies (Hazard Addressed: Severe weather, Hazmat Incidents – Fixed Site and Transportation). Progress: Being evaluated Priority: High 3) Install shoreline restoration along the Huron River (Hazard Addressed: Shoreline Erosion). Progress: Being evaluated 4) Establish oversight of Belleville Dam operations (Hazard Addressed: Flooding). Progress: Being Evaluated
2020 Mitigation Strategies:	1) Continue to evaluate and implement 2013 mitigation strategies. Person/Agency Responsible: Emergency Manager Known/Potential Funding: General fund, grants Anticipated Completion Timeline: 2025 How action will be prioritized: Budget review, grant availability
2025 Mitigation Strategies:	Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.33 City of Romulus

2013 and 2020 Mitigation Strategies:	1) Encourage family disaster planning (Hazard Addressed: All). Progress: Ongoing 2) Update GIS Database for infrastructure analysis (Hazard Addressed: Infrastructure Failure). Progress: Ongoing

3) Establish regional retention/detention ponds and upgrade sewer mains (Hazard Addressed: Flooding, Infrastructure Failure). Progress: Ongoing

Priority: High

4) Enforce requirement to loop water mains as per building codes (Hazard Addressed: Infrastructure Failure, Public Health). Progress: Ongoing

5) Expand the early warning system and perform testing and monitoring (Hazard Addressed: Tornadoes). Progress: Ongoing

Priority: High

6) Inspect and maintain a record of hazardous material facilities (Hazard Addressed: Hazmat Incidents). Progress: Ongoing

7) Coordinate with railway owners/operators for at-grade crossing separation, and to improve transportation planning (Hazard Addressed: Hazmat Incidents, Transportation Accidents). Progress: Ongoing

8) Develop traffic control options during a power outage or signal damage (Hazard Addressed: Transportation Accidents). Progress: Ongoing

9) Establish and update shelter agreements within City and school buildings (Hazard Addressed: All). Progress: Ongoing

Person/Agency Responsible: Emergency Manager

Known/Potential Funding: General fund, grants

Anticipated Completion Timeline: Ongoing/2025

How action will be prioritized: Budget review, grant availability

2025 Mitigation Strategies:

Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.34 City of Southgate

2013 Mitigation Strategies:

1) Provide additional back-up generators to be used during power outages. Establish emergency shelters to be used in instances of power outage and other emergencies requiring the relocation of the population, especially the elderly. Provide training in snow plowing and the removal of downed trees and branches (Hazard Addressed: Tornadoes/Severe Weather/Winter Hazards, Infrastructure Failure).

Progress since last update: The City still needs additional backup power generators, but has utilized its senior center as an emergency shelter during a recent fire that impacted a high-rise senior-living center.

2) Hire and train additional manpower so the city will be better prepared to respond to hazmat and all other types of emergencies. Provide funds for improved communication equipment so the public safety personnel can properly communicate between their departments and neighboring communities. (Hazard Addressed: Hazmat Incidents – Transportation, Multiple).

Progress since last update: Although the hiring of replacement staff is an ongoing activity, the City has increased staffing levels in the Fire Department to the point where they have returned to desired levels.

2020 Mitigation Strategies:

1 and 2) The City will continue to pursue the mitigation strategies listed above.

3) Additionally, Southgate is developing solutions to relieve overflows from sewers that cause residential basement flooding on the City's east side.

Person/Agency Responsible: Police/Fire

Known/Potential Funding: General fund, grants, millage

Anticipated Completion Timeline: 2025

How action will be prioritized: Budget review, grant availability

2025 Status: Completed.

2025 Mitigation Strategies:

2025 HMP Cycle Mitigation Strategy Projects:

Project: Sewer Relief System to Reduce Urban Flooding.

Lead Agency: City of Southgate.

Primary Funding Source: HMGP 4494 (about $22.5 million), supplemented by non-federal matching share and other funds to total about $32.2 million.

Anticipated Timeline: By 2027

Location: along Barberry Street from Brest Street to the south side of Eureka Road.

Description: The City of Southgate will use this grant funding to install a new 7,770 linear foot long, 66- to 78-inch diameter combined sewer relief system. The reinforced concrete pipeline would connect to the existing 13-foot diameter Eureka Tunnel that runs below Eureka Road. In addition, four 60-inch diameter overflow weir structures would connect the new combined sewer line to the existing Howard Street combined sewer. These weir pipelines are proposed along Oakdale Street, Birrell Street, Cunningham Street, and Superior Street. The sewer line and weirs would be installed primarily using open-cut excavation to a maximum depth of 24 feet and a maximum width of 50 feet; an estimated 110 feet of the sewer line would require jack and bore techniques under Eureka Road. Open-cut excavation to a maximum depth of 40 feet would be done for the installation of the tunnel shaft at the intersection of Barberry Street and Eureka Road. Approximately 53 acres of street drainage would be disconnected from the existing Howard Street combined sewer system and connected to the new combined sewer system. Following the installation of the new combined sewer, the streetscape would be restored and repaired through adjustment and reconstruction of structures, placement of maintenance aggregate, replacement of pavement and sidewalks, new pavement markings, and other site restoration activities. This sewer system will alleviate the combined sewer system from 25% of the residents in the northeast portion of the City of Southgate.

Priority: High

6.3.35 Sumpter Township

2013 Mitigation Strategies: 1) Require the utility companies to remove trees and limbs that could fall on power lines. Provide funds to construct a storage building for emergency supplies (Hazard

Addressed: Infrastructure Failure, Severe Weather). The tree branch clearing mitigation strategy is still ongoing.

2020 Mitigation Strategies:

1) Mitigation strategies were being reviewed for appropriateness during the completion of the 2020 Hazard Mitigation Plan.

Person/Agency Responsible: Township Manager

Known/Potential Funding: TBD

Anticipated Completion Timeline: TBD

How action will be prioritized: TBD

2025 Mitigation Strategies

2025 Status: Tree branch clearing is ongoing

No new mitigation strategies were identified for the 2025 HMP.

6.3.36 City of Taylor

2013 Mitigation Strategies:

1) Develop a procedure between the City of Taylor, the surrounding communities, and Wayne County for responding to hazmat and other emergencies within the various communities. Install a communication system that can be accessed by all communities without regard to the community they represent. Determine a better system of authority and control regarding who should respond to these emergencies (Hazard Addressed: Hazmat Incidents – Fixed Site and Transportation, Transportation Accidents). Progress: Being evaluated

2) Provide funding to hire additional personnel and to purchase generators and heavy equipment to be used to clear streets of storm debris (Hazard Addressed: Severe Weather/Tornadoes). Progress: Being evaluated

3) Provide a solution to the flooding that occurs at I-75 and Pelham Road (Hazard Addressed: Flooding). Progress: Ongoing

Priority: High

4) Continue outreach to schools and other members of the public about school and home safety and adopt the program “do1thing.com” to promote emergency preparedness (Hazard Addressed: All).

5) Monthly testing of the emergency alert system (Hazard Addressed: Tornadoes).

6) Coordinate with Public Safety and Health Departments to ensure that facilities that host special events and international visitors are meeting communicable disease prevention standards (Hazard Addressed: Public Health).

2020 Mitigation Strategies:

1) The City will continue with the ongoing strategies it has listed above.

Person/Agency Responsible: Police Department

Known/Potential Funding: Department budget, grants

Anticipated Completion Timeline: Ongoing/2025

How action will be prioritized: Budget review, grant availability

2025 Mitigation Strategies

No new mitigation strategies were identified for the 2025 HMP and previous strategies are ongoing.

6.3.37 City of Trenton

2013 Mitigation Strategies:

1) Provide closer cooperation between health officials and health organizations, school district management, and the City of Trenton Emergency Management Department, to reduce contagious diseases (Hazard Addressed: Public Health Emergencies). Progress since last update: The City continues to work with area schools and hospitals to develop and implement emergency preparedness and response drills. This is an ongoing priority.

2020 Mitigation Strategies:

1) The City will continue with the ongoing emergency preparedness education noted above.

2) Trenton has identified riverine flooding as an important priority along the 2 miles of residential Detroit River frontage in the City and the additional 2 miles of commercial properties abutting the river. The City has been in planning discussions with the U.S. Coast Guard, FEMA, and the Michigan State Police regarding how this shoreline may be protected from flood waters with sandbags. The City realizes that this is a cyclical problem in times of high Great Lakes water levels. Trenton will also work with Wayne County, FEMA, the U.S. Army Corps of Engineers, and others to address coastal flooding and erosion.

Priority: High

Person/Agency Responsible: Paul L. Haley, Emergency Mgr.

Known/Potential Funding: None

Anticipated Completion Timeline: Ongoing

How action will be prioritized: Council budget process

2025 Mitigation Strategies:

1) The City will continue with the ongoing emergency preparedness efforts noted above.

2) Riverine flooding continues to be an important priority. The City Emergency Manager in 2024 attended the NOAA Great Lakes Support Center and US Coast Guard Sector Detroit's "Shoreline Cleanup Assessment Technique" class. This has greatly strengthened the partnership to prepare for any issues on the Detroit River or the Frank & Poet Drain.

Priority: High

3) The City has engaged an IT security firm to manage IT security and oversee quarterly training in computer security issues.

4) DTE Energy is in the process of removing the Trenton Channel Power Plant and replacing it with the Slocum Energy Battery Storage Facility. The City will partner with DTE Energy to manage a safe and secure energy resource for the future.

Person/Agency Responsible: Paul L Haley, Emergency Management Coordinator

Known/Potential Funding: None

Anticipated Completion Timeline: Ongoing

How action will be prioritized: Council budget process

6.3.38 Van Buren Township

2013 Mitigation Strategies:

1) Install tornado sirens and implement an education program that increases the public's awareness of the vulnerability to tornadoes (Hazard Addressed: Tornadoes). Progress since the last update: Ongoing

Priority: High

2020 Mitigation Strategies:

1) The City will continue with the ongoing strategy it has listed above.

Person/Agency Responsible: City Manager

Known/Potential Funding: Department budget, grants

Anticipated Completion Timeline: Ongoing/2025

How action will be prioritized: Budget review, grant availability

2025 Mitigation Strategies:

Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.39 City of Wayne

2020 Mitigation Strategies:

1) Mitigation strategies are currently being reviewed for appropriateness.

Person/Agency Responsible: City Manager

Known/Potential Funding: TBD

Anticipated Completion Timeline: TBD

How action will be prioritized: TBD

2025 Mitigation Strategies:

Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.40 City of Westland

2013 Mitigation Strategies:

1) Provide funding for the installation of an electronic sign that can be activated to warn drivers of icy conditions on Ford Road at I-275. Purchase generators to provide electrical backup during power outages. (Hazard Addressed: Severe Weather/Winter Hazards). Progress: BEING EVALUATED

2) Provide protective equipment to all municipal employees so they can be of assistance in hazmat emergencies.

Upgrade radio equipment so it can be utilized to communicate with other communities (Hazard Addressed: Hazmat Incidents). Progress: Being Evaluated

2020 Mitigation Strategies:

1) Mitigation strategies are currently being reviewed for appropriateness.

Person/Agency Responsible: City Manager

Known/Potential Funding: TBD

Anticipated Completion Timeline: TBD

How action will be prioritized: TBD

2025 Mitigation Strategies

Strategies from the 2020 hazard mitigation plan are currently ongoing.

6.3.41 City of Woodhaven

2013 Mitigation Strategies:

1) Increases the city's preparedness for the Avian Flu Virus. Distribute information and initiate surveillance to detect human cases (Hazard Addressed: Public Health Emergencies). Progress: NOT STARTED

2) Provide funding for additional hazmat equipment. Develop a well-organized evacuation plan to be used in the event of a hazmat or other emergency that requires the transfer of citizens (Hazard Addressed: Hazmat Incidents, Multiple). Progress: NOT STARTED

2020 Mitigation Strategies:

1) Mitigation strategies are currently being reviewed for appropriateness.

Person/Agency Responsible: City Emergency Manager

Known/Potential Funding: TBD

Anticipated Completion Timeline: TBD

How action will be prioritized: TBD

2025 Mitigation Strategies

Woodhaven did not participate in the 2025 update planning process.

6.3.42 City of Wyandotte

2013 Mitigation Strategies:

1) Provide funding to hire additional manpower, purchase additional hazmat emergency equipment, and make available additional training for responding to hazmat emergencies (Hazard Addressed: Hazmat Incidents – Fixed Site). Progress: NOT STARTED

2) Provide a solution to sewer back-ups and basement flooding stemming from failures at the Wayne County Wastewater Treatment Facility (Hazard Addressed: Urban Flooding/ Infrastructure Failure). Progress: Not started

Priority: High

3) Develop a security plan and hazard mitigation procedures for all the schools in the City (Hazard Addressed: Criminal Acts).

4) Provide significant funding in excess of the state's revolving fund for the elimination of CSOs.

2020 Mitigation Strategies:

1) Wyandotte will also work with Wayne County, FEMA, the U.S. Army Corps of Engineers, and others to address coastal flooding and erosion.

Priority: High

2) Other mitigation strategies are currently being reviewed for appropriateness.

Person/Agency Responsible: Emergency Manager/County Coordinator

Known/Potential Funding: General fund, grants

Anticipated Completion Timeline: 2025

How action will be prioritized: City budget process, grant availability

2025 Mitigation Strategies:

Strategies from the 2020 hazard mitigation plan are currently ongoing.

7. County Action Items

7.1 Former Mitigation Action Items

Wayne County's original 2006 Hazard Mitigation Plan (HMP) included the following eight Action Items:

1. Establish an adequate number of warming and cooling centers throughout the County and develop minimum criteria for their operation. Provide relief and support to individuals and reduce the risk of temperature-related illness during times of extreme temperatures.

2. Improve floodplain management and minimize potential effects of flooding. Encourage and promote regional watershed cooperation.

3. Distribute family emergency preparedness information.

4. Create evacuation plans and community awareness of them.

5. Improve emergency communication(s) between all county communities, including the City of Detroit (not otherwise included in this Hazard Mitigation Plan).

6. Train and equip public health, hospital, and responder personnel (Police/Fire/EMS, citizen corps, etc.) for readiness.

7. Review and evaluate Hazard Mitigation Plan (HMP) priorities and progress on an annual basis.

8. Develop an inspection plan and strategy to identify and abate all vacant, abandoned, and blighted structures near sensitive populations throughout the County, including SARA Title III sites.

Significant progress was made on most of these action items between 2013 and 2019, including the following.

1. Wayne County has compiled a database of warming and cooling centers throughout the County and developed mechanisms for informing county residents regarding the dangers and likelihood of extreme temperatures, and regarding where to go for shelter during severe weather.

2. Wayne County mobilized a variety of resources in response to severe urban and riverine flooding in August 2014, and the resulting failure of stormwater and other infrastructure, which resulted in both state and federal major disaster declarations. During the writing of this report, Wayne County again faced incidents of urban, riverine, and coastal flooding. The County has also recently (2019) requested assistance from the US Army Corps of Engineers for Lake Erie coastal communities in response to high water levels in the Great Lakes.

3. Family emergency preparedness information is now routinely distributed to county residents in all seasons and, as such, this Action Item is being removed for the 2020 HMP Update.

4. Wayne County continues to assist municipalities by directing evacuation and practicing evacuation testing from its Emergency Operations Center (EOC), based on individual municipality evacuation plans.

5. Wayne County works with all Wayne County municipalities to ensure open lines of communication with first responders. Wayne County HS & EM has sent correspondence to all county communities and actively programs municipality radios so that all entities are able to communicate on an updated 800 Mega M.P.S.C.S. Radio system during emergencies. The County began a radio project in 2014/2015 and now provides radios to municipal first response agencies annually. As such, this Action Item is being removed for the 2020 HMP update.

6. Wayne County DHSEM polled fire chiefs in Wayne County concerning Action Item 8 from the 2013 HMP, and we found that local communities are currently identifying and inspecting vacant, abandoned, and blighted structures near sensitive populations and SARA Title III sites. The inspections are being done by fire marshals and building/ordinance personnel. This action item has been addressed by local communities as part of their everyday operations and, hence, is being removed from the 2020 HMP update.

The Wayne County Department of Homeland Security and Emergency Management continues to address weather-related hazard threats (flooding, extreme temperatures, etc.) while also focusing attention and programs on new and emerging concerns such as cybersecurity and preparedness for active assailant incidents. Completed Action Plans from the 2013 Hazard Mitigation Plan have been replaced with new Actions and programs from 2019. Ongoing and new concerns have been incorporated into Action Plans developed in 2025.

7.2 Current Mitigation Action Items

The Action Items have been selected and developed based on the prioritization (rating) exercises and Advisory Committee discussions described previously in Section 5, taking into account cost-effectiveness, technical feasibility, high ability to accomplish tasks, low planning effort required, and the protection of critical facilities and infrastructure.

The action items align with the mission of the Wayne County Emergency Management Division:

“To take the lead role in coordinating the County's responsibility to plan, analyze, conduct, and maintain programs to preserve and protect lives and property from major emergencies and disasters of all types.”

Each Action Item includes a short description of the relevant hazard(s) and the strategy aimed at mitigating their impact. The agencies responsible for implementation, the general form of costs associated with each strategy, and the benefits are also listed for each.

The implementation of each will be guided by an analysis of the benefits expected in relation to program costs. Implementation will be determined, in part, based upon the availability of grant or shared funding; how well each Action Item fits within established programs, goals, and initiatives of the responsible agencies; and program needs identified through ongoing feedback from Wayne County municipal officials, emergency response staff, and the Wayne County LEPC. Completion of all action items, unless otherwise noted, is anticipated within the first four years of the 5-year cycle for reviewing and updating the HMP.

The order presented for the Action Items does not denote importance or priority. Relative priority order is addressed by hazard as opposed to individual Action Items. A direct, one-to-one comparison between the hazard prioritization results of the 2020 and 2025 Hazard Mitigation Plans is inherently limited due to differences in methodology, classification, and evaluation criteria used in each planning cycle. Both plans relied on structured workshops involving the advisory committee and additional community stakeholders, as described in Section 5; however, the approach to scoring and weighting hazards evolved between the two efforts.

For comparison purposes, several hazard categories were simplified or consolidated to align broadly comparable themes across plans. For example, flooding associated with infrastructure failure in the 2025 plan was incorporated into the broader flooding category for comparison to that of 2020. Despite these adjustments, the hazard sets do not align perfectly, and some hazards identified in the 2025 plan represent newly defined or reframed risk categories rather than direct counterparts to those evaluated in 2020. For the 2020 plan, a relative ranking of hazards based on aggregated scores derived from individual mitigation strategies associated with each hazard was used. In contrast, for the 2025 plan, a numerical rating system was applied, with hazards scored on a defined scale based on weighted risk criteria. The weighting values and evaluation factors differed between planning cycles, reflecting updated stakeholder input, risk perceptions, and planning priorities at the time of each workshop. As a result, this analysis compares a relative ranking (2020) to a numerical rating (2025), rather than two identical scoring frameworks. This approach provides a general indication of shifts in relative priority rather than a precise statistical comparison. Summarized results of this comparison are tabulated below.

2025 Hazard Ratings		2020 Hazard Rankings	
Cyber Attacks		Flooding	1
Winter Hazards	1	Criminal Acts	2
Transportation Accidents		Public Health Emergencies	3
Flooding	2	Infastructure Failure	4
Thunderstorms		Hazmat Incidents	5
Criminal Acts			
Tornadoes	3		
Acts of Terrorism			
Hazmat Incidents	4		

As presented in the table above, flooding remains a high-priority hazard in the 2025 plan; however, it is now surpassed by emerging and intensified concerns related to cyber attacks and winter hazards. The increased emphasis on winter hazards reflects recent

conditions and damage events occurring between 2020 and 2025, as discussed in Section 4.18, as well as anticipated future impacts associated with climate variability and changing weather patterns. Criminal acts continue to be rated as a significant concern but have decreased in relative priority compared to the 2020 plan. This shift is largely attributed to the increased recognition of cyber attacks as a critical risk.

Several hazards emerged as new high-priority categories in the 2025 plan, including cyber attacks, winter hazards, and transportation accidents. While extreme temperatures were considered in the 2020 plan, they were not previously emphasized as a standalone, high-priority hazard category to the same degree as in the current plan but are considered to be partially addressed in the winter hazards category. Public health emergencies and infrastructure failure no longer appear among the highest-priority hazards in the 2025 plan. The prominence of public health risk in the 2020 plan was strongly influenced by the onset of the COVID-19 pandemic, which elevated its perceived immediacy and severity at that time. Infrastructure-related risks, while still relevant, are now more commonly addressed within other hazard categories, such as flooding and transportation systems. Acts of terrorism were identified as a higher-priority hazard in the 2025 plan. The relative priority of hazardous materials incidents remained largely consistent between both plans, indicating sustained concern regarding this risk across planning cycles.

Objective #1: Plan and Train

Action Item 1.1: Unified Response Training and Exercises

The primary purpose of Unified Response Training is to ensure that all first responders, including police, fire, EMS, municipal staff, and other emergency management personnel, are trained to collaborate in a cohesive and coordinated manner during a disaster or emergency event. This training aims to foster teamwork and enhance communication.

Specific Hazard(s) Addressed: All Hazards.

Specific Vulnerability(ies): Municipal buildings outside police and fire departments.

Primary Responsibility: City, Township, and Village first responders, Wayne County Homeland Security, and critical infrastructure personnel.

Implementation: Conduct a survey to assess current training programs and identify gaps. Develop and deliver training sessions for the whole community, including workshops, drills, and after-action reviews.

Costs: Staff time, training materials, and contractor/instructor fees.

Benefits: Improved community preparedness and resilience, standardized knowledge across responders, enhanced coordination, improved communications.

Anticipated Funding: County general fund, state, and federal grants.

Action Item 1.2: Training for Hazardous Materials Incident

The primary objective of the action plan is to ensure a coordinated and organized response to any hazardous materials incident, such as a spill, leak, or accident involving chemicals, flammable liquids, gases, or radioactive substances.

Specific Hazard(s) Addressed: HazMat Incidents (Transportation).

Specific Vulnerability(ies): High-accident areas, transportation routes.

Primary Responsibility: City, Township, and Village first responders, Wayne County Homeland Security, HazMat teams, and medical.

Implementation: Develop and implement training for hazmat response, including ICS procedures, through assessments and partnerships. Inventory of HazMats. Risk assessment. Decon training.

Costs: Staff time, training materials, and contractor/instructor fees.

Benefits: Protection of lives and the environment, consistent response across jurisdictions.

Anticipated Funding: County general fund, state and federal grants, municipal assistance.

Action Item 1.3: Develop Response Plans for Key Locations

The primary goal of the response plan is to ensure the safety and security of all individuals in venues and key locations, including attendees, staff, and performers, while minimizing damage to property and infrastructure. The plan is designed to address a wide range of potential incidents, including medical emergencies, fires, natural disasters, terrorist threats, and mass casualty events.

Specific Hazard(s) Addressed: All Hazards.

Specific Vulnerability(ies): Key venues and locations.

Primary Responsibility: City, Township, and Village first responders, Wayne County Homeland Security, public information officer, and medical response.

Implementation: Identify key locations, assess training needs, and deliver training sessions. Drills. Facility inspections.

Costs: Staff time, training materials.

Benefits: Enhanced venue preparedness, smoother operations during emergencies.

Anticipated Funding: County general fund, state and federal grants, municipal assistance.

Objective #2: Analyze

Action Item 2.1: Cybersecurity Assessment

The primary objective is to evaluate, understand, and reduce the risks associated with cyber threats that could disrupt public safety, critical infrastructure, and local government operations.

Specific Hazard(s) Addressed: Cybersecurity.

Specific Vulnerability(ies): Critical infrastructure and local government operations.

Primary Responsibility: Wayne County IT Department.

Implementation: Conduct vulnerability assessments and collaborate with external agencies for information sharing. To be initiated within the first two years of and completed within the current HMP cycle.

Costs: Staff time. Updates to infrastructure.

Benefits: Identification of cybersecurity gaps, improved resilience to cyber threats.

Anticipated Funding: Internal resources, state, and federal grants.

Action Item 2.2: Review Floodplain Mapping and Engineering Plans

The objective of this action plan is to reduce flood risks and prevent future flood damage by improving floodplain management, enforcing effective floodplain regulations, implementing engineering solutions, and increasing community preparedness.

Specific Hazard(s) Addressed: Flooding (Riverine, Shoreline, Urban).

Specific Vulnerability(ies): Flood-prone areas (e.g., Ecorse Creek, coastal communities).

Primary Responsibility: Wayne County Homeland Security, local municipalities, and the U.S. Army Corps of Engineers.

Implementation: Work with FEMA and the Army Corps of Engineers to address flood-prone areas and develop engineering solutions. Review floodplain regulations and land use planning. Evaluate floodplain awareness.

Costs: Staff time, consultant fees, infrastructure costs.

Benefits: Improved flood mitigation strategies, better floodplain data.

Anticipated Funding: Federal grants, Army Corps of Engineers, Clean Water State Revolving Funds.

Action Item 2.3: Vulnerability Assessment for Terrorist Acts

The goal is to assess the vulnerabilities of key assets, develop strategies to mitigate potential terrorist threats, and enhance the community's overall preparedness to respond effectively.

Specific Hazard(s) Addressed: Terrorism.

Specific Vulnerability(ies): Critical infrastructure, key assets.

Primary Responsibility: Homeland Security, local law enforcement.

Implementation: Evaluate risks to critical infrastructure, assess vulnerabilities to terrorism. Implement mitigation measures where appropriate. To be initiated within the current HMP cycle.

Costs: Staff time. Implementation of mitigation measures.

Benefits: Increased understanding of terrorism-related risks, targeted security improvements, and enhanced preparedness.

Anticipated Funding: Federal grants.

Objective #3: Conduct

Action Item 3.1: Ensure Readiness at Critical Facilities (Emergency Power)

The goal of this action plan is to enhance the resilience of these facilities by ensuring they have reliable backup power systems, are regularly maintained, and are prepared for fuel and equipment requirements.

Specific Hazard(s) Addressed: Extreme temperatures, Infrastructure failure (Water & Sewer).

Specific Vulnerability(ies): Vulnerable populations, critical infrastructure.

Primary Responsibility: Wayne County Health & Human Services, Homeland Security.

Implementation: Invest in emergency power generators, establish contracts for maintenance and fuel, determine power requirements, assess vulnerabilities, install backup generators, and diversify power sources.

Costs: Equipment purchases, staff time.

Benefits: Continuous operation of critical services during extreme weather

Anticipated Funding: Local budgets, federal, and state assistance.

Action Item 3.2: Improve Emergency Communications Systems

This action plan outlines strategies to enhance communication systems for better preparedness, response, and recovery during emergencies. The use of boosters can enhance the signal strength of wireless communication systems, allowing emergency responders, local governments, and residents to stay connected in critical situations.

Specific Hazard(s) Addressed: All Hazards.

Specific Vulnerability(ies): Communication systems.

Primary Responsibility: Local Emergency Management, Communication Providers.

Implementation: Develop policies for coordinated communication, improve redundancy, and ensure interoperable systems. Conduct a communications needs assessment and identify gaps. Improve radio systems. Implement satellite communication. Identify

communication gaps, install boosters in deficient areas, engage stakeholders, install boosters, test them, and collaborate on their implementation. Update coverage maps.

Costs: Staff time, equipment investments.

Benefits: Improved communication efficiency and reliability during emergencies.

Anticipated Funding: Local budgets, federal, and state grants.

Objective #4: Maintain

Action Item 4.1: Protect Communications from EMP

This action plan outlines strategies to safeguard communication systems from the effects of Electromagnetic Pulse (EMP) and ensure the continued functioning of critical infrastructure during such events.

Specific Hazard(s) Addressed: Communications Systems Failure.

Specific Vulnerability(ies): Communication systems.

Primary Responsibility: Homeland Security, Wayne County Communications Departments.

Implementation: Develop EMP resilience strategies, assess vulnerability of critical infrastructure, and install EMP shielding. Employ protective technologies, such as surge protectors, filters, and EMP-resistant circuit boards, in radios, mobile phones, and other communication devices used by emergency responders. Regularly inspect and maintain these devices to ensure they remain operational in the event of an EMP. Funding assistance to be applied for and tentative work plans to be developed within the current HMP cycle.

Costs: Staff time. Purchasing and installation.

Benefits: Improved resilience of communication networks, safeguarding public safety.

Anticipated Funding: Federal and state grants.

Action Item 4.2: Upgrade Aging Infrastructure

The objective of this action plan is to identify, assess, and address the vulnerabilities of aging infrastructure within the community, thereby improving its resilience against natural disasters and climate change impacts. This includes ensuring that critical infrastructure systems are maintained or replaced before they fail, thus preventing widespread service disruptions during emergencies.

Specific Hazard(s) Addressed: Infrastructure Failure (Water & Sewer Systems)

Specific Vulnerability(ies): Aging infrastructure, key interceptors, lift stations

Primary Responsibility: Wayne County Department of Public Works, local emergency managers

Implementation: Review infrastructure for vulnerabilities, prioritize repairs/upgrades, and incorporate green infrastructure considerations. Inventory of infrastructure. Condition assessment. Initial assessment and prioritization of repairs and upgrades to be completed within the current HMP cycle.

Costs: Staff time, budget for repairs/upgrades

Benefits: Reduced long-term costs, improved system resilience

Anticipated Funding: Federal and state grants, local budgets

7.2 Plan Monitoring and Revision

As noted previously, the Wayne County Hazard Mitigation Plan Advisory Committee (HMPAC) includes representatives of the Wayne County Department of Homeland Security & Emergency Management, representatives from all 42 of the Wayne County municipalities covered by the Plan, and other regional stakeholders. This group meets regularly with Wayne County Homeland Security. The overall responsibility for the ongoing evaluation and maintenance of the Plan rests with the County Emergency Management Coordinator, who will work in conjunction with representatives from municipal and regional organizations on the HMPAC.

The Plan will be reviewed annually by the HMPAC to assess progress on Action Items, changes in hazard history, and any known changes in vulnerability. Every two years, following review by the HMPAC, a description of Plan progress and any changes in circumstances or trends that may require revision of the Plan will be presented to the Wayne County Board of Commissioners. Meetings of the County Board of Commissioners to review and revise the HMP will be advertised to the public following Wayne County's normal public notice practices.

The Plan will be reviewed, updated, and revised, as necessary, every five (5) years to maintain consistency with the changing community and hazard histories, as well as the goals and objectives of the County. As in past updates, the review and updating of the HMP will be conducted in a series of dedicated workshops involving the HMPAC and other neighboring and regional stakeholders. In this process, each municipality is tasked with reviewing its hazard priorities, any changes in community vulnerability, and selected mitigation strategies, noting progress or lack thereof since the last update. Each community is also asked to adopt its sections of the HMP, or the HMP as a whole, every five years following these updates.

The public is also invited to participate in this process through the HMP update website, a link on the County's website, and one or more publicly advertised public meetings presenting the draft revisions. Residents and members of the public may also participate in the process through public meetings as each community reviews its sections or the entire Plan for local adoption. Community input and summarized public comments that occurred during the public review period are presented in Appendix E.

A Hazard Mitigation Plan is only a part of the emergency planning, mitigation, preparedness, response, and recovery process. Future coordination of this Plan with other activities in the County will be conducted by the Hazard Mitigation Plan Advisory Committee (HMPAC). Individual members of the HMPAC are to identify opportunities, within their respective departments or organizations, to incorporate this Plan into other County plans, programs, and in the County's annual budgeting process. Any opportunities that are identified will be referred back to the HMPAC as a whole for consideration. By including representatives from multiple jurisdictions and inter-jurisdictional agencies that are well-connected throughout the County, opportunities for coordination with other plans will be enhanced. Incorporating this Plan into other plans and programs will ultimately be at the discretion of the County department or organization that administers these plans or programs.

The Action Items listed above do not directly limit future development in hazard-prone areas. Wayne County has limited powers related to land use and land use planning. Action Item #2, which focuses on reducing flood-related damages, will likely need to include the purchase of repetitive loss structures within floodplains and subsequent land use controls for those properties. The Wayne County Department of Homeland Security & Emergency Management will work with the County Drain Commissioner and the Department of Environment to plan and implement floodplain management actions consistent with this Plan and to incorporate the findings and recommendations of specific ongoing flood mitigation planning into future revisions of this HMP.

Enabling legislation in Michigan has established a system of "Home Rule," wherein land use planning and zoning power is given to local cities, villages, and townships. These municipalities will be encouraged to incorporate the findings and recommendations in this HMP into their land use master plans and zoning practices. Regional planning initiatives such as flood mitigation plans for Ecorse Creek and the Combined Downriver Watersheds, and the periodic review and revision of watershed plans for the Rouge River, Ecorse Creek, the Combined Downriver Watersheds, and the Lower Huron River also offer opportunities for incorporating the mitigation strategies and Action Items included here. By promoting the benefits of a coordinated planning process and utilizing digital resources to foster connections whenever possible, the HMPAC will continue to play a vital role in creating opportunities for plan coordination.

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Figure 2: Hazard History: Fire- Forest/Field

Figure 3: Hazard History: Structural Fire

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Figure 8: Hazard History: Pipelines & Electrical Utilities

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Figure 15: Vulnerability Assessment: Forest/Field Fires

Figure 16: Vulnerability Assessment: Scrap Tire Fires

Figure 17: Vulnerability Assessment: Structural Fires

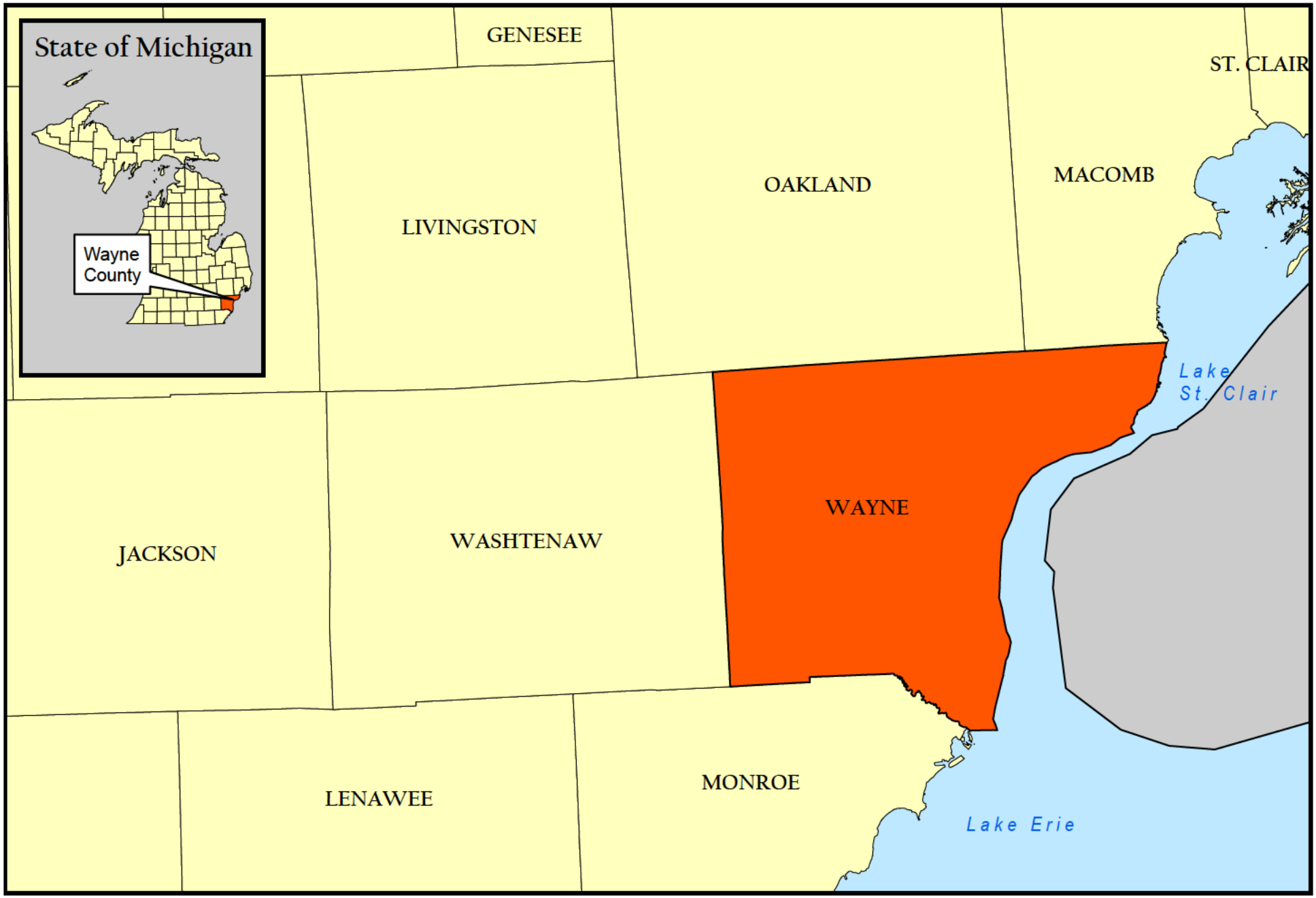
Figure 18: Vulnerability Assessment: Hazmat Incidents- Transportation

Figure 19: Vulnerability Assessment: Infrastructure- Water/Sanitary Sewer System

Figure 20: Vulnerability Assessment: Infrastructure Failures-Electrical/Communications

Figure 21: Vulnerability Assessment: Transportation Accidents

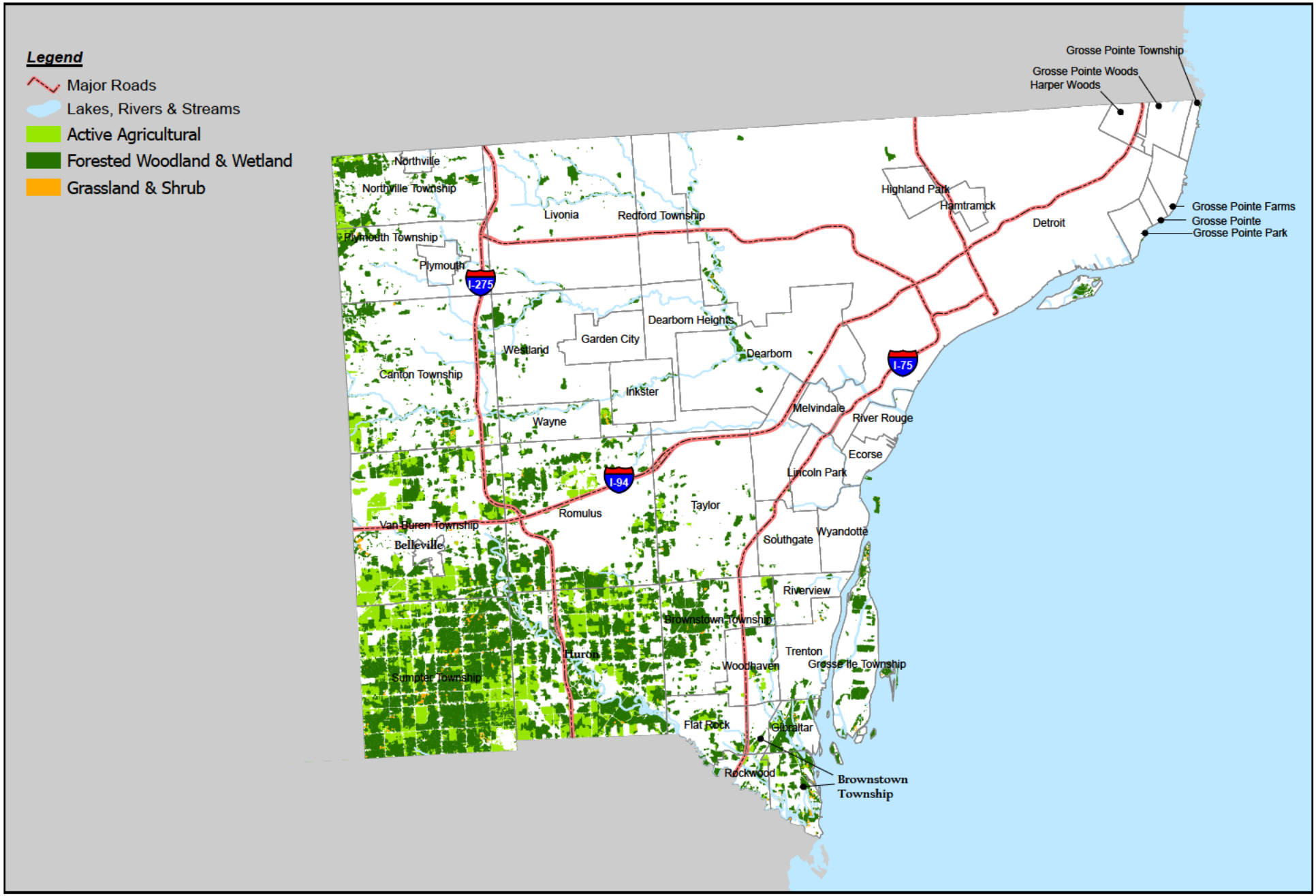
Figure 22: Vulnerability Assessment: Winter Hazards



Wayne County

Created for: Wayne County
Created by: RMH, February 20, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013))

Site Location Map



Wayne County

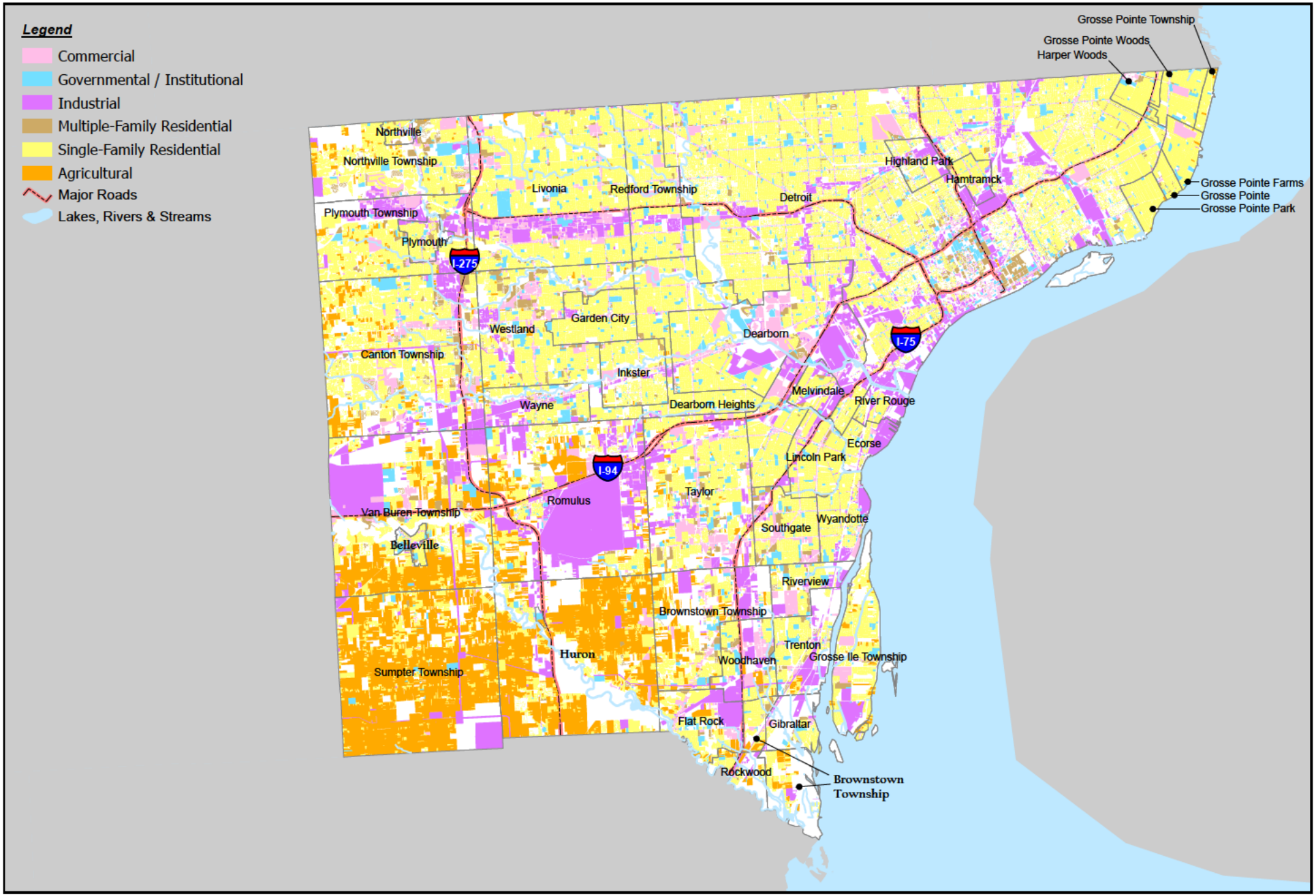
5 2.5 0 5 Miles

N

ASTI ENVIRONMENTAL

Created for: Wayne County
Created by: RMH, February 20, 2025, ASTI Project A24-0901.00
Data Source: NLCD (2023), SEMCOG Land Use (2020)

Figure 2 - Hazard History: Fire - Forest/Field

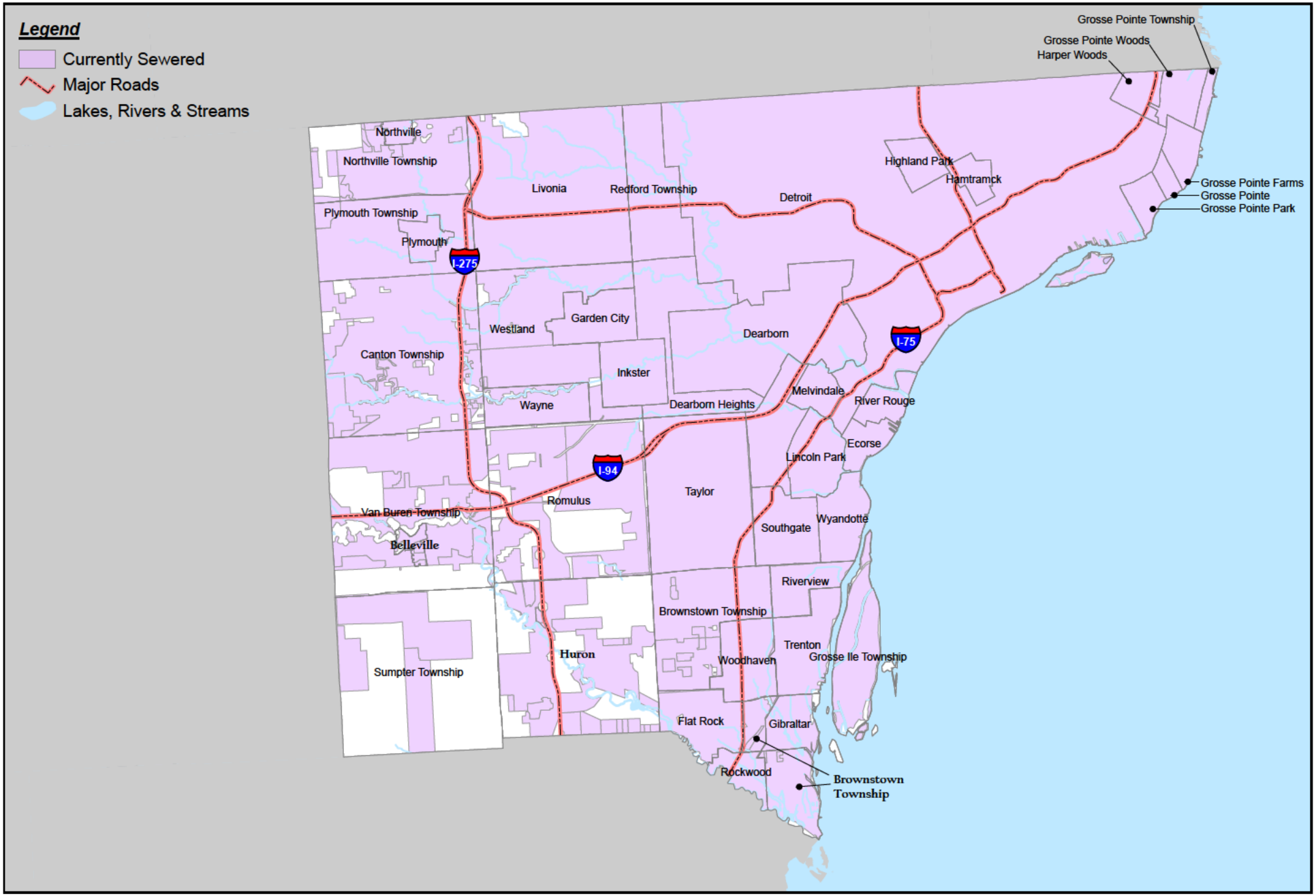


Wayne County

ASTI ENVIRONMENTAL

Created for: Wayne County
Created by: RMH, April 22, 2020, ASTI Project 10943
Data Source: City of Dearborn (2013), Michigan CGI (2013), SEMCOG Land Use (2020)

Figure 3 - Hazard History: Fire - Structural

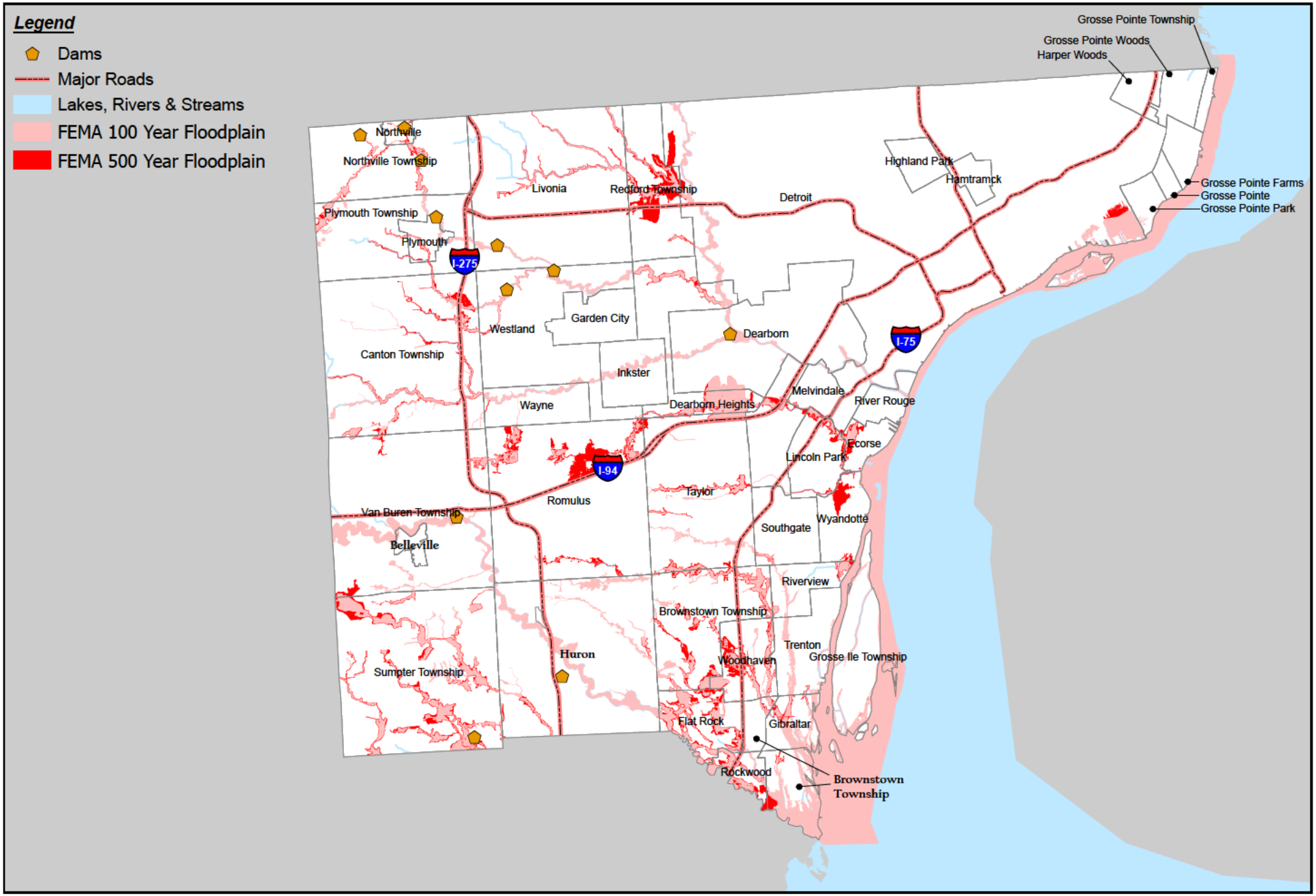


Wayne County

ASTI ENVIRONMENTAL

Created for: Wayne County
Created by: RMH, March 10, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013))

Figure 4 - Hazard History: Infrastructure Failure

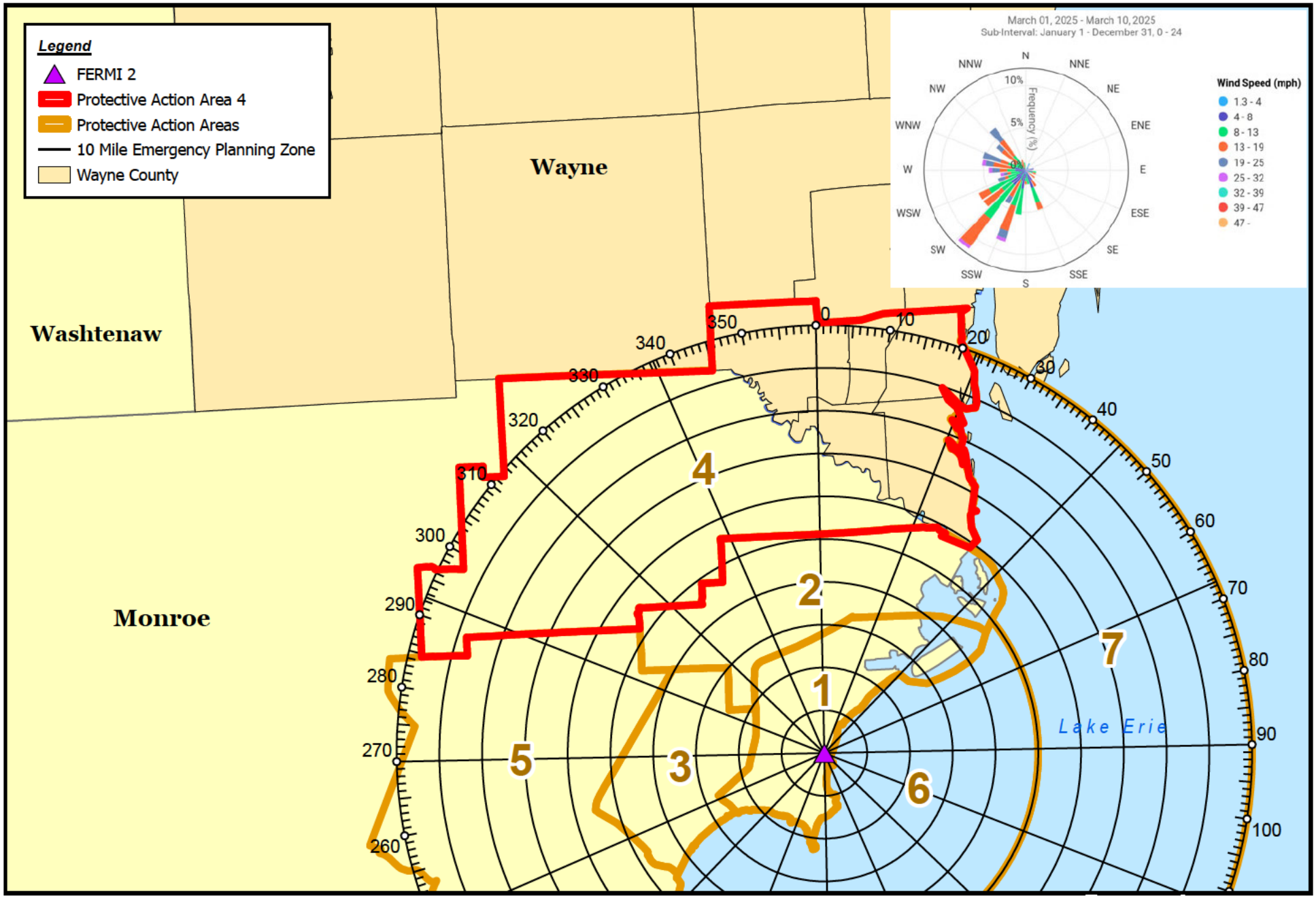


Wayne County

ASTI ENVIRONMENTAL

Created for: Wayne County
Created by: RMH, February 20, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013), USDA (2010), SEMCOG (2008 & 2012), FEMA (2023)

Figure 5 - Hazard History: Flooding



Wayne County

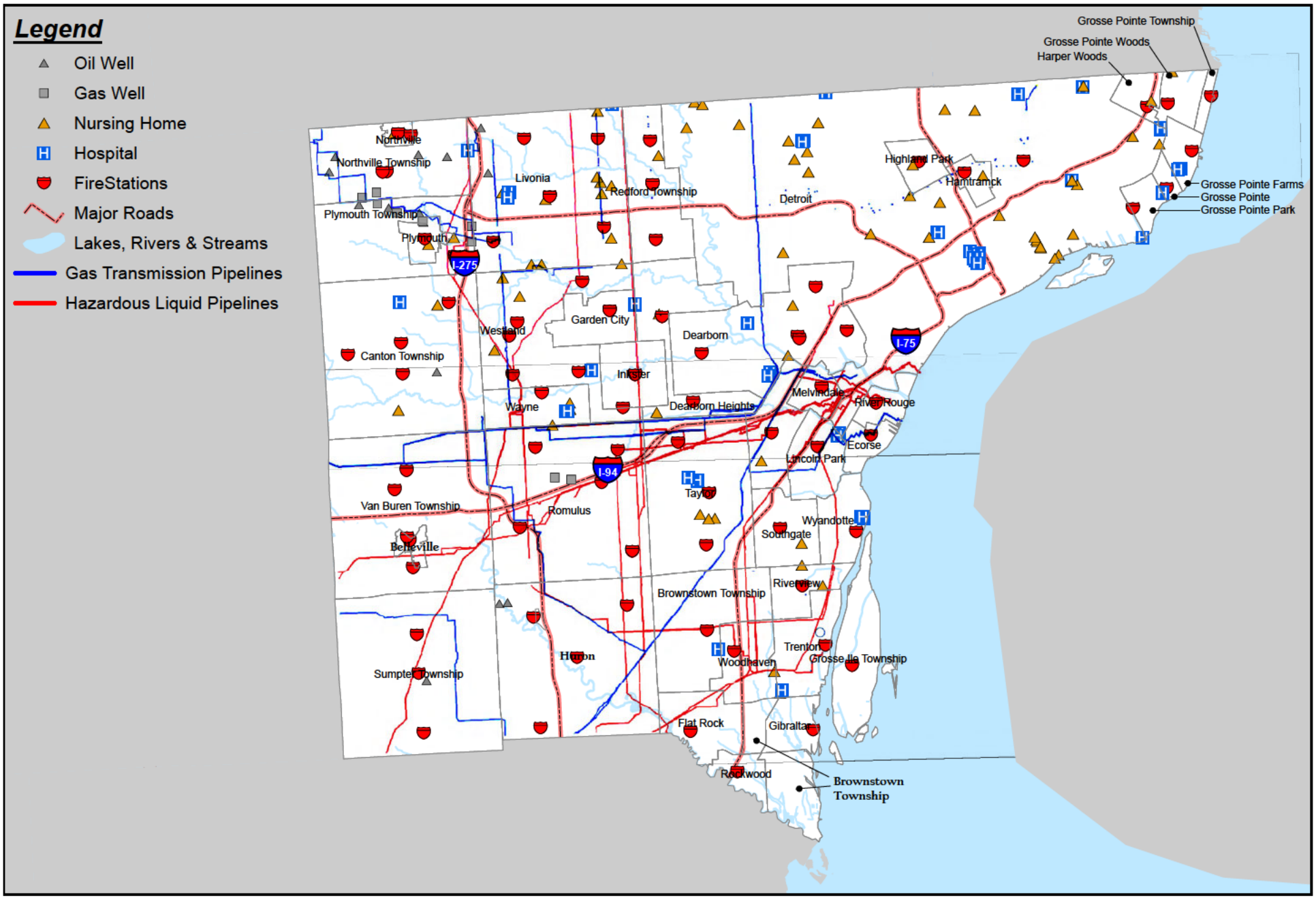
3 1.5 0 3 Miles

N

ASTI ENVIRONMENTAL

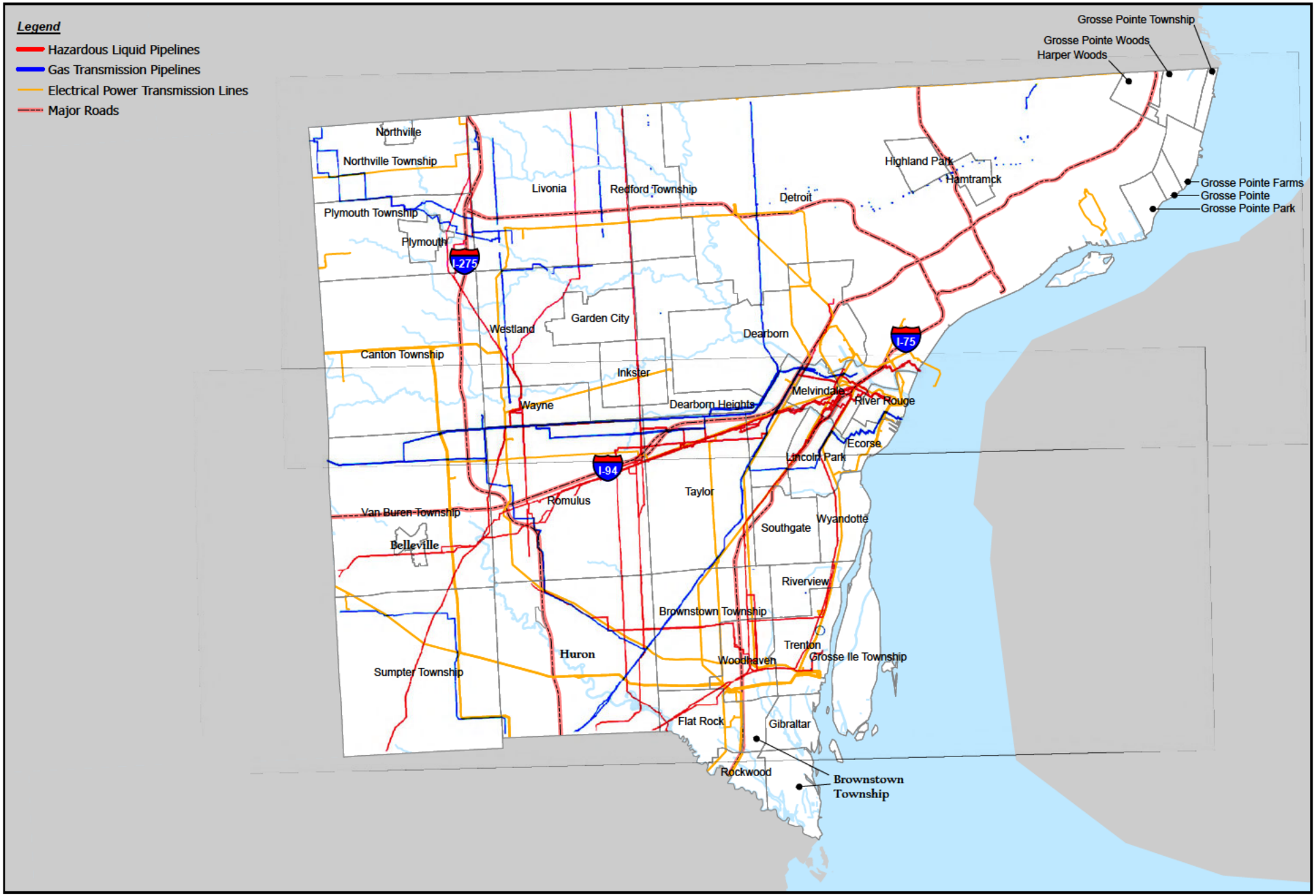
Created for: Wayne County
Created by: RMH, March 10, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), MSP-SEOC GIS

Figure 6- Hazard Summary: Nuclear Power Plant



Created for: Wayne County
Created by: RMH, March 27, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), pvnpms.phmsa.dot.gov/PublicViewer msp.seocgis

Figure 7 - Hazard History: Accidents- Wells & Pipelines



Wayne County

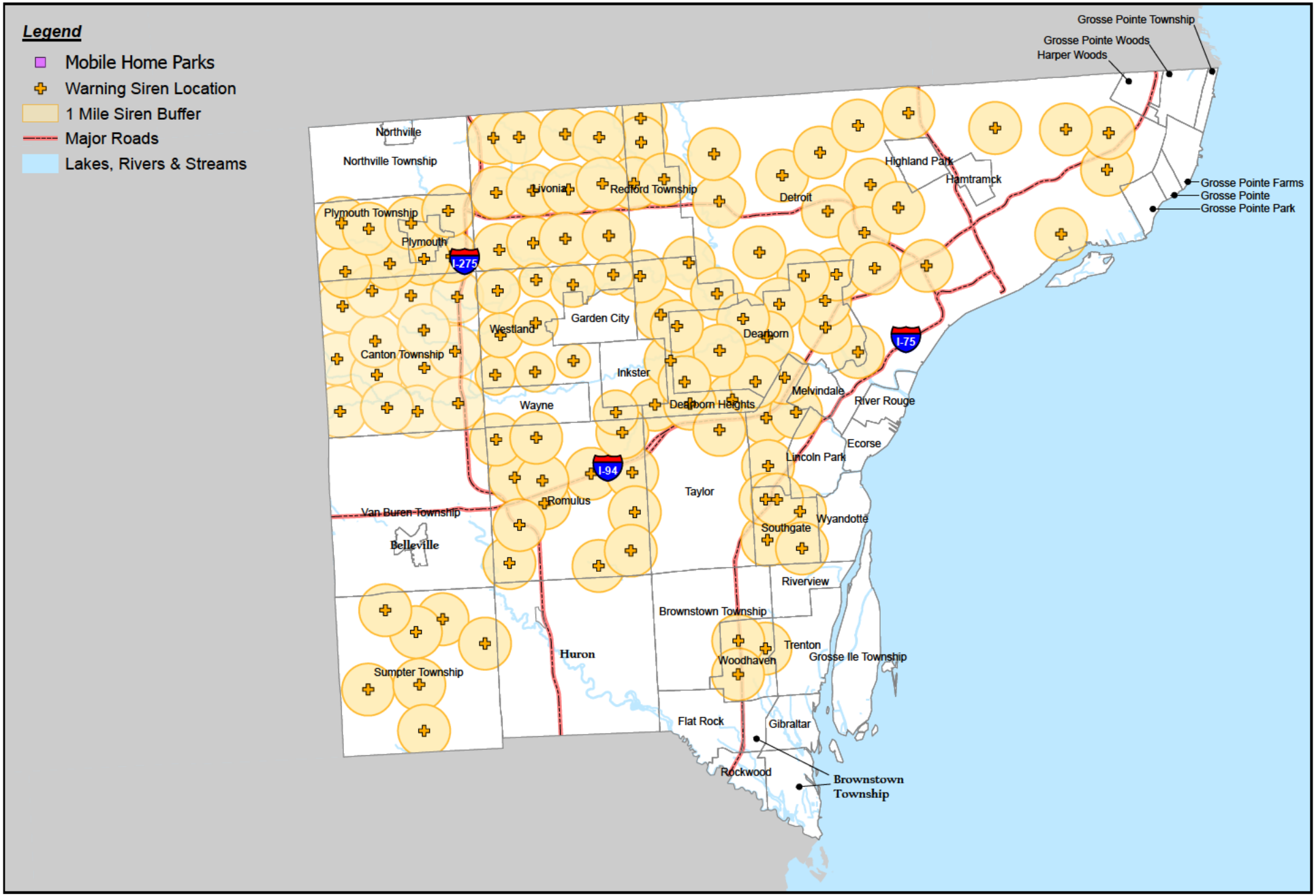
5 2.5 0 5 Miles

N

ASTI ENVIRONMENTAL

Created for: Wayne County
Created by: RMH, March 25, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), pvnpms.phmsa.dot.gov/PublicViewer msp.seocgis

Figure 8 - Hazard History: Pipelines & Electrical Utilities

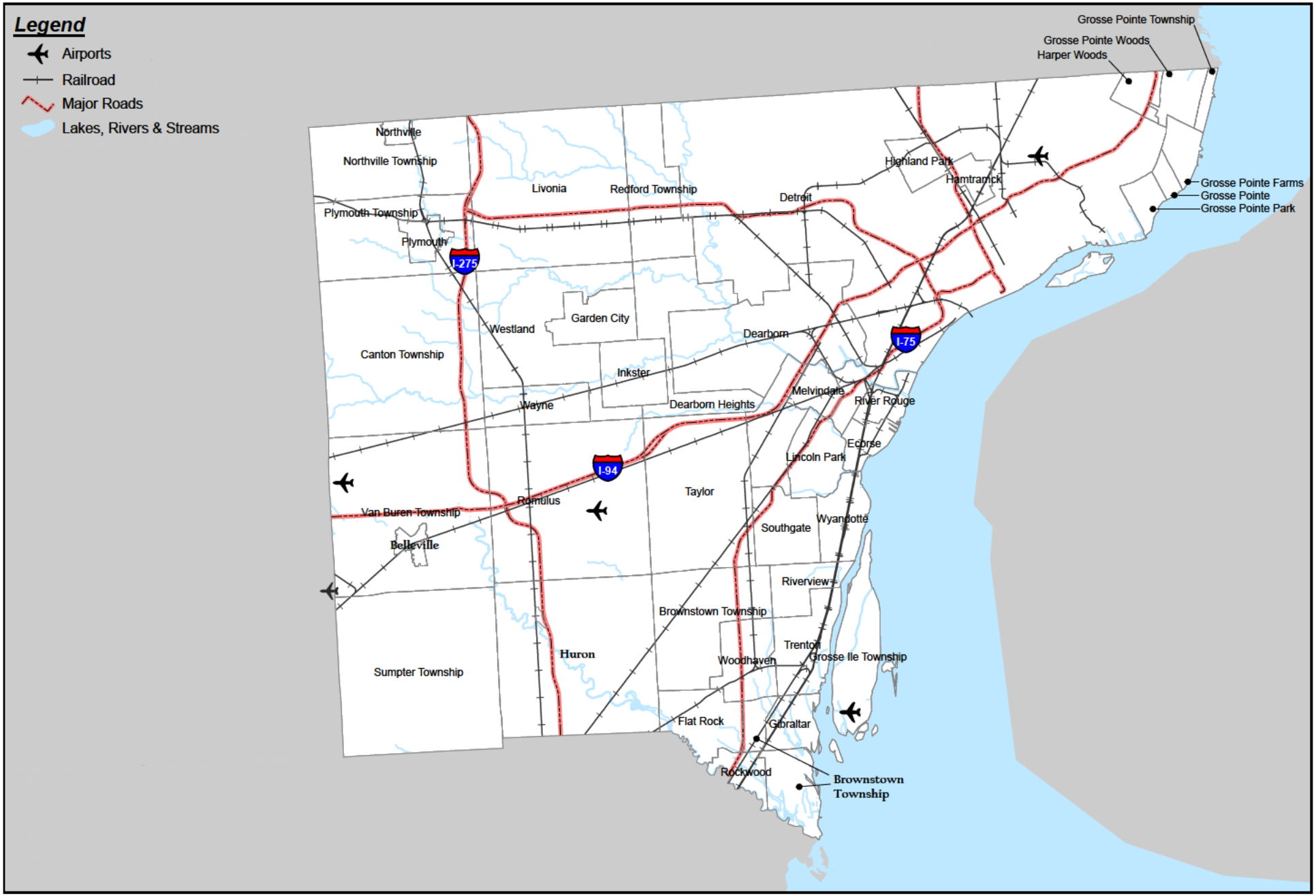


Wayne County

ASTI ENVIRONMENTAL

Created for: Wayne County
Created by: RMH, March 25, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013)) msp.seocgis

Figure 9 - Hazard History: Warning Siren Locations



Wayne County

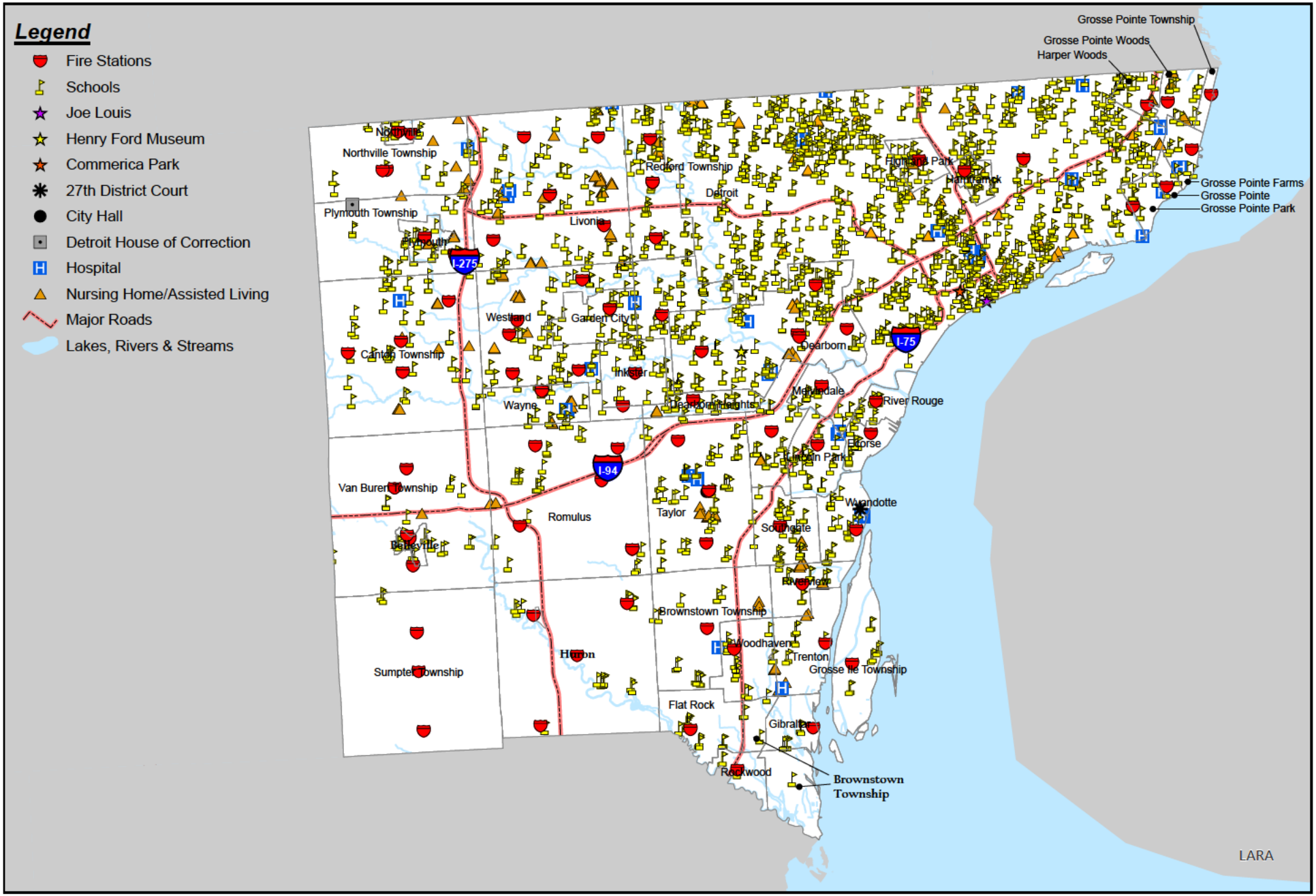
5 2.5 0 5 Miles

N

ASTI ENVIRONMENTAL

Created for: Wayne County
Created by: RMH, March 25, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013))

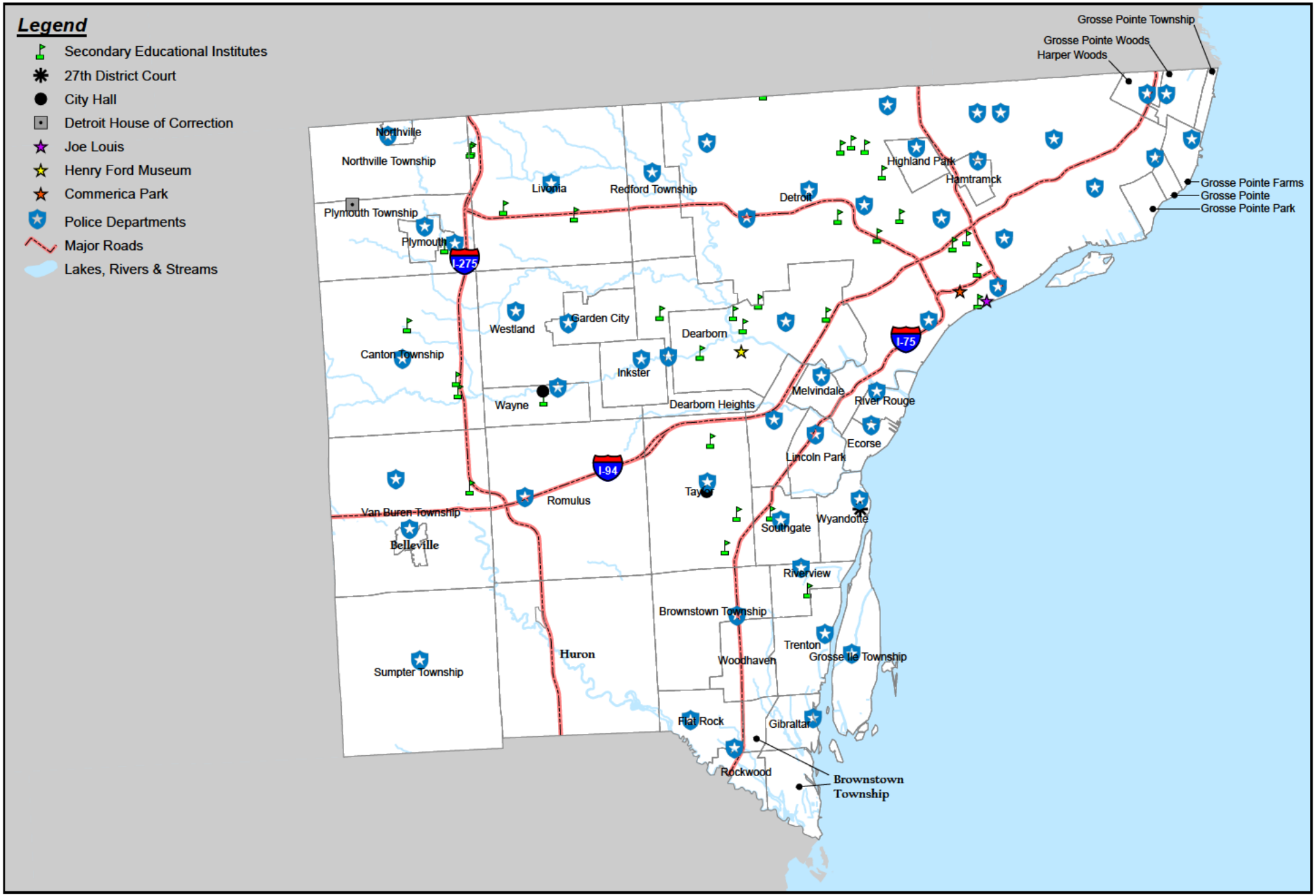
Figure 10 - Hazard History: Transportation



Wayne County

Created for: Wayne County
Created by: RMH, March 25, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013), msp.seocgis

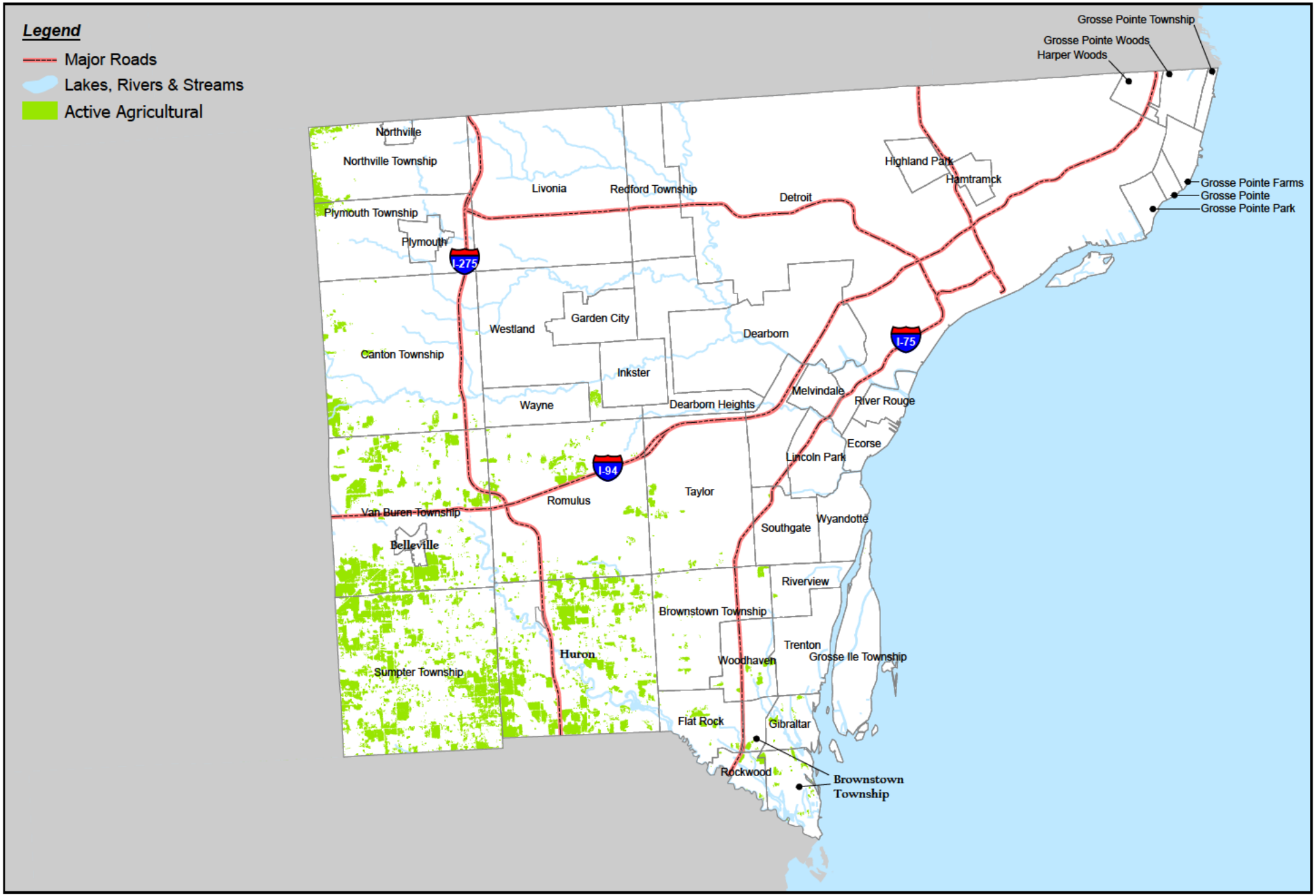
Figure 11 - Hazard History: Community Structural Fires



Wayne County

Created for: Wayne County
Created by: RMH, March 25, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013), HIFLD (2019)

Figure 12 - Vulnerability: Civil Disturbance

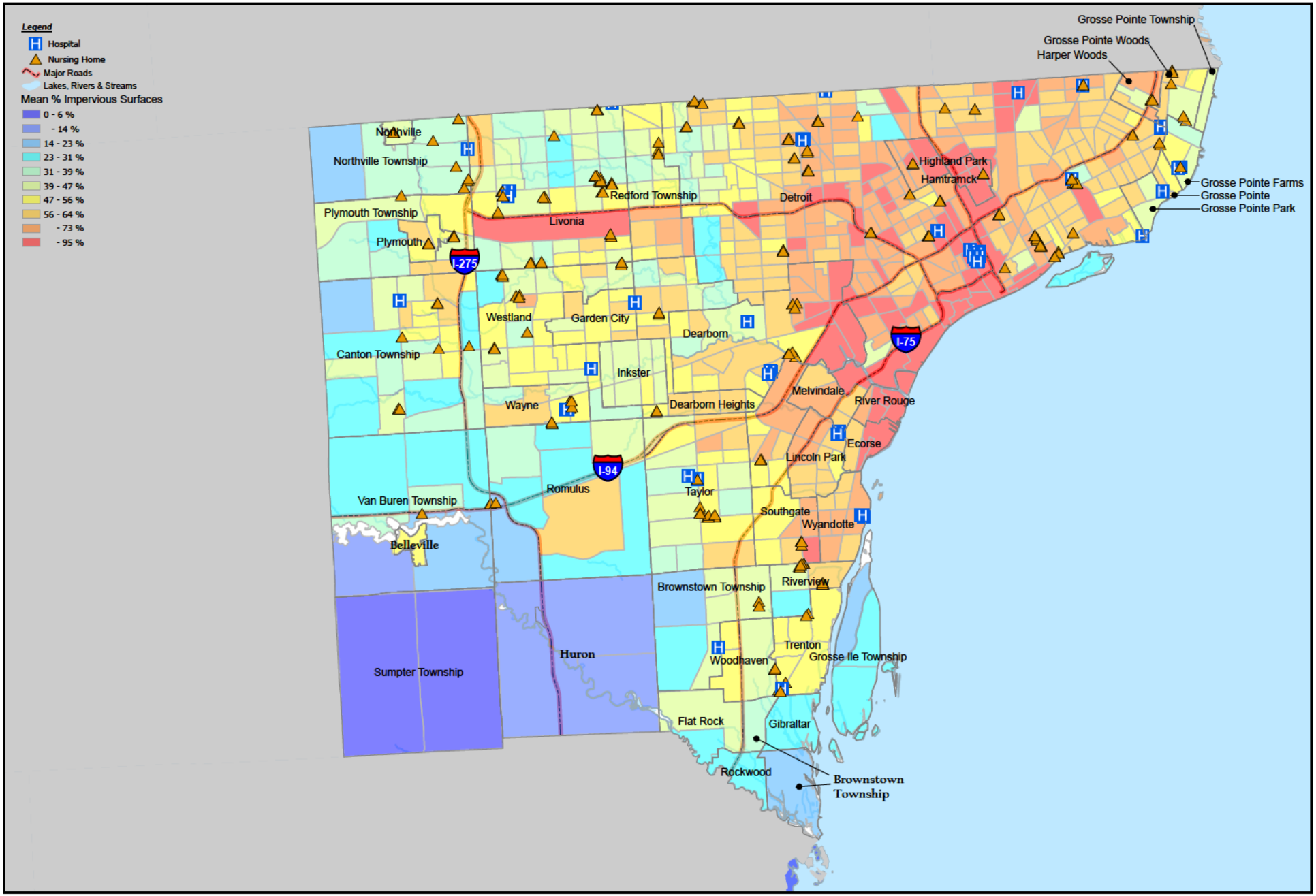


Wayne County

ASTI ENVIRONMENTAL

Created for: Wayne County
Created by: RMH, March 25, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013)
NLCD (2023), SEMCOG Land Use (2020)

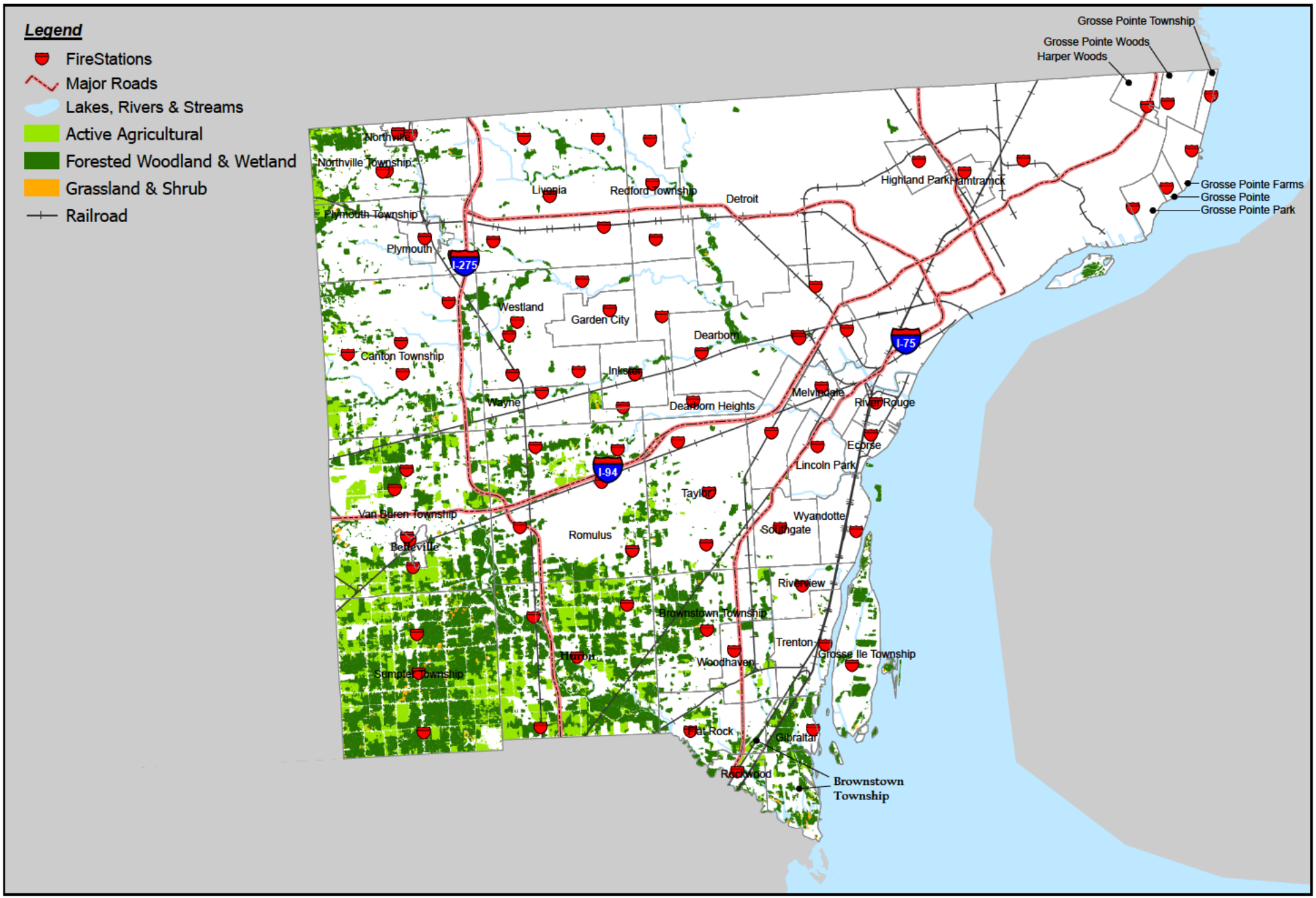
Figure 13 - Vulnerability: Drought



Wayne County

Created for: Wayne County
Created by: RMH, March 25, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013), msp.seocgis

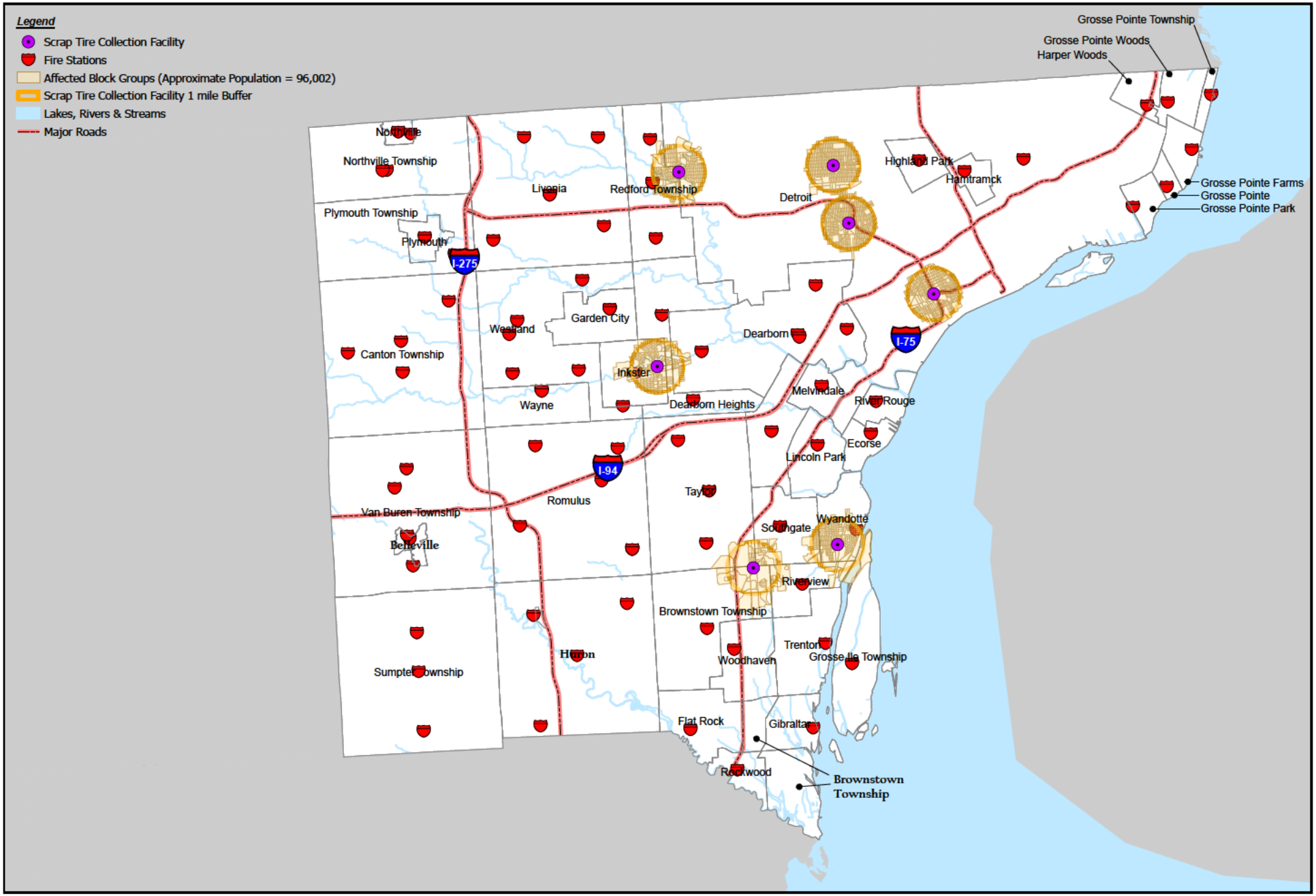
Figure 14 - Vulnerability Assessment: Extreme Temperature



Wayne County

Created for: Wayne County
Created by: RMH, March 25, 2025 ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013), SEMCOG (2020), NLCD (2023) msp.seocgis

Figure 15 - Vulnerability Assessment: Forest/Field Fire



Wayne County

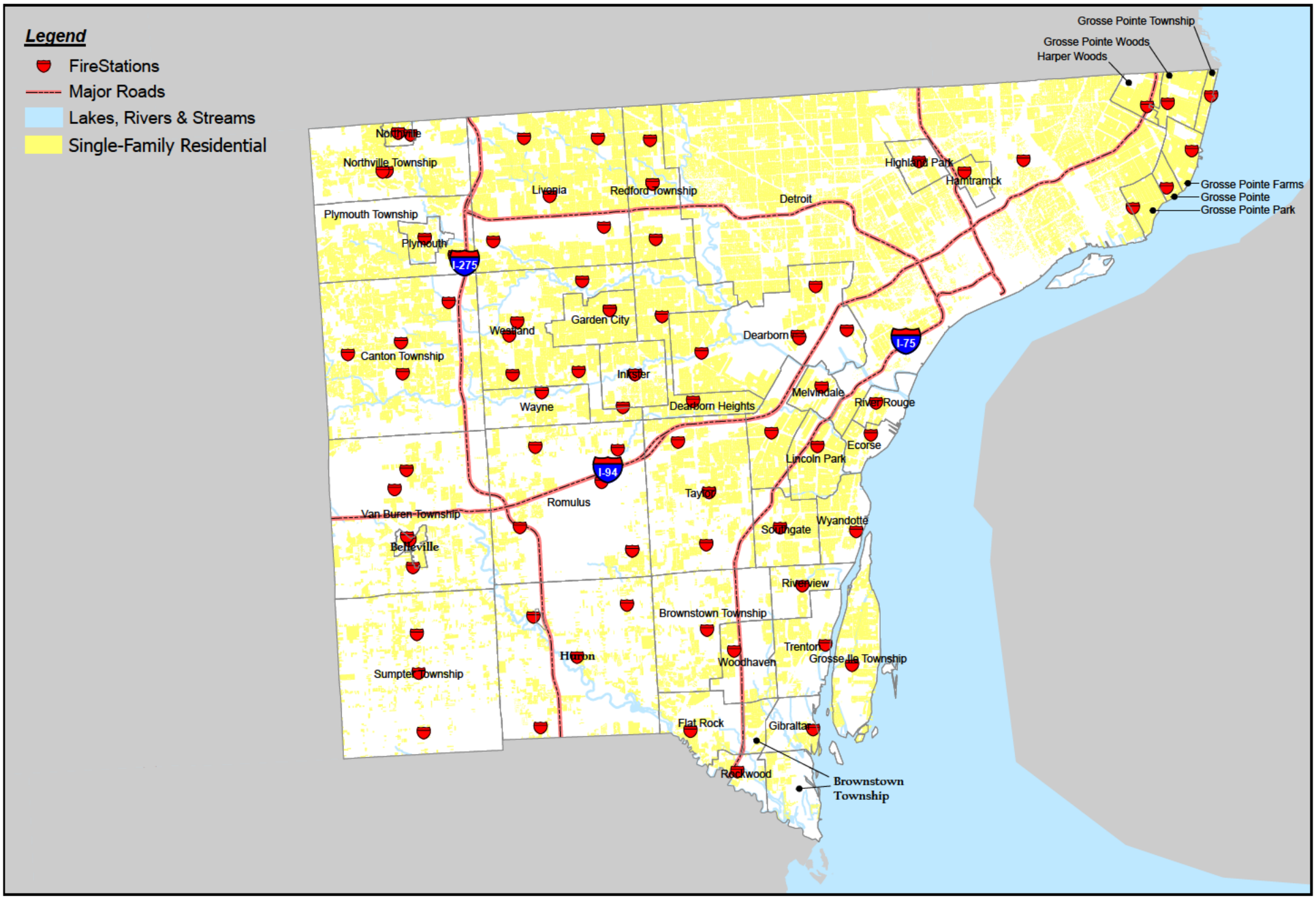
5 2.5 0 5 Miles

N

ASTI ENVIRONMENTAL

Created for: Wayne County
Created by: RMH, March 26, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013), U.S. Census Bureau (2020)

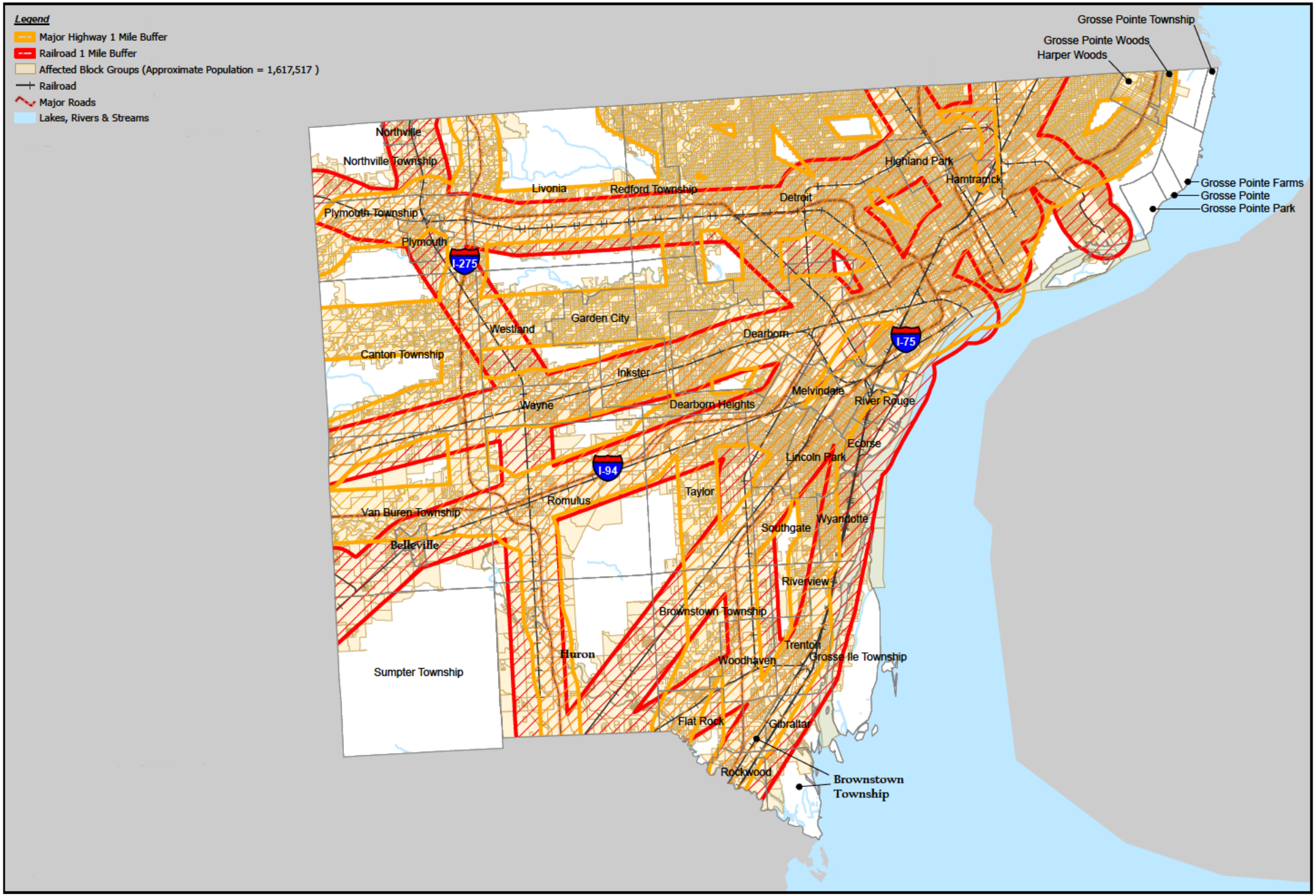
Figure 16 - Vulnerability Assessment: Scrap Tire Fire



Wayne County

Created for: Wayne County
Created by: RMH, March 26, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013), SEMCOG Land Use (2020), msp.seocgis

Figure 17 - Vulnerability Assessment: Structural Fire



Wayne County

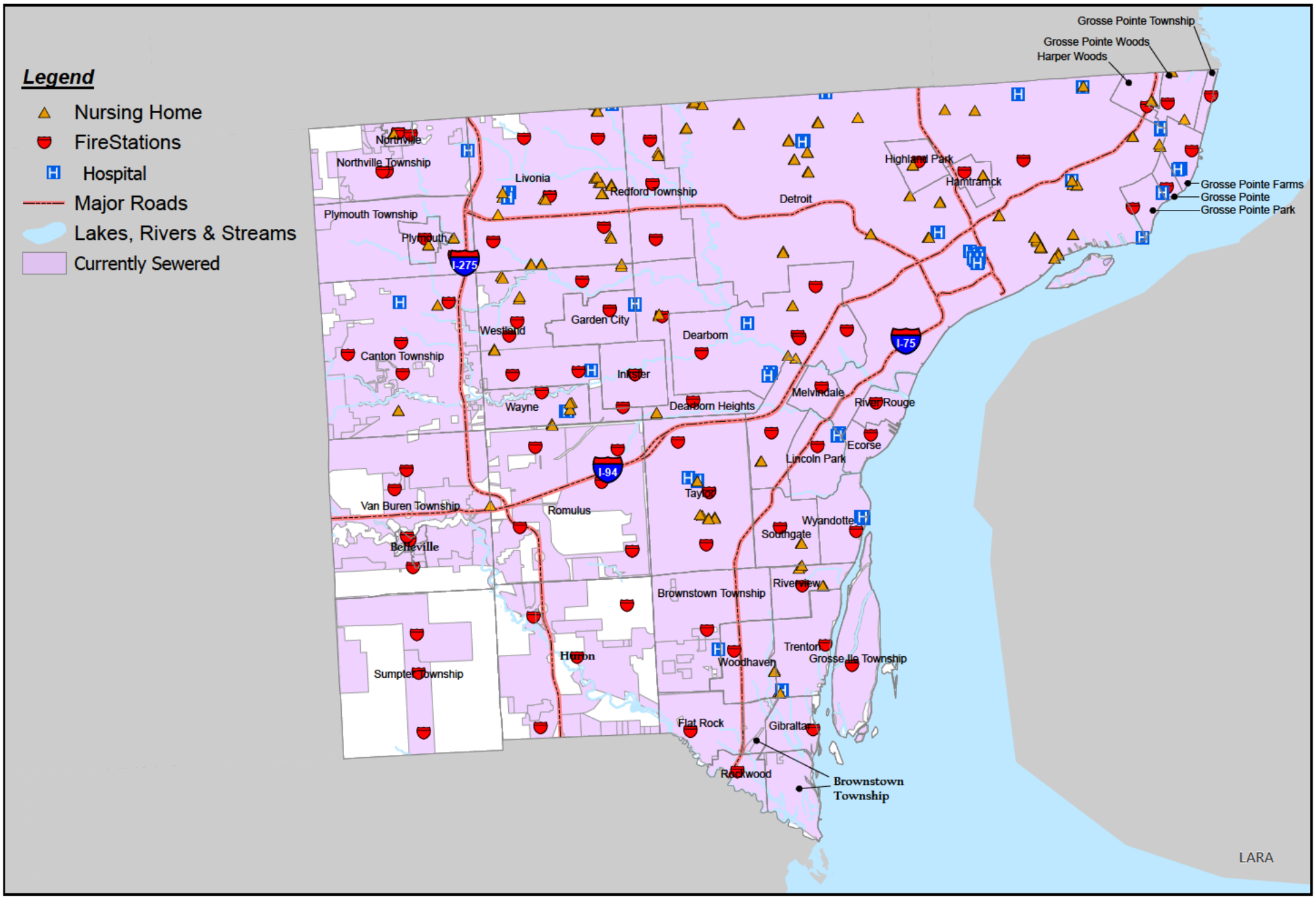
5 2.5 0 5 Miles

N

ASTI ENVIRONMENTAL

Created for: Wayne County
Created by: RMH, March 27, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013), SEMCOG (2020)
U.S. Census Bureau (2020)

Figure 18 - Vulnerability Assessment: Hazmat Incidents - Transportation



Wayne County

5 2.5 0 5 Miles

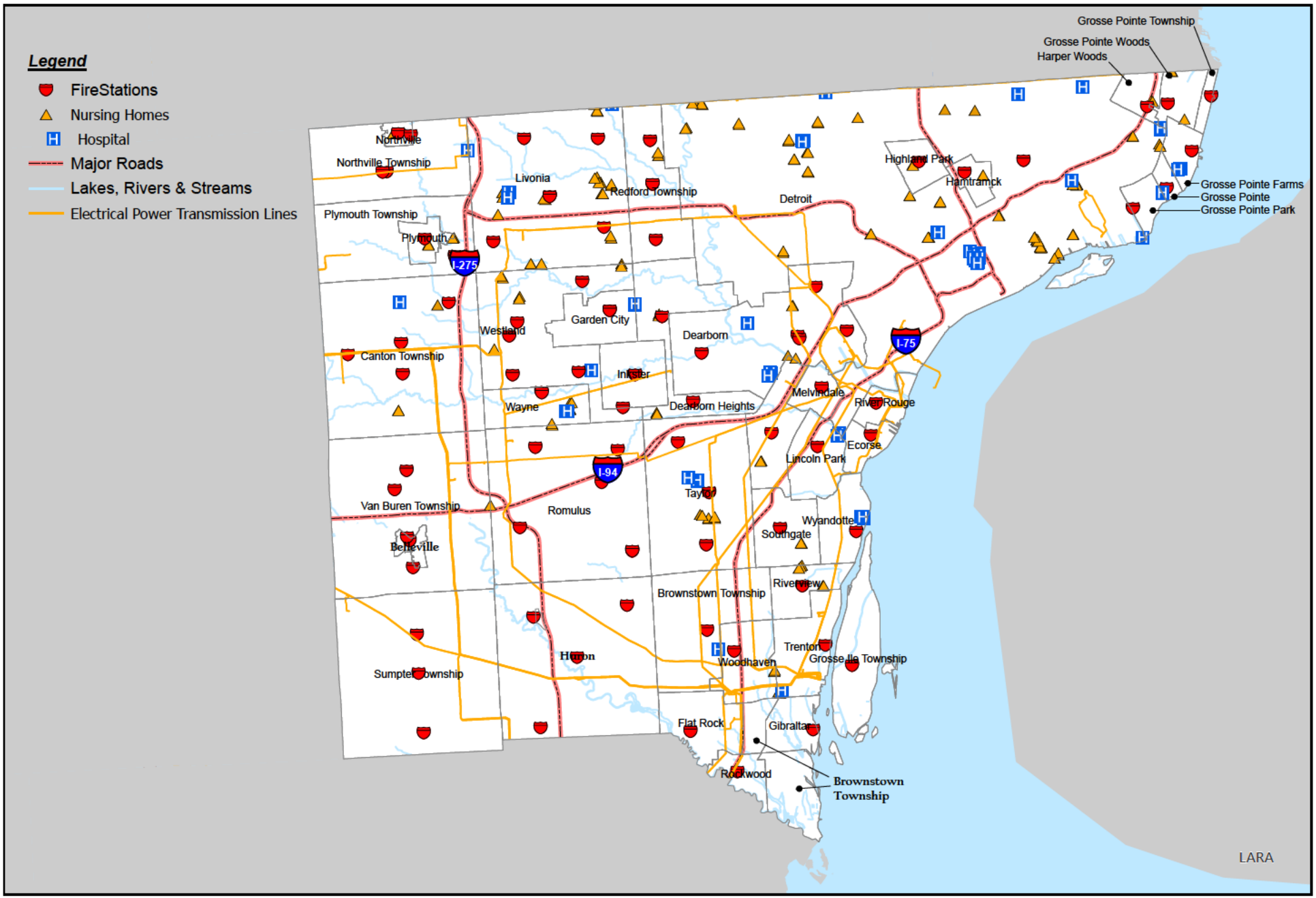
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ASTI ENVIRONMENTAL

Created for: Wayne County

Created by: RMH, March 27, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013), msp.seocgis

Figure 19 - Vulnerability Assessment : Infrastructure Water/Sanitary Sewer System



Wayne County

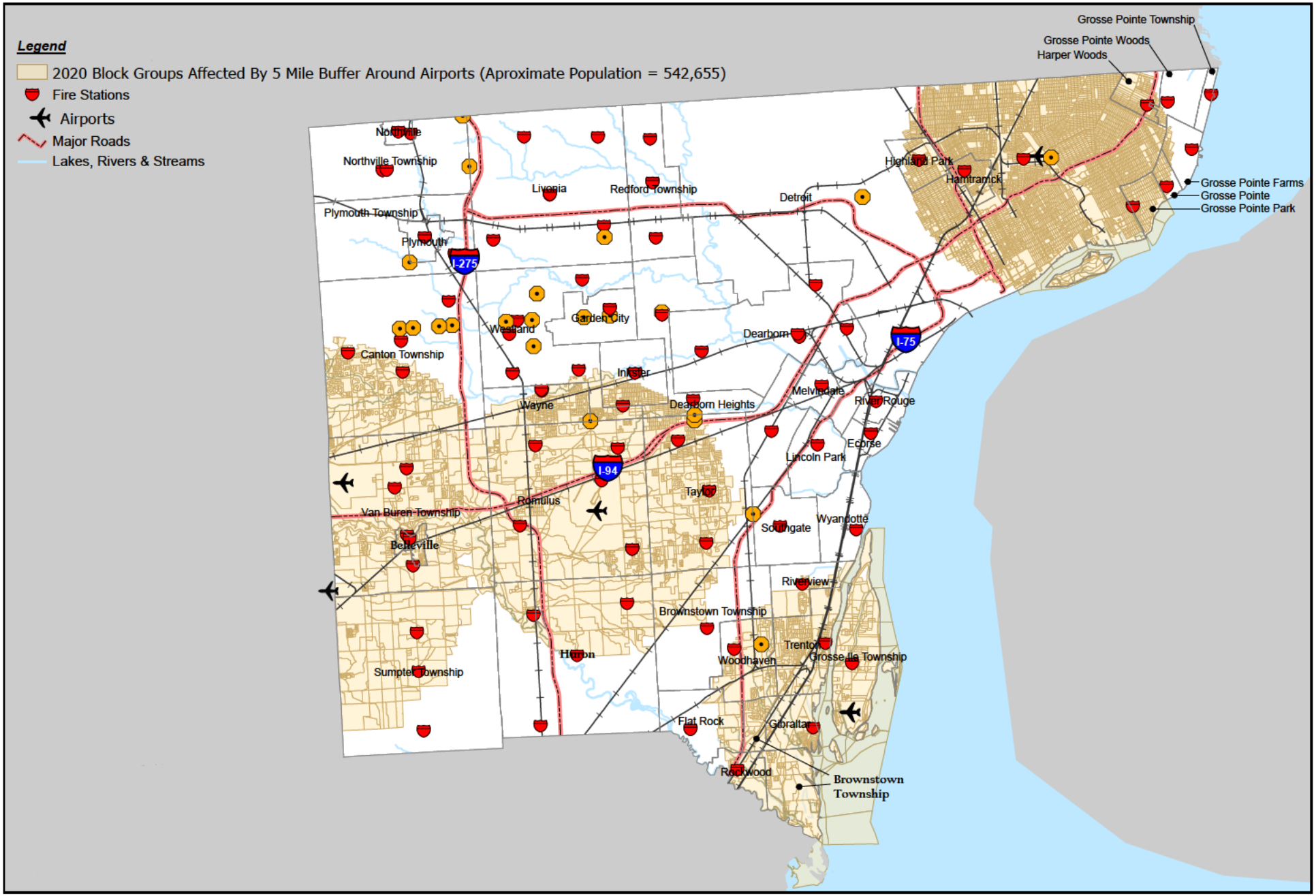
5 2.5 0 5 Miles

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ASTI ENVIRONMENTAL

Created for: Wayne County
Created by: RMH, March 27, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013), msp.seocgis

Figure 20 - Vulnerability Assessment: Infrastructure Electrical Communication

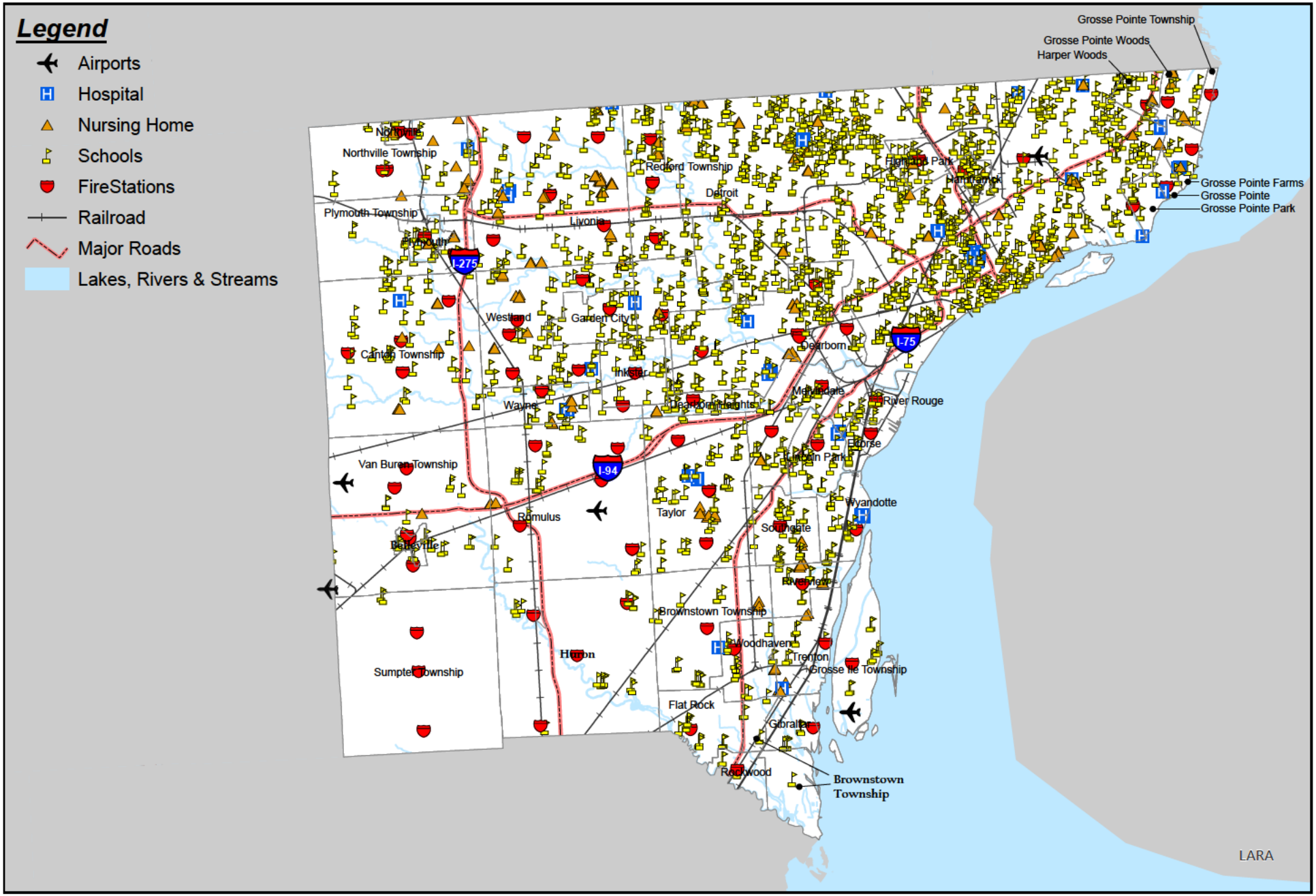


Wayne County

Created for: Wayne County
Created by: RMH, March 31, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013), U.S. Census Bureau (2020)
msp.seocgis

ASTI ENVIRONMENTAL

Figure 21- Vulnerabilities: Transportation Arteries



Wayne County

5 2.5 0 5 Miles

N

ASTI ENVIRONMENTAL

Created for: Wayne County
Created by: RMH, March 27, 2025, ASTI Project A24-0901.00
Data Source: City of Dearborn (2013), Michigan CGI (2013), msp.seocgis

Figure 22 - Vulnerability Assessment: Winter Hazards

Appendix A. Planning Process Materials

Participant Spreadsheet

Outreach

Wayne County
Hazard Mitigation Plan Participants
January 27, 2026

Municipality or Organization	Name	Title / Department	Email	1st Survey	1st Workshop	1st Workshop Follow-up	2nd Survey	2nd Workshop	2nd Workshop Follow-up	Municipal HMP Update	Full HMP Review
Allen Park, City of	Jeff O'Riley	Fire Chief						1			
Belleville, City of	Kristin Faull	Chief of Police			1					1	
Brownstown Twp	Ryan Raumen	Fire Chief		1	1						
Brownstown Twp	Jeffery Watson	Chief of Police		1	1			1	1		
Canton, City of	Willaim Hayes	Emergency Manager									1
Canton Twp	Anne Marie Graham-Hudak	Twp Supervisor		1		1					
Canton Twp	William Hayes	Emergency Manager		1	1					1	
Charter Twp of Plymouth	Pat Conely	Fire Chief			1						
Centerline, City of	Dennis Champine	City Manager									1
Dearborn	James Rodgers	Emergency Manager		1	1	1					
Dearborn Heights	John Danci	Director of Public Works						1		1	
Detroit	Cara Dietz				1						
Downriver Community Conference	Jazmine Danci	Economic Development						1			
Ecorse, City of	Daniel Wright	Fire Chief		1						1	
Ecorse, City of	Lamar Tidwell	Mayor		1							
Flat Rock, City of	Derrick Welton	Fire Chief							1		
Flat Rock, City of	Brad Smith	FF						1		1	
Flat Rock, City of	Eric Holtz	Director of Public Services and Water								1	
Garden City	Billy Smith	Road Patrol Police				1	1	1			
Garden City	John Smith	Fire marshell						1			
Garden City	Randell Keen	Fire Chief								1	
Gibralter	Bruce Bullard	Police Chief								1	
Grosse Pointe Farms, City of	John Hutchins	Director of Public Safety		1						1	
Grosse Pointe Shores, Village of	Kenneth Werenski	Director of Public Safety								1	
Grosse Pointe Woods, City of	John Kosanke	Director of Public Safety					1			1	
Grosse Pointe, City of	Joseph Valentine	City Manager		1							
Hamtramck	Matthew Wyszczelki	Fire Chief		1	1	1	1	1		1	
Highland Park, City of	Charles Lackey	Director								1	
Huron Twp	Phil Lindenmuth	Deputy Fire Chief						1			
Huron Twp	Thomas Smith	Patrol Operations Lieutenant						1			
Huron Charter Twp	Everett Robbins	Director of Public Safety			1						
Inkster	Jerome Bivins	Director DPS			1			1			
Inkster, City of	Jason Kaye	Fire Chief								1	
Lincoln Park	Mike Prinz	Fire Chief		1	1		1	1			
Lincoln Park	Michael Prinz	Fire Chief		1	1					1	
Livonia, City of	Brian Kahn	Director of Emergency Preparedness									1
Livonia, City of	Todd J. Zilincik	City Engineer		1	1						
Livonia	Biran Kulka	Fire and rescue - prevention		1							
Livonia	Casey O'neille	Information systems		1							
Livonia	Christopher Jackett				1	1	1		1		
Livonia	Donald Rohraff	DPW Director		1							
Livonia	Douglas Moore	Dept of Public works		1	1	1			1		
Livonia	Jeannine Laible		Human Resources Director		1						
Livonia	Kristin Houchins	, Director of Communications		1	1						
Livonia	Robb Drzewicki	Director of Government Affairs and Community Outreach				1					
Livonia	Robert Jennison-	Livonia Fire & Rescue		1	1	1					
Livonia	Sara Kasprowicz	Program Supervisor				1					
Livonia	Ted Davis	Superintendent, P&R		1		1	1				
Livonia	Todd Zilincik	City Engineer				1			1		
Livonia	Wade Clay	Deputy Chief/ Livonia Fire Department		1	1						
Livonia 16 District Court	Nadezda Stovevska	Court Administrator				1					
Livonia Public Library	Kristen Edson	Director		1		1					
Livonia, City of	Brian Kahn	Director Homeland Security and Emergency Prepardness		1	1	1	1		1	1	
Livonia, City of	Dave Varga	Chief of Staff				1					
Melvindale, City of	James Rodgers	Emergency Manager								1	
Northville, City of	Alan Maciag	Chief of Police								1	
Northville Township	Glenn Caldwell	Township Manager		1	1	1	1			1	
Plymouth Twp	Daniel Kudra	Assistant COP		1	1						
Plymouth Twp	Patrick Conely	Fire Chief		1				1	1	1	
Plymouth, City of	Paul Sincock	City Manager		1	1					1	
Redford Twp	Pat McRae	Twp Supervisor		1							
River Rouge, City of	William Campbell	Mayor									1
Riverview	John Allen	Police Chief			1	1	1			1	
Riverview, City of	Glenn Owens	Fire Chief		1							

Wayne County
Hazard Mitigation Plan Participants
January 27, 2026

Rockwood, City of	Randy Krause	Chief of Police	[redacted]					1			
Rockwood, City of	Troy Cox	Mayor	[redacted]	1							
Romulus, City of	Ken Chapmen	Fire Chief	[redacted]		1						
Senate	Andria Robinson	Liason	[redacted]		1						
Southgate, City of	Joe Marsh	Director of Public Safety	[redacted]	1						1	
Sumpter Twp	Eric Luke	Chief of Police	[redacted]							1	
Taylor, City of	Al Young	Deputy Fire Chief	[redacted]		1					1	
Trenton	Keith Anderson	Fire Chief / Trenton Fire Department	[redacted]	1							
Trenton	Paul Haley	Emergency Manager	[redacted]				1			1	
Van Buren Twp	David McInally	Fire Chief	[redacted]		1	1					
Wayne County - DHSEM	Nour Aljanabi	Finance			1			1			
Wayne County - DHSEM	Brian Herman	SAP	[redacted]								
Wayne County - DHSEM	James Katona	SAP		1	1			1			
Wayne County - DHSEM	John Serda	Deputy Director		1				1			
Wayne County - DHSEM	Jonathan Williams	SAP			1			1			
Wayne County - DHSEM	Nour Aljanabi	Executive Assistant / SAP			1			1			
Wayne County - DHSEM	Samer Jaafer	Director			1		1				1
Wayne, City of	David Schmidt	Assistant Director, DPW			1						
Wayne, City of	Kirk Malcomson	Assistant Director of Building, Engineering, and Ordinance Department			1						
Wayne, City of	Ryan Strong	Chief of Police	[redacted]	1	1						
Westland	Robert Wilkie	Deputy Police Chief	[redacted]							1	
Westland, City of	Darrell Stamper	Fire Chief	[redacted]	1	1						
Westland, City of	Jim Godbout	Deputy Mayor	[redacted]	1							
Wyandotte, City of	Joe Gruber	Community and Economic Development Director									1
	Brad Smzty							1			
	Dustin Kruger							1			
	Natalie				1						
	RJ				1						
		TOTAL		38	40	18	11	21	7	29	6

*Advisory council members are highlighted in blue

Wayne County Local Hazard Mitigation Plan 2025 Update



Wayne County Local Hazard Mitigation Plan 2025 Update Process Begins

The Hazard Mitigation Planning (HMP) Update Process has begun in Wayne County. The HMP serves as a guide for reducing property damage and protecting lives from the impacts of natural and human-made hazards. The plan will be updated over the coming months, and a draft of the 2025 plan will soon be available for public review and comment. Click below to view the previous 2020 Plan and to learn more about the hazard mitigation planning process.

VIEW 2020 PLAN AND LEARN MORE ABOUT HMP

DRAFT PLAN COMING SOON!

Municipality Feedback Request

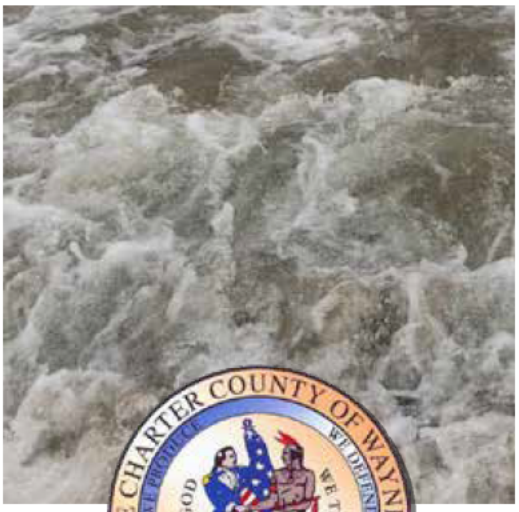
We are in the process of contacting representatives from each Wayne County municipality to update their respective sections of the Hazard Mitigation Plan. Your input is essential in identifying and prioritizing hazards, understanding community vulnerabilities, and developing effective risk mitigation strategies. By updating your local section, you'll play a key role in shaping policies that help protect our community. Feel free to use the comment box below to provide updates and feedback on individual community action plans, hazard priorities, population data, and land use information.

EMAIL FEEDBACK HERE

Notice

This website provides additional information about the HMP, a method for providing input, and a source of information about the hazard mitigation planning process. If you have any questions about this website, please get in touch with Kera Sharpe of ASTI Environmental at 800.395.2784 or ksharpe@asti-env.com.









Please join us as we update the
Wayne County Hazard Mitigation Plan!

Your input will assist us in identifying and prioritizing hazards and mitigation strategies to meet the goals of Wayne County and its communities.

Step 1: Fill out the survey via the project website below

Step 2: Join us for the workshop

Tuesday, December 10, 2024

10-2 pm

Wayne County Community College District- Ted Scott Campus

9555 Haggerty Rd, Belleville, MI 48111

For more information, please visit our website!
waynecountyhmp.com

2025 Hazard Mitigation Plan

Dear [Insert Names of Municipal Representatives on the Advisory Committee],

ASTI Environmental is assisting the Charter County of Wayne, Michigan, in updating the Wayne County Hazard Mitigation Plan (HMP) for 2025. As part of this process, each municipality is responsible for reviewing and updating its local action plans, hazard priorities, population data, and land use information (attached). You have been selected as a representative for [Insert Municipality], and we ask that you review the attached sections from the 2020 HMP.

Please provide feedback on the following areas:

1. **Hazard Priorities**: Should these be kept as is, or do they need to be updated?
2. **Population and Land Use**: Are there any updates to this data?
3. **Status of each 2020 Action Plan**:
    - a. Completed or no longer applicable – can be removed.
    - b. Still in progress – please provide an update on any progress made.
    - c. Not started – include reasons, if known (e.g., funding, support, etc.).
4. **New Action Plans**: Have any new action plans been developed since the 2020 HMP?

Please send your comments and updates to [redacted] by **February XX, 2025**. Your feedback will ensure that the plan is current, reflects the evolving risks facing the county, and aligns with your community's goals and needs. A copy of the full 2020 plan is available on the plan website for reference: www.waynecountyhmp.com. The draft 2025 plan will be available for public review and comment in the coming months.

If you have any questions or concerns, please don't hesitate to reach out to us.

Thank you for your time and input!

Sincerely,
Kera Sharpe
[Email Signature]

1. Summary

Meeting title	Meeting with Wayne County
Attended participants	8
Start time	"9/30/24, 10:52:37 AM"
End time	"9/30/24, 12:26:37 PM"
Meeting duration	1h 34m
Average attendance time	1h 14m 24s

2. Participants

Name	First Join	Last Leave	In-Meeting Duration	Email	Participant ID (UPN)	Position
Kera Sharpe	"9/30/24, 10:53:32 AM"	"9/30/24, 12:18:30 PM"	1h 24m 58s	ksharpe@asti-env.com	[redacted]	
James Katona (External)	"9/30/24, 10:53:39 AM"	"9/30/24, 12:03:10 PM"	1h 9m 30s	[redacted]	[redacted]	
Samer Jaafar (External)	"9/30/24, 10:53:46 AM"	"9/30/24, 12:03:03 PM"	1h 9m 16s	[redacted]	[redacted]	Director- safety
Thomas Wackerman	"9/30/24, 10:56:06 AM"	"9/30/24, 12:26:37 PM"	1h 30m 30s	[redacted]		
Nour Aljanabi (External)	"9/30/24, 10:57:29 AM"	"9/30/24, 12:03:02 PM"	1h 5m 32s	[redacted]	[redacted]	Assistant
Christopher Yelonek	"9/30/24, 10:57:57 AM"	"9/30/24, 12:26:35 PM"	1h 28m 38s	[redacted]	[redacted]	
John Serda (External)	"9/30/24, 10:59:29 AM"	"9/30/24, 12:03:05 PM"	1h 3m 36s	[redacted]	[redacted]	
Brian Herman (External)	"9/30/24, 10:59:49 AM"	"9/30/24, 12:03:02 PM"	1h 3m 12s	[redacted]	[redacted]	Finance

3. In-Meeting Activities

Name	Join Time	Leave Time	Duration	Email	Role
Kera Sharpe	"9/30/24, 10:53:32 AM"	"9/30/24, 12:18:30 PM"	1h 24m 58s	ksharpe@asti-env.com	Organizer
James Katona (External)	"9/30/24, 10:53:39 AM"	"9/30/24, 12:03:10 PM"	1h 9m 30s	[redacted]	Presenter
Samer Jaafar (External)	"9/30/24, 10:53:46 AM"	"9/30/24, 12:03:03 PM"	1h 9m 16s	[redacted]	Presenter
Thomas Wackerman	"9/30/24, 10:56:06 AM"	"9/30/24, 12:26:37 PM"	1h 30m 30s	[redacted]	Presenter
Nour Aljanabi (External)	"9/30/24, 10:57:29 AM"	"9/30/24, 12:03:02 PM"	1h 5m 32s	[redacted]	Presenter
Christopher Yelonek	"9/30/24, 10:57:57 AM"	"9/30/24, 12:26:35 PM"	1h 28m 38s	[redacted]	Presenter
John Serda (External)	"9/30/24, 10:59:29 AM"	"9/30/24, 12:03:05 PM"	1h 3m 36s	[redacted]	Presenter
Brian Herman (External)	"9/30/24, 10:59:49 AM"	"9/30/24, 12:03:02 PM"	1h 3m 12s	[redacted]	Presenter

Outlook

Request for Review and Feedback – Draft 2025 Wayne County Hazard Mitigation Plan

From Kera Sharpe <ksharpe@asti-env.com>
Date Fri 1/9/2026 3:03 PM
To clerksoffice@macombgov.org <clerksoffice@macombgov.org>; clerk@washtenaw.org <clerk@washtenaw.org>; annamarie_osment@monroemi.org <annamarie_osment@monroemi.org>; clerk@armadatwp.org <clerk@armadatwp.org>; clerk@villageofarmada.org <clerk@villageofarmada.org>; dchampine@centerline.gov <dchampine@centerline.gov>; cberry@chesterfieldtwp.org <cberry@chesterfieldtwp.org>; Clerk@clintontownship.com <Clerk@clintontownship.com>

Dear Community Partners,

Wayne County is requesting your review and input on the Draft 2025 Wayne County Multi-Jurisdictional Hazard Mitigation Plan, which is now available for public review at: https://waynecountyhmp.com/

While the plan focuses on Wayne County, hazards do not stop at jurisdictional boundaries. Input from adjoining counties and neighboring communities is valuable in helping ensure regional coordination, consistency, and resilience across Southeast Michigan. The Federal Emergency Management Agency (FEMA) recommends outreach and review beyond participating jurisdictions as part of the hazard mitigation planning process. Your feedback helps strengthen the plan, supports intergovernmental coordination, and contributes to more effective mitigation strategies that benefit the broader region.

We encourage you to review the draft plan via the link above and share any comments, questions, or suggestions. Thank you for your time and partnership in hazard mitigation and emergency preparedness.

Kera Sharpe
Environmental Scientist

Cell: 616.250.5471 | **Office:** 616.957.5601
ksharpe@asti-env.com

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peagroup.com | facebook | linkedin | 2025 Crain's Best Places to Work Honoree

Christopher Yelonek

From: Christopher Yelonek
Sent: Wednesday, February 4, 2026 2:54 PM
To: [redacted]
Cc: Kera Sharpe; Evie Murgia
Subject: Request for Review and Feedback - Draft 2025 Wayne County Hazard Mitigation Plan

Dear Community Partner,

Wayne County is requesting your review and input on the Draft 2025 Wayne County Multi-Jurisdictional Hazard Mitigation Plan, which is now available for public review at: https://waynecountyhmp.com/.

While the plan focuses on Wayne County, hazards do not stop at jurisdictional boundaries. Input from adjoining counties and neighboring communities are valuable in helping to ensure regional coordination, consistency, and resilience across Southeast Michigan. The Federal Emergency Management Agency (FEMA) recommends outreach and review beyond participating jurisdictions as part of the hazard mitigation planning process. Your feedback helps strengthen the plan, supports intergovernmental coordination, and contributes to more effective mitigation strategies that benefit the broader region. We encourage you to review the draft plan via the link above and share any comments, questions, or suggestions. Thank you for your time and partnership in hazard mitigation and emergency preparedness.

Excelsior,

Christopher Yelonek
Architectural Historian

Cell: [redacted] | **Office:** [redacted]

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Appendix B. Risk Assessment Materials

Workshop #1 and Surveys

NFIP Documents

Memo

ASTI Environmental

Date: December 10, 2024
To: Wayne County Hazard Mitigation Plan Advisory Committee
From: ASTI Environmental
Subject: Wayne County Hazard Mitigation Plan Workshop #1 Summary

Workshop Overview:

- **Time:** The workshop began at 10:00 A.M. and adjourned at 2:00 P.M.
- **Location:** The workshop was held at Wayne County Community College District's Ted Scott Campus and was available remotely via Microsoft Teams.

Attendees:

A total of **34 participants** attended the first Wayne County Hazard Mitigation Plan (HMP) workshop, both in-person and remotely. Represented municipalities included:

- Belleville (City of)
- Brownstown (Charter Township of)
- Canton Township
- Dearborn (City of)
- Hamtramck (City of)
- Lincoln Park (City of)
- Livonia (City of)
- Northville Township
- Plymouth (City of)
- Plymouth Township
- Riverview (City of)
- Romulus (City of)
- Van Buren Township
- Wayne (City of)
- Westland (City of)

Prior to the workshop, **36 people** completed the first survey, including **18 individuals** who did not send a representative to the workshop. Additional municipalities included:

- Ecorse (City of)
- Grosse Pointe (City of)
- Grosse Pointe Farms (City of)
- Southgate (City of)
- Redford Township
- Rockwood (City of)
- Trenton (City of)

A complete list of attendees is available in **Attachment 1**.

ASTI ENVIRONMENTAL

Memo

ASTI Environmental

Presentation Overview:

Attendees introduced themselves, both in-person and through Microsoft Teams chat.

Mr. Tom Wackerman, Director of Environmental Services at ASTI Environmental, welcomed participants and thanked them for their involvement. Mr. Wackerman and **Mrs. Kera Sharpe**, Hazard Mitigation Plan Project Manager, presented an overview of the workshop objectives, the updated Wayne County HMP, and the goals for the plan update. The presentation also briefly reviewed the previous 2020 Wayne County HMP.

Please see **Attachment 2** for the Workshop Presentation.

Objectives of the HMP Update:

The main objectives of the HMP update include:

1. **Mitigation:** Identify methods to prevent or minimize loss of life, injuries, or property damage in future disasters or emergencies.
2. **Funding Eligibility:** Develop a FEMA-approved plan to maintain eligibility for pre-disaster hazard mitigation projects and disaster funding.

Hazards to Consider in the Planning Process:

Natural Hazards:

- Celestial Impact, Drought, Flooding, Earthquakes, Extreme Temperatures (Hot or Cold), Flooding and Erosion, Invasive Species, Tornadoes, Subsidence, Thunderstorms, Wildfires, Winter Weather.

Technological Hazards:

- Fire (Structural, Scrap Tires), Flooding (Dam Failure, Urban), Hazmat Incidents, Infrastructure Failures (Bridges, Roads, Communications, Electrical, Water, Sewer, etc.), Nuclear Power Plant Accidents, Petroleum and Gas Accidents, Mining Subsidence.

Human Hazards:

- Civil Disturbance, Criminal Acts (Vandalism, Arson, Mass Shootings, Active Assailants), Cyber Attacks, Gas and Oil Shortages, Public Health Emergencies (Pandemics, Contaminated Food/Water), Terrorism, Transportation Accidents, Weapons of Mass Destruction.

Memo

ASTI Environmental

Hazard Priorities:

Discussions during the workshop focused on evolving needs and emerging criticalities in the last 15 years. Hazard history from the 2006, 2013, and 2020 HMP updates was referenced.

The online survey completed prior to the workshop noted the following hazards as top priorities.

- Thunderstorms (Hail, Lightning, Severe Wind)
- Tornadoes
- Winter Hazards (Snow, Ice, Sleet)
- Flooding (Riverine or Shoreline)
- Cyber Attacks (Network Disruptions)

Additional Key Concerns Expressed by Municipal Representatives:

Criminal Acts – Mass Shootings/Active Assailants: Emphasized due to the Oxford High School shooting that occurred in 2021 in Oxford, Michigan, a suburban community about 40 miles north of Detroit.

Hazmat Incidents: Rail systems were emphasized due to the extensive rail infrastructure in several municipalities and the recent train derailment in East Palestine, Ohio. Stored energy systems were also highlighted.

Hazard Ranking:

The committee was asked to select and weigh criteria for evaluating the top hazards. The top criteria were determined to be public health, safety and welfare, and loss of life. This was followed by duration of impact, loss of property, and infrastructure failure or damage. Based on this weighted criterion, the top hazard events were determined to be:

- Thunderstorms
- Flooding (all types)
- Tornadoes
- Criminal Acts- Mass Shootings/ Active Assailants
- Cyber Attacks – Network Disruptions
- Hazmat Incidents (Emphasis on Rail Accidents and Stored Energy Systems)
- Transportation Accidents
- Infrastructure Failure
- Winter Hazards
- Acts of Terrorism

ASTI ENVIRONMENTAL

Memo

ASTI Environmental

Critical Assets:

A risk and vulnerability assessment was conducted to identify the County's unique critical assets and specific vulnerabilities. Population impact was determined to be the most important factor, followed by environmental impacts and economic impacts. Based on this weighted criterion, the most vulnerable assets (in order) were determined to be:

1. Utility facilities
2. Hospitals/ Response Facilities
3. Roads, Railroads, and Bridges
4. Industrial Sites
5. Public Facilities

A follow-up worksheet is provided in the attachments to determine the likelihood and consequence of a top hazard event at each asset location.

Adjournment:
The workshop concluded at **2:00 P.M.**

Attachments:

A. List of Attendees

B. Workshop Presentation

C. Follow-up Worksheets

Upcoming

Workshop #2: January 14th, 2025, at 10am

The next workshop will focus on three main objectives: (1) identifying, evaluating, and prioritizing hazard mitigation alternatives for key hazards and critical assets; (2) developing evaluation criteria to guide the selection of mitigation strategies; and (3) identifying specific mitigation strategies to be developed further as Action Items for the final Plan.

ASTI ENVIRONMENTAL

Attachment A

List of Attendees

1. Summary	Online Attendence	
Meeting title	Wayne County Hazard Mitigation Plan Workshop #1 and Survey	
Attended participants		28
Start time	12/10/24, 8:49:01 AM	
End time	12/10/24, 1:52:40 PM	
Meeting duration	5h 3m 39s	
Average attendance time	2h 27m 5s	

2. Participants	Role
Andria Robinson	Attendee
Brian C Kahn / City of Livonia (Unverified)	Attendee
Brian Kahn / Livonia (Unverified)	Attendee
Chapman, Ken (External)	Attendee
Chief Jennison-Livonia FD (Unverified)	Attendee
Christopher Yelonek	Organizer
Daniel Kudra (External)	Attendee
Glenn Caldwell (External)	Attendee
Houchins, Kristin (External)	Attendee
Jackett, Christopher (External)	Attendee
John Allen (Unverified)	Attendee
John Allen-Riverview Police (Unverified)	Attendee
Kera Sharpe	Organizer
Kristin Faull (External)	Attendee
Laible, Jeannine (External)	Attendee
Moore, Doug (External)	Attendee
Natalie, 16th District Court (Unverified)	Attendee
Natalie, 16th District Court (Unverified)	Attendee
Nour Aljanabi (External)	Attendee
Paul Sincock	Attendee
read.ai meeting notes (Unverified)	Attendee
RJ (Unverified)	Attendee
Ryan Raumen (External)	Attendee
Samer Jaafar (External)	Attendee
Tom Wackerman	Organizer
Wade Clay (Unverified)	Attendee
William Hayes (External)	Attendee
Zilincik, Todd (External)	Attendee

Wayne County Hazard Mitigation Plan: Workshop #1 In-Person Attendence

Name	Municipality
Nour Aljanabi	Wayne County
James Katona	Wayne County
Michael Prinz	Lincoln Park
Samer Jaafar	Wayne County
Parron Stampor	
Ahmed Nasser	Wayne County
Brian Kahn	Livonia
Jim Rodgers	Dearborn
Will Hayes	Canton Township
David Schmidt	Wayne, City of
Kirk Malcomson	Wayne, City of
Jonathan William	Wayne County
Ryan Strong	Wayne, City of
Jeffery Watson	Brownstown Township
David McInally	Van Buran Township
Matthew Wyszczelki	Hamtramck
Andria Vaujhan	Wayne County/Dearborn
Pat Conely	Plymouth Township
Jerome Bivins	Inkster

Attachment B

Workshop Presentation and Handout

Hazard Mitigation Plan Update

Workshop 1
December 10, 2024

1

Overview

- Introduction
- The Function of a Hazard Mitigation Plan
- The 2020 Wayne County Plan
- The Wayne County Plan Update
- First workshop
  - Objectives
  - Surveys and More Surveys

2

Introduction

3

Confidentiality

- Contact Information Confidential
  - But You Will Be Listed in the Plan
- Workshop Input Confidential
- Secure Version of Final Document
  - Critical Assets
  - Critical Infrastructure

4

Teams

- Project Team
  - Wayne County Homeland Security
  - ASTI Environmental
- Advisory Committee
- Local Communities
- Stakeholders
- Public

The Wayne County Plan
www.wchmp.com

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ASTI Environmental (a division of PEA Group)

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Joined PEA Group in 2024

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Investigations • Compliance
Remediation • Restoration



Project Locations

Offices: Detroit, Grand Rapids, Brighton, Lansing, Auburn Hills, Washington, and Houston, Tx



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Contact Information

Kera Sharpe
Project Manager
10448 Citation, Suite 100
Brighton, Michigan 48116
Cell Phone 616.250.5471
Fax 810.225.3800
ksharpe@asti-env.com

The Wayne County Plan
https://waynecountyhmp.com/

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Contact Information

Tom Wackerman, CHMM
Meeting Host
10448 Citation, Suite 100
Brighton, Michigan 48116
Cell Phone 810.599.5463
Fax 810.225.3800
twacker@asti-env.com

The Wayne County Plan
https://waynecountyhmp.com/

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Advisory Committee

Local Communities
County LEPC
City Managers

The Wayne County Plan
https://waynecountyhmp.com/

9

Community Reps

42 Communities
- Emergency Management Coordinators
- Local Leaders

The Wayne County Plan
https://waynecountyhmp.com/

10

Stakeholders

42 Communities
- Mayors, Managers

Adjacent Communities
Industry and Business
Non-Government Organizations
Interested Individuals

The Wayne County Plan
https://waynecountyhmp.com/

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Hazard Mitigation Plans

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What is a HMP?

A Hazard Mitigation Plan (HMP) will...

- identify hazards in the community,
- evaluate and highlight those hazards,
- provide mitigation alternatives

Hazard Mitigation Plans

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Considerations - Hazards

Lumping vs Splitting

List of Hazards (attached)

Hazard Definitions (attached)

Natural – 18 Total (14 local)
Technological – 8 Total (15 local)
Human Related – 5 Total (9 local)

Hazard Mitigation Plans

14

Considerations - Hazards

2006 Emphasis	2013 Emphasis	2020 Emphasis
Terrorism	Flooding	Public Health
Weapons of Mass Destruction	Earthquakes	Emergencies
	Pipeline Ruptures	Active Assailant
	Nuclear Accidents	Iinfrastructure Failure

Concerns Change

15

What is a HMP?

The objectives of a Plan are to;

- reduce risks from natural, human, and technological hazards by focusing on those hazards,
- provide guidance when committing resources that will reduce the effects of hazards, and
- **provide a basis for technical assistance and funding**

Hazard Mitigation Plans

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What is a HMP?

The Plan must comply with:

- the Disaster Mitigation Act of 2000,
- the Emergency Management Act,
- FEMA and Michigan Department of State Police guidance documents,
- and all applicable federal, state, and local regulations.

Hazard Mitigation Plans

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What is a HMP?

The Plan is only a part of the emergency planning, mitigation, preparedness, response, and recovery process. Must coordinate with:

- All existing plans and programs
- **Existing Plans can be included in the Final HMP by reference**

Hazard Mitigation Plans

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Why Prepare (Update) A Plan?

To save lives and protect property

To preserve and protect an area's environment and economy

To preserve and maintain an area's essential services and quality of life

Hazard Mitigation Plans

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Why Prepare (Update) A Plan?

To provide information to citizens, businesses, and officials (including future emergency managers), for

- Planning
- Economic development
- Project development decisions
- Emergency management

Hazard Mitigation Plans

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Why Prepare (Update) A Plan?

To support hazard mitigation project implementation and **funding.**

- Identifies specific hazards
- Identifies specific vulnerabilities
- Documents mitigation options
- Demonstrates community involvement and support
- Part of an effective overall plan

Funding Sources (attached)

Hazard Mitigation Plans

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Funding for Capability and Capacity Building

1. New plan creation and updates
2. Planning-related activities
3. Advance assistance
4. Project scoping
5. Financial technical assistance
6. Direct non-financial technical assistance
7. Partnerships
8. Codes and standards
9. Innovative capability and capacity building

Plus Management Costs

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Funding for Hazard Mitigation Projects

1. Property acquisition and structure demolition/relocation for floodplain protection
2. Structure elevation
3. Mitigation reconstruction
4. Structural and infrastructure stabilization
5. Flood risk reduction
6. Floodproofing
7. Tsunami vertical evacuation
8. Safe room construction
9. Wildfire mitigation
10. Retrofits
11. Secondary power source
12. Warning systems
13. Aquifer recharge, storage, and recovery
14. Innovative hazard mitigation project

Plus Management Costs

Hazard Mitigation Plans

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The Process

Prepare hazard history and community profile

Identify hazards and risks significant to the host community

Identify specific vulnerabilities

Hazard Mitigation Plans

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The Process

- Identify hazard mitigation goals and objectives
- Suggest strategies to achieve mitigation goals and objectives
- Evaluate strategies using locally chosen criteria
- Select feasible strategies based on evaluation criteria

Hazard Mitigation Plans

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The Process

- Propose specific action steps that will achieve desired objectives
- Prepare the Plan
- FEMA review & approval
- Adopt the Plan
- Implement the Plan
- Monitor and update the Plan

Hazard Mitigation Plans

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The Current Wayne County Plan



Dated September 14, 2020

ASTI

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Hazard Frequency History – Top 15

Frequency v Concern

Hazard	Annual Frequency	Frequency Rank
Transportation Accidents - Highway*	55.001	1
Criminal Acts - Vandalism**	13.637	2
Fire Hazards - Structural Fires	4,207	3
Fire Hazards - Wildfires	1,640	4
Criminal Acts - Arson***	917	5
Transportation Accidents - Marine	10	6
Thunderstorm Hazards- Severe Wind	7	7
Infrastructure Failure - Water System	5	8
Transportation Accidents - Rail	3	9
Petroleum and Natural Gas Pipeline Accidents	2	10
Thunderstorm Hazards - Hail	2	10
Winter Hazards-Snowstorms	2	10
Flooding-Riverine	1.3	13
Flooding-Urban	1.3	13
Civil Disturbance*	1	15
Flooding - Dam Failure	1	15
Infrastructure Failure - Electrical System	1	15
Transportation Accidents - Air	1	15
Winter Hazards- Ice and Sleet	1	15

Hazard Identification
Hazard Mitigation Plan 2020

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Hazard Ranking Criteria

Criteria	Weighting
Ability to Recover from Impact	7
Health, Safety and Welfare of the Public	8
Loss of life and Injury	15
Population Impacted	7

Hazard Ranking
Hazard Mitigation Plan 2020

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Workshop Hazard Impact Ranking

Hazard Event	Workshop Rank	Hazard Risk Rank	Action Plan Needed
Extreme Temperatures - Extreme Hot or Cold	5	6	3
Flooding - Riverine or Shoreline	4	10	3
Thunderstorms - Hail, Lightning, Severe Wind	14	12	4
Tornadoes	8	13	4
Winter Hazards - Snow, Ice & Sleet	8	2	2
Flooding - Urban	8	9	4
Hazmat Incidents - Transportation	5	8	3
Infrastructure Failure - Water & Sewer Systems	1	5	1
Catastrophic Events/National Emergencies	11	13	4
Civil Disturbance	13	11	4
Criminal Acts - Mass Shooting/Active Assailant(s)	3	2	1
Criminal Acts - Vandalism and Arson	12	1	2
Public Health Emergencies - Pandemics, Epidemics, Food/Water, Opioid Crisis	2	4	1
Transportation Accidents - Surface Roads/Highways	7	6	4

Action Plan Assessment		
	Rank	
Risk	1-5	6-10
1-5	1	2
6-10	3	4

Hazard Impact
Hazard Mitigation Plan 2020

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Assets at Risk From Hazards

Critical Asset	Criticality Rank	Asset Risk Rank	Vulnerability
Commercial Sites	10	6	4
Hospitals/Skilled Care Facilities	1	5	1
Industrial Sites	5	8	3
Open Space	11	11	4
Public Facilities	9	10	4
Residential Areas	2	3	1
Roads, Railroads, Bridges	6	4	2
Utility Facilities	2	7	3
Schools, Churches	4	2	1
Sports/Entertainment Arenas	6	9	4
Central Business Dist.	6	1	2

Vulnerability Assessment	Criticality	
Risk	1-5	6-11
1-5	1	2
6-11	3	4

Asset Risk
Hazard Mitigation Plan 2020

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The Wayne County Plan Update

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Process - Outreach

Public
- Web page
  - Comment Form
  - General Information
  - Plan updates and Draft Plan
- One public meeting- Draft Plan

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Process - Outreach

Stakeholders
- Web page
  - Meeting agendas and minutes
- Draft Plan Available
- Remote Meeting for Input

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Process - Outreach

Community Representatives
- Three surveys
- Draft Plan Review
- Plan Adoption

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Process - Outreach

Advisory Committee
- Two Workshops
- Three Surveys
- Web page
  - Draft Plan
- Telephone/Email Input
- Draft Plan Review

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First Workshop

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Meeting Agenda



- Identify and rank hazard events
- Rank critical assets
- Analyze threats
- Identify specific vulnerabilities
- Begin discussing mitigation alternatives (if time permits)

First Meeting
December 10, 2024

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Keep in Mind

- Analyze threats
  - R = VxPxC
    - vulnerability, probability, consequence
- Importance:
  - Fear ≠ Risk
- Consequence:
  - Typical not Worst Case
- Specific Hazard Definitions
- The End Game: Mitigation ≠ Response

First Meeting
December 10, 2024

39

Keep in Mind

Decision Assisting Tool
Not A
Decision Making Tool

First Meeting
December 10, 2024

40

Review Goals

- Saving lives & protecting property
- Preserving & protecting the area's environment & economy
- Preserving & maintaining the area's essential services & quality of life

From 2024 Workshops

41

Review Goals

To retain access to Federal Emergency Management Agency (FEMA) **funding** for the County and its communities by complying with Section 104 of the Disaster Mitigation Act of 2000 (42 USC 5165)

From 2024 Workshops

42

Review Goals

To provide a basis for **identifying and mitigating hazards** that affect the County and its communities

From 2024 Workshops

43

Review Goals

To develop a method to incorporate hazard identification and mitigation into the planning process of the County and its communities

From 2024 Workshops

44

Review Goals

- Protect & preserve human health & well-being
- Maintain & fortify critical assets, structures, & infrastructure to preserve quality of life
- Ensure interagency cooperation & coordination for preparedness
- Enhance emergency response capabilities (incl. & especially communications)
- Review & improve county-wide contingency plans for maintaining quality of life

From 2024 Workshops

45

The Heavy Lifting - Worksheets

- Hazard Ranking
- Critical Assets
- Hazard Likelihood and Consequences

First Meeting
December 10, 2024

46

Assessment

47

Survey Results

37 Respondents Including 20 Communities/ Agencies

Natural Hazard	Count	Percentage
Thunderstorms - Hail, Lightning, Severe Winds	25	67.60%
Flooding - Riverline or Shoreline	15	40.50%
Tornadoes	15	40.50%
Winter Hazards - Snow, Ice, Sleet	15	40.50%
Extreme Tempatures - Extreme Heat or Cold	10	27%
Invasive Species	5	13.50%
Drought	2	5.40%
Fires - Wildfires	1	2.70%
Basement Flooding	1	2.70%
Earthquake	0	0%
Fog	0	0%
Subsidence - Natural	0	0%

48

Survey Results

Technological Hazards	Count	Percentage
Infrastructure Failure - Electrical System	8	21.60%
Infrastructure Failure - Bridges, Roads, Overpasses, Structures, etc.	6	16.20%
Infrastructure Failure - Sanitary/Storm Sewers	5	13.50%
Hazmat Incidents - Transportation	5	13.50%
Infrastructure Failure - Water System	4	10.80%
Flooding - Urban	3	8.10%
Fire - Structural	2	5.40%
Hazmat Incidents - Fixed Site	2	5.40%
Infrastructure Failure - Communications	2	5.40%
Fire - Scrap Tire	0	0%
Flooding - Dam	0	0%
Nuclear Power Plant Accidents	0	0%
Oil and Gas Well or Pipeline Accidents	0	0%
Subsidence - Mining	0	0%

49

Survey Results

Human Hazards	Count	Percentage
Information Technology Intrusion/Cyber Attacks	13	35.10%
Criminal Attacks - Mass Shootings	6	16.20%
Public Health Emergencies - Pandemics, Epidemics, Contaminated Food/Water	6	16.20%
Transportation Accidents - Surface Roads/Highways	6	16.20%
Terrorism/Sabotage	2	5.40%
Water Supply System Failure	2	5.40%
Lead in the Water	1	2.70%
Transportation Accidents - Air	1	2.70%
Civil Disturbance	0	0%
Criminal Acts - Vandelism and Arsen	0	0%
Gas/Oil Shortages or Supply Problems	0	0%
Transportation Accidents - Marine	0	0%
Transportation Accidents - Rail	0	0%
Weapons of Mass Destruction	0	0%

50

"Now, for something completely different"

To the worksheets

51

Ranking

5 = much greater
4 = greater than
3 = the same as
2 = lower than
1 = much lower

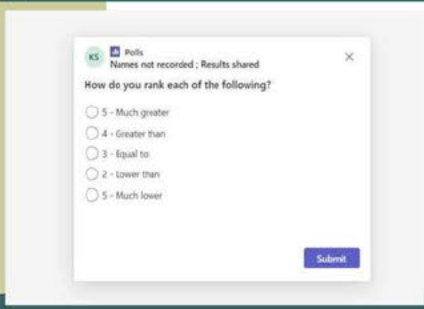
52

Ranking

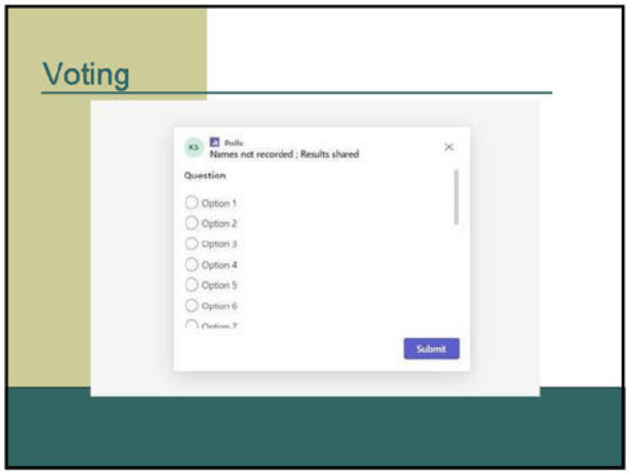
High	Happened more than a few times	3
Medium	Happened a few times	2
Low	Never happened, but could	1

53

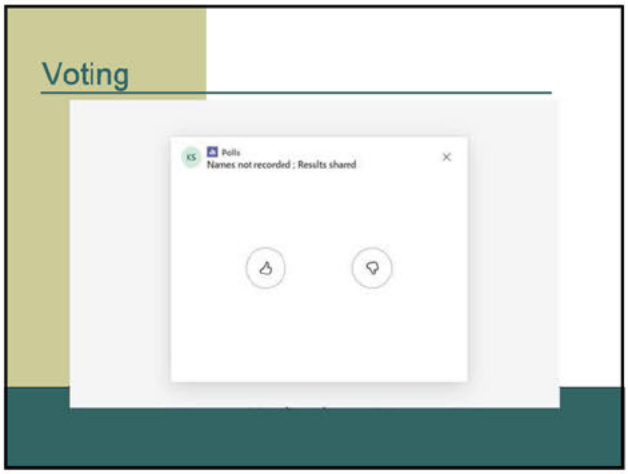
Voting



54


Voting
Polls
Names not recorded ; Results shared
Question
Option 1
Option 2
Option 3
Option 4
Option 5
Option 6
Submit

55


Voting
Polls
Names not recorded ; Results shared

56

CLOSED Poll: Names not recorded | Results shared KS

Identify the top three criteria for evaluating hazard event impacts in Wayne County

Option 2	10%
Option 3	10%
Option 5	0%
Option 6	80%
Option 7	0%
Option 8	0%

Response details

CLOSED Poll: Names not recorded | Results shared KS

and loss of life

5 - Much greater	0%
3 - Equal to	13%
4 - Greater than	0%
2 - Less than	50%
1 - Much less	38%

8 responses

Response details

CLOSED Poll: Names not recorded | Results shared KS

During of impact -vs- Loss of Property

5 - Much greater	0%
3 - Equal to	13%
4 - Greater than	13%
2 - Less than	75%
1 - Much less	0%

8 responses

Response details

CLOSED Poll: Names not recorded | Results shared KS

Duration of impact -vs- Infrastructure failure or damage

5 - Much greater	0%
4 - Greater than	33%
3 - Equal to	11%
2 - Less than	56%
1 - Much less	0%

Response details

CLOSED Poll: Names not recorded | Results shared KS

life -vs- Duration of Impact

5 - Much greater	100%
2 - Less than	0%
4 - Greater than	0%
3 - Equal to	0%
1 - Much less	0%

1 response

Response details

CLOSED Poll: Names not recorded | Results shared KS

Public health safety and welfare and loss of life -vs- Loss of property

5 - Much greater	88%
4 - Greater than	13%
3 - Equal to	0%
2 - Less than	0%
1 - Much less	0%

Response details

CLOSED Poll: Names not recorded | Results shared KS

Public health safety and welfare and loss of life -vs- Infrastructure failure

5 - Much Greater	50%
3 - Equal to	0%
4 - Greater than	50%
2 - Less than	0%
1 - Much less	0%

Response details

CLOSED Poll: Names not recorded | Results shared KS

Top hazards (pick 5)

Option 1	22%
Option 2	15%
Option 3	15%
Option 4	10%
Option 5	5%
Option 6	5%

Response details

CLOSED Poll: Names not recorded | Results shared KS

Instant poll 12/10/2024 11:25:13 AM



100% 0%

9 responses

Response details

CLOSED Poll: Names not recorded | Results shared KS

Instant poll 12/10/2024 11:27:36 AM



86% 14%

7 responses

Response details

CLOSED Poll: Names not recorded | Results shared KS

Loss of property -vs- Infrastructure failure

5 - Much greater	0%
4 - Greater than	0%
3 - Equal to	56%
2 - Less than	44%
1 - Much less	0%

9 responses

Response details

CLOSED Poll: Names not recorded | Results shared KS

Population -vs- Environmental

5 - Much greater	80%
4 - Greater than	20%
3 - Equal to	0%
2 - Less than	0%
1 - Much less	0%

5 responses

Response details

CLOSED Poll: Names not recorded | Results shared KS

Population -vs- Economic

5 - Much greater	20%
4 - Greater than	60%
3 - Equal to	20%
2 - Less than	0%
1 - Much less	0%

5 responses

Response details

CLOSED Poll: Names not recorded | Results shared KS

Environmental -vs- Economic

5 - Much greater	0%
4 - Greater than	0%
3 - Equal to	60%
2 - Less than	20%
1 - Much less	20%

5 responses

Response details

LIVE Poll: Names not recorded | Results shared KS

Lunch Break Question: What municipality or organization do you represent?



Enter your response

Submit View results

CLOSED Poll: Names not recorded | Results shared KS

Instant poll 12/10/2024 12:33:07 PM

100% 0%

9 responses

Response details

CLOSED Poll: Names not recorded | Results shared KS

Instant poll 12/10/2024 1:04:24 PM

100% 0%

8 responses

Response details

CLOSED Poll: Names not recorded | Results shared KS

Instant poll 12/10/2024 1:24:12 PM

100% 0%

6 responses

Response details

ASTI Environmental

Agenda

Date: December 10, 2024

RE: **Committee Meeting**
Wayne County Hazard Mitigation Plan 2024 Update (ASTI File No. A24-0901.00)

Meeting Objectives: Review HMP Purpose and Process, Hazard Identification & Prioritization

1. **Introductions**
2. **The Function of a Hazard Mitigation Plan**
3. **Overview of the Planning Process**
4. **Overview of 2020 Plan (see attachments)**
5. **Confirm Goals**
6. **Update the Plan - Review & Rank Hazardous Events**
7. **Review & Rank Critical Assets** (time allowing)
8. **Next Survey –**
    a. **Worksheet Due End of Day Friday, December 20, 2024**
    b. **Survey Due End of Day Friday, January 10, 2025**
9. **Next Workshop – TBD**

Summary of Current Plan – Hazard Ranking Comparison 2020 Plan Input
Wayne County Hazard Mitigation Plan Update
Workshop of December 10, 2024

		2019 Survey			
	Hazard	Open Ended Question Rank	Ranking No. Times Listed	Ranking Average Score	2013
Natural Hazards	Celestial Impact		38	39	
	Drought		27	30	
	Earthquake		37	37	
	Extreme Temperatures - Extreme Hot or Cold	5	7	9	1, 5
	Fire - Wildfires		36	36	
	Flooding - Riverine or Shoreline	3	21	6	
	Fog		33	31	
	Invasive Species		34	34	
	Subsidence - Natural		39	32	
	Thunderstorms - Hail, Lightning, Severe Wind	1	1	3	
	Tornadoes	4	6	7	
	Winter Hazards - Snow, Ice & Sleet	2	2	12	
Technological Hazards	Fire - Scrap Tire		35	35	
	Fire - Structural		23	20	
	Flooding - Dam Failure	9	28	33	
	Flooding - Urban	4	12	16	6
	Hazmat Incidents - Fixed Site		18	11	3
	Hazmat Incidents - Transportation	2	9	15	
	Infrastructure Failure - Bridges, Roads	1	3	8	
	Infrastructure Failure - Communications	5	15	5	4
	Infrastructure Failure - Electrical Systems	3	8	1	4
	Infrastructure Failure - Sanitary/Storm Sewers/Water	6	13	2	
	~~Infrastructure Failure - Water System~~		11	13	4
	Nuclear Power Plant Accidents	7	14	21	
	Oil and Gas Well or Pipeline Accidents	8	25	14	
	Subsidence - Mining or Infrastructure		29	38	
Human Related Hazards	Catastrophic Events/National Emergencies	3	16	24	
	Civil Disturbance	5	19	22	
	Criminal Acts - Mass Shootings/Active Assailant(s)	4	5	19	
	Criminal Acts - Vandalism and Arson	5	20	27	
	Criminal Acts - Homicide/Robbery/Carjacking				
	Gas/Oil Shortages or Supply Disruptions	7	30	18	
	Information Technology Intrusion	6	17	29	
	Public Health Emergencies - Pandemics, Epidemics,Food/Water	1	4	23	2
	Terrorism/Sabotage		26	17	
	Transportation Accidents - Air	7	22	10	
	Transportation Accidents - Marine		32	28	
	Transportation Accidents - Rail	7	31	26	
	Transportation Accidents - Surface Roads/Highways	2	10	4	
	Weapons of Mass Destruction		24	25	
	Opioid Crisis - MI 8th in the Natin in Deaths				

Notes
Indicates new hazard for 2019 Evaluation

Summary of Hazard Evaluation – First Survey Results for 2024 Update
Wayne County Hazard Mitigation Plan Update
Workshop of December 10, 2024

First Survey Results (N=37)

Natural Hazard	Count	Percentage
Thunderstorms - Hail, Lightning, Severe Winds	25	67.60%
Flooding - Riverline or Shoreline	15	40.50%
Tornadoes	15	40.50%
Winter Hazards - Snow, Ice, Sleet	15	40.50%
Extreme Tempatures - Extreme Heat or Cold	10	27%
Invasive Species	5	13.50%
Drought	2	5.40%
Fires - Wildfires	1	2.70%
Basement Flooding	1	2.70%
Earthquake	0	0%
Fog	0	0%
Subsidence - Natural	0	0%

Technological Hazards	Count	Percentage
Infrastructure Failure - Electrical System	8	21.60%
Infrastructure Failure - Bridges, Roads, Overpasses, Structures, etc.	6	16.20%
Infrastructure Failure - Sanitary/Storm Sewers	5	13.50%
Hazmat Incidents - Transportation	5	13.50%
Infrastructure Failure - Water System	4	10.80%
Flooding - Urban	3	8.10%
Fire - Structural	2	5.40%
Hazmat Incidents - Fixed Site	2	5.40%
Infrastructure Failure - Communications	2	5.40%
Fire - Scrap Tire	0	0%
Flooding - Dam	0	0%
Nuclear Power Plant Accidents	0	0%
Oil and Gas Well or Pipeline Accidents	0	0%
Subsidence - Mining	0	0%

Human Hazards	Count	Percentage
Information Technology Intrusion/Cyber Attacks	13	35.10%
Criminal Attacks - Mass Shootings	6	16.20%
Public Health Emergencies - Pandemics, Epidemics, Contaminated Food/Water	6	16.20%
Transportation Accidents - Surface Roads/Highways	6	16.20%
Terrorism/Sabatage	2	5.40%
Water Supply System Failure	2	5.40%
Lead in the Water	1	2.70%
Transportation Accidents - Air	1	2.70%
Civil Disturbance	0	0%
Criminal Acts - Vandelism and Arson	0	0%
Gas/Oil Shortages or Supply Problems	0	0%
Transportation Accidents - Marine	0	0%
Transportation Accidents - Rail	0	0%
Weapons of Mass Destruction	0	0%

Summary of Hazard Evaluation – First Survey Results for 2024 Update
Wayne County Hazard Mitigation Plan Update
Workshop of December 10, 2024

First Survey Results Hazards Ranked (N=37)

		2024 First Survey Results				
	Hazard	Open Ended Question Rank	Ranking No. Times Listed	Overall Ranking Average Score	Hazard History Rank 2020	2019 Survey Rank
Natural Hazards	Celestial Impact - Meteorites and Space Debris		0	28		
	Drought		2	18		
	Earthquake		5	12		
	Extreme Temperatures - Extreme Hot or Cold		10	6		5
	Fire - Wildfires		1	24	4	
	Flooding - Riverine or Shoreline		15	2		3
	Fog			28		
	Great Lakes Shoreline Hazards			28		
	Invasive Species		5	12		
	Solar Flares			28		
	Subsidence - Natural		1	24		
	Thunderstorms - Hail, Lightning, Severe Wind		25	1		1
	Tornadoes		15	2		4
	Winter Hazards - Snow, Ice & Sleet		15	2		2
Technological Hazards	Energy Failures and Shortages			28		
	Fire - Scrap Tire			28		
	Fire - Structural		2	18	3	
	Flooding - Dam and Levee Failure			28		4
	Flooding - Urban		3	17		
	Hazmat Incidents - Fixed Site		2	18		2
	Hazmat Incidents - Transportation		5	12		1
	Infrastructure Failure - Bridges, Roads		6	8		5
	Infrastructure Failure - Communications		2	18		3
	Infrastructure Failure - Electrical Systems		8	7		
	Infrastructure Failure - Sanitary/Storm Sewers		5	12		
	Infrastructure Failure - Water System		4	16		
	Nuclear Power Plant Accidents			28		
	Oil and Gas Well or Pipeline Accidents			28		
	Subsidence - Mining or Infrastructure			28		
Human Related Hazards	Civil Disturbance			28		5
	Criminal Acts - Mass Shootings/Active Assailant(s)		6	8		4
	Criminal Acts - Vandalism and Arson			28	.2/5	5
	Criminal Acts - Homicide/Robbery/Carjacking			28		
	Cyber Attacks - Network Disruptions		13	5		
	Gas/Oil Shortages or Supply Disruptions			28		
	Public Health Emergencies - Pandemics, Epidemics, Food/Water		6	8		1
	Terrorism/Sabotage		2	18		
	Transportation Accidents - Air		1	24		
	Transportation Accidents - Marine			28		
	Transportation Accidents - Rail			28		
	Transportation Accidents - Surface Roads/Highways		6	8		
	Water Supply Failure		2	18		
	Weapons of Mass Destruction			28		
Additional Hazards To Consider	Opioid Crisis			28		
	Basement Flooding		1	24		
				28		
				28		
				28		
				28		
				28		
	-			28		
	-			28		
				28		
				28		
				28		
				28		

Summary of Hazard Evaluation – First Survey Results for Update
Wayne County Hazard Mitigation Plan Update
Workshop of December 10, 2024

First Survey Results Hazards Ranked (N=37)

Population Impact		Count	Rank	Average	Rank
Central Business District		37	1	2.8	9
Commercial Sites		37	1	2.6	8
Hospitals		37	1	1.7	1
Industrial Sites		37	1	2.5	7
Open Spaces		37	1	3.8	11
Public Facilities		37	1	2.2	5
Residential Areas		37	1	2.0	3
Roads, Bridges, Railroads		37	1	2.2	5
Schools and Churches		37	1	2.1	4
Sports/Entertainment Arenas		37	1	2.8	10
Utility Facilities		37	1	1.8	2

Environmental Impact		Count	Rank	Average	Rank
Central Business District		37	1	3.05	9
Commercial Sites		37	1	2.54	7
Hospitals		37	1	2.38	4
Industrial Sites		37	1	1.92	2
Open Spaces		37	1	3.86	11
Public Facilities		37	1	2.38	4
Residential Areas		37	1	2.46	6
Roads, Bridges, Railroads		37	1	2.24	3
Schools and Churches		37	1	2.78	8
Sports/Entertainment Arenas		37	1	3.59	10
Utility Facilities		37	1	1.81	1

Economic Impact		Count	Rank	Average	Rank
Central Business District		37	1	2.05	5
Commercial Sites		37	1	1.76	2
Hospitals		37	1	2.3	6
Industrial Sites		37	1	1.95	4
Open Spaces		37	1	4.16	11
Public Facilities		37	1	2.3	6
Residential Areas		37	1	2.62	8
Roads, Bridges, Railroads		37	1	1.89	3
Schools and Churches		37	1	2.86	10
Sports/Entertainment Arenas		37	1	2.78	9
Utility Facilities		37	1	1.65	1

Hazard Impact Goals Worksheet Number 1
Wayne County Hazard Mitigation Plan Update
Workshop of December 10, 2024

Objective: To identify the top **three criteria** for evaluating hazard event impacts in Wayne County.

Thought Questions: What are the top priorities for the community when considering hazard impacts? What do community leaders represent as important? What are the top priorities for emergency response agencies when considering hazard impacts? What are the top challenges facing the County when a hazard occurs?

Individual Worksheet

1	
2	
3	
4	
5	

Group Worksheet

1	
2	
3	

Example Criteria

Ability to Provide Appropriate Care
Area Impacted
Availability of Warning
Business Interruption
Collateral Damage
Damage to Infrastructure
Duration
Ecological Impact
Economic Cost for Recovery
Economic Impact
Historical Occurrence
Impact to Critical Response Facilities
Infrastructure Failure
Loss of Life
Loss of Property
Mitigation Potential
Population Impacted
Predictability
Seasonal Patter
Speed of Onset
Time to Recover to Pre-Incident Levels
Transportation Disruption

Hazard Impact Goals Worksheet Number 2
Wayne County Hazard Mitigation Plan Update
Workshop of December 10, 2024

Objective: To create a weighted average for the criteria to evaluate the impact of the top ten hazards.

Thought Questions: For purposes of hazard prevention and response, how do you rank each of the selected criterion?

The importance of one item to the other is;	
5 =	much greater
4 =	greater than
3 =	the same as
2 =	lower than
1 =	much lower

Individual Worksheet

Group Worksheet

Hazard Impact Goals Worksheet Number 3
Wayne County Hazard Mitigation Plan Update
Workshop of December 10, 2024

Objective: To create a weighted average for the three key impacts.

Thought Questions: For purposes of hazard prevention and response, how do you rank each of the key impacts?

The importance of one item to the other is;	
5 =	much greater
4 =	greater than
3 =	the same as
2 =	lower than
1 =	much lower

Individual Worksheet

	Population Impacted	Environmental Impacts	Economic Impacts
Population Impacted			
Environmental Impacts			
Economic Impacts			

Group Worksheet

	Population Impacted	Environmental Impacts	Economic Impacts
Population Impacted			
Environmental Impacts			
Economic Impacts			

Hazard Impact Goals Worksheet Number 4
Wayne County Hazard Mitigation Plan Update
Workshop of December 10, 2024

Objective: To evaluate asset criticality based on criteria selected.

Thought Questions: Look not only at the individual ranking, but also look across rows and down columns. Do absolute values reflect reality? Do relative values reflect reality?

Ranking
5 = High
2.5 = Medium
1 = Low

Individual Worksheet

	Asset Criticality		
	Based on Asset Class Characteristics estimate the effects of a hazard event to the listed criteria		
Asset to Consider			
Commercial Sites			
Hospitals/Response Facilities			
Industrial Sites			
Open Space			
Public Facilities			
Residential Areas			
Roads, Railroads, Bridges			
Utility Facilities			
Schools, Churches			
Sports/Entertainment Arenas			
Central Business Dist.			

Group Worksheet

	Asset Criticality		
	Based on Asset Class Characteristics estimate the effects of a hazard event to the listed criteria		
Asset to Consider			
Commercial Sites			
Hospitals/Response Facilities			
Industrial Sites			
Open Space			
Public Facilities			
Residential Areas			
Roads, Railroads, Bridges			
Utility Facilities			
Schools, Churches			
Sports/Entertainment Arenas			
Central Business Dist.			

Hazard Impact Goals Worksheet Number 5
Wayne County Hazard Mitigation Plan Update
Workshop of December 10, 2024

Objective: To determine the overall likelihood of a hazard event for each asset.

Ranking
3 = High
2 = Medium
1 = Low
0 if not possible

Individual Worksheet (Likelihood)

		Comm. Sites	Hospitals/Response Facilities	Indust. Sites	Open Space	Public Fac.
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						

		Resid. Sites	Roads, RR, Bridges	Utility Fac.	Schools, Churches	Sports/Ent. Arenas	Central Bus. Dist.
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							

Group Worksheet (Likelihood)

		Comm. Sites	Hospitals/Response Facilities	Indust. Sites	Open Space	Public Fac.
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						

		Resid. Sites	Roads, RR, Bridges	Utility Fac.	Schools, Churches	Sports/Ent. Arenas	Central Bus. Dist.
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							

Hazard Impact Goals Worksheet Number 6
Wayne County Hazard Mitigation Plan Update
Workshop of December 10, 2024

Objective: To determine the overall consequence of a hazard event for each asset.

Ranking
3 = High
2 = Medium
1 = Low

Individual Worksheet (Consequences)

		Comm. Sites	Hospitals/Response Facilities	Indust. Sites	Open Space	Public Fac.
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						

		Resid. Sites	Roads, RR, Bridges	Utility Fac.	Schools, Churches	Sports/Ent. Arenas	Central Bus. Dist.
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							

Group Worksheet (Consequences)

		Comm. Sites	Hospitals/Response Facilities	Indust. Sites	Open Space	Public Fac.
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						

		Resid. Sites	Roads, RR, Bridges	Utility Fac.	Schools, Churches	Sports/Ent. Arenas	Central Bus. Dist.
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							

Hazard Definitions
Wayne County Hazard Mitigation Plan Update

Civil Disturbance
A public gathering or prison uprising which disrupts essential functions and results in unlawful behavior such as rioting or arson. This event involves a large number of people and requires a significant response effort by law enforcement and/or emergency responders.

Criminal Acts - Arson
The willful or malicious burning or attempt to burn, with or without intent to defraud, a dwelling, public building, motor vehicle, or personal property of another.

Criminal Acts - Vandalism
The willful or malicious destruction, injury, disfigurement, or defacement of any public or private property, real or personal, without consent of the owner or person having control.

Drought
An extended period of time with significantly low precipitation levels that usually occurs during planting and growing seasons.

Earthquake
The sudden movement or motion in the earth caused by an abrupt release of slowly accumulating strain, which results in ground shaking, surface faulting, or ground failures.

Extreme Cold
A prolonged period of extreme low temperatures, usually accompanied by snowstorms, sleet and ice storms or hail.

Extreme Heat
A prolonged period of extreme high temperatures, often accompanied by conditions such as high humidity, high winds and lack of rain.

Fire Hazards - Forest/Field Fire
A fire within an open space, forested area, brush or grassed area, or wild land. Does not include prescribed fires.

Fire Hazards - Scrap Tire Fires
Fires which occur at a location where scrap tires are being stored for processing, recycling, or re-use.

Fire Hazards - Structural Fires
A fire of any origin which ignites one or more structures, often results in loss of life and/or property.

Flooding – Dam Failure
The failure of an impoundment located in a river, stream, lake or other waterway resulting in downstream flooding.

Flooding - Riverine
The periodic occurrence of overbank flows of rivers and streams resulting in partial or complete inundation of the adjacent floodplain.

Flooding - Shoreline
Shoreline erosion hazards typically involve the loss of property as sand or soil is removed by water action and is carried away over time.

Flooding – Urban
The overflow of storm sewer systems, usually caused by inadequate drainage following heavy rainfall or rapid snowmelt.

HazMat Incidents – Fixed Site
An uncontrolled release of hazardous material originating from a building, structure, or fixed equipment which is capable of posing a risk to life, health, safety, property or the environment.

HazMat Incidents - Transportation
An uncontrolled release of a hazardous material during transport which is capable of posing a risk to life, health, safety, property or the environment.

Infrastructure Failure
(Includes Water, Sanitary Sewer, Storm Sewer, Electrical and Emergency Communications)
The failure of a critical public or private utility infrastructure which results in a short-term loss of service.

Nuclear Power Plant Accidents
An actual or potential release of radioactive material at a nuclear facility in a quantity sufficient to constitute a threat to the health and safety of offsite populations.

Oil and Gas Well Incidents
An oil or gas well incident could involve an uncontrolled release of oil or natural gas, or a release of hydrogen sulfide gas, a by-product of production wells.

Petroleum and Natural Gas Pipeline Accidents

An uncontrolled release of petroleum or natural gas from transmission or distribution pipelines.

Public Health Emergencies
A widespread and/or severe epidemic, incident of contamination, or other situation that presents a danger to or otherwise negatively impacts the general health and well-being of the public.

Subsidence - Mining
Lowering or collapse of the land surface due to loss of subsurface support in mining areas.

Subsidence - Natural
The lowering or collapse of the land surface due to loss of subsurface support. Generally caused by drainage of organic soils, underground fluid withdrawal, underground mining, natural compaction, sinkholes and hydrocompaction (collapsible soils).

Terrorism/Sabotage
An intentional, unlawful use of force, violence or subversion against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political, social, or religious objectives.

Thunderstorm Hazards - Hail
Conditions where atmospheric water particles from thunderstorms form into rounded or irregular lumps of ice that fall to the earth.

Thunderstorm Hazards - Lightning
The discharge of electricity from within a thunderstorm.

Thunderstorm Hazards - Severe Wind
Winds greater than 58 miles per hour, not including tornadoes, are classified as windstorms.

Tornadoes
A violently rotating column of air extending downward to the ground from a cumulonimbus cloud.

Transportation Accident – Air
A crash or other accident involving passenger transportation aircraft, does not include recreational aircraft.

Transportation Accidents - Highway
A crash or other accident involving public passenger transportation, does not include private auto transportation.

Transportation Accident – Highway/Rail Crossings
A crash or other accident involving which occurs at public, at-grade railroad crossings and involves the collision of an automobile and railcar.

Transportation Accident – Marine
A crash or other marine accident involving passenger transportation, does not include public or private recreational accidents.

Transportation Accident – Rail
A crash or other accident involving passenger or freight rail systems, does not include accidents which result in a HazMat response.

Winter Hazards - Ice and Sleet Storms
Freezing rain is rain that freezes on contact with surfaces causing a coating of ice on exposed surfaces.

Winter Hazards - Snowstorms
A period of rapid accumulation of snow accompanied by high winds and cold temperatures.

Weapons of Mass Destruction
Weapons intended to cause widespread damage and high number of casualties. Typically fall into four categories: 1) missiles, 2) biological weapons, 3) nuclear weapons, or 4) chemical weapons.

Critical Asset Definition
Wayne County Hazard Mitigation Plan Update

FOR PLANNING PURPOSES, WHAT SHOULD BE CONSIDERED A CRITICAL FACILITY?

The list of assets that are most important to protect, as well as the criticality of any given facility, can vary widely from community to community. Thus, there is no universal definition of a critical facility. For planning purposes, a jurisdiction should determine criticality based on the relative importance of its various assets for the delivery of vital services, the protection of special populations, and other important functions.

FEMA's *Hazard Mitigation Assistance Program and Assistance Guide* states that critical facilities are "structures and institutions necessary, in the community's opinion, for response to and recovery from emergencies. Critical facilities must operate during and fallowing a disaster to reduce the severity of impacts and accelerate recovery." Critical facilities include the following examples:

- Facilities that contain highly volatile, flammable, explosive, toxic, and/or chemically reactive materials.
- Hospitals, nursing homes, and housing likely to have occupants who may not be sufficiently mobile to avoid injury or death during an emergency.
- Police stations, fire stations, vehicle and equipment storage facilities, and emergency operations centers that needed for emergency response activities before, during, and after the event.
- Public and private utility facilities vital to maintaining or restoring normal services to affected areas before, during, and after the event.
- Other structures or facilities the community identifies as meeting the general criteria above.

FEMA Funding
Wayne County Hazard Mitigation Plan Update

Items Funded By FEMA - Hazard Mitigation Grant Program (HMGP) Project Eligibility

Projects may be of any nature that will result in protection to public or private property. Eligible projects under the HMGP include, but are not limited to:

A. Capability and Capacity Building
   1. New Plan Creation and Updates
   2. Planning-related Activities
   3. Advanced Assistance
   4. Project Scoping
   5. Financial Technical Assistance
   6. Direct Non-financial Technical Assistance
   7. Partnerships
   8. Code4s and Standards
   9. Innovative Capability and Capacity Building

B. Hazard Mitigation Projects
   1. Property Acquisition and Structure Demolition/Relocation for floodplain protection
   2. Structure Elevation
   3. Mitigation Reconstruction
   4. Structural and Infrastructure Stabilization
   5. Flood Risk Reduction
   6. Floodproofing
   7. Tsunami Vertical Evacuation
   8. Safe Room Construction
   9. Wildfire Mitigation
   10. Retrofits
   11. Secondary Power Source
   12. Warning Systems
   13. Aquifer Recharge, Storage, and Recovery
   14. Innovative Hazard Mitigation Project

C. Management Costs

Attachment C

Follow-up Worksheets

Worksheet Instructions

Worksheets 1-4 were completed during the first workshop for the Wayne County Hazard Mitigation Plan. As a follow-up to the first workshop, Worksheets 5 and 6 will need to be completed. The top ten most significant hazards facing Wayne County were selected during the first workshop and are listed in Worksheets 5 and 6.

Worksheet 5: Likelihood of Hazard Impact on Assets

Evaluate the likelihood of each of the selected hazards impacting different types of assets, using a scale from 1 to 3.

- **1**: Low likelihood
- **2**: Medium likelihood
- **3**: High likelihood

For example: In the 2006 Hazard Mitigation Plan, public health emergencies were rated as a 2 for commercial sites-- a medium likelihood of impact.

Worksheet 6: Consequences of Hazard Impact on Assets

Evaluate the consequence of each of the selected hazards impacting different types of assets, using a scale from 1 to 3.

- **1**: Low consequence
- **2**: Medium consequence
- **3**: High consequence

For example: In the 2013 Hazard Mitigation Plan, severe winter weather was rated as a 1 for open spaces -- a low consequence impact.

Please complete each worksheet and return it to Kera Sharpe by December 20, 2024, via email at ksharpe@asti-env.com. The worksheets can be completed as Excel files, as seen attached to the email, or as scanned documents in PDF format, as seen in Attachment C of the First Workshop Summary. If you have any questions, please contact Kera Sharpe at ksharpe@asti-env.com.

Wayne County
Hazard Mitigation Plan 2024 Update
Evaluation of Hazard Likelihood

Use Worksheet Number 5

NEW Survey

	Cell Value
High	3
Medium	2
Low	1
NOTE: Enter '0' if not possible	

2024 Plan Update Second Survey Results

	Hazard	Likelihood of Hazardous Event Impacting the Asset											Hazard Sum	Likelihood
		Comm. Sites	Hospitals/Response Facilities	Indust. Sites	Open Space	Public Fac.	Resid. Sites	Roads, RR, Bridges	Utility Fac.	Schools, Churches	Sports/Ent. Arenas	Central Bus. Dist.		
1	Thunderstorms - Hail, Lightning, Severe Wind												0	L
2	Flooding - (All Types)												0	L
3	Tornadoes												0	L
4	Criminal Acts - Mass Shootings/Active Assailant(s)												0	L
5	Cyber Attacks - Network Disruptions												0	L
6	Transportation Accidents - Rail												0	L
7	Infrastructure Failure Causing Flooding												0	L
8	Winter Hazards - Snow, Ice & Sleet												0	L
9	Acts of Terrorism												0	L
10	Hazmat Incidents (Including Stored Energy Systems)												0	L
11													0	L
	Example: Tornadoes 2006 HMP	2	2	2	1	2	3	3	2	2	1	2	22	M
13													0	L
14													0	L
	Asset Sums	0	0	0	0	0	0	0	0	0	0	0		

Notes from Meeting

Wayne County
Hazard Mitigation Plan 2024 Update
Evaluation of Hazard Consequences

	Cell Value
High	3
Medium	2
Low	1

Use Worksheet Number 6

NEW Survey

2024 Plan Update Second Survey Results

	Hazard	Consequences of Hazardous Event at the Asset											Hazard Sum	Consequence
		Comm. Sites	Hospitals/ Response Facilities	Indust. Sites	Open Space	Public Fac.	Resid. Sites	Roads, RR, Bridges	Utility Fac.	Schools, Churches	Sports/Ent. Arenas	Central Bus. Dist.		
1	Thunderstorms - Hail, Lightning, Severe Wind												0	L
2	Flooding - (All Types)												0	L
3	Tornadoes												0	L
4	Criminal Acts - Mass Shootings/Active Assailant(s)												0	L
5	Cyber Attacks - Network Disruptions												0	L
6	Transportation Accidents - Rail												0	L
7	Infrastructure Failure Causing Flooding												0	L
8	Winter Hazards - Snow, Ice & Sleet												0	L
9	Acts of Terrorism												0	L
10	Hazmat Incidents (Including Stored Energy Systems)												0	L
11													0	L
12													0	L
13													0	L
14													0	L
	Asset Sums	0	0	0	0	0	0	0	0	0	0	0		

Notes from Meeting
To include all consequences (health and safety, economic impact, quality of life)

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- **BROWNFIELD/GREYFIELD REDEVELOPMENT ASSISTANCE**
- **DEVELOPMENT INCENTIVES AND GRANT MANAGEMENT**
- **ECOLOGICAL ASSESSMENTS AND RESTORATION**
- **ENVIRONMENTAL ASSESSMENTS AND IMPACT STATEMENTS**
- **ENVIRONMENTAL OPPORTUNITIES ASSESSMENT**
- **GIS MAPPING**
- **HAZARD MITIGATION PLANNING**
- **MINING AND RECLAMATION ASSISTANCE**
- **REMEDIATION IMPLEMENTATION, OPERATION AND MAINTENANCE**
- **PHASE I ESA AND ENVIRONMENTAL DUE DILIGENCE ASSESSMENTS**
- **REGULATORY COMPLIANCE AND PERMITTING**
- **SOIL AND GROUNDWATER ASSESSMENTS**
- **SOIL AND GROUNDWATER REMEDIATION**
- **STORAGE TANK COMPLIANCE AND CLOSURE**
- **THREATENED AND ENDANGERED SPECIES SURVEYS**
- **WATERSHED AND STORMWATER MANAGEMENT PROGRAMS**
- **WETLAND DELINEATION, PERMITTING, MITIGATION AND BANKING**

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Detroit/Grand Rapids/Brighton

Phone: [redacted]
www.asti-env.com
Email: [redacted]

School of Continuing Education Division

Presents

Wayne County- Hazard mitigation plan update workshop
Date: Tuesday, December 10, 2024
Times: 10:00am-1:00pm
Ted Scott Campus, 9555 Haggerty, Belleville, MI 48111
Rooms: Ted Scott Community Room

Please Print: Name: Ahmad Nasser DOB: Address: 33030 Van Born City: Wayne State: MI Zip: 48184 Email Address: anasser@waynecountymi.gov **WCCCD Alumni Yes ☐ No ☐** Phone Number: 313-515-0468 Wayne County Resident? Yes ✓ No__	***Please Print:*** Name: Will Hayes DOB: Address: 1150 S. Canton Ctr City: Canton State: MI Zip: 48188 Email Address: William.Hayes@CantonMI.gov **WCCCD Alumni Yes ☐ No ☐** Phone Number: 734 394-5357 Wayne County Resident? Yes__ No__
Please Print: Name: Brian C Haan DOB: Address: 15050 Farmington City: Livonia State: MI Zip: 48154 Email Address: BRIAN.HAAN@LIVONIAGOV.COM **WCCCD Alumni Yes ☐ No ☐** Phone Number: 734 466 2360 Wayne County Resident? Yes__ No__	***Please Print:*** Name: David Schmidt DOB: Address: 35200 Forest City: Wayne State: MI Zip: 48184 Email Address: dschmidt@cityofwayne.com **WCCCD Alumni Yes ☐ No ☐** Phone Number: 734 721 8600 Wayne County Resident? Yes__ No__
Please Print: Name: Jim Rodgers DOB: Address: 16901 Michigan City: Dearborn State: MI Zip: 48126 Email Address: JRodgers@dearborngov **WCCCD Alumni Yes ☐ No ☐** Phone Number: 313 943 5470 Wayne County Resident? Yes__ No__	***Please Print:*** Name: Kirk Mickelson DOB: Address: 3200 Wayne Rd City: Wayne State: Zip: Email Address: kmickelson@cityofwayne.com **WCCCD Alumni Yes ☐ No ☐** Phone Number: Wayne County Resident? Yes__ No X

School of Continuing Education Division

Presents

Wayne County- Hazard mitigation plan update workshop
Date: Tuesday, December 10, 2024
Times: 10:00am-1:00pm
Ted Scott Campus, 9555 Haggerty, Belleville, MI 48111
Rooms: Ted Scott Community Room

Please Print: Name: Jonathan Wylland DOB: Address: 33030 Van Born Rd City: Romulus State: MI Zip: 48174 Email Address: jwilkins20@waynecountymi.gov WCCCD Alumni Yes ☐ No ☐ Phone Number: 734-558-1914 Wayne County Resident? Yes ✓ No ☐	***Please Print:*** Name: David McInnis DOB: Address: 16425 Tyler City: Van Buren Twp State: MI Zip: 48174 Email Address: WCCCD Alumni Yes ☐ No ☐ Phone Number: 734-699-8916 Wayne County Resident? Yes ✓ No ☐
Please Print: Name: Ryan Strong DOB: Address: 33701 E Michigan City: Wayne State: MI Zip: 48184 Email Address: RStrong@cityofwayne.org WCCCD Alumni Yes ☐ No ☐ Phone Number: 734 721 42 Wayne County Resident? Yes ☐ No ✓	***Please Print:*** Name: Matthew Wyszczelski DOB: Address: 2625 Cinff City: Hamtramck State: MI Zip: 48212 Email Address: Firechief@hamtramckmi.com WCCCD Alumni Yes ☐ No ☐ Phone Number: 313-304-7473 Wayne County Resident? Yes ☐ No ✓
Please Print: Name: Jeffery Watson DOB: 10/26/63 Address: 23125 King Rd. City: Brownstown State: MI Zip: 48183 Email Address: jwatson@brownstownpolice-mi.org WCCCD Alumni Yes ☐ No ☐ Phone Number: 734-231-6526 Wayne County Resident? Yes ✓ No ☐	***Please Print:*** Name: Andria Vaughan DOB: Address: Senator Santana office. City: Detroit / Dearborn / Dearborn Heights State: Zip: Email Address: arobinson@senate.michigan.gov WCCCD Alumni Yes ☐ No ☐ Phone Number: 517-373-0990 Wayne County Resident? Yes ☐ No ☐

School of Continuing Education Division

Presents

Wayne County- Hazard mitigation plan update workshop
Date: Tuesday, December 10, 2024
Times: 10:00am-1:00pm
Ted Scott Campus, 9555 Haggerty, Belleville, MI 48111
Rooms: Ted Scott Community Room

Please Print: Name: CARA DIETZ DOB: Address: 500 GRISWOLD FL 28 City: ~~500 GRIS~~ DETROIT State: MI Zip: 48214 Email Address: CDIETZ@WAYNECOUNTYMI.GOV **WCCCD Alumni Yes ☐ No ☒** Phone Number: (313) 738-8635 Wayne County Resident? Yes__ No__	***Please Print:*** Name: DOB: Address: City: State: Zip: Email Address: **WCCCD Alumni Yes ☐ No ☐** Phone Number: Wayne County Resident? Yes__ No__
Please Print: Name: Pat Conely DOB: Address: 8355 Eckhart Rd City: South Lyon State: MI Zip: 48178 Email Address: pconely@plymouthtwp.org **WCCCD Alumni Yes ☐ No ☒** Phone Number: 734-354-3220 Wayne County Resident? Yes__ No ✓	***Please Print:*** Name: DOB: Address: City: State: Zip: Email Address: **WCCCD Alumni Yes ☐ No ☐** Phone Number: Wayne County Resident? Yes__ No__
Please Print: Name: Jerome Bivins DOB: Address: 26215 Trowbridge City: Inkster State: MI. Zip: 48141 Email Address: jbivins@cityofinkster.com **WCCCD Alumni Yes ☐ No ☐** Phone Number: (313) 563-9774 Wayne County Resident? Yes ✓ No__	***Please Print:*** Name: DOB: Address: City: State: Zip: Email Address: **WCCCD Alumni Yes ☐ No ☐** Phone Number: Wayne County Resident? Yes__ No__

School of Continuing Education Division

Presents

Wayne County- Hazard mitigation plan update workshop
Date: Tuesday, December 10, 2024
Times: 10:00am-1:00pm
Ted Scott Campus, 9555 Haggerty, Belleville, MI 48111
Rooms: Ted Scott Community Room

Please Print: Name: Nour Alfanabr DOB: ____ Address: 33030 Vanborn City: Wayne State: MI Zip: 48184 Email Address: nalfanabr@waynecountymi.gov WCCCD Alumni Yes ☐ No ☐ Phone Number: ____ Wayne County Resident? Yes X No ___	***Please Print:*** Name: Michael Prince DOB: 3-25-70 Address: 14319 Greenfield City: Riverview State: MI Zip: 48193 Email Address: mprince@cityofr.com WCCCD Alumni Yes ☐ No ☑ Phone Number: 313-215-0451 Wayne County Resident? Yes ✓ No ___
Please Print: Name: Christopher Yelonek DOB: ____ Address: 2311 E. Beltline Ave, SE City: Grand Rapids State: MI Zip: 49506 Email Address: cyelonek@kent-emc.com WCCCD Alumni Yes ☐ No ☐ Phone Number: 810-225-7800 Wayne County Resident? Yes ___ No ___	***Please Print:*** Name: Samer Jaafar DOB: WCDHSEM Address: 33030 City: Wayne State: MI Zip: 48184 Email Address: ____ WCCCD Alumni Yes ☐ No ☐ Phone Number (734) 728-3716 Wayne County Resident? Yes ___ No ___
Please Print: Name: James Kadona DOB: ____ Address: 33030 VanBorn City: Wayne State: ____ Zip: 48184 Email Address: JKadona@waynecountymi.gov WCCCD Alumni Yes ☐ No ☐ Phone Number: ____ Wayne County Resident? Yes ___ No ___	***Please Print:*** Name: ~~ARROL~~ STANTON DOB: ____ Address: 8875 LAKE BLUFF DR City: BRIGHTON MI State: MI Zip: 48114 Email Address: ____ WCCCD Alumni Yes ☐ No ☐ Phone Number: 810 775 9963 Wayne County Resident? Yes ___ No ___

1. Summary

Meeting title	Wayne County Hazard Mitigatior
Attended participants	28
Start time	12/10/24, 8:49:01 AM
End time	12/10/24, 1:52:40 PM
Meeting duration	5h 3m 39s
Average attendance time	2h 27m 5s

2. Participants

Andria Robinson	12/10/24, 12:43:54 PM
Brian C Kahn / City of Livonia (Unverified)	12/10/24, 1:11:41 PM
Brian Kahn / Livonia (Unverified)	12/10/24, 10:14:16 AM
Chapman, Ken (External)	12/10/24, 11:43:48 AM
Chief Jennison-Livonia FD (Unverified)	12/10/24, 9:54:00 AM
Christopher Yelonek	12/10/24, 9:14:57 AM
Daniel Kudra (External)	12/10/24, 9:53:51 AM
Glenn Caldwell (External)	12/10/24, 9:57:50 AM
Houchins, Kristin (External)	12/10/24, 9:57:35 AM
Jackett, Christopher (External)	12/10/24, 9:59:07 AM
John Allen (Unverified)	12/10/24, 1:19:23 PM
John Allen-Riverview Police (Unverified)	12/10/24, 9:56:39 AM
Kera Sharpe	12/10/24, 8:49:03 AM
Kristin Faull (External)	12/10/24, 11:00:23 AM
Laible, Jeannine (External)	12/10/24, 10:25:37 AM
Moore, Doug (External)	12/10/24, 10:09:45 AM
Name	First Join
Natalie, 16th District Court (Unverified)	12/10/24, 10:28:31 AM
Natalie, 16th District Court (Unverified)	12/10/24, 12:04:15 PM
Nour Aljanabi (External)	12/10/24, 10:03:30 AM
Paul Sincock	12/10/24, 9:53:33 AM
read.ai meeting notes (Unverified)	12/10/24, 9:58:51 AM
RJ (Unverified)	12/10/24, 10:12:04 AM
Ryan Raumen (External)	12/10/24, 10:00:06 AM
Samer Jaafar (External)	12/10/24, 10:07:23 AM
Tom Wackerman	12/10/24, 9:03:33 AM
Wade Clay (Unverified)	12/10/24, 9:59:52 AM
William Hayes (External)	12/10/24, 10:05:25 AM
Zilincik, Todd (External)	12/10/24, 10:20:29 AM

3. In-Meeting Activities

Name	Join Time
Kera Sharpe	12/10/24, 8:49:03 AM
Tom Wackerman	12/10/24, 9:03:33 AM
Tom Wackerman	12/10/24, 9:29:54 AM

Tom Wackerman	12/10/24, 9:33:39 AM
Tom Wackerman	12/10/24, 9:40:17 AM
Christopher Yelonek	12/10/24, 9:14:57 AM
Christopher Yelonek	12/10/24, 9:33:21 AM
Paul Sincock	12/10/24, 9:53:33 AM
Daniel Kudra (External)	12/10/24, 9:53:51 AM
Chief Jennison-Livonia FD (Unverified)	12/10/24, 9:54:00 AM
John Allen-Riverview Police (Unverified)	12/10/24, 9:56:39 AM
Houchins, Kristin (External)	12/10/24, 9:57:35 AM
Glenn Caldwell (External)	12/10/24, 9:57:50 AM
read.ai meeting notes (Unverified)	12/10/24, 9:58:51 AM
Jackett, Christopher (External)	12/10/24, 9:59:07 AM
Wade Clay (Unverified)	12/10/24, 9:59:52 AM
Ryan Raumen (External)	12/10/24, 10:00:06 AM
Nour Aljanabi (External)	12/10/24, 10:03:30 AM
William Hayes (External)	12/10/24, 10:05:25 AM
Samer Jaafar (External)	12/10/24, 10:07:23 AM
Moore, Doug (External)	12/10/24, 10:09:45 AM
RJ (Unverified)	12/10/24, 10:12:04 AM
Brian Kahn / Livonia (Unverified)	12/10/24, 10:14:16 AM
Brian Kahn / Livonia (Unverified)	12/10/24, 11:46:08 AM
Zilincik, Todd (External)	12/10/24, 10:20:29 AM
Zilincik, Todd (External)	12/10/24, 12:38:10 PM
Zilincik, Todd (External)	12/10/24, 1:03:56 PM
Laible, Jeannine (External)	12/10/24, 10:25:37 AM
Natalie, 16th District Court (Unverified)	12/10/24, 10:28:31 AM
Kristin Faull (External)	12/10/24, 11:00:23 AM
Chapman, Ken (External)	12/10/24, 11:43:48 AM
Chapman, Ken (External)	12/10/24, 1:19:51 PM
Natalie, 16th District Court (Unverified)	12/10/24, 12:04:15 PM
Andria Robinson	12/10/24, 12:43:54 PM
Brian C Kahn / City of Livonia (Unverified)	12/10/24, 1:11:41 PM
John Allen (Unverified)	12/10/24, 1:19:23 PM

ı Plan Workshop #1 and Survey

12/10/24, 1:52:34 PM	1h 8m 40s	ARobinson(	ARobinson(	Attendee
12/10/24, 1:46:41 PM	35m			Attendee
12/10/24, 12:01:57 PM	1h 25m 25s			Attendee
12/10/24, 1:52:40 PM	42m 52s	kchapman(	kchapman(	Attendee
12/10/24, 10:04:55 AM	10m 55s			Attendee
12/10/24, 1:52:40 PM	4h 33m 25s	cyelonek@	cyelonek@	Organizer
12/10/24, 1:52:40 PM	3h 58m 48s	dkudra@pl	dkudra@pl	Attendee
12/10/24, 1:52:35 PM	3h 54m 45s	gcaldwell@	gcaldwell@	Attendee
12/10/24, 11:14:06 AM	1h 16m 31s	KHouchins(	khouchins(	Attendee
12/10/24, 1:52:40 PM	3h 53m 33s	cjackett@li	cjackett@li	Attendee
12/10/24, 1:30:27 PM	11m 3s			Attendee
12/10/24, 1:16:15 PM	3h 19m 35s			Attendee
12/10/24, 1:52:40 PM	5h 3m 37s	ksharpe@a	ksharpe@a	Organizer
12/10/24, 1:38:59 PM	2h 38m 35s	kfaull@bell	kfaull@bell	Attendee
12/10/24, 1:52:40 PM	3h 27m 3s	jlaible@livc	jlaible@livc	Attendee
12/10/24, 1:52:40 PM	3h 42m 55s	dmoore@li	dmoore@li	Attendee
Last Leave	In-Meeting	Email	Participant	Role
12/10/24, 12:03:42 PM	1h 35m 11s			Attendee
12/10/24, 1:52:38 PM	1h 48m 23s			Attendee
12/10/24, 1:52:22 PM	3h 48m 52s	naljanabi@	naljanabi@	Attendee
12/10/24, 11:22:47 AM	1h 29m 14s			Attendee
12/10/24, 11:05:05 AM	1h 6m 14s			Attendee
12/10/24, 1:52:26 PM	3h 40m 21s			Attendee
12/10/24, 12:44:40 PM	2h 44m 33s	rraumen@t	rraumen@t	Attendee
12/10/24, 12:27:01 PM	2h 19m 38s	Sjaafar@w	Sjaafar@w	Attendee
12/10/24, 1:52:40 PM	4h 37m 42s	twacker@a	twacker@a	Organizer
12/10/24, 11:09:30 AM	1h 9m 38s			Attendee
12/10/24, 11:23:18 AM	1h 17m 53s	william.hay	william.hay	Attendee
12/10/24, 1:52:40 PM	2h 58m 10s	tzilincik@li	TZilincik@li	Attendee

Leave Time	Duration	Email	Role
12/10/24, 1:52:40 PM	5h 3m 37s	ksharpe@a	Organizer
12/10/24, 9:27:24 AM	23m 51s	twacker@a	Organizer
12/10/24, 9:29:58 AM	3s	twacker@a	Organizer

12/10/24, 9:35:05 AM	1m 25s	twacker@a	Organizer
12/10/24, 1:52:40 PM	4h 12m 23s	twacker@a	Organizer
12/10/24, 9:29:04 AM	14m 6s	cyelonek@	Organizer
12/10/24, 1:52:40 PM	4h 19m 19s	cyelonek@	Organizer
12/10/24, 11:22:47 AM	1h 29m 14s		Attendee
12/10/24, 1:52:40 PM	3h 58m 48s	dkudra@pl	Attendee
12/10/24, 10:04:55 AM	10m 55s		Attendee
12/10/24, 1:16:15 PM	3h 19m 35s		Attendee
12/10/24, 11:14:06 AM	1h 16m 31s	KHouchins	Attendee
12/10/24, 1:52:35 PM	3h 54m 45s	gcaldwell@	Attendee
12/10/24, 11:05:05 AM	1h 6m 14s		Attendee
12/10/24, 1:52:40 PM	3h 53m 33s	cjackett@li	Attendee
12/10/24, 11:09:30 AM	1h 9m 38s		Attendee
12/10/24, 12:44:40 PM	2h 44m 33s	rraumen@t	Attendee
12/10/24, 1:52:22 PM	3h 48m 52s	naljanabi@	Attendee
12/10/24, 11:23:18 AM	1h 17m 53s	william.hay	Attendee
12/10/24, 12:27:01 PM	2h 19m 38s	Sjaafar@w	Attendee
12/10/24, 1:52:40 PM	3h 42m 55s	dmoore@li	Attendee
12/10/24, 1:52:26 PM	3h 40m 21s		Attendee
12/10/24, 11:23:54 AM	1h 9m 37s		Attendee
12/10/24, 12:01:57 PM	15m 48s		Attendee
12/10/24, 12:14:25 PM	1h 53m 55s	tzilincik@li	Attendee
12/10/24, 12:53:41 PM	15m 31s	tzilincik@li	Attendee
12/10/24, 1:52:40 PM	48m 44s	tzilincik@li	Attendee
12/10/24, 1:52:40 PM	3h 27m 3s	jlaible@live	Attendee
12/10/24, 12:03:42 PM	1h 35m 11s		Attendee
12/10/24, 1:38:59 PM	2h 38m 35s	kfaull@bell	Attendee
12/10/24, 11:53:52 AM	10m 3s	kchapman(	Attendee
12/10/24, 1:52:40 PM	32m 49s	kchapman(	Attendee
12/10/24, 1:52:38 PM	1h 48m 23s		Attendee
12/10/24, 1:52:34 PM	1h 8m 40s	ARobinson(	Attendee
12/10/24, 1:46:41 PM	35m		Attendee
12/10/24, 1:30:27 PM	11m 3s		Attendee

Appendix C. Mitigation Materials

Workshop #2 and Surveys

10448 Citation Drive, #100
Brighton, Michigan 48116
P: [redacted]
F: [redacted]

ASTI Environmental

Agenda

Date: January 14, 2025

RE: **Second Advisory Committee Meeting**
Wayne County Hazard Mitigation Plan Update (ASTI File No. A24-0901.00)

Agenda

Item #	Subject

1. **Overview** - 10:00 A.M.

2. **Review of Hazard Identification Process** (see summary sheets)
   - Hazards Ranking
     - Top Hazards for Consideration

3. **Review of Critical Assets** (see summary sheets)

4. **Mitigation Goals and Objectives**
   - Overall Selection (see worksheets)

5. **Evaluation Criteria**
   - Workgroups (see worksheet)

6. **Mitigation Survey Results**
   - Results of Surveys
     Top Mitigation Strategies (see summary sheets and attachments)
   - Discussion of Additional Mitigation Strategies

7. **Mitigation Selection**
   - Combining Mitigation Strategies with Goals and Objectives and Evaluation Criteria

8. **Review Status of Existing Action Plans** (see attached)

9. **Action Plan Selection**
   - Specific Strategies to Address
   - Development of Action Plan (see example worksheet)
   - Roles and Responsibilities

Homework
- **Action Plans due February 20, 2025**

Summary of Hazard Evaluation – First Advisory Committee Meeting
Wayne County
Hazard Mitigation Plan Update
From Workshop on December 10, 2024

Criteria for Hazards

- Public Health, Safety and Welfare and Loss of Life (weighted at 14.0)
- Infrastructure Failure (weighted at 7.9)
- Loss of Property (weighted at 7.1)
- Duration of Impact (weighted at 7.0)

Hazard Ranking

Hazards Considered During Advisory Committee Meeting

Preliminary List	Total	Rank	Votes	
			On-line	In-Person
Thunderstorms - Hail, Lightning, Severe Wind	22.0	1	9.0	13.0
Tornadoes	17.0	3	6.0	11.0
Winter Hazards - Snow, Ice & Sleet	8.0	8	6.0	2.0
Flooding - (All Types)	20.0	2	4.0	16.0
Cyber Attacks - Network Disruptions	12.0	5	2.0	10.0
Transportation - Rail	10.0	6	2.0	8.0
Criminal Acts - Mass Shootings/Active Assailant(s)	14.0	4	4.0	10.0
EV Battery Fires	6.0	10	0.0	6.0
Transporation - Highway	5.0	11	2.0	3.0
Acts of Terrorism	8.0	8	3.0	5.0
Hazmat Incidents	4.0	12	1.0	3.0
Lead in Water (Service Piping)	4.0	12	2.0	2.0
Infrastructure Failure Causing Flooding	10.0	6	0.0	10.0
Bridge Closures	0.0	14	0.0	0.0

		2024 First Survey Results		
	Hazard	Open Ended Question Rank	No. Times Listed	Overall Ranking Average Score
Natural Hazards	Celestial Impact - Meteorites and Space Debris		0	29
	Drought		2	18
	Earthquake		5	12
	Extreme Temperatures - Extreme Hot or Cold		10	6
	Fire - Wildfires		1	24
	Flooding - Riverine or Shoreline		15	2
	Fog			29
	Great Lakes Shoreline Hazards			29
	Invasive Species		5	12
	Solar Flares			29
	Subsidence - Natural		1	24
	Thunderstorms - Hail, Lightning, Severe Wind		25	1
	Tornadoes		15	2
	Winter Hazards - Snow, Ice & Sleet		15	2
Technological Hazards	Energy Failures and Shortages			29
	Fire - Scrap Tire			29
	Fire - Structural		2	18
	Flooding - Dam and Levee Failure			29
	Flooding - Urban		3	17
	Hazmat Incidents - Fixed Site		2	18
	Hazmat Incidents - Transportation		5	12
	Infrastructure Failure - Bridges, Roads		6	8
	Infrastructure Failure - Communications		2	18
	Infrastructure Failure - Electrical Systems		8	7
	Infrastructure Failure - Sanitary/Storm Sewers		5	12
	Infrastructure Failure - Water System		4	16
	Nuclear Power Plant Accidents			29
	Oil and Gas Well or Pipeline Accidents			29
	Subsidence - Mining or Infrastructure			29
Human Related Hazards	Civil Disturbance			29
	Criminal Acts - Mass Shootings/Active Assailant(s)		6	8
	Criminal Acts - Vandalism and Arson			29
	Criminal Acts - Homicide/Robbery/Carjacking			29
	Cyber Attacks - Network Disruptions		13	5
	Gas/Oil Shortages or Supply Disruptions			29
	Public Health Emergencies - Pandemics, Epidemics, Food/Water		6	8
	Terrorism/Sabotage		2	18
	Transportation Accidents - Air		1	24
	Transportation Accidents - Marine			29
	Transportation Accidents - Rail			29
	Transportation Accidents - Surface Roads/Highways		6	8
	Water Supply Failure		2	18
	Weapons of Mass Destruction			29
nal	Opioid Crisis			29
	Basement Flooding		1	24
	Lead in the Water		1	24

Summary of Hazard Evaluation – Initial Advisory Committee Meeting
Wayne County
Hazard Mitigation Plan Update
From Workshop on December 10, 2024

2024 Plan Update Meeting Results

Hazard Events to Consider	Rank	Concern About Impacts of Hazardous Events: Duration of Impact (Economic and Population)	Safety and Welfare and Loss of Life	Loss of Property	Infrastructure Failure or Damage	Hazard Sum	Workshop Rank
Thunderstorms - Hail, Lightning, Severe Wind	1	2	2	2	2	72.0	9
Flooding - (All Types)	2	3	3	3	2	100.1	3
Tornadoes	3	2	3	2.5	2	89.5	6
Criminal Acts - Mass Shootings/Active Assailant(s)	4	2.5	3	1	1	74.5	8
Cyber Attacks - Network Disruptions	5	3	2	3	2	86.0	7
Transportation Accidents - Rail	6	3	3	3	2	100.1	3
Infrastructure Failure Causing Flooding	6	3	3	3	3	108.0	1
Winter Hazards - Snow, Ice & Sleet	8	1	1.5	1	2	51.0	10
Acts of Terrorism	8	3	3	2	3	100.9	2
Hazmat Incidents (Including Stored Energy Systems)	12	3	3	3	2	100.1	3

Highly Impact		≥74.6
Med. Impact		Between 52.1-74.5
Low Impact		≤52

2024 Workshop Values (Average Value)

Asset to Consider	Asset Criticality (Based on Asset Class Characteristics estimate the effects of a hazard event to the listed criteria): Duration of Impact (Economic and Population)	Public Health Safety and Welfare and Loss of Life	Loss of Property	Infrastructure Failure or Damage	Criticality	Rank
Commercial Sites	2.50	1.00	2.50	1.00	57	10
Hospitals/Response Facilities	5.00	5.00	1.00	5.00	152	4
Industrial Sites	2.50	2.50	1.00	1.00	67	9
Open Space	1.00	1.00	1.00	1.00	36	11
Public Facilities	5.00	2.50	2.50	2.50	107	7
Residential Areas	5.00	5.00	5.00	5.00	180	1
Roads, Railroads, Bridges	5.00	5.00	2.50	5.00	162	2
Utility Facilities	5.00	5.00	2.50	5.00	162	2
Schools, Churches	5.00	5.00	2.50	2.50	142	5
Sports/Entertainment Arenas	2.50	5.00	1.00	1.00	103	8
Central Business Dist.	5.00	5.00	2.50	2.50	142	5

For Ranking 1-5

Highly Critical		≥74.6
Med. Criticality		Between 52.1-74.5
Low Criticality		≤52

Summary of Hazard Evaluation – First Advisory Committee Meeting
Wayne County
Hazard Mitigation Plan Update
From Workshop on December 10, 2024

2024 Workshop Results

Hazard Event	Workshop Rank	Hazard Risk Rank	Action Plan Needed
Thunderstorms - Hail, Lightning, Severe Wind	9	4	2
Flooding - (All Types)	3	6	3
Tornadoes	6	3	2
Criminal Acts - Mass Shootings/Active Assailant(s)	8	5	2
Cyber Attacks - Network Disruptions	7	7	4
Transportation Accidents - Rail	3	10	3
Infrastructure Failure Causing Flooding	1	9	3
Winter Hazards - Snow, Ice & Sleet	10	8	4
Acts of Terrorism	2	1	1
Hazmat Incidents (Including Stored Energy Systems)	3	2	1
	11	11	4
	11	11	4
	11	11	4
	11	11	4

Critical Asset	Criticality Rank	Asset Risk Rank	Vulnerability
Commercial Sites	10	6	4
Hospitals/Response Facilities	4	1	1
Industrial Sites	9	4	2
Open Space	11	11	4
Public Facilities	7	3	2
Residential Areas	1	8	3
Roads, Railroads, Bridges	2	7	3
Utility Facilities	2	2	1
Schools, Churches	5	5	1
Sports/Entertainment Arenas	8	10	4
Central Business Dist.	5	9	3

Action Plan Assessment		
	Rank	
Risk	1-5	6-10
1-5	1	2
6-10	3	4

Goals Worksheet #1
Wayne County
Hazard Mitigation Plan Update
From Workshop on January 14, 2025

Objective: To identify the top goals for hazard mitigation in Wayne County.

Thought Questions: What are the top five priorities for the community when considering hazard mitigation? What do community leaders represent as important? Consider the types of hazards that are most important, as well as the assets and locations that are most vulnerable. Your answer should reflect your best estimate of the administration or your organization's constituency.

Individual Worksheet

1	
2	
3	
4	
5	

Group Worksheet

1	
2	
3	
4	
5	

<u>Example Goals</u>

Improve, Encourage, Enhance, Maintain, Protect, or Preserve…

Identify, Create…

<u>2019 Selected Goals</u>

- Protect and preserve human health and well-being
- Maintain and fortify critical assets, structures, and infrastructure to preserve the quality of life.
- Ensure Interagency cooperation and coordination for preparedness
- Enhance emergency response capabilities (including and especially communications)
- Review and improve county-wide contingency plans for maintaining quality of life

Evaluation Criteria Worksheet #2
Wayne County
Hazard Mitigation Plan Update
From Workshop of January 14, 2025

Objective: To identify five criteria consistent with County Goals to be used to evaluate mitigation strategies.

Thought Questions: Based on the Goals and Objectives, how will mitigation strategies be evaluated? What are the key considerations in choosing a strategy for Wayne County? **Bold** listings are required.

Individual Worksheet

1	
2	
3	
4	
5	

Group Worksheet

1	
2	
3	
4	
5	

Example Criteria

Ability to accomplish
Availability of outside funding
Community acceptance
Consistency with existing plans and programs
Consistency with mitigation goals
Cost-effectiveness (FEMA Requirement)
Downside risk
Equitable distribution of services
Economically Justifiable
Environmentally Sound
Leadership effort required
Non-discriminatory (EO12898 compliant)
Protection of Critical Response Facilities
Socially Equitable
Specific mitigation goals
Technical feasibility (FEMA Requirement)

2019 Selected Criteria

- Technical Feasibility
- Cost Effectiveness
- Ability to accomplish
- Effectiveness of strategy (including downside risk)
- Leadership effort required

Be technically feasible. (The project must use design and construction methods and materials that are approved, codified, recognized, fall under standard or accepted level of practice, or otherwise are determined to be generally accepted by the design and construction industry.)
Be cost-effective and substantially reduce the risk of future damage, hardship, loss, or suffering resulting from a major disaster. This must be demonstrated by documenting that the project:

1. Addresses a problem that has been repetitive, or a problem that poses a significant risk if left unsolved;
2. Will not cost more than the anticipated value of the reduction in both direct damages and subsequent negative impacts to the area if future disasters were to occur;
3. Has been determined to be the most practical, effective, and environmentally sound alternative after consideration of a range of options;
4. Contributes, to the extent practicable, to a long-term solution to the problem it is intended to address; and
5. Considers long-term changes to the areas and entities it protects, and has manageable future maintenance and modification requirements.

Evaluation Criteria Worksheet #3
Wayne County
Hazard Mitigation Plan Update
From Workshop of January 14, 2025

Objective: To identify additional mitigation strategies from surveys and previous workshops.

Individual Worksheet

1	#
2	#
3	#

Open Question Additional Strategies

240 Accountability
297 Additional equipment
191 Alerting system
323 Awareness
256 Better early warning efforts and recovery
221 Better phone list notifications of train response teams
70 Bringing in Municipal agencies, understanding the severity
54 Cannot control if/when/how severe - plan for notification and during and after incident response
75 Cannot control if/when/how severe - plan for notification and during and after incident response
99 Closer cooperation between WC EMCs and RESA
194 Closer cooperation with Wayne County Drain personnel
327 Closer ties to schools
27 Communication between all emergency responders (police, fire, and EMS) during large-scale events
72 Continual training. Utilize latest detection technology.
50 Continual training. Utilize latest technology.
52 Continued training and multiple agency collaboration
264 County email with NWS info
93 County wide assistance for a large scale event that would include mutual aid from any Wayne county community.
215 County-wide assistance.
101 county-wide training for events focusing on communication between municipalities
47 Does the county know what aging infrastructure is close to failure in each city? Publish a review of each city's infrastructure.
257 Educate and identify the need for tree trimming to mitigate damage from winds

299 Education
322 Education and training for responders, including those other and PD
48 Education for Municipal Leaders and training for responders
305 Emergency management already handles these incidents well
217 Enforcement
214 Equipment and training assistance for County Teams
238 Equipment and Training to handle freeway and rail incidents
245 equipment for responding agencies/communication for large-scale events
321 Expedite help from State and Federal Agencies.
102 Fire/Ems/Police annual training.
92 Funding for equipment and training for Rescue Task Force activities
76 Get all IT on the same plan
46 Improvements to water systems
193 Infrastructure improvements
51 Infrastructure studies and improvements
49 Inspection
265 Maintain siren system
53 Monitor Detroit Water System for problems or key pipe breaks
219 More and more frequent first responder training
325 More and more frequent training for first responders
263 Multiple agency collaboration and regionally activated tornado sirens
262 Notification methods expanded to include social media
74 Offer training opportunities through WCCCD
304 Pre-event public notifications/post-event resources
329 Pre-event training focusing on communication between agencies.
320 Prepare for all types, harden targets
68 Provide IT support during cyber attacks
298 Public Education
259 Public Education warnings and actions to be taken
190 Public Education, mitigation strategies
302 push compass app
268 Quick public notification pre-event/resources post-event
196 Resources post-event
189 Review the yearly flood plan to see if your city is facing potential flooding.
77 Risk acceptance
198 Risk Control
55 Risk Strategizing
97 Stop the bleed training
258 storm siren activation protocol.
73 System upgrades to security
223 Train with the railroad companies
71 Training
216 Training and Education for Municipal persons other than Police and fire
94 Training between Public and Private entities
239 Unified Command response training and exercises

303 Usually we have advanced notification from the National Weather Service to prepare - prepare for notification and during and after incident response
330 Work with State, Local, and Federal partners (training, equipment, shared services)
69 Yearly training for IT personnel.

From Previous Survey

89 ALICE training for schools, municipalities, city workers, hospitals, churches, etc.
88 Continue training in the most current protocol(s)
87 Develop a multi-community response plan following NFPA 3000 Guideline
86 Develop a process for requesting assistance from local and state law enforcement
296 Develop staging plans for plowing/salting roads
181 Develop a system for road closures and designating/providing notifications of alternate routes
213 Develop system(s) for road closures and perimeter containment, provide training for Western Wayne HazMat Team and others
182 Identify frequent flooding areas, communicate alternate transportation routes, modes of alternate transportation
184 Identify locations for temporary shelter
90 Identify reasons for, and develop methods to overcome resistance to joint law enforcement training.
183 Improve stormwater detention/retention systems
45 Protect mobile radios from EMP caused by solar disturbances
188 Protect/restore floodplains in/to their natural state
211 Provide first responders with adequate/proper cleanup tools to prevent offsite discharge to waterways
186 Provide training for Western Wayne USAR Team
187 Remove debris from rivers and streams for more effective water flow
185 Remove structures from floodplain in repetitive loss areas
91 Rescue task force training for FDs, PDs, and EMS
212 Track TIH tank car movements in high-threat urban areas - monitor standstill times and issue alerts for excessive dwell times

Mitigation Strategies - Vulnerabilities/FEMA Funded Reality Check
Wayne County
Hazard Mitigation Plan Update
From Workshop of January 14, 2025

Objective: To finalize the list of mitigation strategies to include in the Plan. To preserve access to funding, this list should be as complete as possible.

Thought Questions:

1. Have the most significant hazards been addressed?
2. Have specific vulnerable areas been adequately considered?
3. Are the selected mitigation goals supported?
4. Have mitigation strategies that are eligible for FEMA funding been considered?
5. Are there general strategies that are not included in the county's overall plans?

Action Plan Worksheet
Wayne County
Hazard Mitigation Plan Update
From Workshop of January 14, 2025- **Due February 21, 2025**

Mitigation Strategy Description (What do you want to accomplish?):

-

Specific Hazards Addressed:

Primary Responsibility (Person and Department)**:**

Initiatives Needed (What changes must be made, or new programs started, to make this work?):

Item	By Date
•	
•	

Implementation (What milestone tasks will you need to accomplish to get it done?):

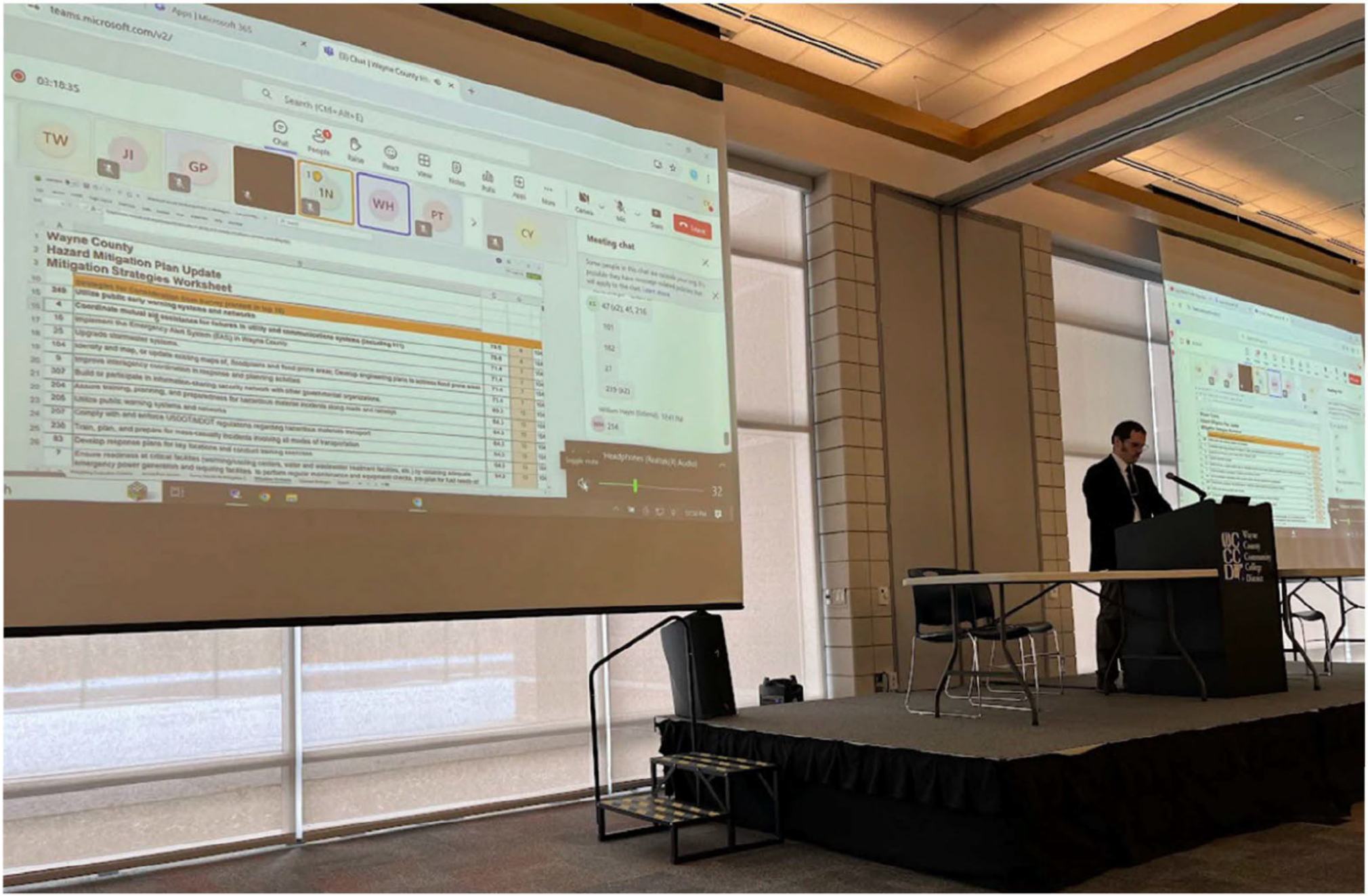
Task	Date
•	
•	

Assessment (Provide a general description of the economic costs and benefits.):

Costs (List categories, such as staff time, printing, etc.)	Benefits
•	•
•	•

Anticipated Funding Sources (How will you cover the costs?):

-


teams.microsoft.com/v2/
03:18:35
Search (Ctrl+Alt+E)
Chat
People
Raise
React
View
Notes
Polls
Apps
More
Camera
Mic
Share
Meeting chat
TW
JI
GP
1N
WH
PT
CY
Wayne County
Hazard Mitigation Plan Update
Mitigation Strategies Worksheet
Utilize public early warning systems and networks
Coordinate mutual aid assistance for failures in utility and communications systems (including 911)
Implement the Emergency Alert System (EAS) in Wayne County
Upgrade stormwater systems.
Identify and map, or update existing maps of, floodplains and flood-prone areas; Develop engineering plans to address flood prone areas
Improve interagency coordination in response and planning activities
Build or participate in information-sharing security network with other governmental organizations.
Assure training, planning, and preparedness for hazardous materials incidents along roads and railways
Utilize public warning systems and networks
Comply with and enforce USDOT/MDOT regulations regarding hazardous materials transport
Train, plan, and prepare for mass-casualty incidents regarding all modes of transportation
Develop response plans for key locations and conduct training exercises
Ensure readiness at critical facilities (swimming/boating centers, water and wastewater treatment facilities, etc.) by obtaining adequate emergency power generators and requiring facilities to perform regular maintenance and equipment checks; pre-plan for fuel needs of
Wayne County Community College District



Ranking H=High M=Medium L=Low

Mitigation Strategies Worksheet

		Survey		Criteria		Evaluation Criteria				
					Criteria	Technical Feasibility	Cost Effectiveness	Ability to accomplish	Planning effort required	Protection of Critical Facilities and Infrastructure
#	Mitigation Strategy	Avg	Rank	Sum	Rank	Weighting	11.7	9.2	12.9	9.6	16.6
	Strategies for Consideration from Survey (ranked in top 16)										
2	**Improve communications between municipalities, state, and regional agencies, for example in case of mass event**	100.0	1	131.688	9		H	M	M	M	M
33	**Replace or renovate aging Infrastructure and equipment**	85.7	2	138.776	3		H	M	M	H	H
313	**Conduct a vulnerability assessment to potential terrorist acts.**	84.6	3	131.688	9		H	M	M	M	M
56	**A complete assessment of municipality cyber security.**	78.6	4	131.688	9		H	M	M	M	M
249	**Utilize public early warning systems and networks including, but not limited to Emergency Alert System (EAS) in Wayne County**	78.6	4	107.086	23		M	M	H	M	M
4	**Coordinate mutual aid assistance utility and communications systems to make the system more effective (including 911)**	78.6	4	120	17		M	M	M	M	M
25	Upgrade stormwater systems.	71.4	7	120	17		M	M	M	M	M
104	Identify and map, or update existing maps of, floodplains and flood prone areas; Develop engineering plans to address flood prone areas	71.4	7	128.328	16		H	M	H	L	M
307	Build or participate in information-sharing security network with other governmental organizations.	69.2	12	136.641	6		M	M	M	M	H
204	Assure training, planning, and preparedness for hazardous material incidents along roads and railways	64.3	13	148.329	1		H	M	M	M	H
207	Comply with and enforce USDOT/MDOT regulations regarding hazardous materials transport	64.3	13	136.641	6		M	M	M	M	H
236	Train, plan, and prepare for mass-casualty incidents involving all modes of transportation	64.3	13	110.446	21		M	M	M	H	M
83	Develop response plans for key locations and conduct training exercises	64.3	13	136.641	6		M	M	M	M	H
7	Ensure readiness at critical facilities (warming/cooling centers, water and wastewater treatment facilities, etc.) by obtaining adequate emergency power generators and requiring facilities to perform regular maintenance and equipment checks, pre-plan for fuel needs of existing and backup power sources	64.3	13	118.774	20		H	M	H	M	M
	Special Consideration										
1	Obtain communication boosters for deficient areas in county-wide communication network	50.0	29	131.688	9		H	M	M	M	M
	Open Question Additional Strategies										
27	Communication between all emergency responders (police, fire and ems) during large scale events			138.776	3		H	M	M	H	H
45	Protect commujnication systems from EMP caused by solar disturbances			148.329	1		H	M	M	M	H
47	Does the county know what aging infrastructure is close to failure in each city? Publish a review of each city's			138.776	3		H	M	M	H	H

Ranking H=High M=Medium L=Low

Mitigation Strategies Worksheet

		Survey		Criteria		Evaluation Criteria				
						Technical Feasibility	Cost Effectiveness	Ability to accomplish	Planning effort required	Protection of Critical Facilities and Infrastructure
					Criteria					
#	Mitigation Strategy	Avg	Rank	Sum	Rank	Weighting	11.7	9.2	12.9	9.6	16.6
101	county wide training for event focusing on communication between municipalities			110.446	21		M	M	M	H	M
182	Identify frequent flooding areas, communicate alternate transportation routes, modes of alternate transportation			120	17		M	M	M	M	M
214	Equipment and training assistance for County Teams			131.688	9		H	M	M	M	M
216	Training and Education for Municipal persons other than Police and fire			131.688	9		H	M	M	M	M
239	Unified Command response training and exercises			131.688	9		H	M	M	M	M
				104.935	24						
				104.935	24						
				104.935	24						
				104.935	24						
				104.935	24						
				104.935	24						
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Ranking H=High M=Medium L=Low

Mitigation Strategies Worksheet

		Survey		Criteria		Criteria	Evaluation Criteria				
							Technical Feasibility	Cost Effectiveness	Ability to accomplish	Planning effort required	Protection of Critical Facilities and Infrastructure
#	Mitigation Strategy	Avg	Rank	Sum	Rank	Weighting	11.7	9.2	12.9	9.6	16.6
				104.935	24						
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	Added During Committee Meeting										
332				104.935	24						
				104.935	24						
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Notes

Ranking H=High M=Medium L=Low

Mitigation Strategies Worksheet

		Survey		Criteria		Evaluation Criteria				
						Technical Feasibility	Cost Effectiveness	Ability to accomplish	Planning effort required	Protection of Critical Facilities and Infrastructure
#	Mitigation Strategy	Avg	Rank	Sum	Rank	Criteria				
						Weighting	11.7	9.2	12.9	9.6	16.6

Tan highlighted Survey Rank indicates ranked in top 16 by survey
Yellow highlighted Evaluation Criteria Rank indicates in top 16 based on Criteria
Yellow highlighted strategy description indicates selected by committee for inclusion in updated plan
Yellow highlighted Evaluation Criteria indicates disagreement on ranking

Mitigation Strategies Worksheet

		Survey		Criteria	
#	Mitigation Strategy	Avg	Rank	Sum	Rank
	Strategies for Consideration from Survey (ranked in top 16)				
2	**Improve communications between municipalities, state, and regional agencies, for example in case of mass event**	100.0	1	131.688	9
33	**Replace or renovate aging Infrastructure and equipment**	85.7	2	138.776	3
313	**Conduct a vulnerability assessment to potential terrorist acts.**	84.6	3	131.688	9
56	**A complete assessment of municipality cyber security.**	78.6	4	131.688	9
249	**Utilize public early warning systems and networks including, but not limited to Emergency Alert System (EAS) in Wayne County**	78.6	4	107.086	23
4	**Coordinate mutual aid assistance utility and communications systems to make the system more effective (including 911)**	78.6	4	120	17
25	Upgrade stormwater systems.	71.4	7	120	17
104	Identify and map, or update existing maps of, floodplains and flood prone areas; Develop engineering plans to address flood prone areas	71.4	7	128.328	16
307	Build or participate in information-sharing security network with other governmental organizations.	69.2	12	136.641	6
204	Assure training, planning, and preparedness for hazardous material incidents along roads and railways	64.3	13	148.329	1
207	Comply with and enforce USDOT/MDOT regulations regarding hazardous materials transport	64.3	13	136.641	6
236	Train, plan, and prepare for mass-casualty incidents involving all modes of transportation	64.3	13	110.446	21
83	Develop response plans for key locations and conduct training exercises	64.3	13	136.641	6
7	Ensure readiness at critical facilities (warming/cooling centers, water and wastewater treatment facilities, etc.) by obtaining adequate emergency power generators and requiring facilities to perform regular maintenance and equipment checks, pre-plan for fuel needs of existing and backup power sources	64.3	13	118.774	20
	Special Consideration				
1	Obtain communication boosters for deficient areas in county-wide communication network	50.0	29	131.688	9
	Open Question Additional Strategies				
27	Communication between all emergency responders (police, fire and ems) during large scale events			138.776	3
45	Protect commujnication systems from EMP caused by solar disturbances			148.329	1
47	Does the county know what aging infrastructure is close to failure in each city? Publish a review of each city's			138.776	3

Mitigation Strategies Worksheet

		Survey		Criteria	
#	Mitigation Strategy	Avg	Rank	Sum	Rank
101	county wide training for event focusing on communication between municipalities			110.446	21
182	Identify frequent flooding areas, communicate alternate transportation routes, modes of alternate transportation			120	17
214	Equipment and training assistance for County Teams			131.688	9
216	Training and Education for Municipal persons other than Police and fire			131.688	9
239	Unified Command response training and exercises			131.688	9
				104.935	24
				104.935	24
				104.935	24
				104.935	24
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Mitigation Strategies Worksheet

#	Mitigation Strategy	Survey Avg	Survey Rank	Criteria Sum	Criteria Rank
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	Added During Committee Meeting				
332				104.935	24
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Notes

Wayne County
Hazard Mitigation Plan Update

Mitigation Strategies Worksheet

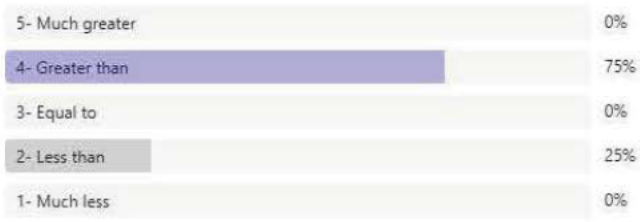
		Survey		Criteria	
#	Mitigation Strategy	Avg	Rank	Sum	Rank

Tan highlighted Survey Rank indicates ranked in top 16 by survey
Yellow highlighted Evaluation Criteria Rank indicates in top 16 based on Criteria
Yellow highlighted strategy description indicates selected by committee for inclusion in updated plan
Yellow highlighted Evaluation Criteria indicates disagreement on ranking

CLOSED Poll: Names not recorded | Results shared

KS

Technical feasibility vs Cost effectiveness



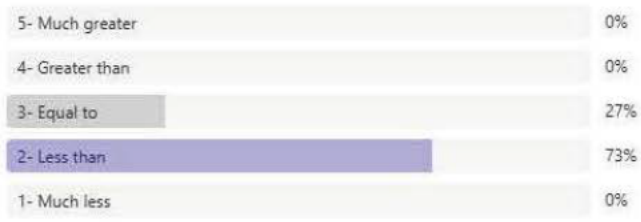
12 responses

Response details

CLOSED Poll: Names not recorded | Results shared

KS

Technical feasibility vs Ability to accomplish



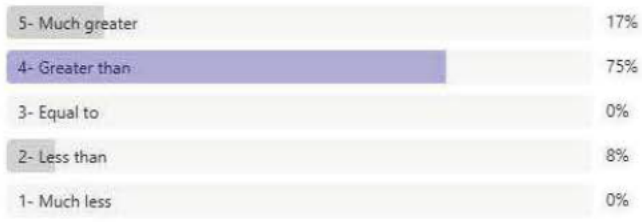
11 responses

Response details

CLOSED Poll: Names not recorded | Results shared

KS

Technical feasibility vs Leadership effort required



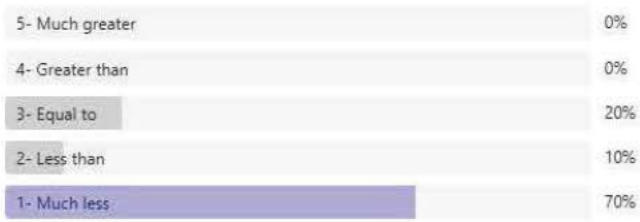
12 responses

Response details

CLOSED Poll: Names not recorded | Results shared

KS

Technical feasibility vs protection of critical facilities



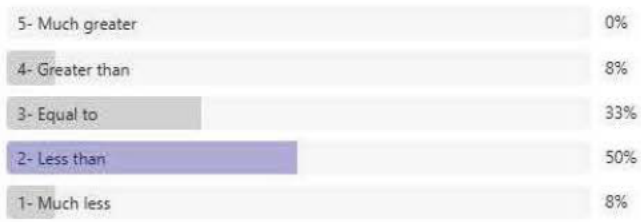
10 responses

Response details

CLOSED Poll: Names not recorded | Results shared

KS

Cost effectiveness vs Ability to accomplish



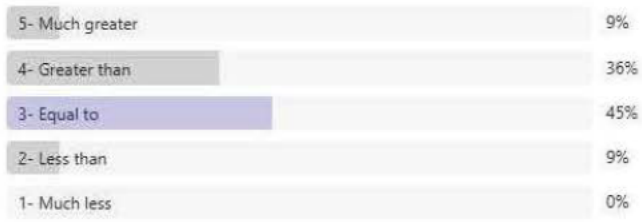
12 responses

Response details

CLOSED Poll: Names not recorded | Results shared

KS

Cost effectiveness vs leadership effort required



11 responses

Response details

CLOSED Poll: Names not recorded | Results shared

KS

Cost effectiveness vs protection of critical facilities

5- Much greater	0%
4- Greater than	0%
3- Equal to	8%
2- Less than	75%
1- Much less	17%

12 responses

Response details

CLOSED Poll: Names not recorded | Results shared

KS

Ability to accomplish vs leadership effort required

5- Much greater	58%
4- Greater than	33%
3- Equal to	8%
2- Less than	0%
1- Much less	0%

12 responses

Response details

CLOSED Poll: Names not recorded | Results shared

KS

Ability to accomplish vs protection of critical facilities

5- Much greater	0%
4- Greater than	7%
3- Equal to	57%
2- Less than	21%
1- Much less	14%

14 responses

Response details

CLOSED Poll: Names not recorded | Results shared

KS

Leadership effort required vs protection of critical facilities

5- Much greater	0%
4- Greater than	0%
3- Equal to	0%
2- Less than	15%
1- Much less	85%

13 responses

Response details

CLOSED Poll: Names not recorded | Results shared

KS

Instant poll 1/14/2025 10:38:10 AM



100% 0%

7 responses

Response details

CLOSED Poll: Names not recorded | Results shared

KS

Question

Option 1	4%
Option 2	24%
Option 3	17%
Option 4	9%
Option 5	2%
Option 6	11%

Response details

Appendix D. Example Community Resolution for Plan Adoption

Appendix D: Sample Adoption Resolution

(LOCAL GOVERNMENT, INCLUDING SPECIAL DISTRICTS), (STATE)

RESOLUTION NO. _____

A RESOLUTION OF (LOCAL GOVERNMENT) ADOPTING THE (TITLE AND DATE OF MITIGATION PLAN)

WHEREAS the (local governing body) recognizes the threat that natural hazards pose to people and property within (local government); and

WHEREAS the (local government) has prepared a multi-hazard mitigation plan, hereby known as (title and date of mitigation plan) in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS (title and date of mitigation plan) identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in (local government) from the impacts of future hazards and disasters; and

WHEREAS adoption by the (local governing body) demonstrates its commitment to hazard mitigation and achieving the goals outlined in the (title and date of mitigation plan).

NOW THEREFORE, BE IT RESOLVED BY THE (LOCAL GOVERNMENT), (STATE), THAT:

Section 1. In accordance with (local rule for adopting resolutions), the (local governing body) adopts the (title and date of mitigation plan). While content related to (local government) may require revisions to meet the plan approval requirements, changes occurring after adoption will not require (local government) to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

ADOPTED by a vote of ____ in favor and ____ against, and ____ abstaining, this _____ day of _____, _____.

By: _____ (print name)

ATTEST: By: _____ (print name)

APPROVED AS TO FORM: By: _____ (print name)

Appendix E. Community Input and Public Feedback

ANDERSON, ECKSTEIN & WESTRICK, INC.
CIVIL ENGINEERS - SURVEYORS - ARCHITECTS
Shelby Township - Roseville - Livonia
586.726.1234 | www.aewinc.com

January 21, 2026

Dennis Champine
City Manager/Clerk
City of Center Line
7070 E. 10 Mile Rd.
Center Line, MI 48015

Reference: Wayne County Hazard Mitigation Plan
Draft 2025 Update
AEW Project No. 0170-0002

Dear Mr. Champine:

Please find below our comments regarding the draft Wayne County Hazard Mitigation Plan 2025 Update (HMP Update) which our office was asked to review on behalf of the City of Center Line on January 15, 2026:

1. This HMP Update revises the 2020 HMP that was previously approved on January 29, 2021. HMPs are required to be updated every five years in order for the applicable jurisdiction to retain eligibility for non-emergency mitigation project grant funding from the United States Federal Emergency Management Agency (FEMA).
2. The current Wayne County HMP expires on January 28, 2026.
3. Macomb County currently maintains their own HMP. The current revision for the years 2026-2030 was approved by FEMA on November 18, 2025. The City of Center Line participates in this plan.
4. The entire southern border of the City of Warren adjoins the City of Detroit, which is not covered by the Wayne County HMP Update. Communities in proximity to the Van Dyke Avenue / Highway 53 corridor and with directly connecting infrastructure (railroads) are Hamtramck and Highland Park. No major roadways that do not transect the City of Detroit connect the communities covered by this HMP Update and the City of Center Line.
5. Hazards identified and corresponding mitigation strategies planned through the Wayne County HMP Update for the jurisdictions identified above and others further separated through the remainder of the HMP Update do not appear to adversely impact the City of Center Line beyond the level of consideration given to them in the Macomb County HMP. Furthermore, no areas were identified during the review of this HMP Update where we would suggest augmenting or coordinating strategies beyond any measures that may be planned or in the process of currently being implemented by the City of Center Line in cooperation

with the jurisdictions covered by this HMP Update such as potential mutual aid agreements or resource sharing.

6. No substantial errors or action items were identified during our review. In responding to the request for commentary issued by ASTI Environmental, we would suggest addressing the following in addition to standard administrative review:

    a. In some areas, it appears that there may be carryover language from a consulting report used in preparation of the document that may adversely affect the intent of the document. For example, on Page 39: "Due to the lack of earthquake events in Michigan, additional investigation of the impact on critical facilities/services is not recommended at this time."
    b. The web link provided for the Wayne County Department of Homeland Security and Emergency Management in the footnotes on Page 15 is outdated and should be updated.

If you have any questions regarding this HMP Update review, please contact our office at any time.

Sincerely,

Justin Massie, PE
Project Engineer II

Louis J. Urban, PE
Senior Project Engineer

Enclosure:

cc:

Gary McKinney, Center Line DPW Superintendent
Paul Myszenski, Center Line Director of Public Safety

M:\0170\0170-0002\Gen\Letters\Wayne County Hazard Mitigation Plan Response.docx

Outlook

RE: Draft 2025 Wayne County Hazard Mitigation Plan

From William Hayes <william.hayes@cantonmi.gov>
Date Tue 1/13/2026 12:32 PM
To Kera Sharpe <ksharpe@asti-env.com>

Good Afternoon Kera,

Overall, the report looks very good. As it specifically relates to Canton, I noted two minor items that require correction.

1st as it relates to the annual soccer tournament the event draws 40-45,000 for the entire weekend (pg. 119).

2nd in 2020 the entire region did not experience closures from H1N1 (Swine Flu) but rather SARS-CoV-2 (Covid-19)(pg. 120).

Respectfully,

William Hayes

Emergency Manager
Canton Public Safety Department
1150 S. Canton Center Road, Canton, MI 48188
734/394-5357 – Office
William.Hayes@cantonmi.gov
www.cantonmi.gov/1427/Emergency-Management

From: Kera Sharpe <ksharpe@asti-env.com>
Sent: Friday, January 9, 2026 2:56 PM
To: Kera Sharpe <ksharpe@asti-env.com>
Subject: Draft 2025 Wayne County Hazard Mitigation Plan

CAUTION: This email originated from outside of Canton Township. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon,

Thank you for your time, collaboration, and valuable contributions throughout the 2025 Wayne County Multi-Jurisdictional Hazard Mitigation Plan update process.

The draft Hazard Mitigation Plan is now available for public review on the project website: https://waynecountyhmp.com/

Please share this webpage through your municipality's communication channels—social media, newsletters, websites, or other outreach methods—to

raise public awareness and participation. We set a due date of next Friday (January 16th) for public feedback. We won't submit the final plan to FEMA until later this month, so feel free to take the time to review the draft plan yourself and let us know any final feedback, comments, or suggested revisions. Your continued input is greatly appreciated and helps ensure the final plan is both accurate and effective.

Thank you again!

Kera Sharpe
Environmental Scientist

Cell: 616.250.5471 | **Office:** 616.957.5601
ksharpe@asti-env.com

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To change for Livonia Hazardous Mitigation plan:

Change the highlighted yellow area to the green highlighted area.

Page 137-139 5.2.23 City of Livonia

Livonia

Hazard Priorities

First paragraph

Change:

Livonia has two major freeway systems that connect southeast Michigan to the rest of the state that traverses through its jurisdiction, I-275 (running north and south) and I-96 (running east and west). The potential for a hazardous material emergency exists in relation to transport along I-275, I-96 as well as CSX railroad lines located south of I-96 (running east and west). *There are 3 grade separation for the railroad located at Farmington, Merriman and Middlebelt Road and Stark Road has an at-grade crossing. The City of Livonia has a very extensive hazardous material and industrial foot print that extends the entire length of the city from Schoolcraft to Plymouth Roads located in Sections 25 thru 30 (each section is one square mile) …….*

To:

There are four grade-separated railroad crossings located at Middlebelt, Farmington, Merriman, and Newburgh roads, while Inkster, Levan, Stark, and Eckles roads have at-grade crossings.

Second paragraph

Change:

As with any large suburban municipality Livonia is host to many high-profile businesses, two (2) school districts, one (1) University and one (1) large Community College that provides for the regional Southeast Michigan police and fire training academies. The City of Livonia holds several events including an annual large carnival near the end of June which are of concern and have the potential to attract criminal assaults/attacks and involves 20-minute fireworks display at the end of the event scheduled on Sunday closing down Farmington Road from 5 Mile Road to Lyndon for pedestrians.

To:

The City of Livonia hosts several large public events each year, including a major carnival held near the end of June. Due to the size, duration, and operational complexity of these events, they present

identifiable public safety risks, including the potential for criminal activity, which must be considered in hazard identification, risk assessment, and mitigation planning.

Page 192-194

Livonia

Mitigation Strategies

Change:

8. *Develop, research and establish a new City Center Area under Livonia Vision 21. This project will revitalize and improve city buildings to become more efficient and reliable updated and strengthening critical infrastructure. Deconstruct and construct new governmental buildings in and about the Five mile and Farmington area on 27-acre city owned site. (Hazards Addressed: Increase reliability, efficiency and public service to critical infrastructure) Progress: Beginning phases and research.*

To:

8. *Develop, research, and establish new City municipal buildings. This project will revitalize and improve City-owned facilities to enhance efficiency, reliability, and resilience while strengthening critical infrastructure. Where appropriate, existing governmental buildings will be renovated, deconstructed, or replaced with newly constructed facilities to improve operational efficiency and ensure continuity of government operations during and after emergency events. (Hazards Addressed: Increase reliability, efficiency and public service to critical infrastructure) Progress: Beginning research.*

Outlook

RE: Draft 2025 Wayne County Hazard Mitigation Plan

From Brian Kahn <brian.kahn@LivoniaPD.Com>
Date Mon 1/12/2026 11:12 AM
To Kera Sharpe <ksharpe@asti-env.com>

1 attachment (16 KB)
Changes to livonia 2026.docx;

Kera,

Attached are the edits if you could make. Please let me know if you have any questions.

Brian C. Kahn, P.E.M.
Director,
City of Livonia
Homeland Security &
Emergency Preparedness
brian.kahn@livoniapd.com
W:734-466-2368

From: Kera Sharpe <ksharpe@asti-env.com>
Sent: Monday, January 12, 2026 9:15 AM
To: Brian Kahn <brian.kahn@LivoniaPD.Com>
Subject: Re: Draft 2025 Wayne County Hazard Mitigation Plan

Yes, no problem. I can still make edits at this point.

Kera Sharpe
Environmental Scientist

Cell: 616.250.5471 | **Office:** 616.957.5601
ksharpe@asti-env.com

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From: Brian Kahn <brian.kahn@LivoniaPD.Com>
Sent: Friday, January 9, 2026 3:26 PM
To: Kera Sharpe <ksharpe@asti-env.com>
Subject: RE: Draft 2025 Wayne County Hazard Mitigation Plan

Hi Kera,

If we have a revision, or more of correction. Some of the wording could be changed for Livonia strategies due to a change in circumstances. It would change any substance but we should change the wording. If I edit it a bit can it still be included?

Brian C. Kahn, P.E.M.
Director,
City of Livonia
Homeland Security &
Emergency Preparedness
brian.kahn@livoniapd.com
W:734-466-2368

From: Kera Sharpe <ksharpe@asti-env.com>
Sent: Friday, January 09, 2026 2:56 PM
To: Kera Sharpe <ksharpe@asti-env.com>
Subject: Draft 2025 Wayne County Hazard Mitigation Plan

Good afternoon,

Thank you for your time, collaboration, and valuable contributions throughout the 2025 Wayne County Multi-Jurisdictional Hazard Mitigation Plan update process.

The draft Hazard Mitigation Plan is now available for public review on the project website: https://ddec1-0-en-ctp.trendmicro.com:443/wis/clicktime/v1/query?url=https%3a%2f%2fwaynecountyhmp.com&umid=05b1cbbc-778d-481a-ab9d-91c9c7fa476a&rct=1767988575&auth=f9543d7d33bcfbea0d037f7e4aa5131aa2d3f922-1f5e8c64ae234b4c0373973bda6e37d8e738e72e

Please share this webpage through your municipality's communication channels—social media, newsletters, websites, or other outreach methods—to raise public awareness and participation. We set a due date of next Friday (January 16th) for public feedback. We won't submit the final plan to FEMA until later this month, so feel free to take the time to review the draft plan yourself and let us know any final feedback, comments, or suggested revisions. Your continued input is greatly appreciated and helps ensure the final plan is both accurate and effective.

Thank you again!

Kera Sharpe
Environmental Scientist

Outlook

RE: Final Opportunity for Participation – Wayne County Hazard Mitigation Plan (FEMA Funding Eligibility)

From Jenee Hill <jhill@cityofriverrouge.org>
Date Wed 1/14/2026 3:48 PM
To Kera Sharpe <ksharpe@asti-env.com>; Mayor William Campbell <wcampbell@cityofriverrouge.org>

Hi Kera,

Mayor noticed that he and Public Safety Director isn't listed for River Rouge.

Mayor – William L. Campbell
Public Safety Director – Sotirios Arapakis

Other than that, everything else looks good.

Let me know if you have any questions.

Thank you!

Jenee Hill
Executive Assistant to the Mayor
10600 W. Jefferson Ave.
River Rouge, MI 48218
Ph:313-842-4200 X2
Email: jhill@cityofriverrouge.org

From: Kera Sharpe <ksharpe@asti-env.com>
Sent: Wednesday, January 14, 2026 11:44 AM
To: Jenee Hill <jhill@cityofriverrouge.org>; Mayor William Campbell <wcampbell@cityofriverrouge.org>
Subject: Re: Final Opportunity for Participation – Wayne County Hazard Mitigation Plan (FEMA Funding Eligibility)

EXTERNAL EMAIL - This email was sent by a person from outside your organization. Exercise caution when clicking links, opening attachments or taking further action, before validating its authenticity.

Jenee,

Wayne County Hazard Mitigation Plan Review

Section 5.2.42 Page 153

- The basement flooding that occurred in August of 2014 was partly due to a power outage and delay in restarting pumps, rather than exceeding the capacity of the wastewater treatment plant, as the plant can shift to bypass mode during storm events if the pumps are working. Redundant power feeds were installed after this storm.

Section 5.4 Page 160

- Electrical service to Wyandotte is supplied by Wyandotte Municipal Services.

Section 5.4.3 Page 166

- Unreasonable mandates from EGLE further exacerbate the lack of funding for sewer improvements.

Section 6.3.42 Page 209

- Add subsection 4) provide significant funding in excess of the state's revolving fund for elimination of CSOs.

Figure 12 PDF page 242

- Depict Wyandotte City Hall at 3200 Biddle Avenue

Figure 15 PDF page 245

- Depict Wyandotte Fire Station #2 at 1093 Ford Avenue

Figure 16 PDF page 246

- Depict Wyandotte Fire Station #2 at 1093 Ford Avenue

Figure 17 PDF page 247

- Depict Wyandotte Fire Station #2 at 1093 Ford Avenue

Figure 19 PDF page 249

- Depict Wyandotte Fire Station #2 at 1093 Ford Avenue

Figure 20 PDF page 250

- Depict Wyandotte Fire Station #2 at 1093 Ford Avenue

Figure 21 PDF page 251

- Depict Wyandotte Fire Station #2 at 1093 Ford Avenue

Figure 22 PDF page 252

- Depict Wyandotte Fire Station #2 at 1093 Ford Avenue

Outlook

Re: Final Opportunity for Participation – Wayne County Hazard Mitigation Plan (FEMA Funding Eligibility)

From Joseph Gruber <jgruber@wyandottemi.gov>
Date Fri 1/23/2026 3:41 PM
To Kera Sharpe <ksharpe@asti-env.com>

1 attachment (16 KB)
Wayne County Hazard Mitigation Plan Review.docx;

Thank you for the opportunity to contribute. We are interested in funding opportunities to enhance resilience and protect our families, residences, and property owners.

Joe Gruber, MCD, MiPDM
Community and Economic Development Director
Downtown Development Authority Director
City of Wyandotte
3200 Biddle Avenue
Wyandotte, Michigan 48192
Office: 734-324-7298
Cell: 734-818-9438
jgruber@wyandottemi.gov
http://wyandotte.net/

From: Kera Sharpe <ksharpe@asti-env.com>
Sent: Tuesday, January 13, 2026 4:48 PM
To: Wyandotte Mayor's Office <mayor@wyandottemi.gov>; wfdchief@wyan.org <wfdchief@wyan.org>
Subject: Final Opportunity for Participation – Wayne County Hazard Mitigation Plan (FEMA Funding Eligibility)

Some people who received this message don't often get email from ksharpe@asti-env.com. Learn why this is important

Dear Wyandotte Representative,

Wayne County is in the final stages of completing the 2025 Update to the Wayne County Multi-Jurisdictional Hazard Mitigation Plan (HMP). This email serves as a **final outreach notice** to municipalities and communities that have not yet responded to prior requests for participation, feedback, or meeting attendance during the planning process.

As a reminder, participation in and adoption of the FEMA-approved Hazard Mitigation Plan is **required** for communities to remain eligible for certain FEMA hazard mitigation grant funding, including

but not limited to programs such as the Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC), and Flood Mitigation Assistance (FMA).

To date, we have not received confirmation of your community's participation in the planning process or review comments on draft materials. If this is a mistake and you have participated in some way, please confirm with a response to this email with a confirmation of your participation. At this stage, communities that do not provide input or participate may not be fully represented in the final plan, which could impact FEMA's determination of eligibility for mitigation funding purposes.

The final draft Hazard Mitigation Plan is available for review at:

www.waynecountyhmp.com

This is the last opportunity to review the draft plan, submit comments, and confirm coordination with Wayne County prior to finalization and submission to FEMA for approval.

Please provide any comments, questions, or confirmation of your participation by January 23, 2026. If no response is received by that date, the plan will move forward as finalized.

If you have any questions or need assistance reviewing the plan materials, please do not hesitate to contact us.

Thank you for your time and consideration.

Kera Sharpe
Environmental Scientist

Cell: 616.250.5471 | **Office:** 616.957.5601
ksharpe@asti-env.com

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Wayne County HMP Feedback Form

Wayne County HMP Feedback Form

HMP Feedback Request

We invite residents, businesses, partner agencies, and other stakeholders to review the draft plan and share comments or suggestions below. Community input helps ensure the plan accurately reflects local conditions, priorities, and concerns, and strengthens the County's ability to protect lives, property, and infrastructure. Thank you for taking the time to participate.

Name

First

Last

Email

Enter Email

Confirm Email

Feedback *(Required)*

Please let us know what's on your mind. Have a question for us? Ask away.

0 of 600 max characters

Submit

Careers Contact 844.813.2949

Auburn Hills, Michigan

1849 Pond Run
Auburn Hills, MI 48326

248.689.9090

Brighton, Michigan

7927 Nemco Way, Suite 115
Brighton, MI 48116

517.546.8583

Detroit, Michigan

45 W Grand River Avenue, Suite 501
Detroit, MI 48226

313.769.5770

Lansing, Michigan

2379 Woodlake Drive, Suite 480
Okemos, MI 48864

517.393.2902

Washington, Michigan

58105 Van Dyke Avenue
Washington, MI 48094

586.272.2276

Houston, Texas

16060 Dillard Drive, Suite 250
Houston, TX 77040

713.688.3530

Brighton, Michigan (ASTI Division)

10448 Citation Dr., Suite 100
Brighton, Michigan 48116

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Charter Township of Brownstown Government's Post

Charter Township of Brownstown Government
1d ·

Wayne County Local Hazard Mitigation Plan – Draft Available

Wayne County has released the Draft 2025 Hazard Mitigation Plan for public review. This plan helps identify risks and guide strategies to protect people, property, and infrastructure.

🗓️ Public comments accepted through January 16, 2026

👉 Click below to review the draft and share your feedback.

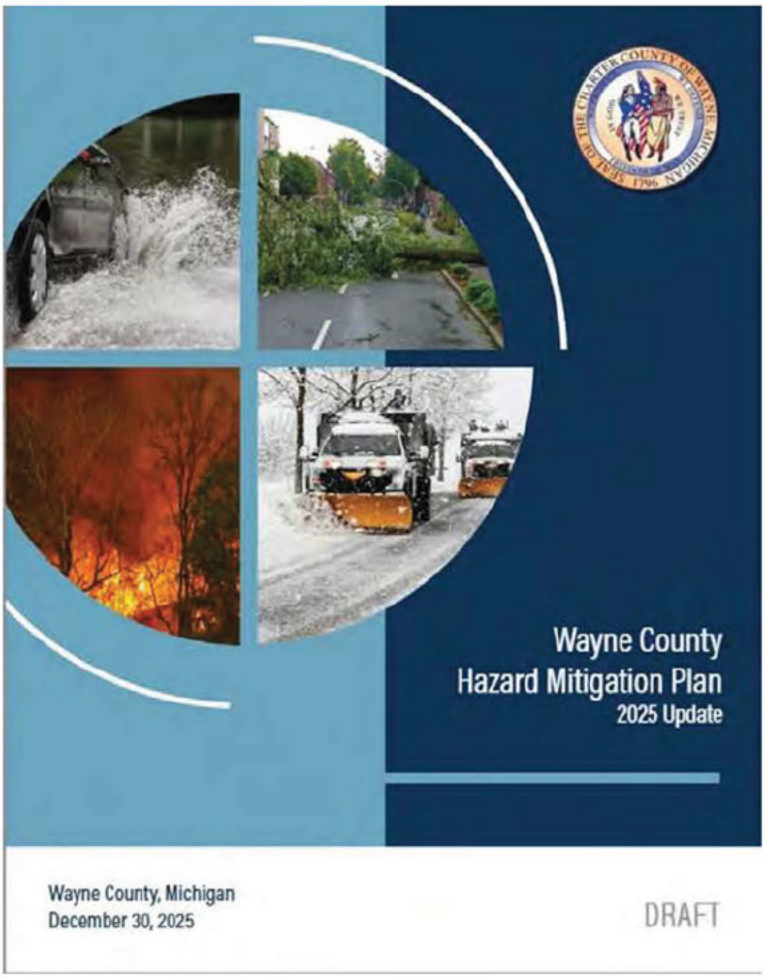
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Wayne County HMP

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Wayne County is in the process of updating its Hazard Mitigation Plan (HMP) to better understand and reduce risks from natural, technological, and human-caused hazards. The plan helps guide long-term strategies to protect people, property, infrastructure, and the environment, while maintaining eligibility for federal disaster mitigation funding. The plan has been updated over the last few months, and a draft of the 2025 plan is now available for public review and comment.

Vi... **See more**

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Huron Township Department of Public Safety
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Wayne County is in the process of updating its Hazard Mitigation Plan (HMP) to better understand and reduce risks from natural, technological, and human-caused hazards. The plan helps guide long-term strategies to protect people, property, infrastructure, and the environment, while maintaining eligibility for federal disaster mitigation funding. The plan has been updated over the last few months, and a draft of the 2025 plan is now available for public review and comment. Click below to view the 2025 draft plan and to learn more about the hazard mitigation planning process.

Wayne County invites residents, businesses, and stakeholders to review the Draft 2025 Hazard Mitigation Plan and provide comments.

Public comments will be accepted through January 16, 2026.

Public feedback is an important part of the planning process and helps ensure the plan reflects community priorities and local knowledge. Please use the QR code or click on the link to participate in the survey

The Wayne County Multi-Jurisdictional Hazard Mitigation Plan is now available for public review on the project website.

WAYNECOUNTYHMP.COM
Wayne County HMP

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Livonia Community's Post

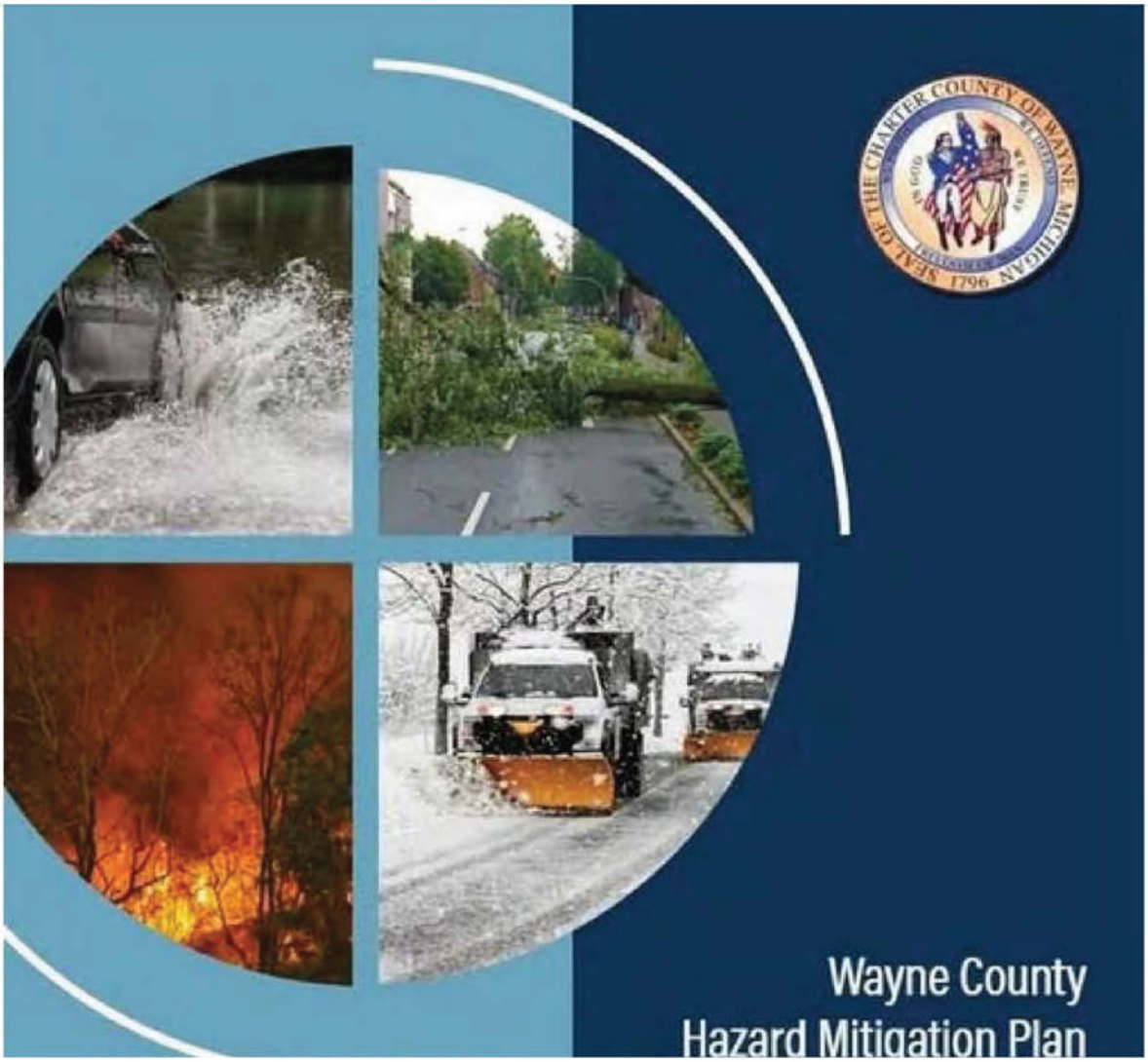
Livonia Community
6d ·

Wayne County is in the process of updating its Hazard Mitigation Plan (HMP) to better understand and reduce risks from natural, technological, and human-caused hazards. The plan helps guide long-term strategies to protect people, property, infrastructure, and the environment, while maintaining eligibility for federal disaster mitigation funding. The plan has been updated over the last few months, and a draft of the 2025 plan is now available for public review and comment.

Visit waynecountyhmp.com to view the 2025 draft plan, learn more about the hazard mitigation planning process, and provide feedback.

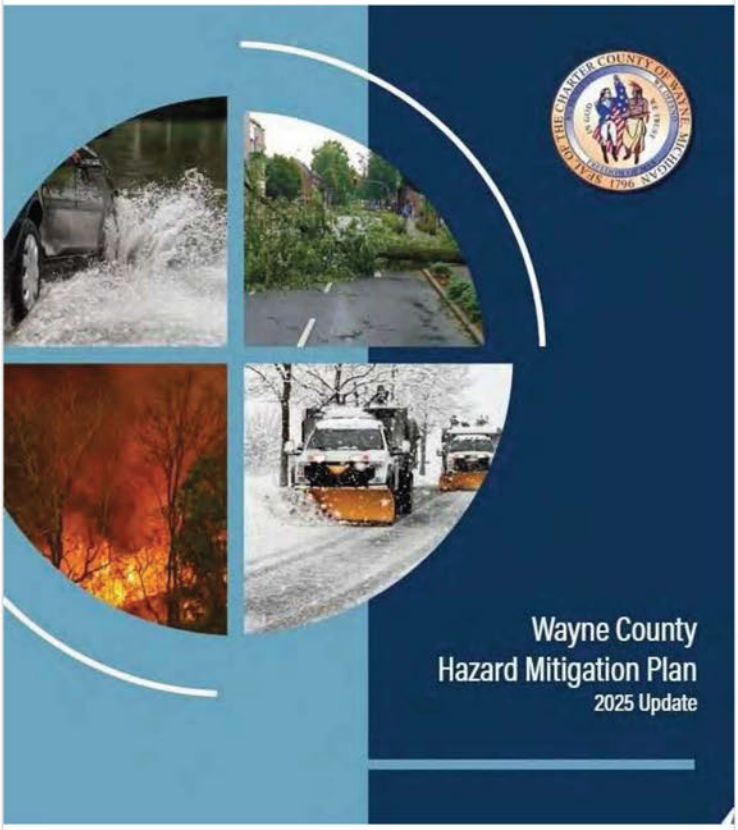
Public comments will be accepted through Jan. 16.

Public feedback is an important part of the planning process and helps ensure the plan reflects community priorities and local knowledge.



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Wayne County is in the process of updating its Hazard Mitigation Plan (HMP) to better understand and reduce risks from natural, technological, and human-caused hazards. The plan helps guide long-term strategies to protect people, property, infrastructure, and the environment, while maintaining eligibility for federal disaster mitigation funding. The plan has been updated over the last few months, and a draft of the 2025 plan is now available for public review and comment.

4

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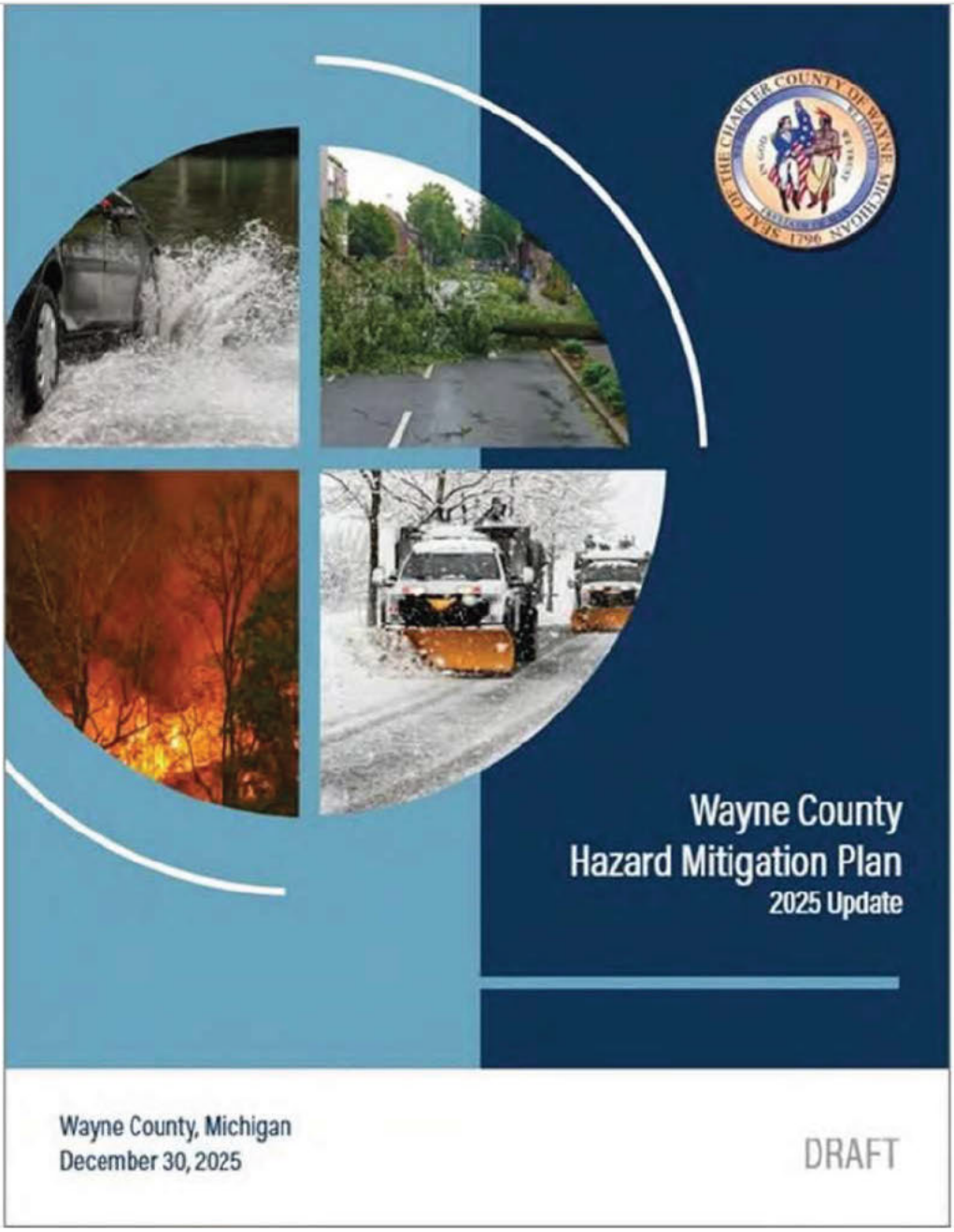
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Wayne County is in the process of updating its Hazard Mitigation Plan (HMP) to better understand and reduce risks from natural, technological, and human-caused hazards. The plan helps guide

First	Last	Enter Email	Feedback
nour	aljanabi	naljanabi@waynecountymi.gov	Please update Page 7 Finance Wayne County DHSEM to Ahmad Nasser
Brandy	Falkenberg	Brandyfalkenberg@gmail.com	I'm grateful our county has taken the time to review our plan and create new goals as needed, is staying compliant for future funding needs, and has a plan readied for a variety of unexpected disasters that could occur within our community. Your time and effort is important, and appreciated!
Jennifer	Bowler	jenmi73@gmail.com	Thank you for the updates on the HMGP. I am a resident of Huron Township. My concerns are well noted.

Appendix F. List of Federal Emergency Disaster Declarations for the State of Michigan

An official website of the United States government Here's how you know

Disasters and Other Declarations

Declaration Date

Year (Start)

1970

Year (End)

2026

TIP: Modify the start and end year(s) to broaden search.

Declaration Type

- Any -

Incident Type

Any

State/Tribe

Michigan

Search and Filter Disasters

Michigan Severe Winter Storm (DR-4880-MI)

Incident Period: March 28, 2025 - March 30, 2025

Major Disaster Declaration declared on July 22, 2025

Michigan Severe Storms, Tornadoes, and Flooding (DR-4757-MI)

Incident Period: August 24, 2023 August 26, 2023
Major Disaster Declaration declared on February 8, 2024

Michigan Severe Storms, Flooding, and Tornadoes (DR-4607-MI)

Incident Period: June 25, 2021 - June 26, 2021
Major Disaster Declaration declared on July 15, 2021

Michigan Severe Storms and Flooding (DR-4547-MI)

Incident Period: May 16, 2020 - May 22, 2020
Major Disaster Declaration declared on July 9, 2020

Michigan Severe Storms and Flooding (EM-3525-MI)

Incident Period: May 16, 2020 May 22, 2020
Emergency Declaration declared on May 21, 2020

Michigan Covid-19 Pandemic (DR-4494-MI)

Incident Period: January 20, 2020 - May 11, 2023
Major Disaster Declaration declared on March 27, 2020

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Major Disaster Declaration declared on August 2, 2018

Michigan Severe Storms and Flooding (DR-4326-MI)

Incident Period: June 22, 2017 June 27, 2017
Major Disaster Declaration declared on August 2, 2017

Michigan Contaminated Water (EM-3375-MI)

Incident Period: April 25, 2014 August 14, 2016
Emergency Declaration declared on January 16, 2016

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Apply for Assistance

Current Disasters

Disasters and Other Declarations

Declaration Date

Year (Start)

1970

Year (End)

2026

TIP: Modify the start and end year(s) to broaden search.

Declaration Type

- Any -

Incident Type

Any

State/Tribe

Michigan

Search and Filter Disasters

Michigan Severe Storms and Flooding (DR-4195-MI)

Incident Period: August 11, 2014 - August 13, 2014

Major Disaster Declaration declared on September 25, 2014

Michigan Flooding (DR-4121-MI)

Incident Period: April 16, 2013 May 14, 2013
Major Disaster Declaration declared on June 18, 2013

Michigan Severe Storms, Tornadoes, and Flooding (DR-1777-MI)

Incident Period: June 6, 2008 - July 13, 2008
Major Disaster Declaration declared on July 14, 2008

Michigan Hurricane Katrina Evacuation (EM-3225-MI)

Incident Period: August 29, 2005 - October 1, 2005
Emergency Declaration declared on September 7, 2005

Michigan Severe Storms, Tornadoes and Flooding (DR-1527-MI)

Incident Period: May 20, 2004 June 8, 2004
Major Disaster Declaration declared on June 30, 2004

Michigan Power Outage (EM-3189-MI)

Incident Period: August 14, 2003 - August 17, 2003
Emergency Declaration declared on September 23, 2003

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Emergency Declaration declared on January 10, 2001

Michigan Severe Storms And Flooding (DR-1346-MI)

Incident Period: September 10, 2000 September 11, 2000
Major Disaster Declaration declared on October 17, 2000

Michigan Tower Lake Complex Fire (FSA-2261-MI)

Incident Period: May 5, 1999 May 9, 1999
Fire Suppression Authorization declared on May 6, 1999

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Disasters and Other Declarations

Declaration Date

Year (Start)

1970

Year (End)

2026

TIP: Modify the start and end year(s) to broaden search.

Declaration Type

- Any -

Incident Type

Any

State/Tribe

Michigan

Search and Filter Disasters

Michigan Winter Storm (EM-3137-MI)

Incident Period: January 2, 1999 - January 15, 1999

Emergency Declaration declared on January 27, 1999

Michigan Severe Storm (DR-1237-MI)

Incident Period: July 21, 1998 July 22, 1998
Major Disaster Declaration declared on August 5, 1998

Michigan Severe Storms And Straight-Line Winds (DR-1226-MI)

Incident Period: May 29, 1998 - May 31, 1998
Major Disaster Declaration declared on June 24, 1998

Michigan Severe Storms/Tornadoes (DR-1181-MI)

Incident Period: Jul 2, 1997
Major Disaster Declaration declared on July 11, 1997

Michigan Flooding (DR-1128-MI)

Incident Period: June 21, 1996 July 1, 1996
Major Disaster Declaration declared on July 23, 1996

Michigan Severe Freeze (DR-1028-MI)

Incident Period: January 10, 1994 - June 10, 1994
Major Disaster Declaration declared on May 10, 1994

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Major Disaster Declaration declared on September 18, 1985

Michigan FLOODING (DR-654-MI)

Incident Period: Mar 29, 1982
Major Disaster Declaration declared on March 29, 1982

Michigan SEVERE STORMS, FLOODING (DR-631-MI)

Incident Period: Sep 8, 1980
Major Disaster Declaration declared on September 8, 1980

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Disasters and Other Declarations

Declaration Date

Year (Start)

1970

Year (End)

2026

TIP: Modify the start and end year(s) to broaden search.

Declaration Type

- Any -

Incident Type

Any

State/Tribe

Michigan

Search and Filter Disasters

Michigan SEVERE STORMS, TORNADOES (DR-621-MI)

Incident Period: May 16, 1980

Major Disaster Declaration declared on May 16, 1980

Michigan Blizzards and Snowstorms (EM-3057-MI)

Incident Period: Jan 27, 1978
Emergency Declaration declared on January 27, 1978

Michigan Drought (EM-3035-MI)

Incident Period: Mar 2, 1977
Emergency Declaration declared on March 2, 1977

Michigan Snowstorms (EM-3030-MI)

Incident Period: Feb 5, 1977
Emergency Declaration declared on February 5, 1977

Michigan Severe Storms, Tornadoes, Icing, Flooding (DR-495-MI)

Incident Period: Mar 19, 1976
Major Disaster Declaration declared on March 19, 1976

Michigan Severe Storms, High Winds, Flooding (DR-486-MI)

Incident Period: Sep 30, 1975
Major Disaster Declaration declared on September 30, 1975

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Major Disaster Declaration declared on April 12, 1974

Michigan SEVERE STORMS, FLOODING (DR-371-MI)

Incident Period: Apr 12, 1973
Major Disaster Declaration declared on April 12, 1973

Michigan SEVERE STORMS, FLOODING (DR-363-MI)

Incident Period: Dec 1, 1972
Major Disaster Declaration declared on December 1, 1972

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Disasters and Other Declarations

Declaration Date

Year (Start)

1970

Year (End)

2026

TIP: Modify the start and end year(s) to broaden search.

Declaration Type

- Any -

Incident Type

Any

State/Tribe

Michigan

Search and Filter Disasters

Michigan Severe Storm, Freezing (DR-330-MI)

Incident Period: Apr 5, 1972

Major Disaster Declaration declared on April 5, 1972

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City of Livonia 2025
Hazard Analysis and Mitigation Plan





Developed in Cooperation with the County of Wayne

Federal Emergency Management Administration Approved

Adopted by the City of Livonia on

By Livonia Council Resolution

LETTER TO THE LIVONIA CITY COUNCIL

10.

Parks and Recreation
March 26, 2026

MEETING DATE	PRESENTED BY
S040826/R042026	Ted Davis, CPRP, Superintendent of Parks and Recreation

AGENDA ITEM

AWARD OF BID AND REQUEST FOR BUDGET AMENDMENT: for bridge repairs at Idyl Wyld Golf Course, from the Unexpended 409 Golf Course Capital Account.

BACKGROUND DETAILS

The Department of Parks and Recreation requests your approval for bridge repairs at Idyl Wyld Golf Course.

The Parks and Recreation and Purchasing staff prepared specifications, with input from bridge installation and maintenance experts, for the repair of the wood structures on three bridges at Idyl Wyld. These bridges were originally installed in the early 90's and have had several internal repairs. The specific bridges are on the back nine at Idyl Wyld, holes 11, 15, and 16. Bid advertisements were placed on the MITN website. Three companies submitted bids, which were opened in the presence of the Bid Committee at 2:00 p.m. on March 24, 2026.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

We request that the City Council authorize the Mayor and City Clerk to execute a contract for $40,900.00 with the low bidder, Custom Bridges and Boardwalks, 606 Delco Drive, PO Box 279, Clinton, WI 53525.

We further request that the City Council authorize a budget amendment from our unexpended 409 Golf Course Capital Account for $41,000 to cover expenditures to account 409-000-974-102.

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

N/A

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

$40,900

DETAILED WORK BEING PERFORMED

bridge repairs

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

We request that the City Council authorize a budget amendment from our unexpended 409 Golf Course Capital Account for $41,000 to cover expenditures to account 409-000-974-102.

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

This was the lowest bid received.

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): N/A

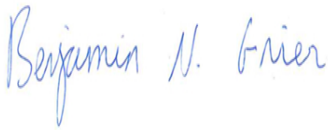
ATTACHMENTS

1. 2026 Custom BridgesLivonia Rehab Bid Details

APPROVED BY



Ted Davis, CPRP, Superintendent of Parks and Recreation — Date: March 26, 2026



Benjamin N. Grier, JD, CPA, Finance Director — Date: March 26, 2026



Carter Fisher, City Attorney — Date: March 26, 2026



Maureen Miller Brosnan, Mayor — Date: March 27, 2026

PLEASE SUBMIT IN TRIPLICATE

FORM OF PROPOSAL

Honorable Members of the City Council
33000 Civic Center Drive
Livonia, Michigan 48154

Council Members:

The undersigned, as bidder, declares that they have familiarized themselves with the type of project desired and have carefully examined the specifications and instructions to bidders, which they understand and accept as sufficient for the purpose and agrees they will furnish to the City of Livonia the specified items and will accept in full payment therefore the following amounts:

PER ATTACHED SPECIFICATIONS

Rebuild (3) Bridges Total 40,900

Price shall hold firm for at least 120 days.

State Warranty on equipment: 10 Year Limitedd Warranty - Example Attached

State maximum time required for delivery F.O.B. Livonia, unless otherwise stated, and/ or installation after order: 16 Weeks Maximum until Installation is Completed

State Terms: Installation schedule is baseddon overall bidder project volume when order is received . It could be as low as 8 weeks depending on crew availablity

In submitting this sealed bid, it is understood that the City of Livonia reserves the right to reject or accept any or all proposals in whole or in part and waive any irregularities and informalities therein. It is agreed that this bid may not be withdrawn for 120 days from the opening thereof.

COMPANY NAME: Custom Manufacturing

FORM OF PROPSAL – IDYL WYLD GOLF COURSE PROJECT
CITY of LIVONIA/DEPARTMENT OF PARKS & RECREATION

The contractor and their sub-contractors agree that they will not discriminate against any employee or applicant for employment, to be employed in the performance of this contact with respect to their hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of their sex or age, except when based on a bona fide occupational qualification, or because of their race, color, religion, national origin or ancestry. (Act 453 P.A. 1976 As Amended) The contractor further agrees that they will take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to age, sex, race, creed, color or national origin. Breach of this contract may be regarded as a material breach of contract.

Bidder will identify business entity as individual, or if doing business under assumed name, indicate assumed name, partnership, (naming partners), corporation, foreign or domestic (naming principal officers), and indicate official capacity of person executing proposal and bid.

Date 3/19/2026 Firm Name Custom Manufacturing, INC
(If corporation, partnership, or assumed name)

Address 606 Delco Drive Signature Tina Forrest
(Person executing bid and official capacity)

Print Name Tina Forrest

City Clinton State WI Zip Code 53525

Email tina@custommfginc.com

Phone 608-676-2282 FAX 608-676-2283

Tina Forrest - Vice President
(Names of Principal Officers and designate official capacity)

Lavonne Tiffany , President
(If partnership or assumed name, indicate names of owners)

Contact Person to whom questions regarding the proposal submitted should be directed:

Name: Connor Campbell Title: Project Manager

Phone No. 608-295-6033 Email: connor@custommfginc.com

606 DELCO DR
PO BOX 279
CLINTON, WI 53525-0279
(608) 676-2282

10 Year Limited Warranty

WARRANTY TERMS AND CONDITIONS

This Limited Warranty applies to the components of the bridge ("Bridge") manufactured, finished, and installed by Custom Manufacturing

This Limited Warranty covers any defects in material or workmanship of the bridge kit under normal use during the Warranty Period.

This includes and is limited to:

- Lumber
- Property Assembly and Finishing
- Hardware associated with items above.

During the Warranty Period, Custom Manufacturing will repair or replace, at no charge, products or parts of a product that proves defective because of improper material or workmanship, under normal use and maintenance.

Defects of materials or workmanship will be corrected by repair or replacement at the discretion of the manufacturer in a timely manner as appropriate for in-field conditions.

The Warranty Period for Physical Goods purchased from Custom Manufacturing is 10 years from the date of completed installation. Any replacement part assumes the remaining warranty of the bridge.

This Limited Warranty does not cover any problem that is caused by:

- Conditions, malfunctions, or damage not resulting from defects in material or workmanship.
- Natural twist and bend of treated lumber not resulting in failure/breakage.
- Damage caused by neglect or failure to perform regular maintenance.
- Damage to the finish caused by regular use.
- Damage caused by application of Salt or Brine to the bridge.
- Damaged caused by natural or man-made disasters.
- Unauthorized repairs, replacements, or modifications.
- Issues arising from degradation or change of the supporting soil
- Issues arising from failure to comply with inspection and maintenance plan

To obtain warranty service, you must first contact Custom Manufacturing to determine the nature/source of the problem and the most appropriate solution.

Except as specifically stated herein, all warranties (expressed or implied) are hereby excluded. This warranty excludes any liability other than expressly stated, including but not limited to any incidental or consequential damages.

SAMPLE - NOT VALID

_____ Date:

NOT VALID UNLESS SIGNED

606 DELCO DR
PO BOX 279
CLINTON, WI 53525-0279
(608) 676-2282

REGULAR MAINTENANCE PLAN

REGULAR MAINTENANCE PLAN

To keep the bridge in the best working order and to maintain coverage of the limited warranty (the "Warranty"), regular maintenance is required. This Regular Maintenance plan applies to the components of the Bridge (the "Bridge") manufactured, finished, and installed by Custom Manufacturing

ANNUAL INSPECTION

The Bridge should be inspected annually. The complete bridge should be inspected and any of the following issues noted and corrected.

- Damage to Paint/Finish – Clean and Apply Touch Up Paint
- Hardware security – Confirm hardware is secured and has not come loose.
- Pant Abutments – Review for movement or erosion around the pan footings
- Railing Lumber & Hardware – Secure Loose Hardware, Replace Broken or damaged lumber.

Photos of the inspection and the completed report should be kept on file and provided for any warranty claims. Without a documented annual inspection, the Limited Warranty is void

LUMBER SEALING

To ensure the maximum life of the railing lumber, it should be resealed/retreated every 5 years typically. Failure to seal the lumber will void the warranty for those components. Our recommended sealer is Woodscapes Exterior House Stain - Riverwood - A15T5 SW3507

DO NOT SALT

The bridge materials are not compatible with salt or brine used to melt snow as they cause accelerated degradation of the materials. Neither should be used on the bridge surface or the concrete abutments at the ends of the bridge. Use of these materials voids the warranty.

SAMPLE - NOT VALID

REFERENCES

Dane County Parks
5201 Fen Oak Drive Room 208
Madison, WI 53718
608-445-0109 cell Ryan Shore (Public Works) shore@countyofdane.com
Projects – Dane County has purchased 26 Bridges since 2007.

Wright County Parks Department
1901 Highway 25 North
Buffalo, MN 55313
(763)682-7693 Marc Mattice Marc.Mattice@co.wright.mn.us
Projects – Wright County has purchased 4 Bridges since 2001.

Kenosha Country Club
500 13th Avenue
Kenosha, WI 53141
(262-914-3828) Harrison Beal – hbeal@kenoshacountryclub.com
Projects – Kenosha Country Club has purchased 8 Bridges since 2005

Village of Windsor
4084 Mueller Rd
DeForest, WI 53532
(608) 888-0066 Tina Butteris tina@windsorwi.gov
Projects – the Village of Windsor has purchased 5 Bridges since 2014

Webster County Conservation Board
1415 Nelson Ave
Fort Dodge, IA 50501
(515) 576-4258 Matt Cosgrove mcosgrove@webstercountyia.org
Projects – Webster County has purchased 3 bridges since 2019

City of Hartford
109 N. Main St.
Hartford, WI 53027
(262) 670-8303 Michael Hermann mikeh@ci.hartford.wi.us
Projects – Hartford has purchased 4 bridges since 2012

COMPANY NAME: Custom Manufacturing, Inc

(608) 676-2282
contact@custommfginc.com
www.custombridgesandboardwalks.com

To: Gus Kandah, City of Livonia
From: connor@custommfginc.com
Date: March 19, 2026
Subject: MI, Livonia – Golf Course Bridge Repair Bid Details

Thank you for the opportunity to bid on rehabilitating these bridges that we had originally installed. As part of the bidding on this project, we reviewed the original design and from that there are a few items that impacted our quote but are required for a complete and proper rehabilitation of these bridges.

- Bridge Width – These bridges had an 8' Clear Deck span, but with the way the railing is constructed, the deck boards are 99" rather than 96". This means they need to be cut out of a 10' board as an 8' board would result in the deck lumber being 3" too narrow for the bridge as designed. Our bid is based on the longer deck boards required to replace in-kind

- Bridge Length – The RFP states that the bridges are 40' Long. Per our records this is the clear span of the bridge between the footings which is how these were measured at the time of this project (1998). The total bridge span for each of these bridges is 45'. Bids based on a 40' overall bridge length would not include enough deck boards or hardware to rehabilitate the entire bridge.

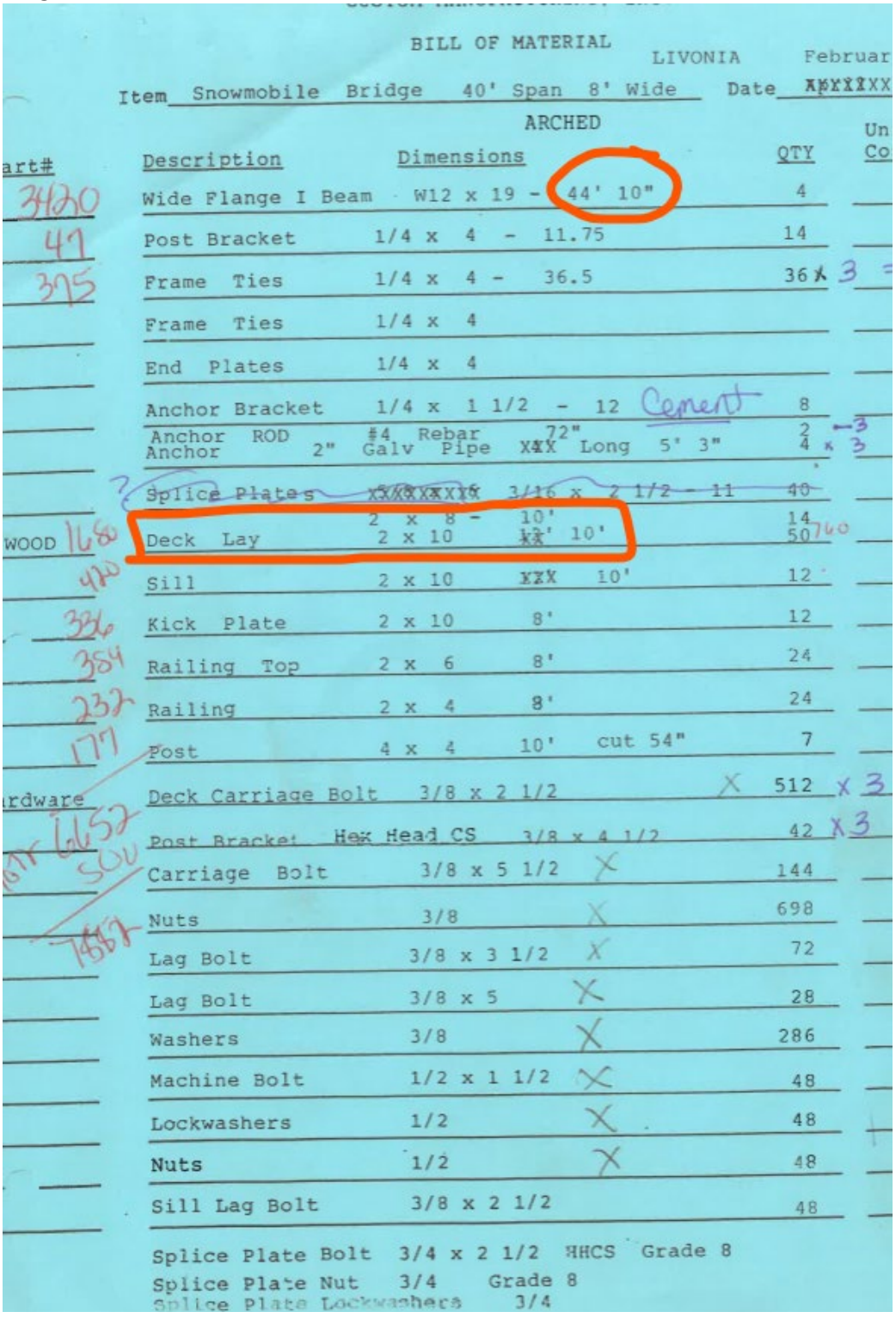
- Railing Design – The existing railing features 6" gaps between the boards. We talked with your local permitting office, and they stated that the local requirement for rail openings is 4" to comply with International Building Codes and Local Requirements. Our bid includes the additional boards to comply with these local permitting requirements.

We are bringing these points to light as any bidder who did not physically measure the bridges would not have this information based on the bid documents.

I have attached documents to the following pages as evidence that these lengths and widths discrepancies are backed up by our paperwork from the original project.

(608) 676-2282
contact@custommfginc.com
www.custombridgesandboardwalks.com

Original BOM



BILL OF MATERIAL LIVONIA Februar

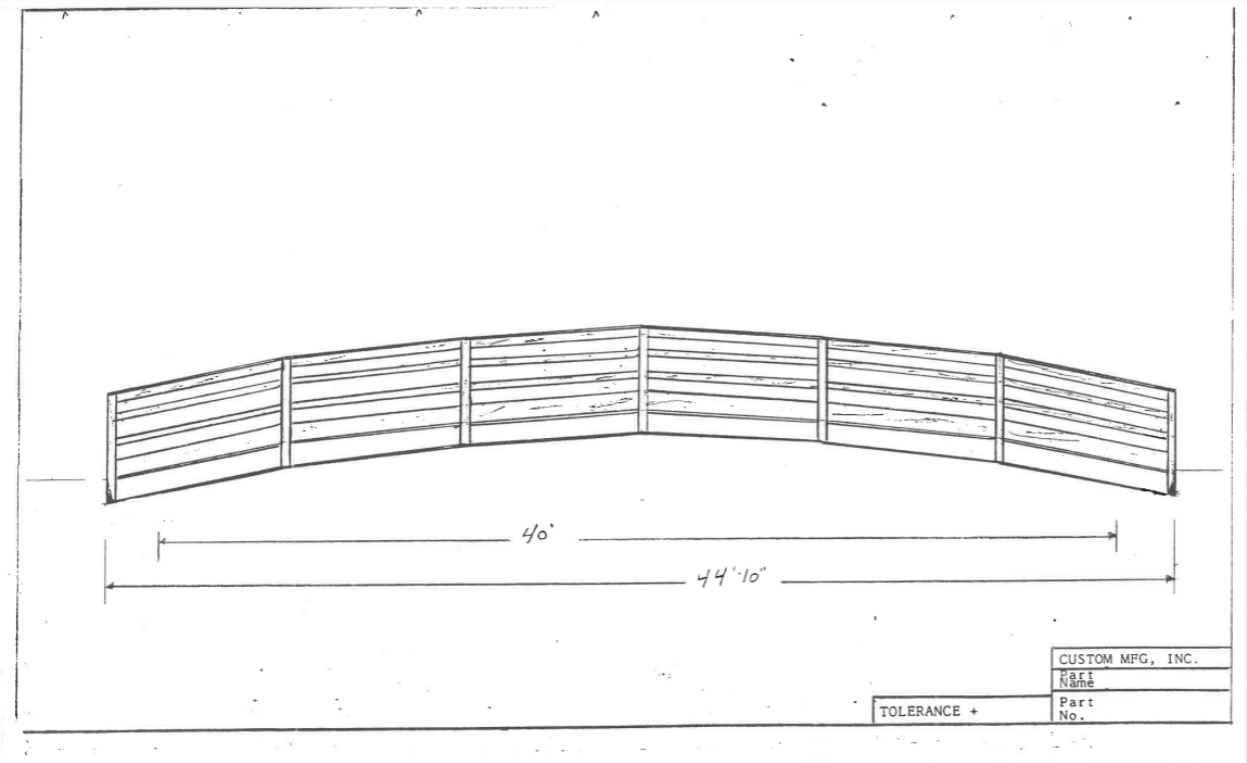
Item Snowmobile Bridge 40' Span 8' Wide Date XXXXXXX

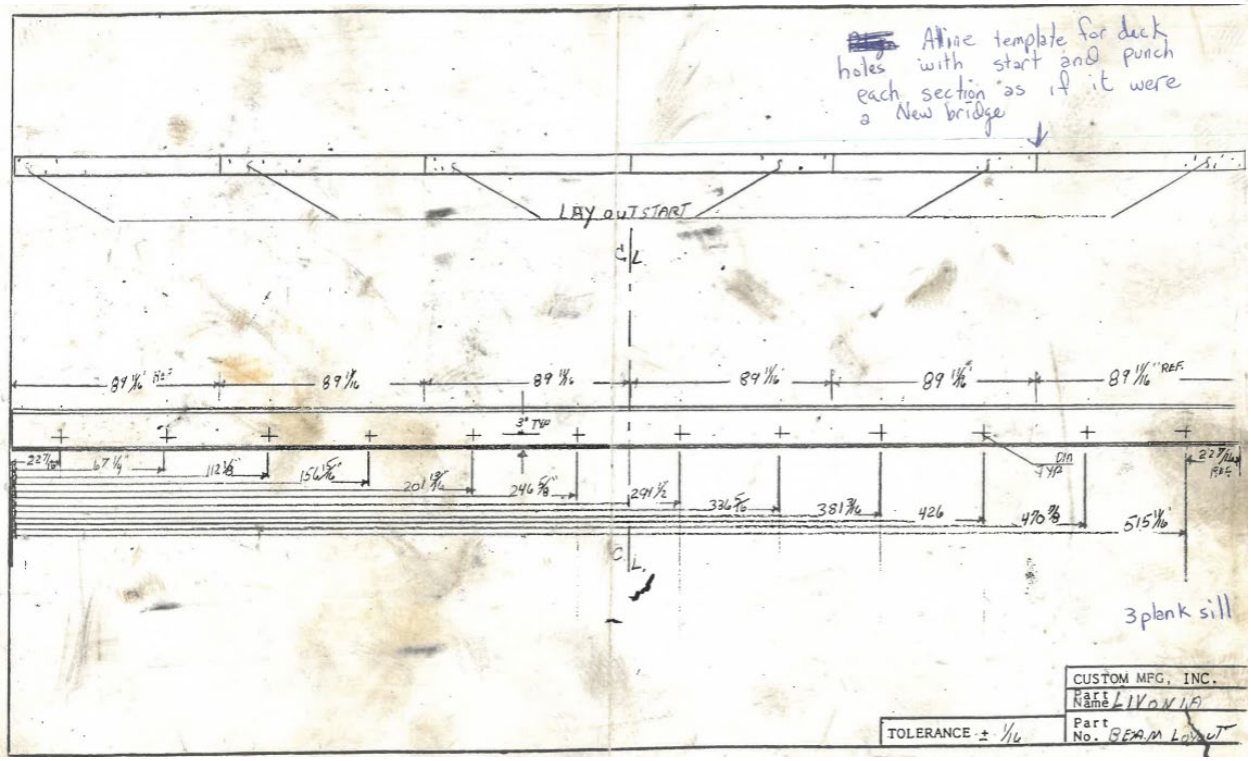
ARCHED

art#	Description	Dimensions		QTY	Un Co
3420	Wide Flange I Beam	W12 x 19 -	44' 10"	4	
47	Post Bracket	1/4 x 4 -	11.75	14	
375	Frame Ties	1/4 x 4 -	36.5	36 x 3	
	Frame Ties	1/4 x 4			
	End Plates	1/4 x 4			
	Anchor Bracket	1/4 x 1 1/2 -	12 Cement	8	
	Anchor ROD Anchor	#4 Rebar 2" Galv Pipe	72" XXX Long 5' 3"	2 4 x 3	-3
?	Splice Plates	XXXXXXXX	3/16 x 2 1/2 - 11	40	
WOOD 168	Deck Lay	2 x 8 - 2 x 10	10' XX' 10'	14 50 760	
420	Sill	2 x 10	XXX 10'	12	
336	Kick Plate	2 x 10	8'	12	
384	Railing Top	2 x 6	8'	24	
232	Railing	2 x 4	8'	24	
177	Post	4 x 4	10' cut 54"	7	
rdware	Deck Carriage Bolt	3/8 x 2 1/2	X	512 x 3	
6652	Post Bracket	Hex Head CS	3/8 x 4 1/2	42 x 3	
SOU	Carriage Bolt	3/8 x 5 1/2	X	144	
1667	Nuts	3/8	X	698	
	Lag Bolt	3/8 x 3 1/2	X	72	
	Lag Bolt	3/8 x 5	X	28	
	Washers	3/8	X	286	
	Machine Bolt	1/2 x 1 1/2	X	48	
	Lockwashers	1/2	X	48	
	Nuts	1/2	X	48	
	Sill Lag Bolt	3/8 x 2 1/2		48	
	Splice Plate Bolt	3/4 x 2 1/2	HHCS Grade 8		
	Splice Plate Nut	3/4	Grade 8		
	Splice Plate Lockwashers	3/4			

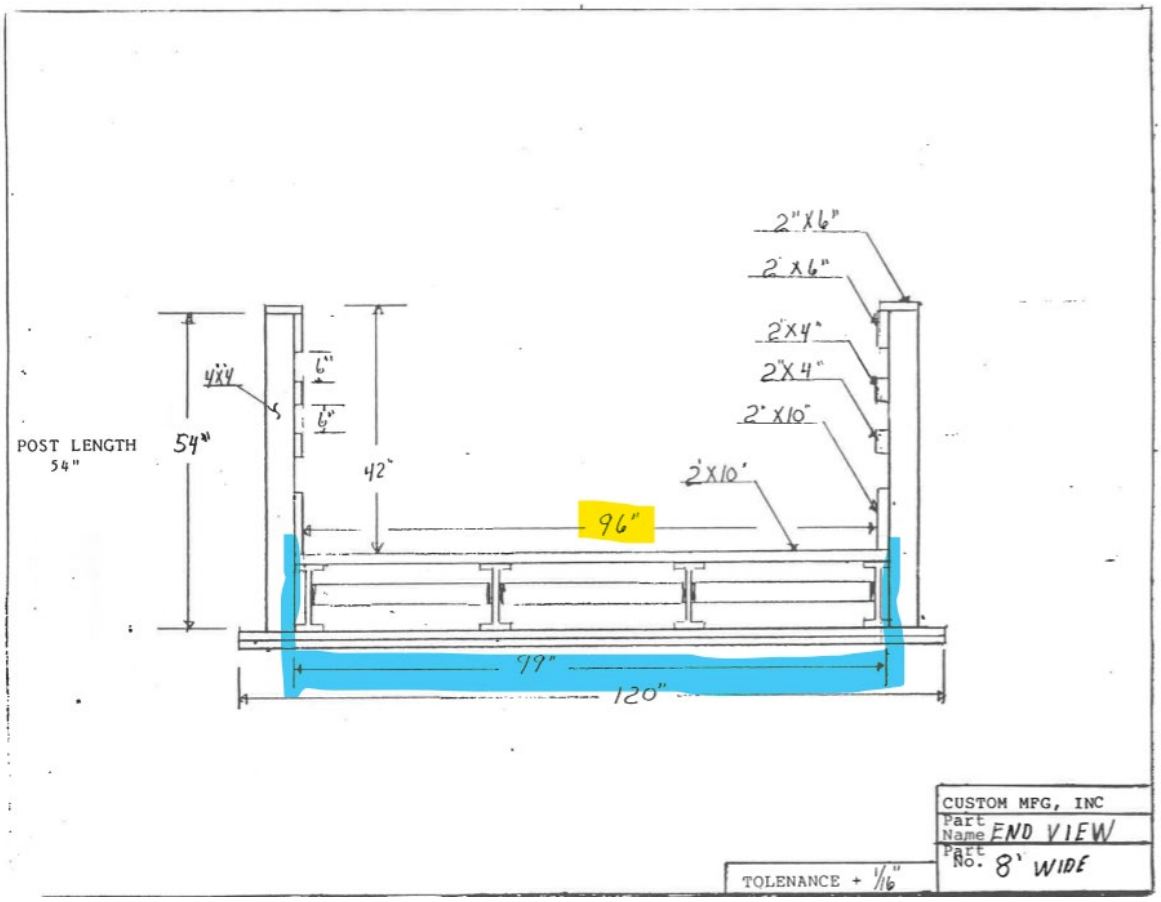
(608) 676-2282
contact@custommfginc.com
www.custombridgesandboardwalks.com

Internal Shop Drawings





(608) 676-2282
contact@custommfginc.com
www.custombridgesandboardwalks.com



THE CINCINNATI INSURANCE COMPANY

Bid Bond

CONTRACTOR (Name, legal status and address):

Custom Manufacturing Inc
606 DELCO DR
CLINTON, WI 53525

SURETY (Name, legal status and principal place of business):

THE CINCINNATI INSURANCE COMPANY
6200 S. GILMORE ROAD
FAIRFIELD, OHIO 45014-5141

OWNER (Name, legal status and address):

City of Livonia
33000 CIVIC CENTER DR
LIVONIA, MI 48154

This document has important legal consequences, Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

BOND AMOUNT:

5% of bid

PROJECT (Name, location or address, and Project number, if any):

Idyl Wyld Golf Course (3) Bridge Rebuilds

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond the sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirements shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 24 day of March, 2026

Becki S. Ames
(Witness)

Yuna Forest
Custom Manufacturing Inc
(Principal) *(Seal)*
Vice President
(Title)

Jennifer Sarlena
(Witness)

THE CINCINNATI INSURANCE COMPANY
(Surety) *(Seal)*
Kelsey Kuehl
(Title)
Kelsey Kuehl, Attorney-in-fact

The Company executing this bond vouches that this document conforms to American Institute of Architects Document A310, 2010 Edition.
S-2000-AIA (11/10) PUBLIC

THE CINCINNATI INSURANCE COMPANY
THE CINCINNATI CASUALTY COMPANY

Fairfield, Ohio

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That THE CINCINNATI INSURANCE COMPANY and THE CINCINNATI CASUALTY COMPANY, corporations organized under the laws of the State of Ohio, and having their principal offices in the City of Fairfield, Ohio (herein collectively called the "Companies"), do hereby constitute and appoint

Mark J Santas, Julie L Crouch, Mathew Santas, Jennifer Saelens, James Deborah , Jason Howard, Kelsey Kuehl

of BELOIT, WI
their true and legal Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and deliver on behalf of the Companies as Surety, any and all bonds, policies, undertakings or other like instruments, as follows:

Five Million Dollars and 00/100 ($5,000,000.00)

This appointment is made under and by authority of the following resolutions adopted by the Boards of Directors of The Cincinnati Insurance Company and The Cincinnati Casualty Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the President or any Senior Vice President be hereby authorized, and empowered to appoint Attorneys-in-Fact of the Company to execute any and all bonds, policies, undertakings, or other like instruments on behalf of the Corporation, and may authorize any officer or any such Attorney-in-Fact to affix the corporate seal; and may with or without cause modify or revoke any such appointment or authority. Any such writings so executed by such Attorneys-in-Fact shall be binding upon the Company as if they had been duly executed and acknowledged by the regularly elected officers of the Company.

RESOLVED, that the signature of the President or any Senior Vice President and the seal of the Company may be affixed by facsimile on any power of attorney granted, and the signature of the Secretary or Assistant Vice-President and the Seal of the Company may be affixed by facsimile to any certificate of any such power and any such power of certificate bearing such facsimile signature and seal shall be valid and binding on the Company. Any such power so executed and sealed and certified by certificate so executed and sealed shall, with respect to any bond or undertaking to which it is attached, continue to be valid and binding on the Company.

IN WITNESS WHEREOF, the Companies have caused these presents to be sealed with their corporate seals, duly attested by their President or any Senior Vice President this 16th day of March, 2021.

THE CINCINNATI INSURANCE COMPANY
THE CINCINNATI CASUALTY COMPANY

STATE OF OHIO)SS:
COUNTY OF BUTLER)

On this 16th day of March, 2021 before me came the above-named President or Senior Vice President of The Cincinnati Insurance Company and The Cincinnati Casualty Company, to me personally known to be the officer described herein, and acknowledged that the seals affixed to the preceding instrument are the corporate seals of said Companies and the corporate seals and the signature of the officer were duly affixed and subscribed to said instrument by the authority and direction of said corporations.

Keith Collett, Attorney at Law
Notary Public – State of Ohio
My commission has no expiration date.
Section 147.03 O.R.C.

I, the undersigned Secretary or Assistant Vice-President of The Cincinnati Insurance Company and The Cincinnati Casualty Company, hereby certify that the above is the Original Power of Attorney issued by said Companies, and do hereby further certify that the said Power of Attorney is still in full force and effect.

Given under my hand and seal of said Companies at Fairfield, Ohio, this 24th day of March , 2026 .

BN-1457 (3/21)

SPECIFICATIONS
REPAIR THREE BRIDGES AT IDYL WYLD GOLF COURSE – LIVONIA, MI

PROJECT:

Idyl Wyld Golf Course (3) Bridge Rebuilds
35786 Five Mile Rd.
Livonia, MI 48154

NOTE:

1. Please provide three (3) references with contact name and phone number.

2. Bidding contractors shall attend a mandatory site visit at Golf Course on Wednesday, March 11, 2026 at 10:00am.

3. Projects may be awarded independently or not at all.

4. The company(s) awarded the bid shall meet all bid specifications and contract terms and conditions.

5. Projects will begin 15 days after Council Award date.

6. The company awarded the bid shall maintain insurance that will protect him from liability under Workman's Compensation Acts, and other Employees Benefits Acts in accordance with the law, and from liability for damages because of bodily injury, including death and property damages, including accident claims due to automobiles, Owners Contractors Protective and all other Comprehensive General and Automobile Bodily Injury and Property Damage form of policies which may arise both out of and during work under the contract whether such work be by the contractor himself or by any subcontractor or anyone directly employed by either of them.

7. The company awarded the bid shall obtain and pay for all costs and fees associated with all permits and inspections needed to perform the work described herein.

8. Final payment will not be made until project is completed and Performance Bond, Labor and Materials Bond, Maintenance and Guarantee Bond, Certificate of Insurance as well as the Contractor's Affidavit and Contractor's Declaration and Owners Contractor's Protective Insurance are provided and is approved.

9. A copy of the proposal response must also be provided to the City of Livonia electronically (on CD) in Adobe Acrobat (PDF) format.

SCOPE OF WORK:

- Remove and properly dispose of the existing wooden bridge decking and hand railings.
- Furnish and install new pressure-treated wood decking and hand railings.
- Salvage all suitable topsoil spoils and stockpile or redistribute on-site as directed by the Golf Course Superintendent.

- Provide and place additional topsoil, as necessary, to achieve the desired green contours and finish grade.
- Repair or replace any drainage infrastructure disturbed during construction.
- Prepare all disturbed areas for sod installation, including final grading and soil preparation.

Please refer to the following attachments:

Attachment "A" – Photos of Bridges at Idyl Wydl

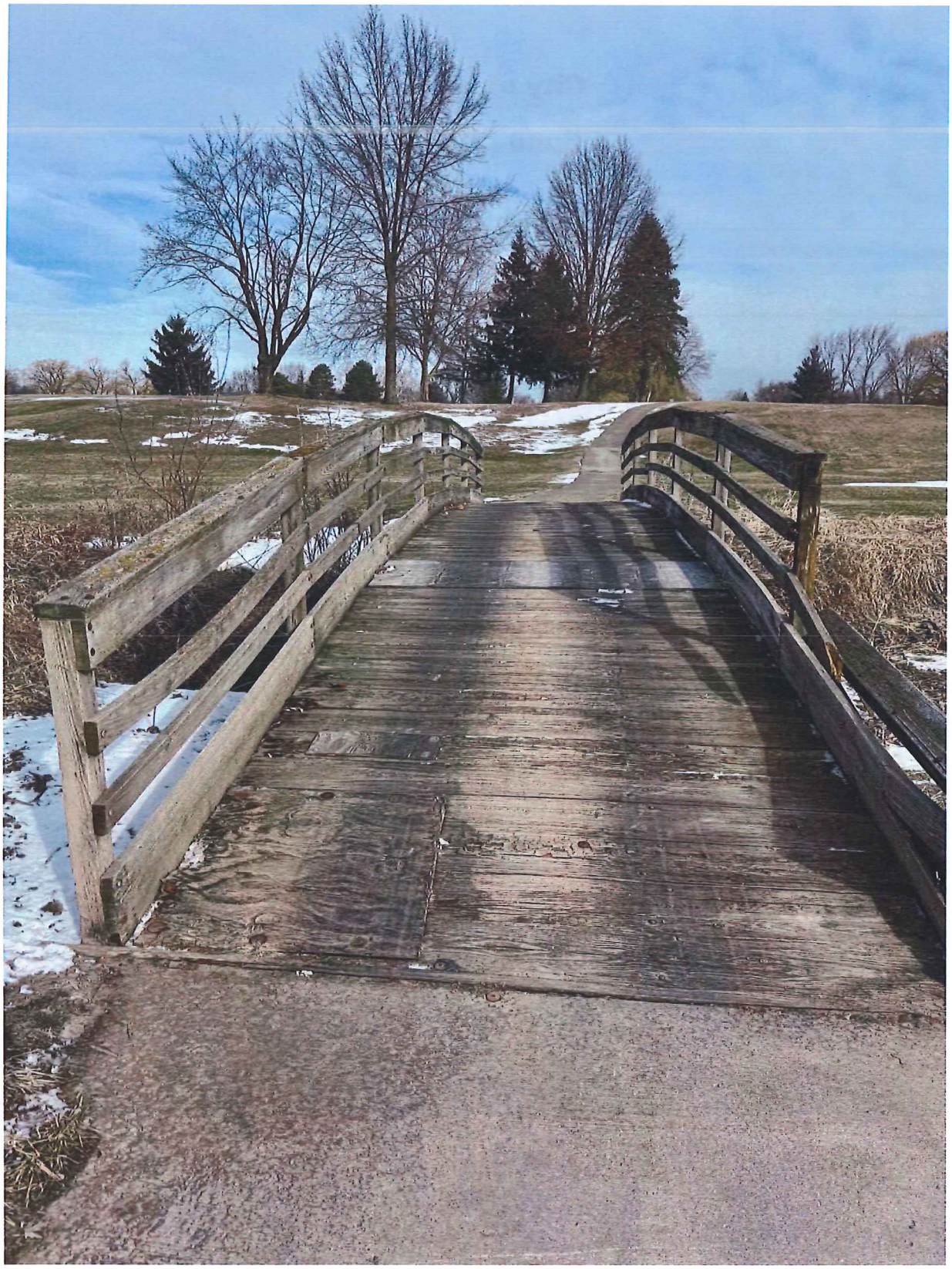
City of Livonia

Rebuild (3) Bridges

Idyl Wyld Golf Course

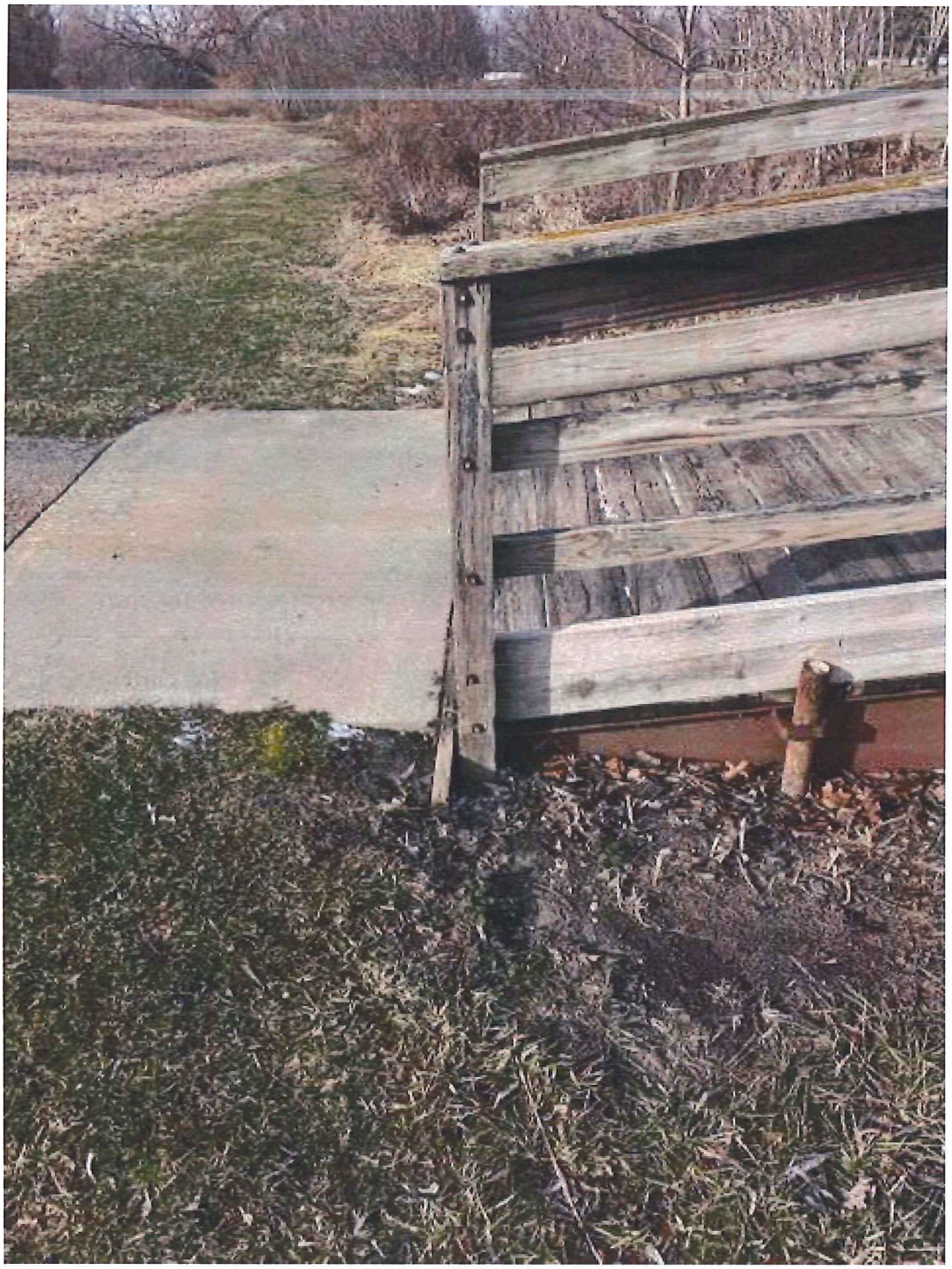
ATTACHMENT A

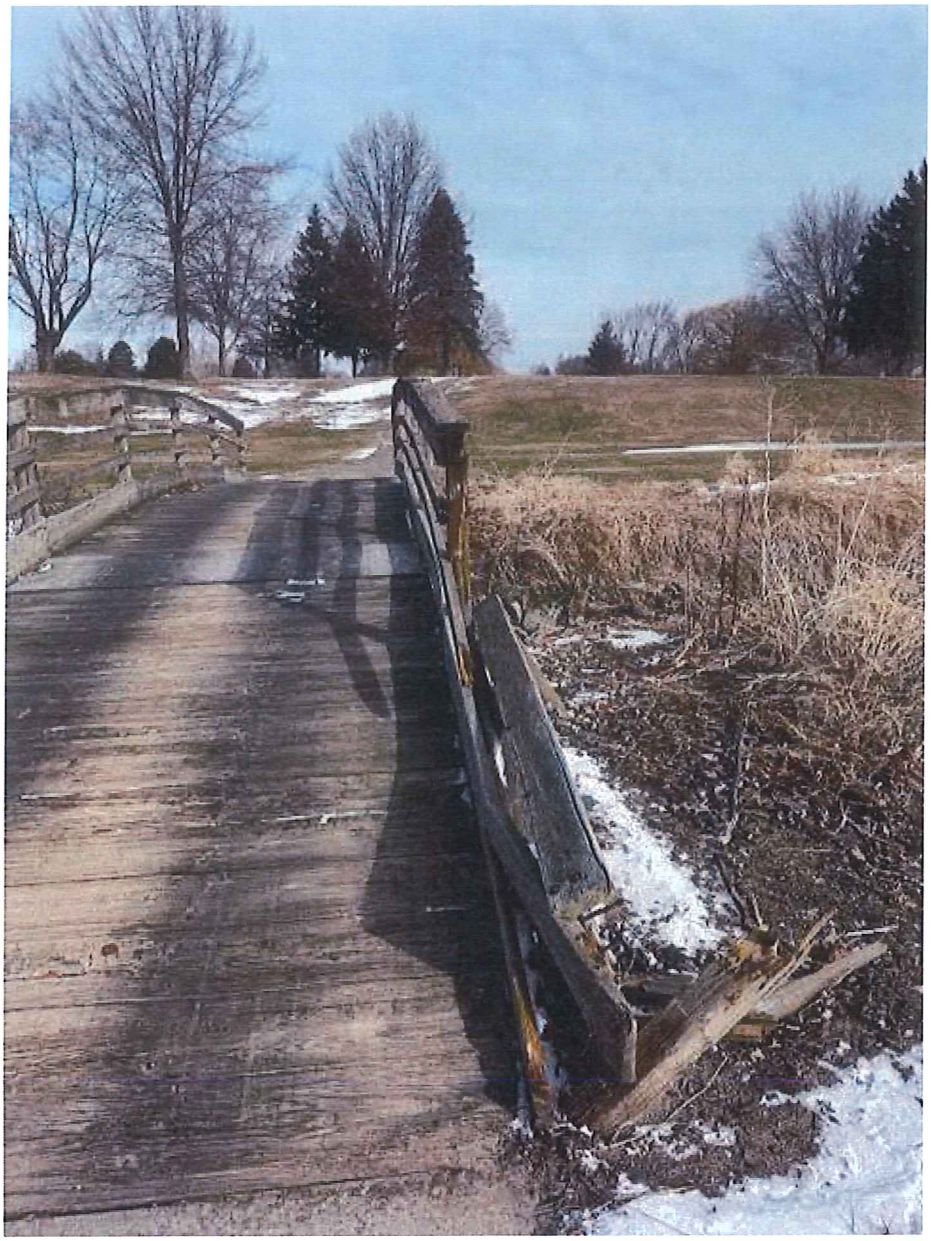












BID OPENING
IDYLE WYDE BRIDGE REPAIRS - BID DUE DATE 3/24/2026

VENDOR NAME	CUSTOM BRIDGES AND BOARDWALKS	HURON POINTE EXCAVATING
CITY/STATE	606 DELCO DRIVE, PO BOX 279, CLINTON WI 53525	44 FIRST ST. Suite E, MT CLEMENS, MI 48043
Bid Bond (Y or N)	Y	Y
Total	$40,900	$88,165

VENDOR NAME	SOLE CONSTRUCTION	
CITY/STATE	5940 COMMERCE, WESTLAND, MI 48185	
Bid Bond (Y or N)	Y	
Total	49,500	

VENDOR NAME		
CITY/STATE		
Bid Bond (Y or N)		
Total		

VENDOR NAME		
CITY/STATE		
[redacted]		
Bid Bond (Y or N)		
Total		

CITY REPRESENTATIVES: AARON LINDENMUTH, OFFICE OF THE CITY CLERK, GUS KANDAH, PURCHASING MANAGER

LETTER TO THE LIVONIA CITY COUNCIL

11.

DPW
March 19, 2026

MEETING DATE	PRESENTED BY
S040826/R042026	Douglas L. Moore, MSA, Assistant Director of Public Works

AGENDA ITEM

AWARD OF BID: for the replacement of the HVAC and boiler system at Sandburg Library, from budgeted funds.

BACKGROUND DETAILS

As we enter into Phase 2 of the Building Controls System Upgrade project (098-23), the DPW went out for bid for the replacement of the HVAC, boiler, pumping and ancillary equipment at the Sandburg Library, 30100 West Seven Mile. A request for bid was placed on the MITN website on January 20, 2026 and the submitted proposals opened in the presence of the Bid Committee on February 17, 2026. Five (5) companies bid on the project. After reviewing the bids, verifying references and insurance, it was decided to award the project to Guardian Environmental Services, 34400 Glendale Ave., Livonia, MI 48154

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

Award bid for the replacement of the HVAC, boiler, pumping and ancillary equipment at the Sandburg Library to Guardian Environmental Services, 34400 Glendale Ave., Livonia, MI 48154 for the bid price of $121,922.00. Funds for this project have been reserved in GL# 401-000-976-000.

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

Replacement of HVAC and boiler systems at Sandburg Library

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

$121,922.00 GL# 401-000-976-000.

DETAILED WORK BEING PERFORMED

Furnish all labor, materials and equipment necessary for removal and replacement of HVAC, boiler and pumping and ancillary equipment at the Sandburg Library

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

$121,922.00 GL# 401-000-976-000.

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

Lowest Bid accepted

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): n/a

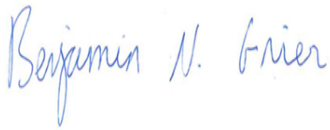
ATTACHMENTS

1. Guardian Bid Sandburg (1)
2. BID TAB - Sandburg Lib 2026
3. 098-23 - Building Controls Upgrade

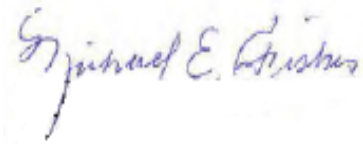
APPROVED BY



Douglas L. Moore, MSA, Assistant Director of Public Works — Date: March 19, 2026



Benjamin N. Grier, JD, CPA, Finance Director — Date: March 26, 2026



Mike Fisher, Chief Assistant City Attorney — Date: March 26, 2026



Maureen Miller Brosnan, Mayor — Date: March 27, 2026

Please Submit in Triplicate

City of Livonia

PROPOSAL FORM

HVAC and Boiler Replacement-Sandburg Library

Honorable Members of the Council
33000 Civic Center Dr.
Livonia, MI 48154

Dear Council Members:

The undersigned, by the submission of this proposal, represents that they are familiar with and have determined for themselves the nature, and extent of the proposed work, and the conditions under which it must be performed, and completed, and agrees that they will contract with the City of Livonia furnish at, and for the following monies all materials, labor, equipment, permits, insurance , supervision, and all other things necessary, or incidental to complete the entire work in accordance with the appended specifications, general conditions, and related contract documents. By submission of this bid, the undersigned represents that they are familiar with, and understand all of the above referenced contract documents.

COMPANY NAME: GUARDIAN ENVIRONMENTAL SERVICES, INC.

ITEM	DESCRIPTION	COMPLETE FOR THE SUM
1	Furnish all labor, materials, and equipment necessary for removal and replacement of HVAC, Boiler, and pumping and ancillary equipment at the Sandburg Library.	$ 120,442.00
2	Permit Costs	$ 1,480.00
2	Total Cost	$ 121,922.00

Number of days required to complete the project upon notice to proceed: 30 days

Warranty on Parts: 1-YEAR Warranty on Labor: 1-YEAR Installation

The undersigned has checked the bid figures carefully and understands that he shall be responsible for any error or omission in this bid offer and is in receipt of all addenda issued. Indicate addendum number to confirm receipt.

Addendum #_____ Addendum #_____ Addendum #_____

The undersigned agrees that, if the proposal made herein is accepted, he will satisfactorily perform and complete all of the work and meet all of the requirements and obligations imposed upon him by the contract including the plans, specifications and general conditions.

Also, the undersigned agrees that, if the above proposal is accepted, he will execute the contract and furnish the necessary proofs of insurance within fifteen (15) calendar days from such acceptance.

To guarantee his fulfillment of the foregoing covenants, the bidder attaches hereto his certified check or bid bond in the sum of $ $6,096.10 (5% of proposal) and agrees that same shall be forfeited to the City of Livonia in the event of his failure to execute the contract or furnish acceptable bonds, not as a penalty but as actual liquidated damages. The City shall not be required to prove or show such liquidated damage.

In submitting this sealed bid, it is understood that the City of Livonia reserves the right to reject or accept any or all proposals in whole or in part and waive any irregularities or informalities therein. It is agreed that this bid may not be withdrawn for sixty (60) days from the opening thereof.

The contractor and his subcontractors agree that they will not discriminate against any employee or applicant for employment to be employed in the performance of this contract with respect to his hire, tenure, terms, conditions, or privileges of employment, or any matter directly or indirectly related to employment, because of his sex or age, except when based on a bona fide occupational qualification, or because of his race, color, religion, national origin or ancestry (Act 251, P.A. 1955, as amended). The contractor further agrees that he will take affirmative action to insure that applicants are employed and that employees are treated during employment without regard to age, sex, race, creed, color or national origin. Breach of this covenant may be regarded as a material breach of the contract.

Bidder will identify business entity as individual, or if doing business under assumed name, indicate assumed name, partnership (naming partners), corporation, foreign or domestic (naming principal officers), and indicate official capacity of person executing proposal and bid.

Proposal Submitted by:

Company Name	GUARDIAN ENVIRONMENTAL SERVICES, INC.
Address	34400 GLENDALE AVE.
City/State/Zip	LIVONIA MI 48150
Phone Number	734-513-9500
By:	MIKE WEDZINA
Print Name/Title	ACCOUNT MANAGER
Telephone Number	313 402 3695
Email Address	MIKEWEDZINA@HVAC-GES.COM
Date:	2-16-2026

CONTACT PERSON TO WHOM QUESTIONS REGARDING PROPOSAL RESPONSE SHOULD BE DIRECTED:

COMPANY NAME: Guardian Environmental Services, Inc.

NAME: Mike Wedzina **TITLE:** Account Manager

PHONE: 313-402-3695

EMAIL: MikeWedzina@HVAC-GES.com

- ❑ Form of Proposal (PF1-PF8)
- ❑ References
- ❑ Qualifications Statement
- ❑ Detailed Warranty Information
- ❑ Bid Security

Guardian Environmental Services, Inc.

34400 GLENDALE AVENUE LIVONIA, MI 48150

PHONE: (734) 513-9500 FAX: (734) 261-8350

February 16, 2026

Guardian Environmental Services (GES) is a full service HVAC Mechanical Contractor. GES was founded in 1984 and has been servicing South East Michigan for now 40 years. Our service, construction and controls team includes over 30 technicians and an average loyalty of 10 years.

At GES, we pride ourselves on the service we provide our customers. Our technicians are factory trained in the equipment we service and install to ensure your mechanical assets are in good hands.

References

1. **David Ellis Academy, West**, 19800 Beech Daly, Redford Charter Twp, Mi. 48240
   $698,154.00, Replacement of 38-Classroom Unit ventilators with AC
   Started 6/18/2024 - Completed 2/28/2024
   ShoRon Graham, 313-574-0538, itshos@yahoo.com

2. **Tram Group**, 47200 Port Street, Plymouth Mi. 48170
   $150,000.00, Replacement of the 100-Ton Chiller with remote Evap
   Started 10/17/2023 – Completed 12/22/2023
   Kyle Fuller, 734-254-8500 (8608), kfuller@tramgroup.com

3. **48th District Court**, 4280 Telegraph, Bloomfield Hills, Mi. 48302
   $108,250.00, 40-Ton RTU replacement
   Started 3/20/2023 – Completed 3/26/2023
   Bob Drago, 248-915-4298, RDragoo@bloomfieldtwp.org

Respectfully,
GUARDIAN ENVIRONMENTAL SERVICES, INC.

Michael S. Wedzina
313-402-3695
mikewedzina@hvac-ges.com
Service Sales Manager

STATEMENT OF QUALIFICATIONS
SANDBURG LIBRARY HVAC AND BOILER REPLACEMENT

Bidders must answer all questions. If more space is needed to complete a question, attach a separate sheet.

Company Name: GUARDIAN ENVIRONMENTAL SERVICES, INC.

Address 34400 GLENDALE AVE. LIVONIA MI. 48150

Contact Person: MIKE WEDZINA Title ACCOUNT MANAGER

Phone No. 313 402 3695 Email MIKEWEDZINA@HVAC-GES.COM

1. Number of years operating under you present name: OVER 40 YEARS.

2. General nature of work performed by your company:

LIGHT INDUSTRIAL & COMMERCIAL HVAC SERVICE + REPLACE

3. Number of years you have performed work similar in scope and size to the work requested in the Invitation for Bid: OVER 40 YEARS

4. Have performed work for the City of Livonia in the last ten (10) years? If so, please specify:

Year of Service	Department Serviced	Description of Services Provided
2022	FIRE STATION HQ	RTU REPLACEMENT
2025	CLEMENTS CIRCLE SPLASH	BOILER REPLACEMENT

COMPANY NAME: GUARDIAN ENVIRONMENTAL SERVICES, INC.

5. List the members of the team who will be assigned to this project and the roles they will perform. Attach copies of the resumes of the persons listed below:

Name	Title	Role	Years of Experience	Number of other projects currently assigned
TBD				

6. What challenges to you foresee with this project?

None

7. What is included in your base price for services? What services will incur additional fees:

Equipment Replacement, Air + Water Balancing, Electrical

No Additional Fees

HVAC AND BOILER REPLACMENT – SUBCONTRACTOR'S LIST

COMPANY NAME: Smith Bros. Electric. Inc.

ITEM Electrical

COMPANY NAME

ADDRESS: 24032 Haggerty Rd.

CITY/STATE: Farmington Hills MI 48335

PHONE: 248-957-9344

CONTACT PERSON: George Fick

EMAIL gFick@sbelectric.com

ITEM Air Balance

COMPANY NAME Barmatic Inspecting Co. Inc.

ADDRESS: 25648 E. Huron River Dr.

CITY/STATE: Flat Rock, MI 48134

PHONE: 313-381-6600

CONTACT PERSON: Patty Toth

EMAIL VB@Barmatic.net

AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:
(Name, legal status and address)
Guardian Environmental Services, Inc
34400 Glendale Avenue
Livonia, MI 48150-1302

SURETY:
(Name, legal status and principal place of business)
Atlantic Specialty Insurance Company
605 Highway 169 North, Suite 800
Plymouth, MN 55441

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

OWNER:
(Name, legal status and address)
City of Livonia
33000 Civic Center Drive
Livonia, MI 48154

BOND AMOUNT: Five Percent of Accompanying Bid ---------- (5%)

PROJECT:
(Name, location or address, and Project number, if any)
HVAC and Boiler Replacement - Sandburg Library

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this **17th** day of **February, 2026**

	Guardian Environmental Services, Inc
	(Principal) *(Seal)*
(Witness)	
	(Title)
	Atlantic Specialty Insurance Company
	(Surety) *(Seal)*
(Witness)	
	(Title) **Susan L Small, Attorney-in-Fact**

Init.

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intact INSURANCE

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: **Ian J. Donald, John L. Budde, Patrick E. Williams, Steven K. Brandon, Susan L. Small, T. J. Griffin, Terence J. Griffin**, each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: **unlimited** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the President, any Senior Vice President or Vice-President (each an "Authorized Officer") may execute for and in behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and affix the seal of the Company thereto; and that the Authorized Officer may appoint and authorize an Attorney-in-Fact to execute on behalf of the Company any and all such instruments and to affix the Company seal thereto; and that the Authorized Officer may at any time remove any such Attorney-in-Fact and revoke all power and authority given to any such Attorney-in-Fact.

Resolved: That the Attorney-in-Fact may be given full power and authority to execute for and in the name and on behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed and sealed by an Authorized Officer and, further, the Attorney-in-Fact is hereby authorized to verify any affidavit required to be attached to bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof.

This power of attorney is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the signature of an Authorized Officer, the signature of the Secretary or the Assistant Secretary, and the Company seal may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing an Attorney-in-Fact for purposes only of executing and sealing any bond, undertaking, recognizance or other written obligation in the nature thereof, and any such signature and seal where so used, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this first day of January, 2023.

ATLANTIC SPECIALTY INSURANCE COMPANY CORPORATE SEAL 1986 NEW YORK

By _____
Sarah A. Kolar, Vice President and General Counsel

STATE OF MINNESOTA
HENNEPIN COUNTY

On this first day of January, 2023, before me personally came Sarah A. Kolar, Vice President and General Counsel of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and she acknowledged the execution of the same, and being by me duly sworn, that she is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.

ALISON D. NASH-TROUT
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2030

_____
Notary Public

I, the undersigned, Secretary of ATLANTIC SPECIALTY INSURANCE COMPANY, a New York Corporation, do hereby certify that the foregoing power of attorney is in full force and has not been revoked, and the resolutions set forth above are now in force.

Signed and sealed. Dated 17th day of February, 2026.

ATLANTIC SPECIALTY INSURANCE COMPANY CORPORATE SEAL 1986 NEW YORK

_____
Kara L.B. Barrow, Secretary

This Power of Attorney expires
January 31, 2030

Please direct bond verifications to surety@intactinsurance.com

VTC INSURANCE GROUP

VTC Insurance Group

Farmington Hills, MI 48335
(248)471-0970

BID BOND RESULTS FORM

Guardian Environmental Services, Inc
34400 Glendale Avenue
Livonia, MI 48150-1302

Bid Date: 2/17/2026

Fold — — Fold

You have received a bid bond for the project described below. The Surety Company needs the results of this bid before issuance of further bonds. If you do not know the result, other than your own bid amount, please indicate this when returning it. Thank you for your cooperation.

Account #: **Name:** Guardian Environmental Services, Inc

Project Description: HVAC and Boiler Replacement - Sandburg Library

Obligee name: City of Livonia

Project No: **Bid Amount:** $121,922.00

Bidder's Name	Bid Amount
1.)_____	$_____
2.)_____	$_____
3.)_____	$_____
4.)_____	$_____
5.)_____	$_____

Total Number of Bidders:_____

Remarks: _____

Please return this bid bond result report to:

BOND DEPT
VTC Insurance Group
37000 Grand River Ave, Suite 150
Farmington Hills, MI 48335

Attn: Susan L. Small

BID OPENING

REPLACEMENT OF HVAC AND BOILER SYSTEMS AT SANDBURG LIBRARY - BID DUE DATE 2/17/2026

VENDOR NAME	**GUARDIAN ENVIRONMENTAL SERVICES INC.**	
CITY/STATE	34400 GLENDALE AVE., LIVONIA, MI 48154	
MATERIAL AND LABOR COST		
PERMIT COST		
TOTAL COST	**$ 121,922**	

VENDOR NAME	**CONTI LLC**	**DE-CAL INC.**
CITY/STATE	6417 CENTER, STERLING HEIGHTS, MI 48312	24659 SCHOENHERR RD., WARREN, MI 48226
MATERIAL AND LABOR COST		
PERMIT COST		
TOTAL COST	**$ 132,000**	**$ 145,000**

VENDOR NAME	**A.J. MILLER MECHANICAL INC.**	**ENGINEERED COMFORT SYSTEMS INC.**
CITY/STATE	28525 BECK RD., SUITE 101, WIXOM, MI 48393	12480 ALLEN ROAD, TAYLOR, MI 48180
MATERIAL AND LABOR COST		
PERMIT COST		
TOTAL COST	**$ 177,402**	**$ 187,450.50**

CITY REPRESENTATIVES: AARON LINDENMUTH, OFFICE OF THE CITY CLERK, GUS KANDAH, PURCHASING MANAGER

#098-23 RESOLVED, that having considered the report and recommendation of the Capital Outlay and Infrastructure Committee, dated March 1, 2023, submitted pursuant to Council Resolution 48-23, and further having considered a communication from the Assistant Director of Public Works, dated January 17, 2023, which bears the signatures of the Director of Public Works, the Director of Finance and the City Attorney, and is approved for submission by the Mayor, in connection with the **Building Controls System Upgrade Project** of four (4) Livonia City buildings, the Council does hereby accept the bid of Havel, a Division of **Shambaugh & Son,** LP, 21661 Melrose Avenue, Southfield, MI 48075, for completing all work required in connection with the Building Controls System Upgrade Project of four (4) Livonia City buildings, to include the Police Department Headquarters, Bennett Civic Center Library, Carl Sandburg Branch Library and the 16th District Courthouse, including all labor, materials and equipment, for a total amount not to exceed $981,662.00; the same having been in fact the lowest bid received which meets all specifications; FURTHER, the Council does hereby authorize the Mayor and City Clerk, for and on behalf of the City of Livonia, to execute an amendment to the contract adopted pursuant to CR 378-20, between the City of Livonia and OHM Advisors, 34000 Plymouth Road, Livonia, Michigan 48150, to provide construction administration services for the Building Controls System Upgrade Project in an amount not to exceed $55,000.00, subject to approval as to form and substance by the Department of Law; FURTHER, the Council does hereby authorize an expenditure in the amount of $646,505.00 from budgeted funds in Account No. 401-000-987-000 and authorizes an additional appropriation from the unexpended fund balance of the Capital Projects Fund (401) in the amount of $390,157.00, for a total amount not to exceed $1,036,662.00 for this purpose; and the Mayor and City Clerk are hereby authorized to execute a contract, approved as to form and substance by the Department of Law, for and on behalf of the City of Livonia, with the aforesaid bidder and to do all other things necessary or incidental to the full performance of this resolution.

LETTER TO THE LIVONIA CITY COUNCIL

12.

DPW
March 19, 2026

MEETING DATE	PRESENTED BY
S040826/R042026	Douglas L. Moore, MSA, Assistant Director of Public Works

AGENDA ITEM

REQUEST TO WAIVE THE FORMAL BIDDING PROCESS AND AWARD OF CONTRACT: to replace the temperature controls and building automation at the City Hall Annex, from budgeted funds.

BACKGROUND DETAILS

Since 2023, the City of Livonia has contracted with Havel to provide services relating to upgrading building automation and temperature controls for a number of municipal buildings. The original contract was competitively bid, with Havel providing pricing that is consistent with their OMNIA Partners Public Sector Contract: R220703. Given their quality of work, competitively bid low pricing locally and amongst the State, the City of Livonia then awarded additional work in 2025 for the DPW Garage, Housing Commission and Fire Stations.

The City Hall Annex controls are no longer operational and are in need of replacement. Given the history with Havel and standardizing the HVAC controls across municipal buildings, it is the recommendation of the DPW to award the building control upgrade contract to Havel in a not-to-exceed amount of $43,312.00 from budgeted funds. The contracted work will consist of furnishing and installing a Tridium Niagara N4 / BACnet IP direct digital system of automatic temperature control and building automation.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

It is the recommendation of the Department of Public Works that City Council proceed as follows:

1. Award the building controls upgrade contract for the City Hall Annex to Havel, 21661 Melrose Avenue, Southfield, MI 48075 in a not-to-exceed amount of $43,312.00.

2. Waive the formal bidding process in accordance with the provisions set forth in Section 3.04.140.D.4 of the Livonia Code of Ordinances, as amended, as the pricing is consistent with OMNIA Partners Public Sector Contract: R220703.

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

Tridium Niagara N4 / BACnet IP direct signal system for automatic temperature control and building automation.

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

$43,312.00

DETAILED WORK BEING PERFORMED

Furnish and install a Tridium Niagara N4/BACnet IP direct digital system of automatic temperature control and building controls per the following description:

- Furnish and install (1) JACE 9000 Network Controller
- Furnish and install BACnet IP field controllers and expansion modules to replace (1) existing non-supported Honeywell Excel controller number 9 and twelve (12) IO cards
- Replace existing proprietary Honeywell space, duct, and immersion temperature sensors with industry standard 10K type 3 thermistor sensors. All other field devices and all input/output wiring will be reused.
- Add floorplans, equipment graphics, scheduling, alarming, and trending to the Phase 1 Niagara N4 Supervisor

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

$43,312.00
Funds are budgeted for in 401-000-987-000

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

N/A

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): Request to waive the bid process, in accordance with the provisions set forth in Section 3.04.140.E.4 of the Livonia Code of Ordinances, due to Havel's pricing being consistent with their OMNIA Partners Public Sector Contract: R220703. Additionally, the software and equipment will be consistent with the majority of other municipal buildings within the City of Livonia.

ATTACHMENTS

1. City Hall Annex Havel Quote
2. 311-25 - Havel Phase #2 Bldg Maint Upgrade
3. 098-23 - Building Controls Upgrade

APPROVED BY

Zach Haapala

Date: March 25, 2026

Zach Haapala, MPA, Assistant Director of Public Works

Benjamin N. Grier

Date: March 26, 2026

Benjamin N. Grier, JD, CPA, Finance Director

Date: March 26, 2026

Carter Fisher, City Attorney

Maureen Miller Brosnan

Date: March 27, 2026

Maureen Miller Brosnan, Mayor

Havel
An EMCOR Company

Havel
21661 Melrose Ave
Southfield, MI 48075
Phone: 269-207-4288

www.havelemcor.com

Quotation

February 23, 2026
Quote 2026 02231RD

To: Tom McDonald
Building Maintenance
City of Livonia

For: Building Controls Upgrade City Hall Annex
Excel Controller and Building Supervisor Upgrade
City of Livonia

We propose to furnish and install a ***Tridium Niagara N4 / BACnet IP*** direct digital system of automatic temperature control and building automation per the following description:

- Furnish and install (1) JACE 9000 Network Controller
- Furnish and install BACnet IP field controllers and expansion modules to replace (1) existing non-supported Honeywell Excel controller number 9 and twelve (12) IO cards
- Replace existing proprietary Honeywell space, duct, and immersion temperature sensors with industry standard 10K type 3 thermistor sensors. All other field devices and all input/output wiring will be reused
- Add floorplans, equipment graphics, scheduling, alarming, and trending to the Phase 1 Niagara N4 Supervisor

All for the net sum not to exceed $43,312.00

All pricing is based on **OMNIA Partners Public Sector contract: R220703.** Schneider Electric is an OMNIA Partners supplier. Havel is a Schneider Electric EcoXpert Partner. EcoXpert Partners have been added as “authorized vendors” to contract: R220703. **All savings from the not to exceed amount will be deducted from the total contract amount or used for mutually agreed upon additional scope.**

Under this proposal we will furnish the necessary shop drawings, wiring diagrams, and submittals; select the proper controls and deliver to the job site; furnish the necessary labor; make all calibrations, adjustments, and a final check up of the operation of this equipment; instruct the operating personnel and guarantee the equipment and its operation for a period of one year.

This proposal **does not** include the following which can be provided by others or Havel for additional cost:

- Repair or replacement of existing field devices (other than temperature sensors) and/or control wiring if required

This proposal requires a data port on the City of Livonia IT network for the (1) JACE Network Controller

Thank you.

Havel **An EMCOR Company**
Rod DeVries
(269) 207-4288
rdevries@Shambaugh.com

EcoXpert Schneider Electric

Havel
An EMCOR Company

Havel
21661 Melrose Ave
Southfield, MI 48075
Phone: 269-207-4288

www.havelemcor.com

Quotation

February 23, 2026
Quote 2026 02231RD

Terms and Conditions

General

1. Havel agrees to perform all work in a careful and workman-like manner and to furnish only materials of good quality.
2. The customer will provide reasonable access to all areas and equipment and will allow Havel to stop and start equipment as may be necessary to fulfill the terms of the project.
3. All work will be performed during normal working hours, 7:30 a.m. to 4:00 p.m., Monday through Friday, unless otherwise stated.
4. The customer will promptly pay invoices upon receipt. Should a payment become thirty (30) days or more delinquent, Havel may stop all work under this project without notice and/or cancel this project, and the entire project amount shall become due and payable immediately upon demand.
5. In addition to any price specified on the face hereof, the customer shall pay and be responsible for the gross amount of any present or future sales, use, excise, value-added, or other similar tax, however designated, applicable to the price, sale or delivery or any products, services or the work furnished hereunder or for their use by Havel on behalf of the customer whether such tax shall be local, state, or federal in nature.
6. In the event Havel must commence legal action in order to recover any amount payable under this Agreement, the customer shall pay Havel all court costs and attorney's fees incurred by Havel.
7. Any legal action relating to this agreement, or the breach thereof, shall be commenced within one (1) year from the date of the work.

Limitations of Liability and Indemnities

1. Havel will not be liable for damage or loss caused by delay in installation or interrupted service due to fire, flood, corrosive substance in the air, strike lockout, dispute with workmen, inability to obtain material or services, commotion, war, act of God, or any other cause beyond Havel reasonable control.
2. In no event, whether as a result of breach of contract, or any tort including negligence or otherwise shall Havel or its suppliers, employees or agents be liable for any special, consequential, incidental, or penal damage including, but not limited to loss of profit or revenues, loss of use of any products, machinery, equipment, damage to associated equipment, cost of capital, cost of substitute products, facilities, services or replacement power, down time costs, lost profits, or claims of Buyer's customers for such damages.
3. No other warranty expressed, or other liability is given and no other affirmation of Havel, by word or action, shall constitute a warranty. This warranty is expressly in lieu of any other express or implied warranty including any implied warranty of merchantability of fitness, and any other obligation on the part of Havel.
4. Havel warrants materials only to the extent and for the time period said materials are warranted to Havel by the manufacturer(s) of the same. Havel liability, if any, upon any warranty, either expressed or implied, shall be limited to replacement of defective materials and correction of faulty workmanship which is in violation of local, state, or federal building codes at the time of performance of the work by Havel.

Due to current and forecasted price fluctuations of raw materials, many finished products are experiencing constant and unprecedented price escalations. Finished products affected may include: Mechanical/Electrical equipment, structural and sheet steel, all pipe products and corresponding fittings, stainless/carbon steel, all brass/bronze valves & fire sprinkler devices, copper pipe and wire. Inherently, these unforeseeable changes bring with them a potential cost and schedule impact. This shall serve as formal notification that, as a result of these unforeseeable events beyond our control, Havel hereby reserves the right to add the corresponding price increases to our proposal."

Quotation subject to negotiation after 60 days

EcoXpert Schneider Electric

#311-25 RESOLVED, that having considered the report and recommendation of the Assistant Director of Public Works, dated September 11, 2025, which bears the signatures of the Director of Public Works, the Director of Finance and the City Attorney, and is approved for submission by the Mayor, in connection with Phase 2 of the **Building Controls System Upgrade Project**, pursuant to Council Resolution 098-23, adopted on March 13, 2023, the Council does hereby accept the quote of **Havel, 21661 Melrose Avenue, Southfield, MI 48075,** for completing all work required in connection with Phase 2 of the Building Controls System Upgrade Project, to include the installation of a Tridium Niagara N4/Bacnet IP direct digital system of automatic temperature control and building automation at the DPW Garage, Housing Commission building, and Fire Stations 1, 3, 4, 5 and 6, in a total amount not to exceed **$112,582.00**; FURTHER, the Council does hereby authorize an expenditure in an amount not to exceed $112,582.00 from funds budgeted in Account No. 401-000-987-000 for this purpose, with funds to be reimbursed by the US Department of Energy through its Energy Efficiency and Conservative Block Grant (EECBG) in an amount not to exceed $155,220.00; FURTHER, the Council does hereby authorize this action without competitive bidding inasmuch as the same is made through the OMNIA Partners Public Sector, under Contract R220703, and such action is taken in accordance with the provisions set forth in Section 3.04.140.E.4 of the Livonia Code of Ordinances, as amended; and the Mayor and City Clerk are hereby authorized to execute a contract, approved as to form and substance by the Department of Law, for and on behalf of the City of Livonia, with the aforesaid bidder and to do all other things necessary or incidental to the full performance of this resolution.

#098-23 RESOLVED, that having considered the report and recommendation of the Capital Outlay and Infrastructure Committee, dated March 1, 2023, submitted pursuant to Council Resolution 48-23, and further having considered a communication from the Assistant Director of Public Works, dated January 17, 2023, which bears the signatures of the Director of Public Works, the Director of Finance and the City Attorney, and is approved for submission by the Mayor, in connection with the **Building Controls System Upgrade Project** of four (4) Livonia City buildings, the Council does hereby accept the bid of Havel, a Division of **Shambaugh & Son,** LP, 21661 Melrose Avenue, Southfield, MI 48075, for completing all work required in connection with the Building Controls System Upgrade Project of four (4) Livonia City buildings, to include the Police Department Headquarters, Bennett Civic Center Library, Carl Sandburg Branch Library and the 16th District Courthouse, including all labor, materials and equipment, for a total amount not to exceed $981,662.00; the same having been in fact the lowest bid received which meets all specifications; FURTHER, the Council does hereby authorize the Mayor and City Clerk, for and on behalf of the City of Livonia, to execute an amendment to the contract adopted pursuant to CR 378-20, between the City of Livonia and OHM Advisors, 34000 Plymouth Road, Livonia, Michigan 48150, to provide construction administration services for the Building Controls System Upgrade Project in an amount not to exceed $55,000.00, subject to approval as to form and substance by the Department of Law; FURTHER, the Council does hereby authorize an expenditure in the amount of $646,505.00 from budgeted funds in Account No. 401-000-987-000 and authorizes an additional appropriation from the unexpended fund balance of the Capital Projects Fund (401) in the amount of $390,157.00, for a total amount not to exceed $1,036,662.00 for this purpose; and the Mayor and City Clerk are hereby authorized to execute a contract, approved as to form and substance by the Department of Law, for and on behalf of the City of Livonia, with the aforesaid bidder and to do all other things necessary or incidental to the full performance of this resolution.

LETTER TO THE LIVONIA CITY COUNCIL

13.

Engineering
March 25, 2026

MEETING DATE	PRESENTED BY
S040826/R042026	Todd Zilincik, P.E., City Engineer

AGENDA ITEM

AWARD OF CONTRACT: for the 2026 Sidewalk and Pavement Replacement Program — Water Main Breaks (Contract 26-F)

BACKGROUND DETAILS

At the request of the Department of Public Works a program was established to replace removed sidewalks and pavements to facilitate water main break repairs.

Phase I water main break locations are compiled from late October through early March each year. Pavement repairs to the road, sidewalk and driveway approaches are then scheduled to be completed by late June. The remaining water main breaks from mid-April until late September are compiled for Phase II. Phase II repairs are scheduled to be completed by mid-October before leaf season commences.

The Engineering Division finalized plans and specifications for a contract to repair damaged sidewalk and pavement at water main break locations. Bids for the subject project were taken on March 24, 2026. In response to our advertisement on MITN, two (2) bids were submitted. The minimum inspector days for Phase I was 16 days and 8 days for Phase II. These bids may be summarized as follows:

NAME OF BIDDER	PHASE I	PHASE II	TOTAL
1. Joe Rotondo Construction Corporation Livonia, MI	$190,806.60	$96,651.50	$284,583.52*
Inspector Days	16 Days	8 Days	
2. Great Lakes Contracting Solutions, LLC Waterford, MI	$282,338.20**	$151,837.82	$434,176.02
Inspector Days	16 Days**	10 Days	

*Bidder's Preference Per Ordinance 3.04.140
**Corrected Bid by Engineering Department

The project specifies it will be a one (1) year contract, with the option for a one (1) year extension. Phase I work shall be completed prior to June 30, 2026 and Phase II work shall be completed between September 14 and October 19, 2026.

The low bidder, Rotondo Construction Corporation, has done similar work for the City of Livonia and the Engineering Division believes their work will be satisfactory. The Engineering Division will be providing inspection and performing pay estimates for the project.

In order to proceed with this project, it is respectfully recommended that the Council take the following actions:

- Award contract in the total amount of not-to-exceed $287,458.10 to Rotondo Construction Corporation, 38807 Ann Arbor Road, Suite 2, Livonia, Michigan 48150. The award should be on the basis of the bid unit prices, said amount to be adjusted based upon the quantities of work actually completed.

- Authorize an appropriation and expenditure in the amount not-to-exceed $287,458.10 for the 2026 Sidewalk and Pavement Replacement Program – Water Main Breaks from the Water and Sewer Construction in Progress Account No. 592-158-000 from budgeted funds.

- Authorize the City Engineer to approve minor adjustments in the work as required.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

In order to proceed with this project, it is respectfully recommended that the Council take the following actions:

- Award contract in the total amount of not-to-exceed $287,458.10 to Rotondo Construction Corporation, 38807 Ann Arbor Road, Suite 2, Livonia, Michigan 48150. The award should be on the basis of the bid unit prices, said amount to be adjusted based upon the quantities of work actually completed.

- Authorize an appropriation and expenditure in the amount not-to-exceed $287,458.10 for the 2026 Sidewalk and Pavement Replacement Program – Water Main Breaks from the Water and Sewer Construction in Progress Account No. 592-158-000 from budgeted funds.

- Authorize the City Engineer to approve minor adjustments in the work as required.

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

N/A

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

$287,458.10

DETAILED WORK BEING PERFORMED

Replace removed sidewalks and pavements to facilitate water main break repairs.

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

$287,458.10 from Account No. 592-158-000

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

In response to advertisement on MITN, two (2) bids were submitted. Lowest bid is Rotondo Construction Corporation, 38807 Ann Arbor Road, Suite 2, Livonia, Michigan 48150.

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): N/A

ATTACHMENTS

1. 26-F Bid Tab
2. Bidder's Preference Ordinance
3. Form of Proposal

APPROVED BY

Todd Zilincik, P.E., City Engineer — Date: March 25, 2026

Douglas L. Moore, MSA, Assistant Director of Public Works — Date: March 25, 2026

Benjamin N. Grier, JD, CPA, Finance Director — Date: March 26, 2026

Eric Goldstein, Assistant City Attorney — Date: March 27, 2026

Maureen Miller Brosnan, Mayor — Date: March 27, 2026

City of Livonia Engineering Division
Sidewalk and Concrete Repair Program Water Main Break Locations 26-F
Bid Tabulation
March, 24 2026

ITEM	DESCRIPTION	EST. QTY		Joe Rotondo Construction 38807 Ann Arbor Road STE 2 Livonia, MI 48150 (248) 474-0707 Contact: Joe Rotondo UNIT PRICE	TOTAL PRICE	Great Lakes 2300 Edinburgh Road Waterford, MI 48328 (313) 962-0400 Contact: Philip Sakalian UNIT PRICE	TOTAL PRICE
Phase I Locations							
1	Remove and Replace 4" Concrete (Plain) (s.f.)	1500	S.F	$8.20	$12,300.00	$9.90	$14,850.00*
2	Remove and Replace 4" - 6" Concrete (Plain) with Integral Curb (s.f.)	120	S.F	$9.20	$1,104.00	$10.95	$1,314.00
3	Remove and Replace 6" Concrete (Plain) (s.f.)	3000	S.F	$9.20	$27,600.00	$10.75	$32,250.00
4	Remove and Replace 6" Concrete (Plain) ADA Ramp (s.f.)	55	S.F	$9.50	$522.50	$10.95	$602.25
5	Remove and Replace 7" Concrete (Plain) w/min. 3" 21AA Stone Base (s.f.)	1500	S.F	$9.35	$14,025.00	$11.95	$17,925.00
6	Remove and Replace 8" Concrete (Plain) w/min. 3" 21AA Stone Base (s.f.)	3000	S.F	$9.80	$29,400.00	$12.50	$37,500.00
7	Remove and Replace 8" High Early Strength (HES) Concrete Pavement (Min. 8 bags/cy) w/ min. 3" 21AA Stone Base (s.f.)	100	S.F	$6.00	$600.00	$18.00	$1,800.00
8	Remove and Replace 9+" - 11" (Reinforced) w/min. 9" 21AA Stone Base (s.f.)	2500	S.F	$10.75	$26,875.00	$18.15	$45,375.00
9	Remove and Replace 11+" - 13" (Reinforced) w/min. 9" 21AA Stone Base(s.f.)	400	S.F	$11.50	$4,600.00	$19.25	$7,700.00
10	Remove and Replace 13+" - 15" (Reinforced) w/min. 9" 21AA Stone Base(s.f.)	200	S.F	$11.90	$2,380.00	$20.50	$4,100.00
11	Remove and Replace Flush Concrete Curb and Gutter (l.f.)	50	L.F	$40.00	$2,000.00	$52.75	$2,637.50
12	Remove and Replace 6" - 8" Concrete Curb and Gutter (l.f.)	100	L.F	$40.00	$4,000.00	$52.75	$5,275.00
13	Place ADA Truncated Dome 4'x2' or 5'x2' (ea.)	1	EA	$250.00	$250.00	$225.00	$225.00
14	Adjust Structure (Top 1') (ea.)	2	EA	$300.00	$600.00	$575.00	$1,150.00
15	Adjust Structure (each Additional 1') (ea.)	1	EA	$100.00	$100.00	$250.00	$250.00
16	Adjust Sanitary Structure - Top 30" (Incl. Adjustment and Encapsulation) (ea.)	1	EA	$900.00	$900.00	$1,350.00	$1,350.00
17	Remove and Replace 2" to 6" Asphalt Pavement (100T, 36A) (s.f.)	5000	S.F	$8.00	$40,000.00	$16.00	$80,000.00
18	Lighted Arrow, Type C, Furn. (ea.)	3	EA	$250.00	$750.00	$610.00	$1,830.00
19	Lighted Arrow, Type C, Oper. (ea.)	3	EA	$250.00	$750.00	$0.01	$0.03
20	Plastic Drum, High Intensity, Furn. (ea.)	350	EA	$10.00	$3,500.00	$22.00	$7,700.00
21	Plastic Drum, High Intensity, Oper. (ea.)	350	EA	$1.00	$350.00	$0.01	$3.50
22	Barricade Type III High Intensity Double-Sided, Furn. (ea.)	2	EA	$50.00	$100.00	$200.00	$400.00
23	Barricade Type III High Intensity Double-Sided, Oper. (ea.)	2	EA	$50.00	$100.00	$0.01	$0.02
24	Sign Cover (ea.)	2	EA	$25.00	$50.00	$25.40	$50.80
25	Sign, Type B, Temp., Prismatic, Furn. (s.f.)	10	S.F	$5.00	$50.00	$15.00	$150.00
26	Sign, Type B, Temp., Prismatic, Oper. (s.f.)	10	S.F	$0.01	$0.10	$0.01	$0.10
27	Wayne County Permit Fees (l.s.)	1	L.S.	$3,500.00	$3,500.00	$3,500.00	$3,500.00
28	Inspector Days (based on an 8 hour day) Note: Min. Bid 16 days	16	DAYS	$900.00	$14,400.00	$900.00	$14,400.00*
	Subtotal Plase I Bid (Items 1-28):				**$190,806.60**		**$282,338.20**

Phase II Locations

1	Remove and Replace 4" Concrete (Plain) (s.f.)	1000	S.F	$8.20	$8,200.00	$9.90	$9,900.00
2	Remove and Replace 4" - 6" Concrete (Plain) with Integral Curb (s.f.)	60	S.F	$9.20	$552.00	$10.95	$657.00
3	Remove and Replace 6" Concrete (Plain) (s.f.)	1000	S.F	$9.20	$9,200.00	$10.75	$10,750.00
4	Remove and Replace 6" Concrete (Plain) ADA Ramp (s.f.)	28	S.F	$9.50	$266.00	$10.95	$306.60
5	Remove and Replace 7" Concrete (Plain) w/min. 3" 21AA Stone Base (s.f.)	600	S.F	$9.35	$5,610.00	$11.95	$7,170.00
6	Remove and Replace 8" Concrete (Plain) w/min. 3" 21AA Stone Base (s.f.)	600	S.F	$9.80	$5,880.00	$12.50	$7,500.00
7	Remove and Replace 8" High Early Strength (HES) Concrete Pavement (Min. 8 bags/cy) w/ min. 3" 21AA Stone Base (s.f.)	50	S.F	$6.00	$300.00	$18.00	$900.00
8	Remove and Replace 9+" - 11" (Reinforced) w/min. 9" 21AA Stone Base (s.f.)	1250	S.F	$10.75	$13,437.50	$18.15	$22,687.50
9	Remove and Replace 11+" - 13" (Reinforced) w/min. 9" 21AA Stone Base(s.f.)	200	S.F	$11.50	$2,300.00	$19.25	$3,850.00
10	Remove and Replace 13+" - 15" (Reinforced) w/min. 9" 21AA Stone Base(s.f.)	1200	S.F	$11.90	$14,280.00	$20.50	$24,600.00
11	Remove and Replace Flush Concrete Curb and Gutter (l.f.)	40	L.F	$40.00	$1,600.00	$52.75	$2,110.00
12	Remove and Replace 6" - 8" Concrete Curb and Gutter (l.f.)	25	L.F	$40.00	$1,000.00	$52.75	$1,318.75
13	Place ADA Truncated Dome 4'x2' or 5'x2' (ea.)	1	EA	$250.00	$250.00	$225.00	$225.00
14	Adjust Structure (Top 1') (ea.)	1	EA	$300.00	$300.00	$575.00	$575.00
15	Adjust Structure (each Additional 1') (ea.)	1	EA	$100.00	$100.00	$250.00	$250.00
16	Adjust Sanitary Structure - Top 30" (Incl. Adjustment and Encapsulation) (ea.)	1	EA	$900.00	$900.00	$1,350.00	$1,350.00
17	Remove and Replace 2" to 6" Asphalt Pavement (100T, 36A) (s.f.)	2500	S.F	$8.00	$20,000.00	$16.00	$40,000.00
18	Lighted Arrow, Type C, Furn. (ea.)	6	EA	$250.00	$1,500.00	$610.00	$3,660.00
19	Lighted Arrow, Type C, Oper. (ea.)	6	EA	$250.00	$1,500.00	$0.01	$0.06
20	Plastic Drum, High Intensity, Furn. (ea.)	150	EA	$10.00	$1,500.00	$22.00	$3,300.00
21	Plastic Drum, High Intensity, Oper. (ea.)	150	EA	$1.00	$150.00	$0.01	$1.50
22	Barricade Type III High Intensity Double-Sided, Furn. (ea.)	1	EA	$50.00	$50.00	$200.00	$200.00
23	Barricade Type III High Intensity Double-Sided, Oper. (ea.)	1	EA	$50.00	$50.00	$0.01	$0.01
24	Sign Cover (ea.)	1	EA	$25.00	$25.00	$25.40	$25.40
25	Sign, Type B, Temp., Prismatic, Furn. (s.f.)	100	S.F	$5.00	$500.00	$15.00	$1,500.00
26	Sign, Type B, Temp., Prismatic, Oper. (s.f.)	100	S.F	$0.01	$1.00	$0.01	$1.00
27	Inspector Days (based on an 8 hour day) Note: Min. Bid 8 days	8	DAYS	$900.00	$7,200.00	$900.00	$9,000.00 (10 days)
	Subtotal Plase II Bid (Items 1-27):				**$96,651.50**		**$151,837.82**
	Calculated Bid				**$287,458.10**		**$434,176.02**
					$284,583.52 **		

Others Submitting Bid:
None

Bids Advertised:
MITN, March, 11 2026
Bid Opening Date: March 24, 2026

*** Corrected Bid by Engineering Department**
*** * Bidder's Preference per Ordinance 3.04.140**

3.04.140 Bids or quotes—Required when—Procedures—Council authority.

F. Bids from City-Based Firms.

1. In comparing bids, the bid of any city-based firm may be deemed a better bid than the bid of any competing firm which is not city-based, whenever the bid of such competing firm shall be less than three (3) percent lower than the bid of the city-based firm on any contract bid in an amount of two hundred thousand dollars ($200,000.00) or less, and less than one (1) percent lower on any amount bid in excess thereof. The foregoing percentages shall each be deemed to apply to the city-based bid and, as the case may be, to the full and complete amount of the contract bid, e.g., the equalization credit of one (1) percent would apply to the full contract amount bid, and not merely to the amount in excess of two hundred thousand dollars ($200,000.00). The firm making the lowest bid thus evaluated shall be deemed the lowest bidder. No contract hereafter awarded by reason of an equalization percentage credit shall be sublet to any subcontractor which is not a city-based firm. Any bidder who claims entitlement to an equalization percentage credit shall agree to make available to the city the records necessary to establish eligibility. Section 3.04.140(E) shall not apply to contracts authorized pursuant to Section 3.04.140(D).

2. "City-based firm" means a firm which is located within the city and which has made payment of commercial, office, manufacturing or research and engineering property taxes on real or personal property for at least one (1) calendar year.

G. All bids, regardless of amount, shall constitute public records, and shall be preserved in the office of the city clerk for a period of six (6) years following the date of opening. (Ord. No. 3180 , § 1, 7-11-2022; Ord. 2864, § 3, 2011: Ord. 2853, § 1, 2010; Ord. 2344, § 1, 1996; Ord. 2264, § 1, 1994; Ord. 2228, § 1 (part), 1994; Ord. 2175, § 1, 1993; Ord. 2171, § 1, 1993; Ord. 1699, § 1, 1983; Ord. 1111, § 1 (part), 1973; prior code § 2-213)

2026 SIDEWALK AND CONCRETE REPAIR PROGRAM
WATER MAIN BREAK LOCATIONS - CITY OF LIVONIA, MICHIGAN
CONTRACT 26-F
FORM OF PROPOSAL

The undersigned agrees that the City of Livonia may increase or decrease the quantity of work without changing the unit price bid for the work.

The undersigned represents that he acknowledges that the City reserves the right to accept or reject any bid or all bids and to waive irregularities in bids.

Contractor JOE ROTONDO CONSTRUCTION

38807 ANN ARBOR RD. STE. 2 LIVONIA, MI 48150
Address

248-474-0707 — Telephone No.
38-3156896 — Federal I.D. No.
3/24/2026 — Date

By JOSEPH ROTONDO — PRESIDENT — Title

NOTE:

A. The contractor must submit one (1) Form of Proposals and all other bid documents to be submitted electronically following the instructions in the "Notice to Bidders" and "Instructions to Bidders" sections and recommend that the contractor retain one (1) copy for their file.
B. Bidder should not add any conditions or qualifying statement to their bid, otherwise the bid may be declared irregular as being not responsive to the Notice to Bidders.
C. The name of the signee must be clearly printed or typed under their signature.
D. City of Livonia reserves the right authorize a one (1) year extension of the 2026 contract unit prices for 2027 Contract: 27-F. The quantities may be similar, more or less than 2026 Contract: 26-F. This would require a letter in January 2027 from the lowest qualified contractor that was awarded Contract 26-F stating they are agreeable to the terms. Inspector Days would need to be negotiated based on the amount of work. The contractor should not bid the unit prices assuming they would obtain work for 2027 Contract: 27-F, but an opportunity to extend proposed repairs for another year.

LETTER TO THE LIVONIA CITY COUNCIL

14.

Engineering
March 25, 2026

MEETING DATE	PRESENTED BY
S040826/R042026	Todd Zilincik, P.E., City Engineer

AGENDA ITEM

AWARD OF CONTRACT: for the Myrna Avenue Water Main Replacement (Hubbard Road to Merriman Road)

BACKGROUND DETAILS

After numerous water main breaks along Myrna Avenue, between Hubbard Road and Merriman Road, the decision was made to replace the existing 8-inch cast iron water main with an 8-inch new high-density polyethylene (HDPE) main. The decision to replace the main this year was also impacted by the proposed roadway replacement scheduled for later in the summer.

The water main replacement project will be utilizing trenchless technologies, directional drilling and pipe-bursting, to minimize disturbances. This project will provide improved water quality, reliability and additional hydrants for fire coverage. The proposed project will consist of replacing approximately 2,800 lineal feet of 8-inch cast iron piping installed in 1955 with new 8-inch HDPE piping. The project is proposed to begin at the beginning of May, which will allow us to be able to complete the work prior to our road paving construction mid-summer.

The Engineering department finalized plans and specifications and the project. In response to the advertisement on Michigan Inter-Governmental Trade Network (MITN), seven (7) bids were submitted. There was a mandatory pre-bid meeting held on March 5, 2026. These bids may be summarized as follows:

NAME OF BIDDER	AMOUNT OF BID
• Bricco Excavating Company, LLC 21201 Meyers Road, Oak Park, MI. 48237	$689,000.00
• Bidigare Contractors, Inc. 939 S. Mill Street, Plymouth, MI. 48170	$693,590.00
• Inner City Contracting Group 18715 Grand River Avenue, Detroit, MI. 48223	$699,960.45
• D'Angelo Brothers, Inc. 30826 W. 8-Mile Road, Farmington Hills, MI. 48336	$768,558.00

- Major Contracting Group, Inc. $1,096,000.00
  12222 Greenfield Road, Detroit, MI. 48227

- Murphy Pipeline Contractors, LLC $1,118,154.00*
  5700 Sheldon Road South, Canton, MI. 48188

- Lawrence M. Clarke, Inc. $1,256,800.00*
  50850 Bemis Road, Belleville, MI. 48111

*Corrected bid by Engineering Department

Note: The summarized bids include the inspector day costs. The contractor was required to provide the number of days to complete the project, with a minimum of 60 days being specified.

The Engineering Department verified references and work experience for the low bidder, Bricco Excavating Company, LLC, and we are recommending that the contract be awarded in the amount of $689,000.00. The inspection for this project will be handled in-house by the Engineering Department along with contract administration.

In order to proceed with this project, we recommend that the Council take the following actions:

- Award a contract in the amount of $689,000.00 to Bricco Excavating Company, LLC, 21201 Meyers Road, Oak Park, MI. 48237. The award should be based on the bid unit prices, said amount to be adjusted based upon the quantities of work actually completed.

- Authorize an expenditure not-to-exceed $689,000.00 from budgeted funds in Account No. 592-158-000, Construction in Progress.

- Authorize the City Engineer to make minor adjustments to the work, as needed.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

In order to proceed with this project, we recommend that the Council take the following actions:

- Award a contract in the amount of $689,000.00 to Bricco Excavating Company, LLC, 21201 Meyers Road, Oak Park, MI 48237. The award should be based on the bid unit prices, said amount to be adjusted based upon the quantities of work actually completed.

- Authorize an expenditure not-to-exceed $689,000.00 from budgeted funds in Account No. 592-158-000, Construction in Progress.

- Authorize the City Engineer to make minor adjustments to the work, as needed.

SPECIFIC NAME OF PRODUCT AND NUMBER TO BE PURCHASED (if more than one)

N/A

CONTRACT: Amount and/or purchase price and length of contract (with dates if applicable)

$689,000.00

DETAILED WORK BEING PERFORMED

Replace the existing 8-inch cast iron water main with an 8-inch new high-density polyethylene (HDPE) main.

FISCAL CONSIDERATIONS (Amount requested and Account(s) used. If applicable, Grant Funding information)

$689,000.00 from budgeted funds in Account No. 592-158-000, Construction in Progress.

ACCEPTANCE OF BID (Please detail the following: Why accepted, why not lowest bidder, company name, contact person, full address)

In response to the advertisement on Michigan Inter-Governmental Trade Network (MITN), seven (7) bids were submitted. The lowest bidder was Bricco Excavating Company, LLC, 21201 Meyers Road, Oak Park, MI 48237.

REASON TO WAIVE BID PROCESS (Emergency, Professional services, No advantage to City and why, Consortium package, etc): N/A

ATTACHMENTS

1. Bid Tab

APPROVED BY

Todd J. Zilincik

Todd Zilincik, P.E., City Engineer — Date: March 25, 2026

Douglas L. Moore, MSA, Assistant Director of Public Works — Date: March 26, 2026

Benjamin N. Grier, JD, CPA, Finance Director — Date: March 26, 2026

Eric Goldstein, Assistant City Attorney — Date: March 27, 2026



Date: March 27, 2026

Maureen Miller Brosnan, Mayor

City of Livonia Engineering Division
Myrna Avenue Water Main Replacement
Bid Tabulation
March 17, 2026

ITEM	DESCRIPTION	EST. QTY		Bricco Excavating Company, LLC 21201 Meyers Road Oak Park, MI 48237 (248) 547-6963 Contact: Marco Banchero UNIT PRICE	TOTAL PRICE	Bidigare Contractors, Inc. 939 S. Mill Street Plymouth, MI 48170 (248) 735-1113 Contact: John Bidigare UNIT PRICE	TOTAL PRICE	Inner City Contracting Group 18715 Grand River Avenue Detroit, MI 48223 (313) 272-5031 Contact: Curtis Johnson UNIT PRICE	TOTAL PRICE
1	Mobilization (5% Max)	1	L.S.	$ 32,800.00	$ 32,800.00	$ 10,000.00	$ 10,000.00	$ 13,991.21	$ 13,991.21
2	Audio-Video Route Survey	1	L.S.	$ 4,180.00	$ 4,180.00	$ 900.00	$ 900.00	$ 955.40	$ 955.40
3	Traffic Control	1	L.S.	$ 15,000.00	$ 15,000.00	$ 2,500.00	$ 2,500.00	$ 5,068.90	$ 5,068.90
4	Irrigation System Repair Allowance	5000	Dlr	1.00	$ 5,000.00	1.00	$ 5,000.00	1.00	$ 5,000.00
5	Remove Exist. 8" C.I. Pipe	15	L.F	$ 40.00	$ 600.00	$ 15.00	$ 225.00	$ 64.78	$ 971.70
6	Remove Exist. Hydrant and Valve	3	EA.	$ 700.00	$ 2,100.00	$ 500.00	$ 1,500.00	$ 639.29	$ 1,917.87
7	Remove Exist. 8" Gate Valve and Well	5	EA.	$ 875.00	$ 4,375.00	$ 700.00	$ 3,500.00	$ 966.24	$ 4,831.20
8	Place 8" x 8" HDPE "Tee"	2	EA.	$ 1,500.00	$ 3,000.00	$ 700.00	$ 1,400.00	$ 2,383.44	$ 4,766.88
9	Place 8" x 6" HDPE "Tee"	6	EA.	$ 1,500.00	$ 9,000.00	$ 600.00	$ 3,600.00	$ 2,460.07	$ 14,760.42
10	Place 8" MJ Adaptor	1	EA.	$ 760.00	$ 760.00	$ 300.00	$ 300.00	$ 476.76	$ 476.76
11	Place 8" HDPE 45 Degree Bend, Direct Bury	4	EA.	$ 1,269.00	$ 5,076.00	$ 400.00	$ 1,600.00	$ 820.52	$ 3,282.08
12	Place 6" HDPE 45 Degree Bend, Direct Bury	6	EA.	$ 1,040.00	$ 6,240.00	$ 300.00	$ 1,800.00	$ 701.48	$ 4,208.88
13	Place 8"HDPE 22.5 Degree Bend, Direct Bury	6	EA.	$ 1,169.00	$ 7,014.00	$ 400.00	$ 2,400.00	$ 819.37	$ 4,916.22
14	Place 6" HDPE Pipe, Direct Bury	47	L.F	$ 79.00	$ 3,713.00	$ 140.00	$ 6,580.00	$ 260.52	$ 12,244.44
15	Place 8" HDPE Pipe, Direct Bury	180	L.F	$ 83.00	$ 14,940.00	$ 140.00	$ 25,200.00	$ 96.45	$ 17,361.00
16	Place 8" HDPE Pipe, Directional Drill	2090	L.F	$ 74.00	$ 154,660.00	$ 115.00	$ 240,350.00	$ 78.17	$ 163,375.30
17	Place 8" HDPE Pipe, Pipe-Bursting	520	L.F	$ 63.00	$ 32,760.00	$ 115.00	$ 59,800.00	$ 78.17	$ 40,648.40
18	Place 8" Gate Valve and Well	4	EA.	$ 10,000.00	$ 40,000.00	$ 9,550.00	$ 38,200.00	$ 9,967.81	$ 39,871.24
19	Place Hydrant and Valve Assembly	6	EA.	$ 9,000.00	$ 54,000.00	$ 8,650.00	$ 51,900.00	$ 9,690.71	$ 58,144.26
20	1" HDPE Water Service, Long	18	EA.	$ 2,669.00	$ 48,042.00	$ 2,500.00	$ 45,000.00	$ 1,948.39	$ 35,071.02
21	1" HDPE Water Service, Short	17	EA.	$ 1,600.00	$ 27,200.00	$ 1,700.00	$ 28,900.00	$ 1,604.73	$ 27,280.41
22	Curb Stop and Box	35	EA.	$ 370.00	$ 12,950.00	$ 400.00	$ 14,000.00	$ 506.13	$ 17,714.55
23	Remove and Replace 8" Conc. Pav't.	300	S.F.	$ 25.00	$ 7,500.00	$ 14.00	$ 4,200.00	$ 13.69	$ 4,107.00
24	Remove and Replace 7" Bituminous Asphalt Pav't.	2500	S.F.	$ 11.00	$ 27,500.00	$ 2.00	$ 5,000.00	$ 16.92	$ 42,300.00
25	Connect WM	4	EA.	$ 9,000.00	$ 36,000.00	$ 3,500.00	$ 14,000.00	$ 6,361.49	$ 25,445.96
26	Abandon Ex. 8" W.M. in place	2185	L.F	$ 2.00	$ 4,370.00	$ 6.00	$ 13,110.00	$ 5.37	$ 11,733.45
27	Sewer Cleaning	1000	L.F	$ 3.00	$ 3,000.00	$ 5.00	$ 5,000.00	$ 5.31	$ 5,310.00
28	Lateral Location and Inspection	17	EA.	$ 660.00	$ 11,220.00	$ 225.00	$ 3,825.00	$ 477.70	$ 8,120.90
29	Maintenance Gravel	500	TON	$ 45.00	$ 22,500.00	$ 1.00	$ 500.00	$ 22.75	$ 11,375.00
30	Erosion Control, Silt Fence	5000	L.F.	$ 1.50	$ 7,500.00	$ 0.01	$ 50.00	$ 1.59	$ 7,950.00
31	Restoration (Includes 3" Topsoil, Seed, Mulch and Fertilizer)	3000	S.Y.	$ 9.00	$ 27,000.00	$ 14.75	$ 44,250.00	$ 15.92	$ 47,760.00
32	Permit and Inspection Fee Allowance	5000	Dlr	1.00	$ 5,000.00	1.00	$ 5,000.00	1.00	$ 5,000.00
33	Inspector Days (based on 8 hrs/day) (minimum 60 days)	900	Dlr/Day	$ 60.00	$ 54,000.00	$ 60.00	$ 54,000.00	$ 60.00	$ 54,000.00
	Calculated Bid				**$ 689,000.00**		**$ 693,590.00**		**$ 699,960.45**

Others Submitting Bid:

D'Angelo Brothers Inc.	**$ 768,558.00**	
Lawrence M. Clarke, Inc.	**$ 1,256,800.00**	*
Major Contracting Group	**$ 1,096,000.00**	
Murphy Pipeline Contractors	**$ 1,118,154.00**	*

Bids Advertised:
MITN, February 24, 2026
Bid Opening Date: March 17, 2026

* Livonia Engineering Correction

LETTER TO THE LIVONIA CITY COUNCIL

15.

Council Office
March 25, 2026

MEETING DATE	PRESENTED BY
S040826/R042026	Vice President Patrick Brockway

AGENDA ITEM

REQUEST FOR PROCLAMATION TO DESIGNATE APRIL AS AUTISM AND HASHIMOTO'S THYROIDITIS DISEASE AWARENESS MONTH: in order to bring civic awareness to these topics and foster better understanding within the community.

BACKGROUND DETAILS

At the request of Vice President Brockway on behalf of residents' request, please consider bringing civic awareness to these topics and foster better understanding within the community by proclaiming April as Autism and Hashimoto's Thyroiditis Disease Awareness Month.

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

To approve the following proclamations:

Title: Hashimoto's Disease Awareness Month
WHEREAS, Hashimoto's disease is an autoimmune disorder in which the immune system attacks the thyroid gland, often resulting in hypothyroidism and significant impacts on overall health; and
WHEREAS, Hashimoto's disease affects millions of Americans and is among the most common autoimmune conditions, particularly impacting women; and
WHEREAS, individuals with Hashimoto's disease often face delayed diagnosis and ongoing challenges in managing symptoms; and
WHEREAS, there is currently no cure, and continued research and awareness are essential to improving outcomes and quality of life; and
WHEREAS, increased public awareness and access to appropriate medical care are critical to supporting those living with this condition;
NOW, THEREFORE, the Livonia City Council does hereby proclaim the month of April 2026 as Hashimoto's Disease Awareness Month and encourages residents to increase awareness and support individuals affected by this condition.

Title: Autism Awareness and Acceptance Month
WHEREAS, autism spectrum disorder is a developmental condition that affects communication, behavior, and social interaction, with a wide range of strengths and challenges; and
WHEREAS, autism affects individuals and families across all communities, and early diagnosis and appropriate support can improve outcomes and quality of life; and
WHEREAS, individuals with autism contribute to the strength and diversity of our community and

deserve understanding, inclusion, and respect; and
WHEREAS, promoting both awareness and acceptance is essential to reducing barriers and ensuring equal opportunities in education, employment, and community life;
NOW, THEREFORE, the Livonia City Council does hereby proclaim the month of April 2026 as Autism Awareness and Acceptance Month and encourages residents to foster understanding, inclusion, and support for individuals with autism and their families.

ATTACHMENTS

None

APPROVED BY