Building Resiliency through Community Collaborative Partnerships

Wednesday, May 8, 2024

Emily Finnell Great Lakes Senior Advisor and Strategist EGLE, Office of the Great Lakes

Office of the Great Lakes

Lead policy development and strategic implementation of programs to protect, restore, and sustain the Great Lakes

- Build regional collaboration and governance to advance shared priorities
- Support sustainable Great Lakes water use
- Support sustainable development of maritime resources, ports, harbors and tourism
- Advance Great Lakes research to support policy and science-based decision making
- Foster Great Lakes literacy and stewardship for future generations





Commitment to Environmental Justice and a Just Transition -Collaborative Community Champions of Water Resource Revitalization

Benton Harbor Ox Creek Revitalization Project

• Create a model for engagement to leverage/maximize benefits from state and federal programs in EJ communities

Sustainable Small Harbors Toolkit 2.0

- Toolkit of best practices, resources, and funding opportunities to support small harbor sustainability planning efforts
- Integrate EJ and how it impacts policy implementation
- Fully embed new resources and opportunities to decarbonize, electrify, and increase climate resiliency

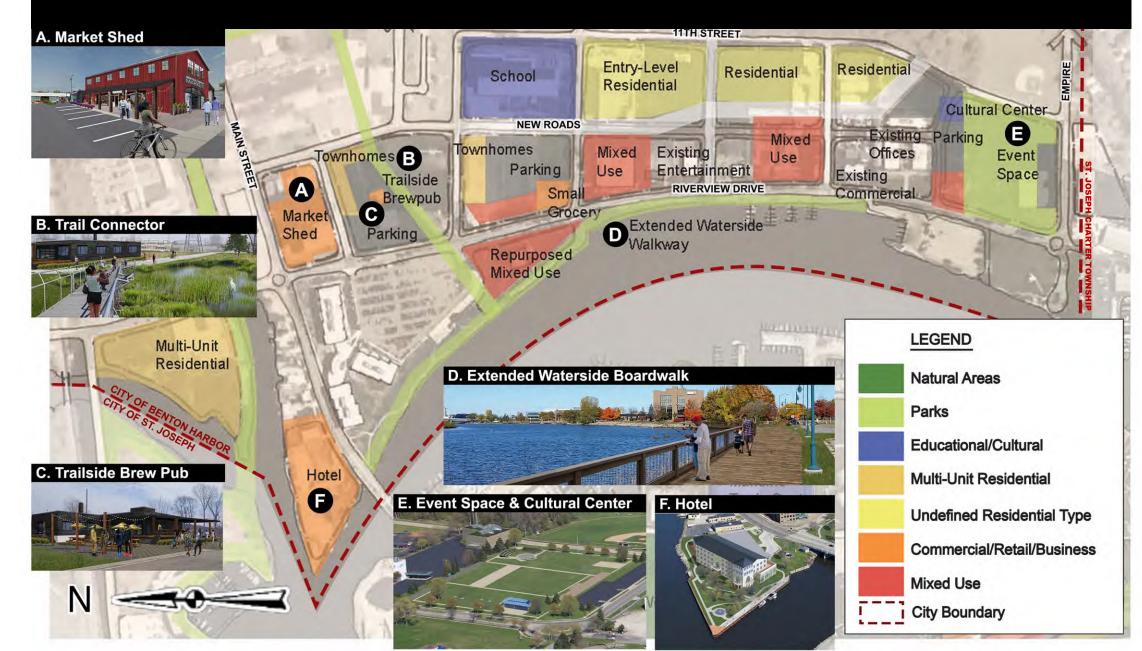
Benton Harbor Challenges



Population	~9,000	
Under 19	36%	
Over 65	27%	
Disability	20%	
Income	\$15,629	
Size	4.6 square miles	



TWIN CITIES SUSTAINABLE HARBOR PROJECT TWIN CITIES HARBOR VISION 2040



Ox Creek Revitalization & Restoration

Neglect to Opportunity

The city envisions a vibrant recreational and economic Ox Creek corridor with bike paths, lighted walkways, pedestrian bridges, outdoor classrooms, and new commercial development and housing opportunities.











Address nonpoint source pollution to reduce flash flooding, sedimentation, and pollutant runoff.



Address **legacy contamination** to create opportunities for recreation/redevelopment.



- 1915 "The Beginnings of Hall Park" -Irom "Benton Harbor: The Metropolis of the Fruit Belt."



Clean up and stop **illegal dumping** occurring along the corridor.



Restore the **creek and its corridor** and create improved opportunities for **public access**.

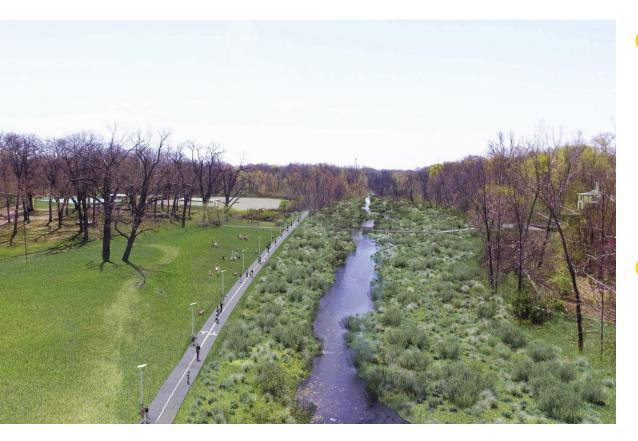
Collaborators and Supporters

The City of Benton Harbor has assembled a broad foundation of **expert collaborators** as well as **key stakeholders** and **supporters**. City of Benton Harbor Benton Charter Township Berrien County State of Michigan University of Michigan SW Michigan Planning Commission NOAA USEPA Army Corp of Engineers

Gast Manufacturing Michigan Gas Utilities Whirlpool Corporation



Element 1 - Restore Habitat and Increase Resilience



Goal 1.1 Restore and maintain habitat including creek, banks, wetlands, floodplains, and forests to support fish, wildlife, and human uses for ecological function and resiliency.

Goal 1.2 - Create and enhance outdoor spaces for recreation, enjoyment, and development while maintaining habitat needed for ecological function and resilient ecosystems.

Element 2 - Improve Water Quality and Manage Water Quantity



- Goal 2.1 Reduce urban runoff and nonpoint source pollution through nature-based solutions to increase resiliency by alleviating flashiness, sedimentation, and pollution.
- Goal 2.2 Reduce rural runoff and nonpoint source pollution from agriculture to alleviate flashiness, sedimentation, and pollution.
- Goal 2.3 Reduce discharges from pollutants from contaminated sites, drain outfalls, and stormwater drains..

Element 3 - Create Economic Redevelopment Opportunities





3D illustration of concept plans for Valley Drive.

- Goal 3.1 Identify and address legacy contamination at Harbor Plating to improve environmental quality for future uses.
- Goal 3.2 Identify and address legacy contamination at Modern Plastics to improve environmental quality for future uses.
- Goal 3.3 Implement economic and community development projects to achieve highest and best use of other remediation sites, brownfield sites, and underutilized properties.

Element 4 - Create and Revitalize Places to Gather, Enjoy, Explore, and Play



Goal 4.1 Create accessible areas to experience nature and wildlife, access the water for fishing, paddling, and playing, and participate in outdoor and indoor recreation and sports, experiential learning, and other activities and programming.

- Goal 4.2 Create a safe, welcoming, and clean experience for families and the community to gather and engage that fosters diverse uses and a sense of ownership and stewardship.
- Goal 4.3 Restore and revitalize Hall Park as a centerpiece of the community's aspirations for a welcoming, inviting, safe, and vibrant gathering place.

Element 5: Create an interconnected system of pedestrian trails, parks, and amenities



Goal 5.1 Create an accessible non-motorized recreational trail system along the Ox Creek corridor to increase mobility, improve access to community resources, and improve the quality of life for residents and visitors.

Goal 5.2 – Develop a seamless network of accessible, walkable, and bikeable paths with pedestrian bridges connecting neighborhoods to each other, to the Arts District and to the regional trail network.

Element 6 - Clean up and stop illegal dumping, littering, and other debris

 Goal 6.1 – Clean up and prevent illegal dumping, littering, and other debris.







Credit Michigan Sea Grant

Element 7 – Build community capacity and stewardship



Benton Harbor Earth Day Celebration & Ox Creek Clean Up

Free Family Fun!

Hall Park, Highland Avenue Saturday, April 22, 2023 12:00 - 3:00 pm

Ge Expel: Elser Up with the serren construction bird of free tamily and kits activities, an intels for T Sarett Na Emote, groukers, guinted takes, serverage hum, crocolliers, and morel

Food provided Trivit Domis, first server

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- Goal 7.1 Build community capacity for shared water governance and stewardship of Ox Creek, particularly among youth.
- Goal 7.2 Create organizational capacity and resources – human and financial – to support the effort for long-term community capacity and maintenance.

Ox Creek and Harbor Funding

Ox Creek Revitalization

\$2,501 EGLE Water Resources Division MiCorps grant - volunteer clean up along Ox Creek **\$3,000** Berrien Community Foundation – Ox Creek and Hall Park Vision signage **\$3 million** Upton FY23 Community Project for Ox Creek Corridor **\$200,000** Army Corps of Engineers – Technical Assistance for floodplain modeling **\$958,000** MDNR Spark Grant – Hall Park (pathways, basketball courts, etc) **\$1,000,000** NOAA, Coastal Habitat Restoration & Resilience Grant for Underserved Communities **\$27,400** U.S. Dept. of Ag Forest Service Great Lakes Restoration Initiative, Cooperative Weed Management Area grant **\$5,000** Heart of Cook Earth Day Grant - Earth Day Event at Hall Park on April 22, 2023 **\$1,050,000** GLRI Noncompetitive – Improved access, stormwater BMPs at Hall Park & retail area **\$150,000** Google Home State Grant – Stream Habitat Restoration **\$600,000** NFWF Sustain Our Great Lakes - stream restoration **EPA Brownfield Assessment Grant and TAB** – technical assistance **\$1,000,000** EGLE NPS (pending) - stormwater BMP at Walmart **\$1,500,000** NOAA Marine Debris Removal (LOI accepted)

Harbor Funding

\$392,920 EGLE High Water Infrastructure Grant – Riverview Drive **\$15,000,000** NOAA Climate Resilience Regional Challenge for Ox Creek and Riverview Dr



Ox Creek Revitalization Progress

- Activating Hall Park and Building Awareness of Ox Creek
- Earth Day Event and Creek Clean Up
- Fall Wellness Event
- Solicited input on Hall Park renovations and Ox Creek Trail
- Collected Data for Habitat Restoration Plan Development and Modeling Efforts
- Developing a Strategic Plan Document and Communications Plan
- Hiring a City Employee for Ox Creek Project
- Ox Creek Summit



Contact info

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MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Michigan Coastal Management Program Pathway to Resilience

Melissa Letosky, Coastal Waters Coordinator

Water Resources Division

MCMP Focus Areas







Coastal Community Development Objective

The MCMP is committed to plan and manage future growth and development on lands adjacent to the coast, while protecting coastal natural resources, maritime heritage resources, waterdependent livelihoods and recreation, and other assets and activities that contribute to the community's sense of place. East China Township, St. Clair Riverfront Waterfront Redevelopment Plan



EAST CHINA TOWNSHIP ST CLAIR COUNTY, MICHIGAN

St. Clair Riverfront Redevelopment Plan

March 2022

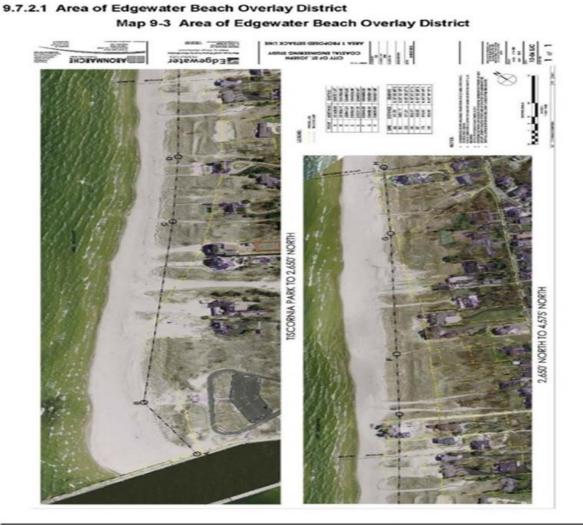




Coastal Hazards Objective

The MCMP is committed to increase coastal communities' understanding of the risks associated with living on the coast from coastal erosion, flooding, and dangerous currents to build the ability to absorb, respond, and adapt to impacts from coastal storms and Great Lakes water level variabilities.

St. Joseph Coastal Study



CITY OF ST. JOSEPH ZONING ORDINANCE



Coastal Habitat Objective

The MCMP is committed to protecting, preserving, and restoring healthy coastal wetlands, beaches, and dunes. As the first defense against storm surge, natural infrastructure is critical for coastal communities' resilience, as well as maintaining beneficial ecological plans and animal communities.



City of Bridgman, Weko Beach Dune Restoration and Stabilization

- Designated access staircase and pathways.
- Native dune grass plantings.
- Sand dune fencing installed.
- Sheet pile retaining walls.

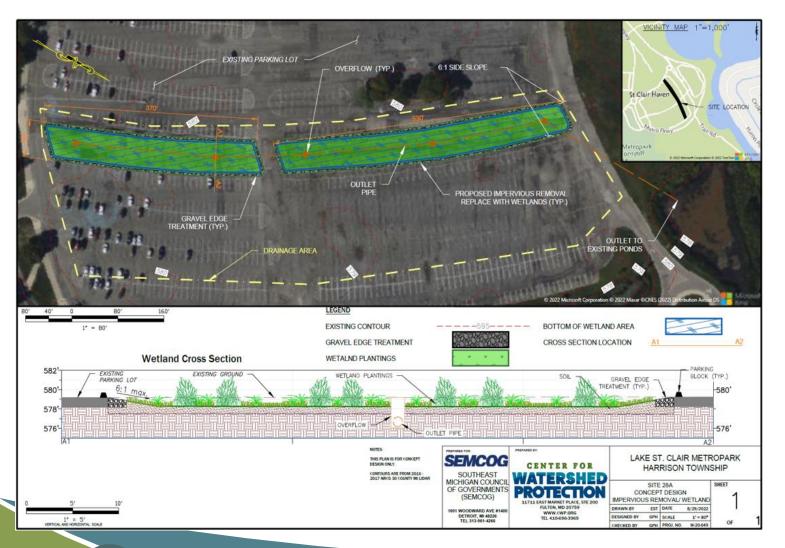


Coastal Waters Objectives

The MCMP is committed to the protection and management of coastal waters by working with partners for planning and installing nature-based solutions that benefit ecosystem services for managing storm water and flooding in coastal areas.



Southeast Michigan Council of Governments, Green Infrastructure Assessments for Coastal Resilience in Southeast Michigan



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- Conducted stakeholder engagement to identify 100+ sites.
- Completed 80 site assessment for green infrastructure feasibility.
- Developed over 40 site-specific green infrastructure concept plans.
- 4 county project area: Saint Clair, Macomb, Wayne, Monroe.
- Equity and environmental justice component.



Enhancing Public Access Objectives

The MCMP is committed to enhancing public access to the Great Lakes using approaches that support coastal communities; foster appreciation of natural, cultural, and historic resources; and create tourism opportunities.



St. Clair Wetland Interpretive Boardwalk

- Leveraged previous GLRI habitat restoration with enhanced public access.
- Low-impact development (LID) techniques.
- Educational and interpretive signage.



Pathway to Resilience

- 1. Technical Assistance Tools and Training.
- 2. Scenario-based Resilient Plans and Zoning.
- 3. Nature-based Feasibility, Design, and Engineering Plans.
- 4. Shovel Ready Projects.



Coastal Leadership Academy Training

Community Planning Approaches

Adaptation Tools

Build awareness of coastal hazards

Initiate local Community of Practice

• Explore planning responses to instill community resilience

Build on local networks established in Module 1
Assess local vulnerabilities
Apply suite of adaptation approaches to local issue(s)

Nature-Based Solutions

- Introduce local stakeholders to nature-based shoreline design alternatives
- Create implementation plan/processes/regulations

Resilient Coastal Communities

Planning Guide

A guide to incorporate local coastal resiliency principles into the community's master plans and ordinances for making wise local development decisions.



Building Coastal Resilience Video Series

Building Coastal Resilience

The first step to become a Resilient-Ready Coastal Community is to ask if your community has the sustained ability to adapt and recover from the many forces of living on Michigan's coast. It is important for local officials and coastal property owners to make wise decisions for responding to and recovering from the negative impacts of coastal hazards.

Watch this 6-part video series to learn how your community can build resilience.



Introduction to the Michigan Coastline

The Impacts of Water Levels and Weather Protecting the Coast for Everyone



Coastal Leadership Academy Workshops

Scenario-based Planning	Nature-based Solutions to Reduce Coastal Risks	Adaptation Strategies for Coastal Hazards
Using the Resilient Coastal Communities Planning Guide as its foundation, this module walks through resources and resilient principles that can be incorporated into community planning documents.	This module helps communities identify and plan solutions focusing on natural infrastructure adaptations to manage stormwater and coastal flooding. *Coming 2024*	This module is currently in the development phase and will focus on guidance and resources to provide alternatives to hardened shorelines. *Coming 2025*



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Coastal Leadership Academy

Designed as flip style learning experience for small community groups.

Target audience includes:

- Local government staff
- Community planners
- Elected officials
- Planning commission members



Nature-based Solutions to Slow the Flow





Resilient Coastal Communities' Adaptation Strategies Toolkit

The MCMP Toolkit will empower communities with knowledge of coastal processes and practices that proactively manage coastal hazards (e.g., coastal erosion, flooding, storm water, and urban heat).

- Technical Guide: provide accessible science, show resilience of natural shorelines
- Best Practices: series of feasible alternatives appropriate for Michigan's coastline.

Natural beaches and sandbars limit wave energy reaching the coast.

MCMP Financial Assistance

Who is Eligible: Eligible applicants include coastal communities (e.g., local units of government, cities, counties, villages, and townships), regional planning agencies, educational institutions, Tribal governments, and not-for-profits 501(c) organizations located within the approved programmatic boundary.

Grant Amounts:

- Planning projects can be no less than \$10,000 and no greater than \$75,000.
- Site-specific planning and engineering projects can be no less than \$10,000 and no greater than \$150,000.
- Site-specific low-cost construction projects can be no less than \$10,000 and no greater than \$200,000.
- Land conservation through land acquisition projects can be no greater than \$500,000

How to Apply: Grant Funding Opportunities are released annually in October with a December application due date.

For more information, visit the Coastal Management Program webpage: www.Michigan.gov/CoastalManagement.



Project Interest Form

- Helps the MCMP Team gain an understanding of needs and provides opportunity for follow up.
- Identifies specific coastal community needs.
 - What coastal issues is your community experiencing and what are the challenges in addressing them?
 - How will this project address these issues and challenges?
 - Describe the community significance and public benefits of the project's outcomes.

MCMP Team

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Coastal Community



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Michigan Department of **Environment, Great Lakes, and Energy**

800-662-9278 Michigan.gov/EGLE

Follow us at: Michigan.gov/CoastalManagement

Follow us at: <u>Michigan.gov/EGLEConnect</u>







MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Resiliency Through Floodplain Management Collective Strategies for Planners

Donna Cervelli, PE, CFM Water Resources Division, Floodplain Engineer 517.243.6951 | <u>cervellid@Michigan.gov</u>



Presentation Overview:

- State floodplain management
- Floodplain Resources for Planners to Help Build Resiliency:
 - 1. Identify floodplains
 - 2. Apply flood provisions of the Michigan Building Codes, or higher standards within local ordinances.
 - 3. Know vulnerable areas for proper zoning
 - 4. Understand grant opportunities



"Weather-related disasters pushed more than 3.3 million American adults out of their homes in 2022, census data shows. Of those, at least 1.2 million were displaced for a month or longer."

> -As Climate Shocks Worsen, U.S. Disaster Agency Tries a New Approach to Aid, NYTs article, Jan. 19, 2024



Why is it important to manage floodplains?

- Floods are the most common natural disaster. \$\$\$\$\$\$
- About 200 Americans lose their lives in floods each year.
- **90 percent (90%)** of all presidential declarations of emergency or major disaster involve flooding
- Approximately 6% of Michigan's land is flood-prone, including about 200,000 buildings.
- Michigan has about 1,100 participating communities in FEMA National Flood Insurance Program
- Undeveloped floodplains support many natural resources (wetlands, wildlife, ground water recharge...) and provide economic, social, and environmental opportunities for communities.

WRD Resource Programs

- Floodplain Regulatory Authority found in Part 31, Water Resources Protection
- Inland Lakes and Streams, Part 301
- Wetland Protection, Part 303
- Dam Safety, Part 315
- Inland Lake Levels, Part 307
- Sand Dune Protection and Management, Part 353
- Shorelands Protection and Management, Part 323
- Great Lakes Submerged Lands, Part 325 www.Michigan.gov/jointpermit

In 1994, the Michigan legislature combined the state's environmental laws into one act, the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. (The NREPA)

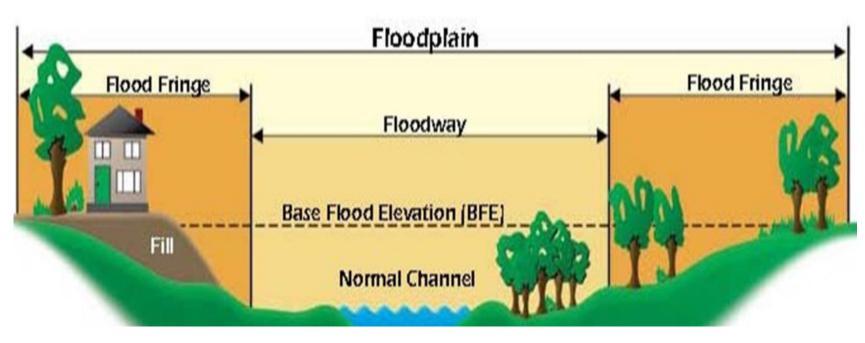
Most natural resource and environmental protection laws are part of the NREPA.

Part 31 Floodplain Permits

Floodplain Regulatory Authority found in Part 31, Water Resources Protection, of NREPA, as amended:

- Any Occupation,
- Construction,
- Filling, or grade changes within the floodplain of a river or stream that has a drainage area of <u>2 square miles, or greater</u>

Michigan.gov/jointpermit



GOALS!

- To protect people and property from flood damage
- To reduce future flood losses in Michigan
- Preserve the natural functions of rivers and their floodplains
- To prevent the cumulative loss of floodplain storage which will ultimately increase flood discharges and cause increased flood stages

Voluntary Wetlands Restoration (VWR) Program





Restoration Assistance:

USFWS, USDA, NRCS, DNR, Ducks Unlimited, Conservation districts, land conservancies, watershed organizations

Wetland Restoration (michigan.gov)

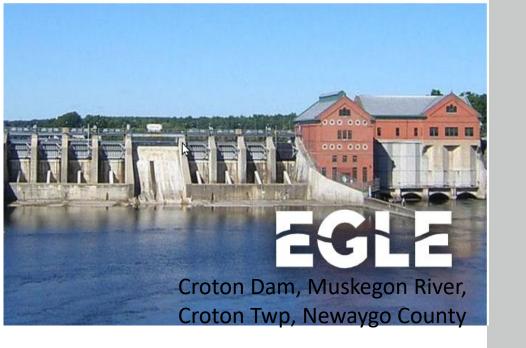
In 2019, amendments to Part 303, Wetlands Protection, of the, NREPA, created a program to facilitate VWR projects with state, federal, tribal, and nongovernmental agencies and organizations specializing in wetland restoration and conservation.

Goal: enhance coordination, consistency, and operational procedures and improve and streamline the permitting process, to facilitate a net increase in wetland functions and services.

Statewide VWR Acres permitted

Total	2019	2020	2021	2022	2023
2,788.6 ac	241.9	248.5	345.3	675.7	1277.2

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Dam Safety Unit Dam Risk Reduction Grant Program

www.Michigan.gov/damsafety

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Request for Pre-Proposals BeginsNovember 6, 2023Pre-Proposal DuesDecember 4, 2023Invitation to Submit Grant Application Packet BeginsDecember 15, 2023Grant Application Packet DueJanuary 31, 2024EGLE Review & Selection Process Complete and Awards AnnouncedApril 15, 2024Project Period BeginsUpon Execution of Grant AgreementProject ScheduleFollows work plan and 2-year schedule

- Received 64 pre-proposals for a cumulative ask amount of over \$68 Million.
- Projects are reviewed and ranked based on level of risk reduced, or eliminated
- Awarded 22 grants for a total of \$14.1M for this grant cycle to reduce risk and protect residents.

Another \$14.1M allocated for next year- watch for announcements Fall 2024!!

National Flood Insurance Program (NFIP)

Communities choose to participate

Flood Insurance is Available in the community - anywhere!

Flood Insurance is required for a federally backed loan within the 100-year floodplain.

As long as your community is doing the following, the community is meeting and exceeding the NFIP standards:

- enforcing the State building Code, including appendix G
- Requiring Elevation Certificates (as required by the building codes)
- requiring an EGLE Part 31 permit prior to development in or near the floodplain.



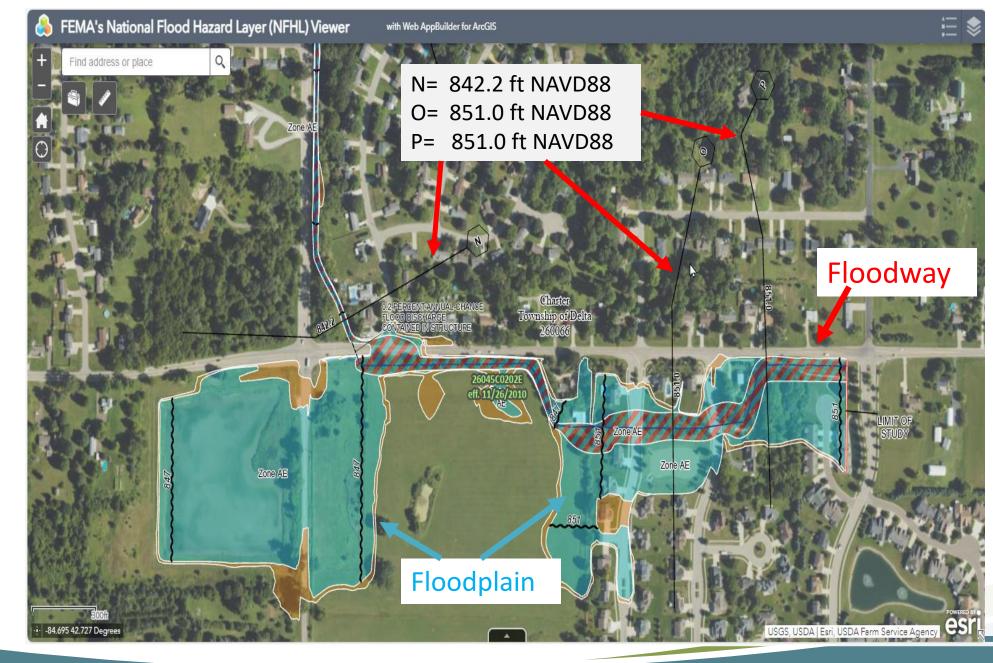
Find MI Communities at: <u>www.fema.gov/cis/MI.pdf</u>

Over 1100 NFIP communities in MI.



FEMA National Flood Hazard Layer

msc.fema.gov



EGLE

FEMA Flood Insurance Study

Understand risk Gain knowledge <u>msc.fema.gov</u>

- Be aware of frequent flooding. Does this parcel flood every spring? Does it have wetlands?

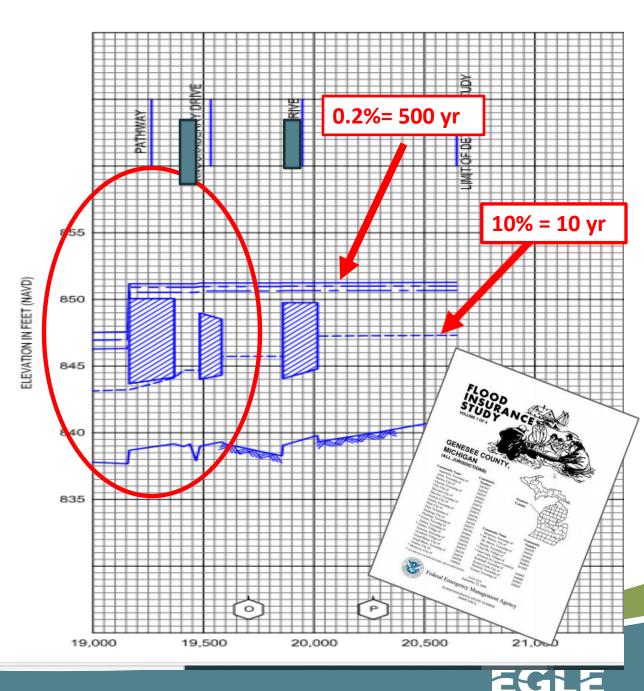
- Use resources at your fingertips!

- Ask questions: Are there ways to reduce flood risk?

-Investigate! Why is there such a large jump in flood stages? 5 ft downstream to a 10 ft rise upstream?

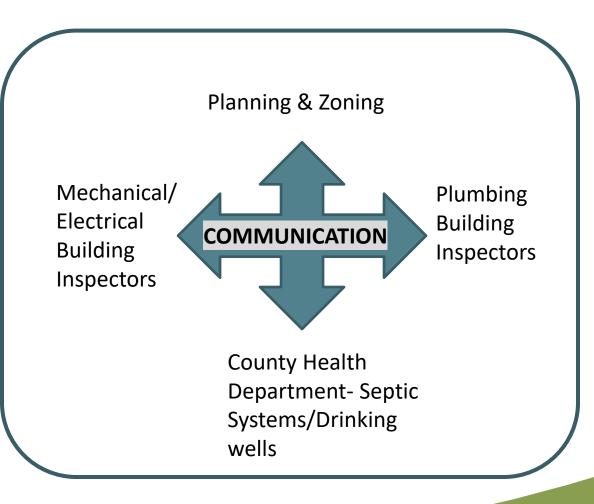
- Keep FIRMs up to date.

Learn about grant opportunities & apply!



Who does what?

- Who checks for floodplains?
- Is your local Planner aware of the floodplain areas and associated risks prior to rezoning?
- Does your community have floodplains and wetlands listed on a proposed development application checklist?
- Who refers applicants to EGLE for state permits? To County? Who informs county it's a floodplain site?
- How are you communicating a floodplain project between local departments, or within your own department?
- Who locally is responsible to ensure any changes to a NFIP flood map are updated through the FEMA?

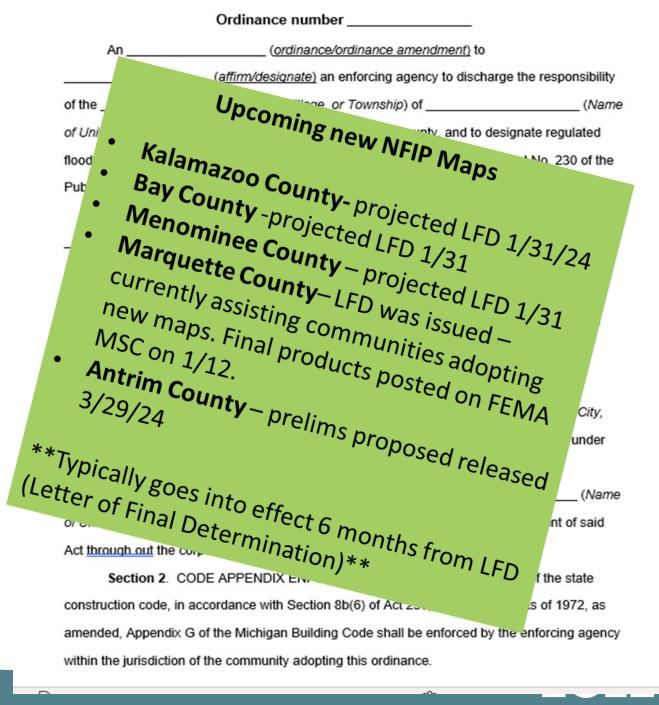


Local Ordinance Consider Higher Standards for <u>Resiliency</u>

- Elevating to Higher Standardsfreeboard, or flood event greater than 1% annual chance (+100-yr event)
- No development in floodway
- Compensating cut in flood fringe
- Reduced runoff, or maintain existing runoff rates
- Keep pollutants out of floodplain

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 Consider stormwater infrastructure capacity and fees for future upgrades



FEMA

Hazard Mitigation Assistance (HMA)



Hazard Mitigation Assistance (michigan.gov)

- Funding to help communities mitigate risk from natural hazards, including flooding
- Administered by MSP
- Four grant programs and one low-interest loan program
- Most grants require 25% match- can also be 10% or 0% depending on the situation and program
- Loans have a max interest rate of 1%
- Communities must have a FEMA approved local hazard mitigation plan
- Some programs and/or project location will require the community to participate in the NFIP



FEMA

Hazard Mitigation Assistance (HMA)



<u>Hazard Mitigation Assistance</u> (michigan.gov)

Next Funding Opportunities:

Swift Current

- \$20 Million available to mitigate flood losses at properties on FEMA's Repetitive Loss lists
- Application information coming out soon
- Applications due September 1, 2024
- MSP will be reaching out to eligible communities

Hazard Mitigation Grant Program (HMGP) for Disaster 4757

- Current funding estimate is \$16 million (that may go up)
- Available statewide (preference for projects in the 9 declared counties)
- Application information coming out by mid-June

Application information will be available

- <u>https://www.michigan.gov/msp/divisions/emhsd</u> (not yet posted)
- Email:

MSP-EMHSD-Hazard-Mitigation-Grants@michigan.gov



Stay Involved & Up-to-Date!

38th Annual MSFA Conference February 10-12, 2025 Kalamazoo, MI

Great opportunity to meet others involved in floodplain and stormwater management!

Michigan Stormwater Floodplain Association



www.Michiganfloods.org

Michigan Department of Environment, Great Lakes, and Energy 800-662-9278, Michigan.gov/egle

EGLE Floodplain Management: <u>www.Michigan.gov/floodplainmanagement</u>

EGLE Wetlands:

www.Michigan.gov/wetlands

Joint Permit Application : Michigan.gov/jointpermit

FEMA Floodmaps online: msc.fema.gov or fema.maps.arcgis.com

Wetlands Map Viewer: <u>https://www.mcgi.state.mi.us/wetlands/</u>

Hazard Mitigation Assistance Grant Program, State Police: Hazard Mitigation Assistance (michigan.gov)

FEMA Flood Smart- Insurance Information: <u>www.Floodsmart.gov</u>



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