

Resilient Master Planning



Bridgman, MI

8.17.17

Defining Community Resilience

- “Community Resilience is a measure of the sustained ability of a community to utilize available resources to respond to, withstand, and recover from adverse situations.”

Planning for Community Resilience in Michigan: A Comprehensive Handbook. LIAA; Beckett & Raeder, Inc.; and the Michigan Association of Planning. April 2017.

- One way for a community to foster its resilience is through its master plan

Principles of Community Resiliency

- **Safe Guarding Public Health**
 - Actively protecting and ensuring the right to clean air, water, and food for all community members while preparing for and assessing risk, emergencies, and potential hazards
- **Developing Sustainable Communities**
 - Building capacity for a diverse economy and growing a diverse workforce
- **Embracing Clean Energy**
 - Determining appropriate alternatives to fossil fuel use for powering a community's existing and future industries
- **Promoting Environmental Justice**
 - Protecting the ways and means in which individuals and businesses are able to utilize resources and deliver goods in a way that doesn't compromise the health of future generations
- **Advancing Transportation Solutions**
 - Ensuring that a community has a complete system of streets and modes of transportation for all potential users including the pedestrian, non-motorized commuter, and mass transit user
- **Conserving Natural Resources**
 - Protecting land, resources, and open space unimpaired and creating a land use plan that actively conserves community natural assets

What is a Resilient Master Plan?

- Components of a Resilient Master Plan:
 - Contains complete community profiles of economic, demographic, environmental, transportation, and land use conditions
 - Identifies and maps natural and manmade assets
 - Considers coastal and climate trends
 - Defines community vulnerabilities
 - Sets goals and objectives
 - Creates a future land use plan for zoning
 - Discusses implementation strategies

What is a Resilient Master Plan? Cont'd

- In other words....
 - Resilient master planning is an opportunity for a community to review each of its important resources, stakeholders, and systems along side each other as the community contemplates its future
 - This is productive because it exposes community synergies or linkages that might be missed when matters are contemplated separately

Source: *Planning for Community Resilience in Michigan: A Comprehensive Handbook*. LIAA; Beckett & Raeder, Inc.; and the Michigan Association of Planning. April 2017.

What is a Resilient Master Plan? Cont'd

Resilient Coastal Master Plan Evaluation Exercise:

	Variable Description	Variable Key	Value	Page	Notes/Comments
1.0 GENERAL INFORMATION					
1.0a	Place type	1 = county; 2 = municipality; 3 = township	2	1, 6	City of Bridgman
1.0b	Date of evaluation / evaluated by		n/a		
1.0c	Plan title			1	City of Bridgman: Creating Tomorrow's Future Today
1.0d	Plan type	e.g., master, parks & rec, etc.		1, 4	Master Plan with parks & rec, capital improvements plan, corridor improvement authority development plan, and chamber of commerce economic development strategy
1.0e	Type of copy	1= hard copy; 2 = electronic copy	2		
1.0f	Plan update	1 = yes; 0 = no (i.e., first plan)	0		
1.0g	Date adopted by locality	NA = Not formally adopted			December 18, 2014
1.0h	Approximate page length				36 pages
1.0i	Consultant used?	1 = yes; 0 = no	?		Unclear – has maps with an engineering firm cited near the end of the document.
1.0j	Consultant's name				Wightman & Associates, Inc.
1.0k	Other / comments				
2.0 PLAN PRESENTATION					
2.1 Supporting Components					
2.1a	Table of contents	Provided? 1 = yes; 0 = no	1	2	
2.1b	Glossary of terms	Provided? 1 = yes; 0 = no	0		
2.1c	Index	Provided? 1 = yes; 0 = no	0		
2.1d	Executive summary	Provided? 1 = yes; 0 = no	0		
2.1e	Sources in text/tables	Provided? 1 = yes; 0 = no	1/2		Half of the tables/maps, etc. are sourced
2.1f	Source list provided	Provided? 1 = yes; 0 = no	0		
2.1g	Use / quality of maps	0 = none; 1 = limited or poor; 2 = standard; 3 = extensive, clear and usable	2		
2.1h	Use / quality of tables / figures (readability, clarity of purpose, etc.)	0 = none; 1 = limited or poor; 2 = standard; 3 = extensive, clear and usable	2		
2.1i	Readability of text	0 = poor; 1 = average; 2 = high	2		
2.2 Statement of goals, objectives, and policies					
2.2a	Clear statement of goals and objectives	Provided? 1 = yes; 0 = no	1	14-16	
2.2b	Explained in one place?	1 = yes; 0 = no	1	14-16	
2.2c	Dispersed throughout plan?	1 = yes; 0 = no	0		
2.2d	Clear statement of policies	Provided? 1 = yes; 0 = no	0		

- We reviewed your 2014 Master plan using an evaluation exercise aimed at identifying resilient master plan components for coastal communities
- Takeaways from this exercise:
 - Clear that public participation and input was used in the creation of the plan
 - Regional perspective is positively discussed throughout the plan
 - No discussion of vulnerabilities, land suitability, or coastal processes
 - Missing economic trends
 - Lacks assessment of past plan implementation effectiveness

What is a Resilient Master Plan? Cont'd

- As such, this process is different from 4 years ago because Resilient Master Planning will help you, in part, do the following:
 - Review effectiveness of past plan implementation
 - Define community vulnerabilities
 - Consider scientifically grounded coastal hazards and climate trends
 - Complete a land suitability analysis, which can inform future land use goals
 - Analyze economic trends
 - Set monitoring and achievement benchmarks for community goals

Resilient Master Plan Examples

CITY OF GRAND HAVEN 2016 Master Plan



The next two slides present example language, figures, and concepts from these two master plans to elucidate what a Resilient Master Plan looks like.

RESILIENT GRAND HAVEN CHARTER TOWNSHIP Grand Haven Charter Township 2016 Master Plan



FIGURE 9.2 MOVEMENT OF THE SHORELINE IN GRAND HAVEN, 2015 PHOTO



Source: Google Earth Pro, 2015 Imagery

IMMEDIATE ZONING ORDINANCE AMENDMENTS

The Zoning Ordinance is the primary implementation mechanism for this Plan. In 2007, the City undertook a comprehensive revision of the Zoning Ordinance and that effort included many policies that are directly supported by this plan. In a few instances, however, this plan expands on the direction established in the Zoning Ordinance revision and the following adjustments may be regarded as further refinement of some of those policies which have become apparent through the planning process.

This strategy contemplates refinements and adoption of at least the following six amendments (in no particular order).

IMMEDIATE AMENDMENT A:

Adjust the transitional industrial as it applies to the SW Business Corridor and to the North Beechtree Redevelopment Area to accommodate uses consistent with those sub-area plans. While it is possible that redevelopment in either area may be undertaken through the Planned Development mechanism, property owners are also able to apply the “by right” and “special land uses” in these districts. A few may not be appropriate in one district but could be appropriate in the other. For example, warehousing, is a relatively low-intensity use that could undermine the objectives of North Beechtree. But warehousing could be appropriate for the SW Business Corridor.

FIGURE 10.4 SEVERE WEATHER EVENTS TIMELINE

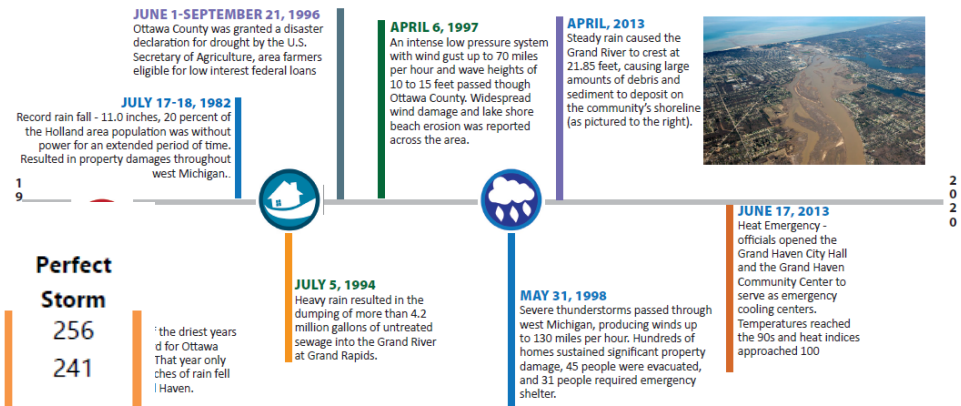


TABLE 9.4 NUMBER OF STRUCTURES IMPACTED BY FLOODING

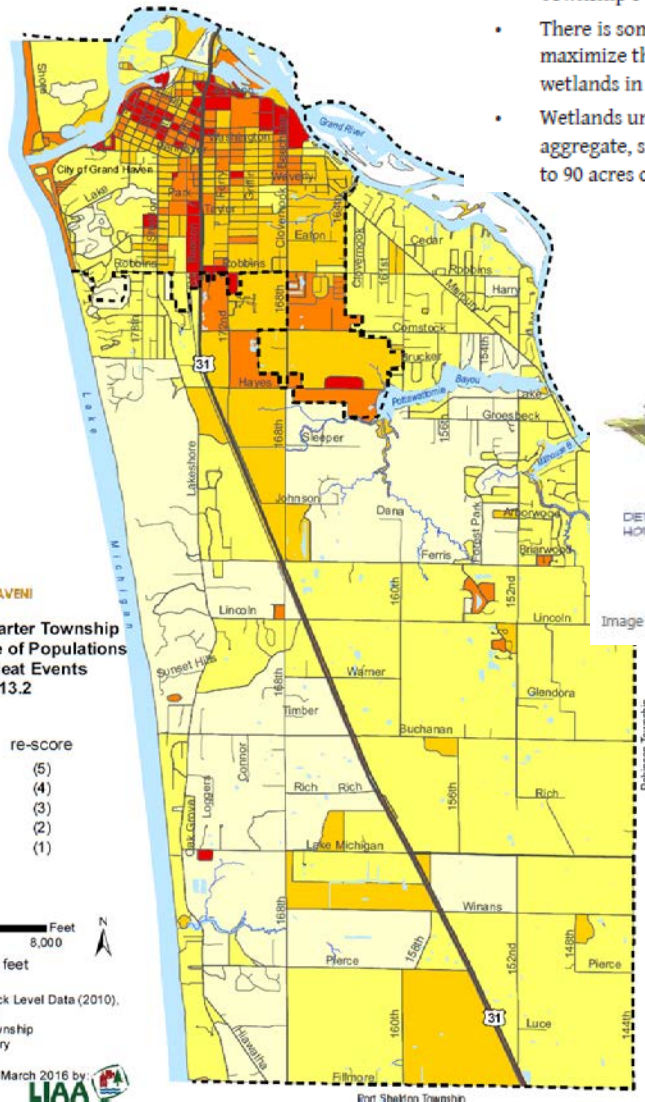
	Lucky	Expected	Perfect Storm
Current Infrastructure and Development Build-out According to Current Zoning Ordinance <i>(Additional Structures Impacted)</i>	78	239	256
Build-out According to Best Management Practices <i>(Additional Structures Impacted)</i>	2	48	49

the driest years for Ottawa That year only ches of rain fell Haven.

WETLANDS

This study analyzed existing, potential, and unprotected wetlands. Key findings include:

- There are nearly 1,400 acres of existing wetlands impacted by all three Climate Futures, which account for over 40% of the Township's existing wetlands.
- There is some potential to increase the size and number of wetlands in order to increase resiliency to severe flooding and maximize the ecosystem benefits that wetlands provide. Currently, there is opportunity to increase the total acreage of wetlands in the Climate Future flood areas by about 15 percent.
- Wetlands under 5 acres in size are considered unprotected, as they are not currently regulated by any local or state process. In aggregate, small wetlands can still have a large effect on the ecosystem's flood control capacity. The Township has between 80 to 90 acres of unprotected wetlands in areas likely to flood in each Climate Future.



**Grand Haven Charter Township
Relative Exposure of Populations
to Extreme Heat Events
Map #13.2**

additive score	re-score
9 - 10	(5)
7 - 8	(4)
5 - 6	(3)
3 - 4	(2)
1 - 2	(1)

0 2,000 4,000 8,000 Feet
1 inch = 4,750 feet

Data Sources:
U.S. Census Bureau, Block Level Data (2010),
ACS data (2009-2013)
Grand Haven Charter Township
Michigan Geo. Data Library
Ottawa County GIS

Prepared March 2016 by **LIAA**



Image Source: Opticos Design, Inc. MissingMiddleHousing.com

MissingMiddleHousing.com is powered by Opticos Design, Inc.
Illustration © 2015 Opticos Design, Inc. **OPTICOS**

BUILD ON OUR PAST

1) BUILD ON WHAT'S WORKING

Grand Haven Charter Township's last master plan was developed and adopted in 2009. The master plan was a thorough and well-written document, describing the current conditions of the community and identifying key community goals and action statements. In the seven years since the plan was adopted, several of these goals and actions have been realized. At the same time, Grand Haven Charter Township continues to address many new challenges.

While the conditions and challenges of the Township have changed, many of the overarching goals and policies discussed in the 2009 Master Plan remain applicable. In addition to incorporating language from the 2009 Master Plan, the Resilient Grand Haven Charter Township Master Plan builds upon existing goals and strategies, as discussed in Chapter 7.

Michigan Communities with Climate Actions Plans, Resiliency Plans, and/or Sustainability Plans

- Alger County
- Baraga Township
- Bay City
- Beaver Island
- Benton Harbor
- Camp Grayling Joint Maneuver Training Center
- City of Ann Arbor
- City of Dearborn
- City of Detroit
- City of East Jordan
- City of Farmington Hills
- City of Grand Haven
- City of Grand Rapids
- City of Hancock
- City of Hazel Park
- City of Holland
- City of Kalamazoo
- City of Ludington
- City of Marquette
- City of Monroe
- City of Muskegon
- City of Southgate
- City of St. Joseph
- City of Traverse City
- City of Trenton
- City of Ypsilanti
- Coastal Macomb County
- Fort Custer Training Center
- Frenchtown Charter Township
- Grand Haven Charter Township
- Hamlin Township
- Meridian Township
- Monroe Charter Township
- Muskegon County
- Pere Marquette Charter Township
- Selfridge Air National Guard Base
- Village of Northport
- Village of Sebewaing



Questions?