



Proposed Floodplain Management Overlay Zoning District October 20, 2020

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www.a2gov.org/floodplains

Floodplain Terms

- Floodplain consists of a **floodway** and a **flood fringe**

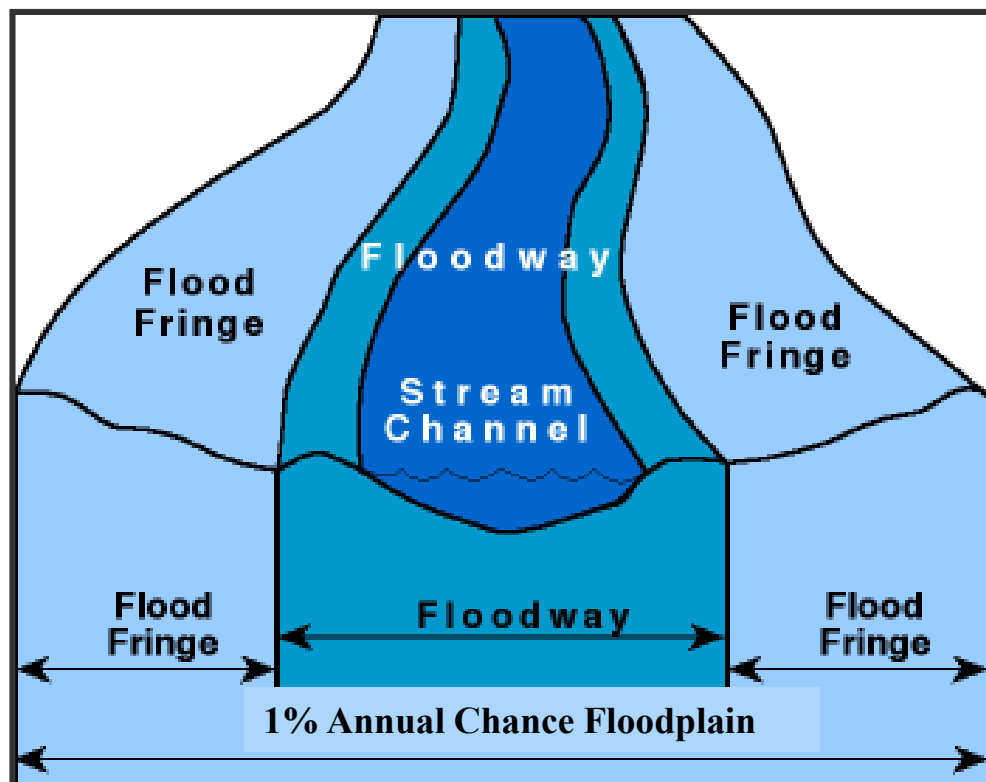
- **1% Annual Chance**

- 1% chance of flooding every year
- Also called the 100-year floodplain.
- Doesn't mean once every hundred years

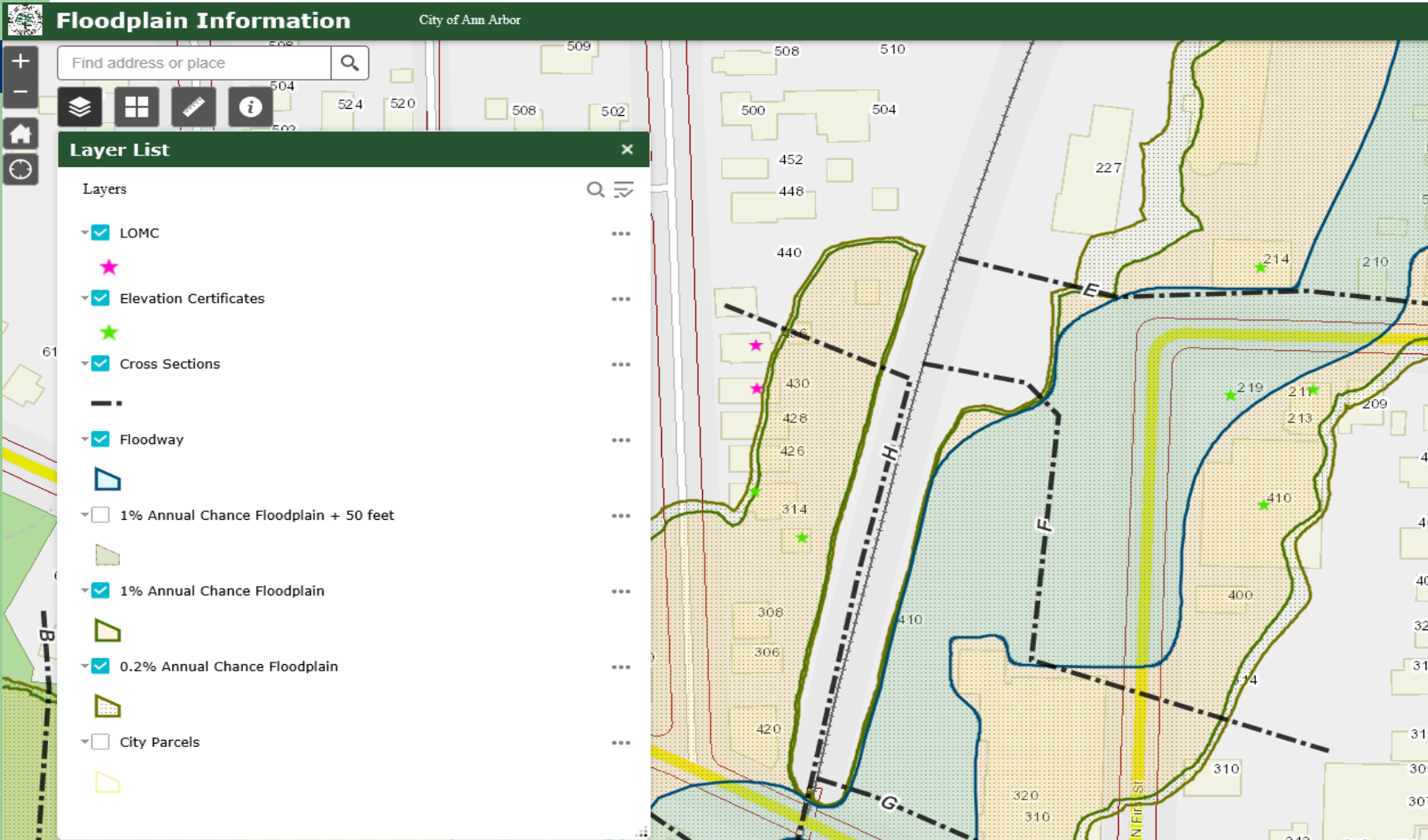
- **Base Flood Elevation (BFE)**

- **0.2% Annual Chance**

- Also called the 500-year floodplain



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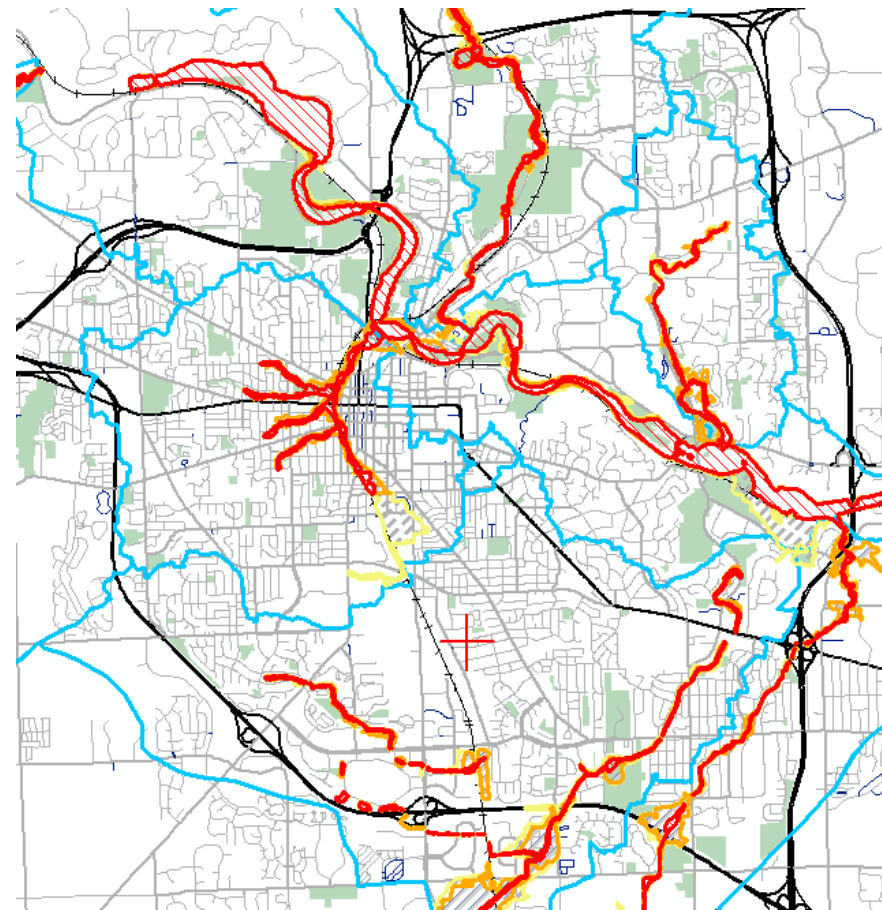


Floodplain quantities per FIRM dated April 3, 2012

Total Floodplain Area 2.79 sq miles or 10% of the City, 1169 Parcels with Floodplain Area

of Structures by FEMA Flood Source Segment

FEMA Flood Source	# of Structures
Allen Creek	373
• Allen Creek Main Branch =	199
• Eberwhite Drain Overflow =	70
• Murray Washington Overland Flow =	77
• West Park Miller Drain Branch =	28
• West Park Miller Drain South Branch =	9
Malletts Creek	51
Swift Run Drain	20
Huron River	22
Traver Creek	21
Millers Creek	4
TOTAL	490



Floodplain Management Activity Examples

Map Information Service

Development Review

- Flood Resistant Construction Standards (Building Code)
- Stormwater Management

Hazard Mitigation Planning

Flood Mitigation

- Structure Removal – Fish Park and 721 N. Main St.
- Allen Creek RR Berm Opening Project

Community Rating System (CRS)

CRS in Michigan (May 2020)

24 CRS Communities (out of 533) 2.25%

Class 5 - 1 (Midland)	25% Discount
Class 6 - 2 (Vassar) (Ann Arbor)	20% Discount
Class 7 - 4	15% Discount
Class 8 - 10	10% Discount
Class 9 - 7	5% Discount

Ann Arbor CRS Class 6 Points

- 310 – Elevation Certificates: (38 points) 33%
- 320 – Map Information Service: (90 points) 100%
- 330 – Outreach Projects: (68 points) 19%
- 340 – Hazard Disclosure: (15 points) 19%
- 350 – Flood Protection Information: (40 points) 32%
- 410 – Floodplain Mapping: (142 points) 18%
- 420 – Open Space Preservation: (826 points) 41%
- 430 – Higher Regulatory Standards: (289 points) 14%
- 440 – Flood Data Maintenance: (128 points) 58%
- 450 – Stormwater Management: (129 points) 17%
- 510 – Floodplain Management Planning: (244 points) 39%
- 520 – Acquisition and Relocation: (19 points) 1%
- 630 – Dams: (45 points) 28%

Higher Regulatory Standards

- Most standards already exist
- Moving to higher standards
- Moving a rung up the ladder, not creating a new ladder
- Source of most changes:
 - ASFPM No Adverse Impact: a toolkit for common sense floodplain management
 - Community Rating System



Statewide Michigan Building Codes

- Communities are prohibited from having their own Building Codes
- Communities may not regulate to lower standards than the Michigan Building Codes
- Thus, the proposed Overlay Zoning District

Current Basic Floodway Regulations

- The State (EGLE) prohibits residential uses in the floodway, but only in areas under EGLE jurisdiction.
- The lowest floor of any new non-residential structure must be elevated or floodproofed to an elevation 1 foot above the 1%-annual-chance flood elevation (BFE).
- For all development in the floodway, the developer must submit an hydrologic study certifying that the development will not raise the BFE.

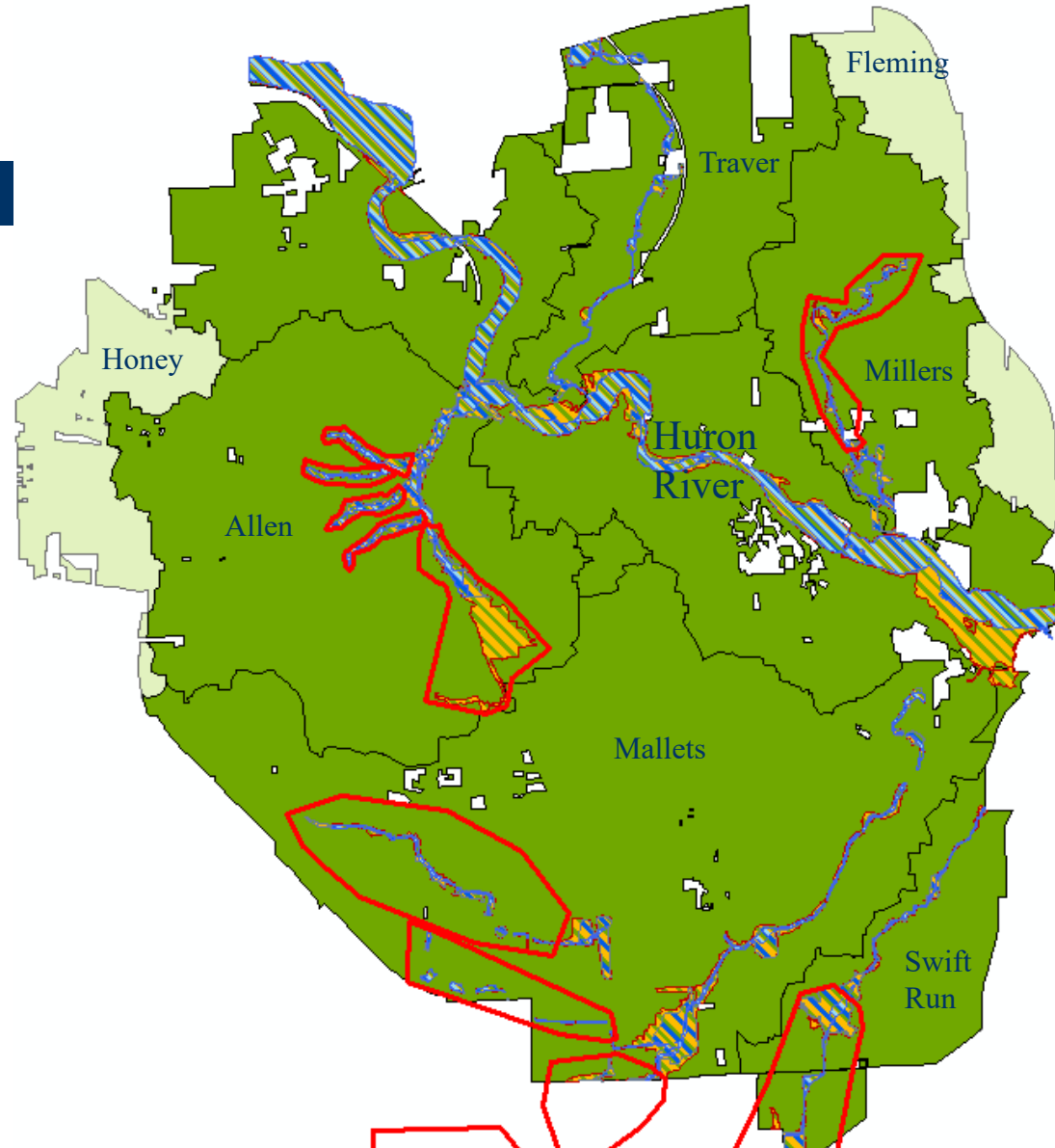
Areas of Non-EGLE Jurisdiction

Total Floodplain Area

- 2.79 sq miles
- 10% of the City
- 1169 Parcels
- 490 Buildings

Non-EGLE Regulated

574 Parcels or 49%
248 Buildings or 51%



Proposed Floodway Restrictions

- No new structures
 - *Exemption section for redevelopment
- No additions
- No new residential uses
- No critical facilities
- No structures without foundations
- No accessory structures
- No new parking where depth greater than two feet

*Floodway Redevelopment Parameters (New or Substantial Improvement)

- No residential use
- No Critical Facilities
- Not larger than existing footprint within the floodway
- If new, structure placed on the lot to minimize the floodway and/or floodplain encroachment.
- Hydrologic study shows no raise of the BFE, and will not reduce the conveyance of the floodway.
- Elevate lowest floor to one foot above the 0.2% annual chance elevation (no floodproofing).

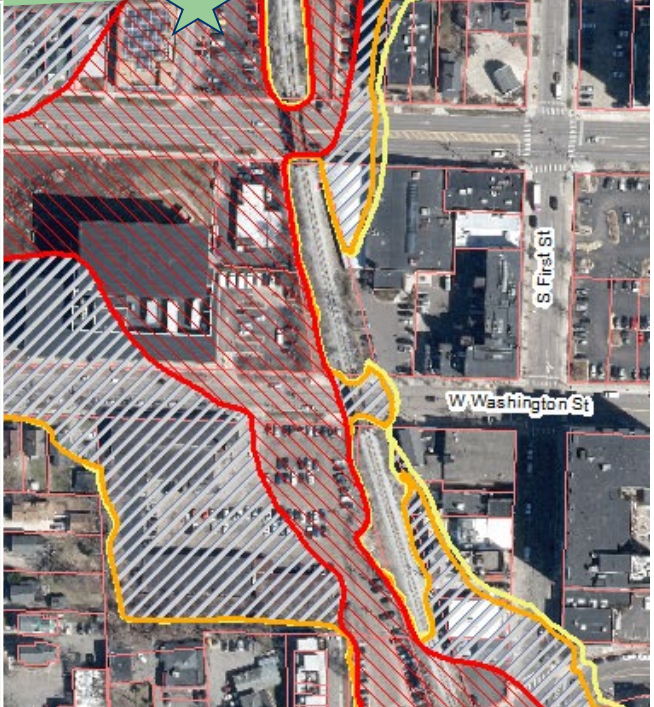
Why above the 0.2% annual chance elevation

- Acknowledges Climate Change
 - Within 50 years we can expect the current 0.2% flood elevation to be the future 1% flood elevation
- Currently required for Critical Facilities in the Michigan Building Codes
- Becoming common in costal communities
- Only adds about a foot in most areas



Floodway EGLE Jurisdiction

Current	Proposed
Residential Prohibited	Residential Prohibited
Non-Residential elevate or floodproof 1 foot above 1% Hydro Study required by EGLE	No New Structures *Exception for redevelopment elevate 1 foot above 0.2% w/ Hydro Study for EGLE
Critical Facilities elevate 1 foot above 0.2%	Critical Facilities Prohibited No new House Trailers No structures without foundations No accessory structures No new parking where depth > 2 ft



Floodway City Jurisdiction

Current

Residential elevate 1 foot above 1%
Hydro Study required by City

Non-Residential elevate or floodproof 1
foot above 1%
Hydro Study required by City

Critical Facilities elevate 1 foot above
0.2%

Proposed

Residential Prohibited

No New Structures *Exception for
redevelopment elevate 1 foot above
0.2%
w/ Hydro Study for City

Critical Facilities Prohibited

No new House Trailers
No structures without foundations
No accessory structures
No new parking where depth > 2 ft

Current Basic Flood Fringe Regulations

- **Standards for new buildings in flood fringe**
 - The lowest floor of any new residential structure must be elevated 1 foot above the BFE.
 - The lowest floor of any new non-residential structure must be elevated or flood-proofed to 1 foot above the BFE.

Proposed Flood Fringe Restriction

- No Critical Facilities.
- No structures without foundations.
- Limit storage of hazardous materials.
- Elevate or floodproof to one foot above the 0.2%-annual-chance elevation

Flood Fringe

Current

Residential elevate 1 foot above 1%

Non-Residential elevate or floodproof 1 foot above 1%

Critical Facilities elevate 1 foot above 0.2%

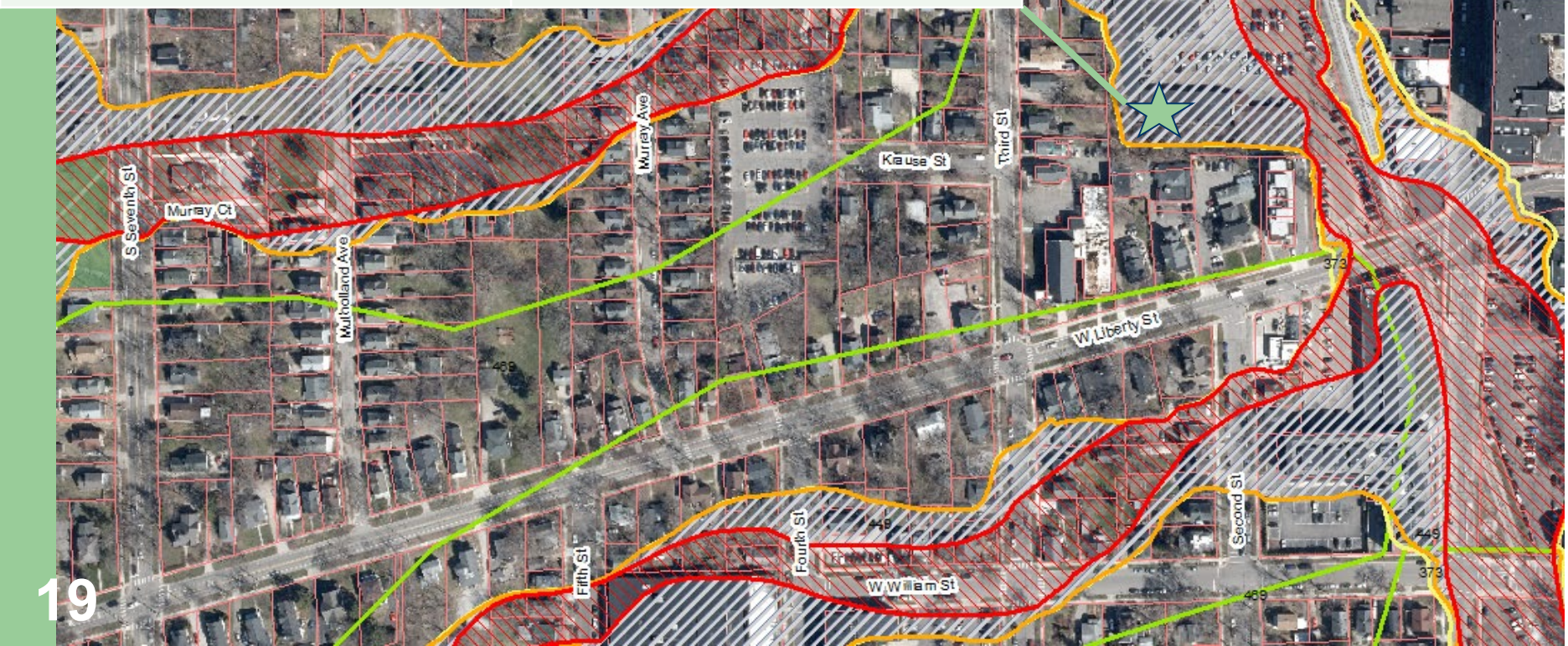
Proposed

Residential elevate 1 foot above 0.2%

Non-Residential elevate or floodproof 1 foot above 0.2%

Critical Facilities Prohibited

No new House Trailers
No structures without foundations





Proposed Ordinance Benefits

- Improve safety and welfare
- Reduce loss of life and property
- Save money and resources necessary for emergency response
- Clearer permit process
- State regulations applied more consistently
- Lower flood insurance rates / Improve City of Ann Arbor CRS Rating

Questions

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General Overview

	Current	Proposed
Floodway EGLE	<p>Residential Prohibited</p> <p>Non-Residential elevate or floodproof 1 foot above 1% Hydro Study required by EGLE</p> <p>Critical Facilities elevate 1 foot above 0.2%</p>	<p>Residential Prohibited</p> <p>No New Structures *Exception for redevelopment elevate 1 foot above 0.2% w/ Hydro Study for EGLE/City</p> <p>Critical Facilities Prohibited</p>
Floodway City	<p>Residential elevate 1 foot above 1% Hydro Study required by City</p> <p>Non-Residential elevate or floodproof 1 foot above 1% Hydro Study required by City</p> <p>Critical Facilities elevate 1 foot above 0.2%</p>	<p>No new House Trailers</p> <p>No structures without foundations</p> <p>No accessory structures</p> <p>No new parking where depth > 2 ft</p>
Flood Fringe	<p>Residential elevate 1 foot above 1%</p> <p>Non- Residential elevate or floodproof 1 foot above 1%</p> <p>Critical Facilities elevate 1 foot above 0.2%</p>	<p>Residential elevate 1 foot above 0.2%</p> <p>Non-Residential elevate or floodproof 1 foot above 0.2%</p> <p>Critical Facilities Prohibited</p> <p>No new House Trailers</p> <p>No structures without foundations</p>