

# **Ann Arbor Flood Mitigation Plan: Online Information Packet March 31<sup>th</sup> 2005**



**Prepared by Systems Planning  
March 31th, 2005**

# Project Goals

- To reduce flood losses, minimize damage to public and private property and protect public health and safety.
- To enhance community confidence and maintain a positive community image.
- To create a flexible plan that can adapt to changes in community values and technological advancements.



# Plan Background

- In October 2004 City Council adopted a resolution to accept a Flood Mitigation Planning Grant provided by the State and FEMA
- In November 2004 City Council approved The City of Ann Arbor Hazard Mitigation Plan that recommends developing a Flood Mitigation Plan to explore:
  - Acquisition
  - Relocation
  - Redevelopment
  - Modifications
  - Public Works
  - Planning and Regulatory Measures
  - Incentives
  - Lead by Example
  - Public Education and Awareness



# More Background...

- The City of Ann Arbor is one of a select group to receive funding for the development of a Flood Mitigation Plan (FMAP)
- FMAP work will fall into three primary areas: Technical, Planning and Policy, Public Engagement
- The required project completion date is September 30, 2005, unless an extension is granted



Flood Mitigation Plan: Workplan										
TASK	December	January	February	March	April	May	June	July	August	September
<b>Technical Work</b>	December	January	February	March	April	May	June	July	August	September
Definitions	Define Risk Catagories									
GIS - Catalogue Parcels	Collect and analyze Data, create Maps, identify risk areas and mitigation strategies									
Drafting					Start Drafting					
Revision							Complete revision based on feedback			
<b>Planning and Policy Work</b>	December	January	February	March	April	May	June	July	August	September
Definitions				Outline the policy options						
Staff Advisory Committee				FMPSAC Monthly March - June; policy focus						
Drafting						Continue Draft Work				
Revision							Revise Document			
<b>Public Involvement</b>	December	January	February	March	April	May	June	July	August	September
Environmental Commission		6:30 27th Present		24th Update		26th Update				
PAC				15th Update						
DDA			2nd Present Workplan							
FMPSAC Meeting					Develop Tool for Feedback		Engagement Exersize			
Old West Side Association					21st Update					
Watershed Groups						Meet with ACWG, Mattets Creek				
Planning Commission								Submit to PC		
City Council									Council	
<b>Related Projects</b>	December	January	February	March	April	May	June	July	August	September
PROS Plan Revision	Look for opportunities to coordinate related efforts in parrallel planning processes									
Comprehensive Zoning										

# Technical Work: Risk Categories

- Highest: Repetitive loss structures
- Second: Known damage
  - Sub Category 2a: 100 yr Flood Fringe
  - Sub Category 2b: 100 yr Floodway
  - Sub Category 2c: Based on 2 foot flood elevation\*
  - Sub Category 2d: Based on 3 foot flood elevation\*
- Third: In floodplain w/o known damage
  - Sub Category 3a: 100 yr Flood Fringe
  - Sub Category 3b: 100 yr Floodway
  - Sub Category 3c: Based on 2 foot flood elevation\*
  - Sub Category 3d: Based on 3 foot flood elevation\*
- Fourth: Mapped 500 yr floodplain, OR unmapped known flood areas
- Fifth: Less than 1% chance

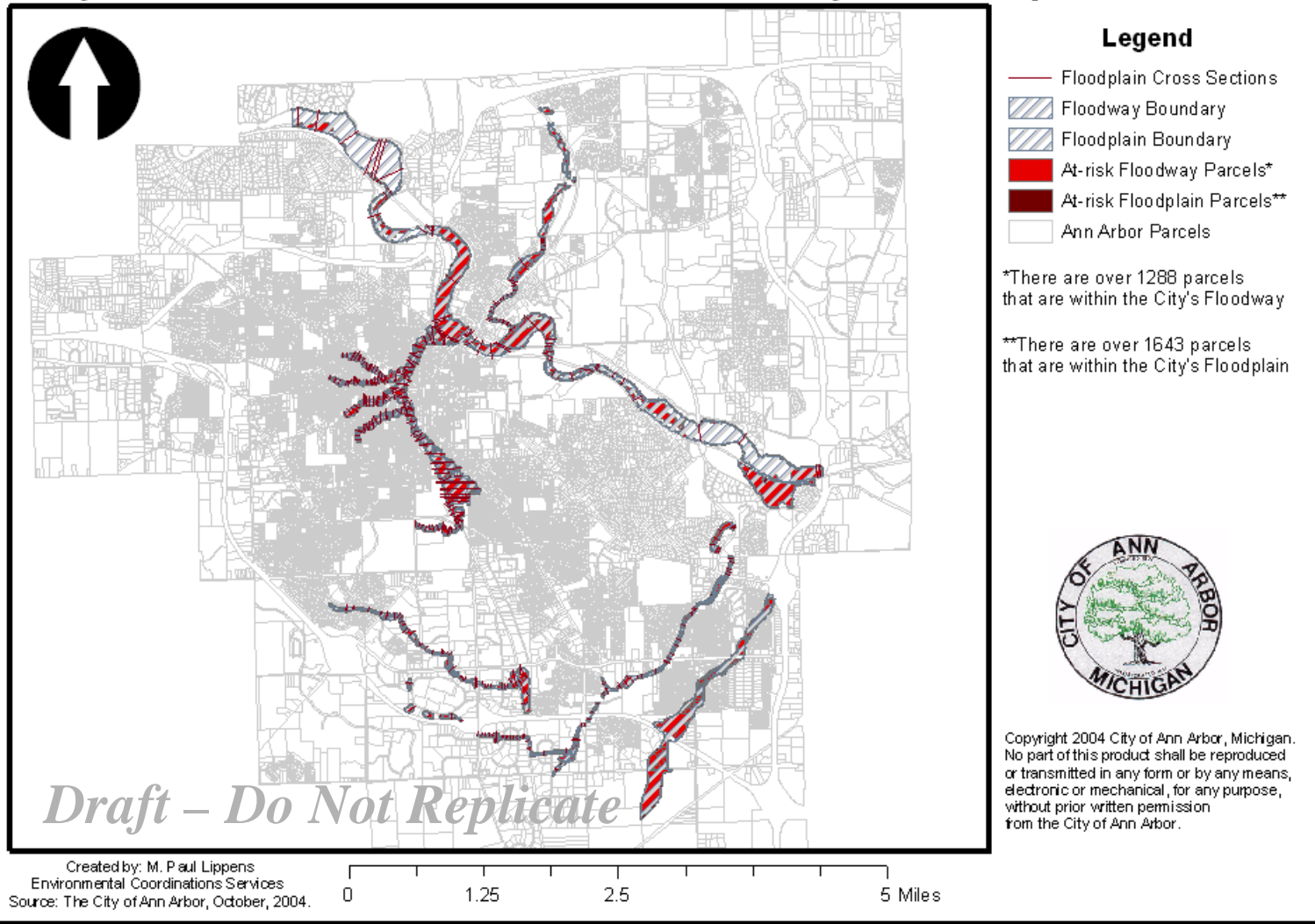
\*Cars can be easily be swept away in just 2 feet of moving water.  
(<http://www.fema.gov/hazards/floods/flood.shtml>, 1/18/04)

\*\*Houses can collapse in just 3 feet of standing water. (Association of State Floodplain Managers, 1/18/04)



# Technical Work: Parcels Affected

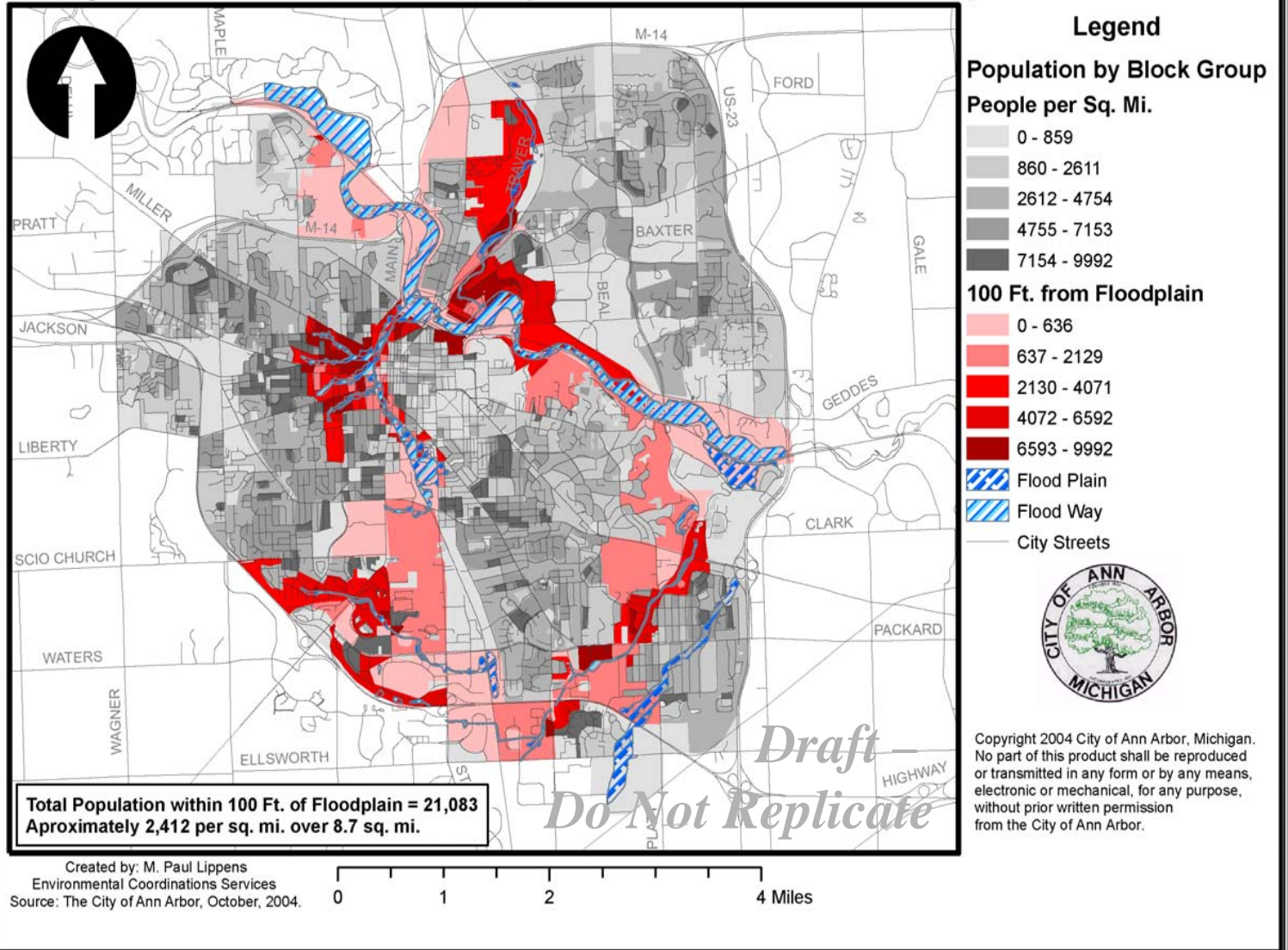
## City of Ann Arbor: Parcels in 100 yr Floodplain, 2004





# Technical Work: People Affected

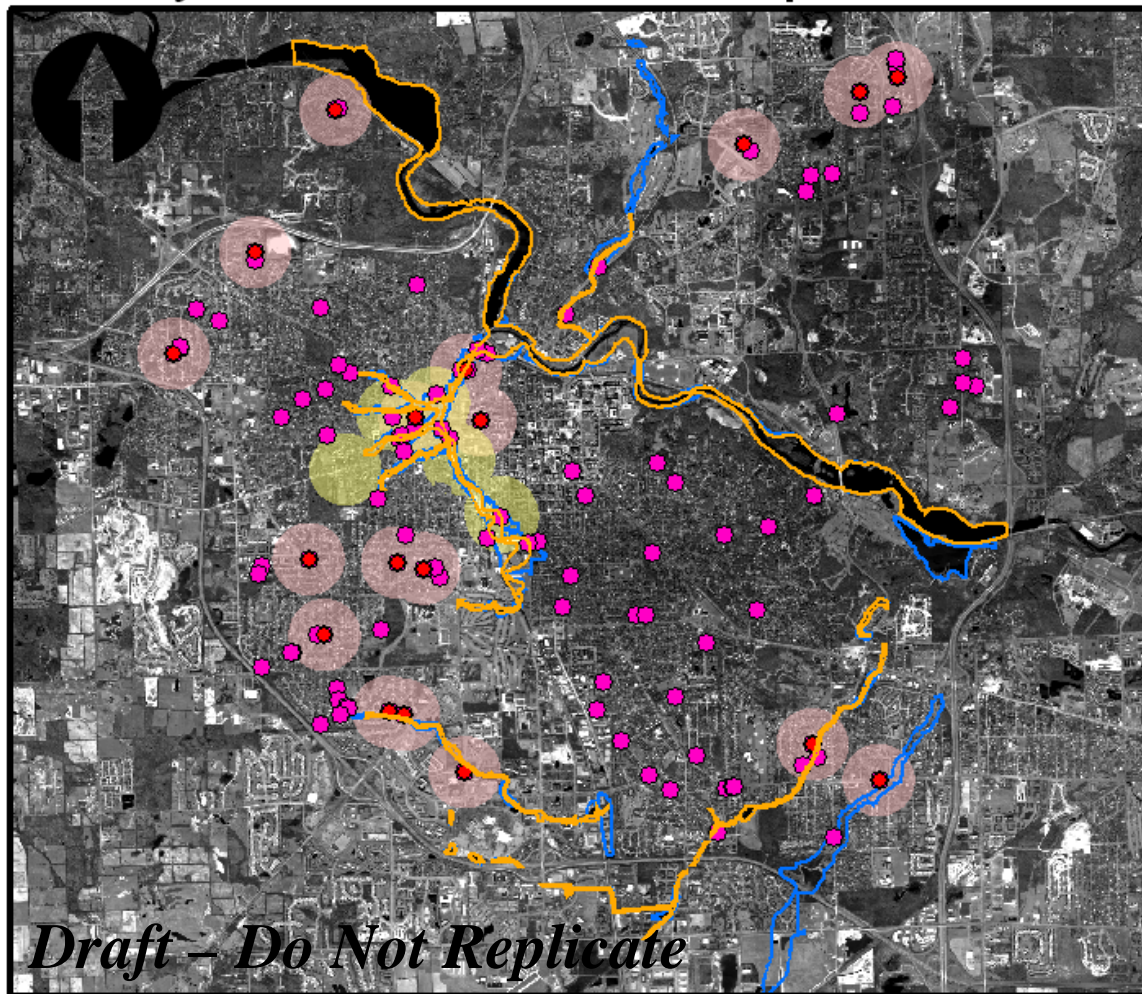
## City of Ann Arbor: Population and Floodplain, 2004





# Technical Work: Data Collection

## City of Ann Arbor: Floodplain Data, 2005



### Legend

- Floodway Boundary
- Flooding with Damage\*\*
- Basement Flooding From SW
- Floodplain Boundary
- NFIP Claim Site\* - .5 mi
- Storm Damage Site - .5 mi

\*100% of properties that made a claim to the NFIP were within .25 mi of the Allen Creek floodplain

\*\*54% of surveyed properties that self reported stormwater damage were within .25 mi from a floodplain



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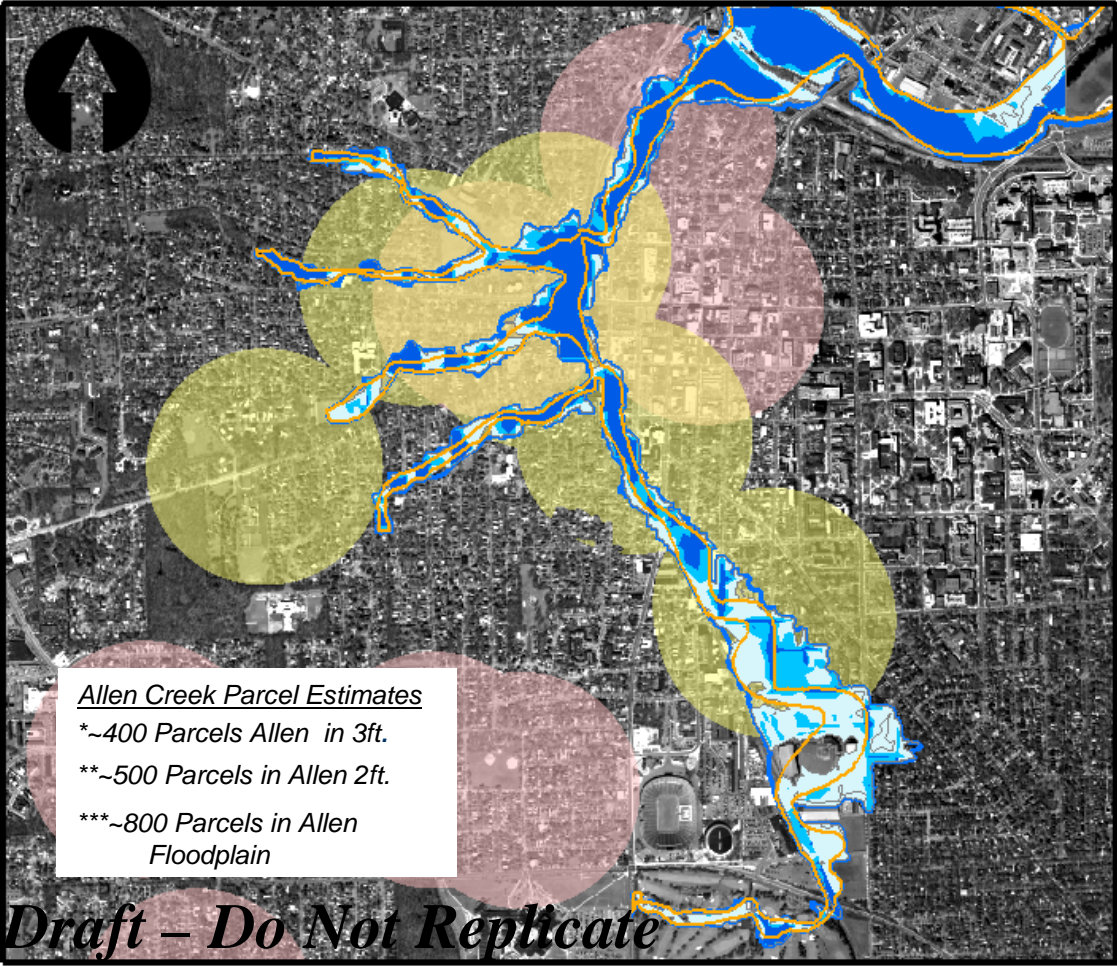
Created by: M. Paul Lippens  
Environmental Coordinations Services  
Source: The City of Ann Arbor, March, 2005.

0 0.5 1 2 Miles









# Technical Work: Risk Categories

## City of Ann Arbor: Floodplain Elevations, 2005



### Legend

-  Floodway Boundary
-  3 Feet Deep \*
-  2 Feet Deep \*\*
-  Base Flood Elevation \*\*\*
-  Floodplain Boundary
-  NFIP Claim Site - .5 mi
-  Storm Damage Site - .5 mi

Allen Creek Parcel Estimates  
 \*~400 Parcels Allen in 3ft.  
 \*\*~500 Parcels in Allen 2ft.  
 \*\*\*~800 Parcels in Allen Floodplain

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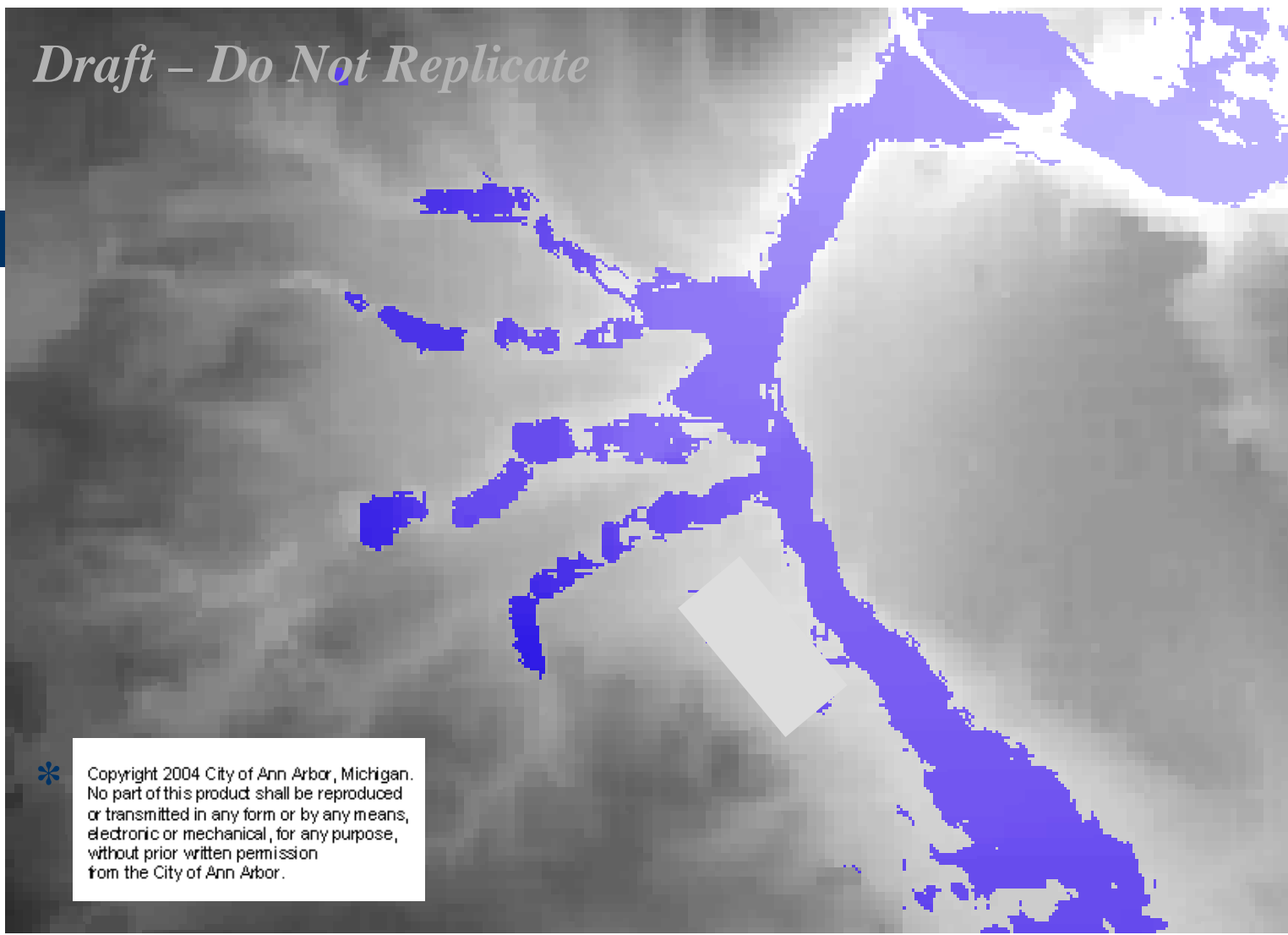
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# Aerial View of Allen Creek: 100yr Base Flood Elevation\*

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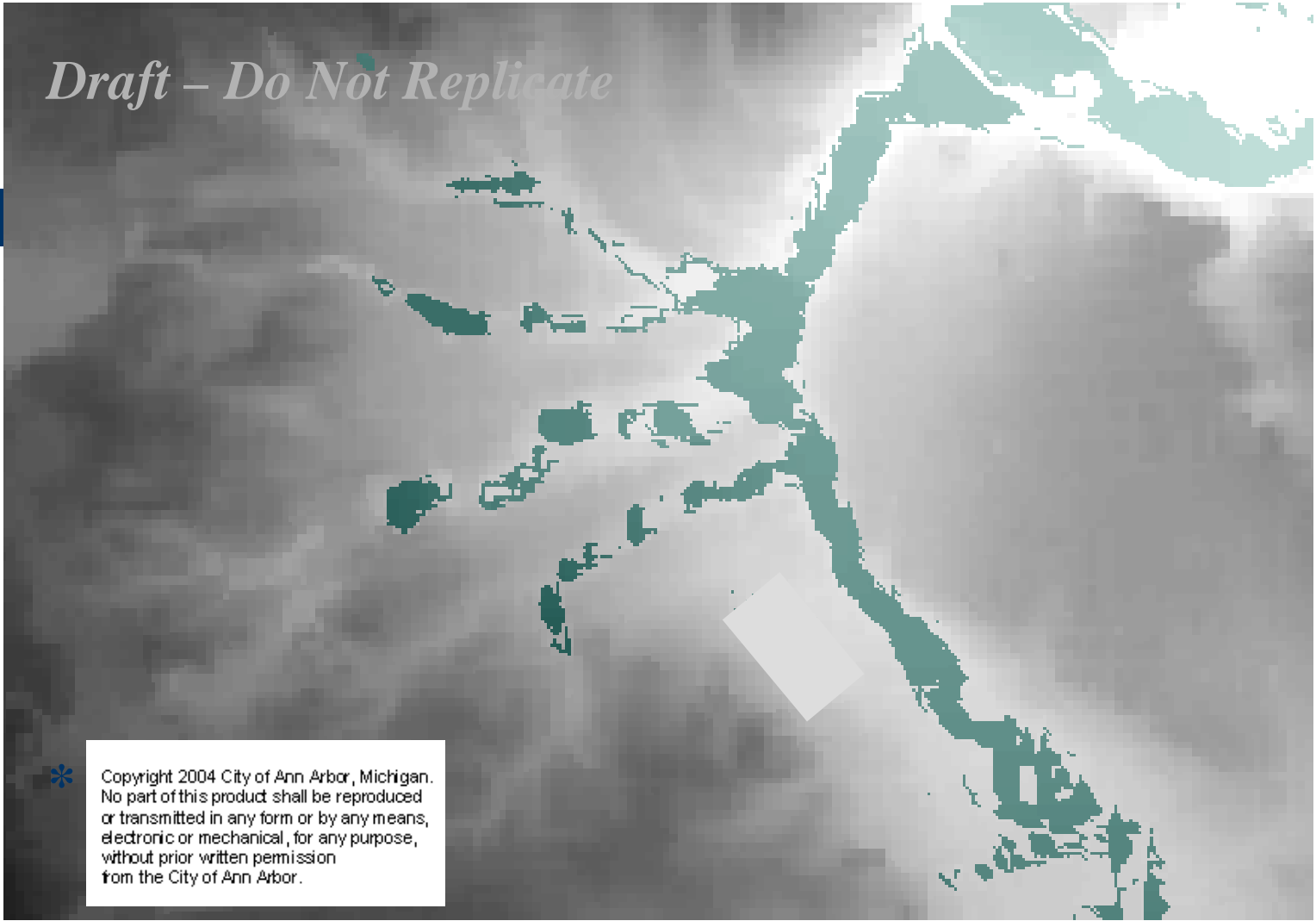
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# Aerial View of Allen Creek: Areas of 2ft or greater Depth During a 100yr Flood Event\*

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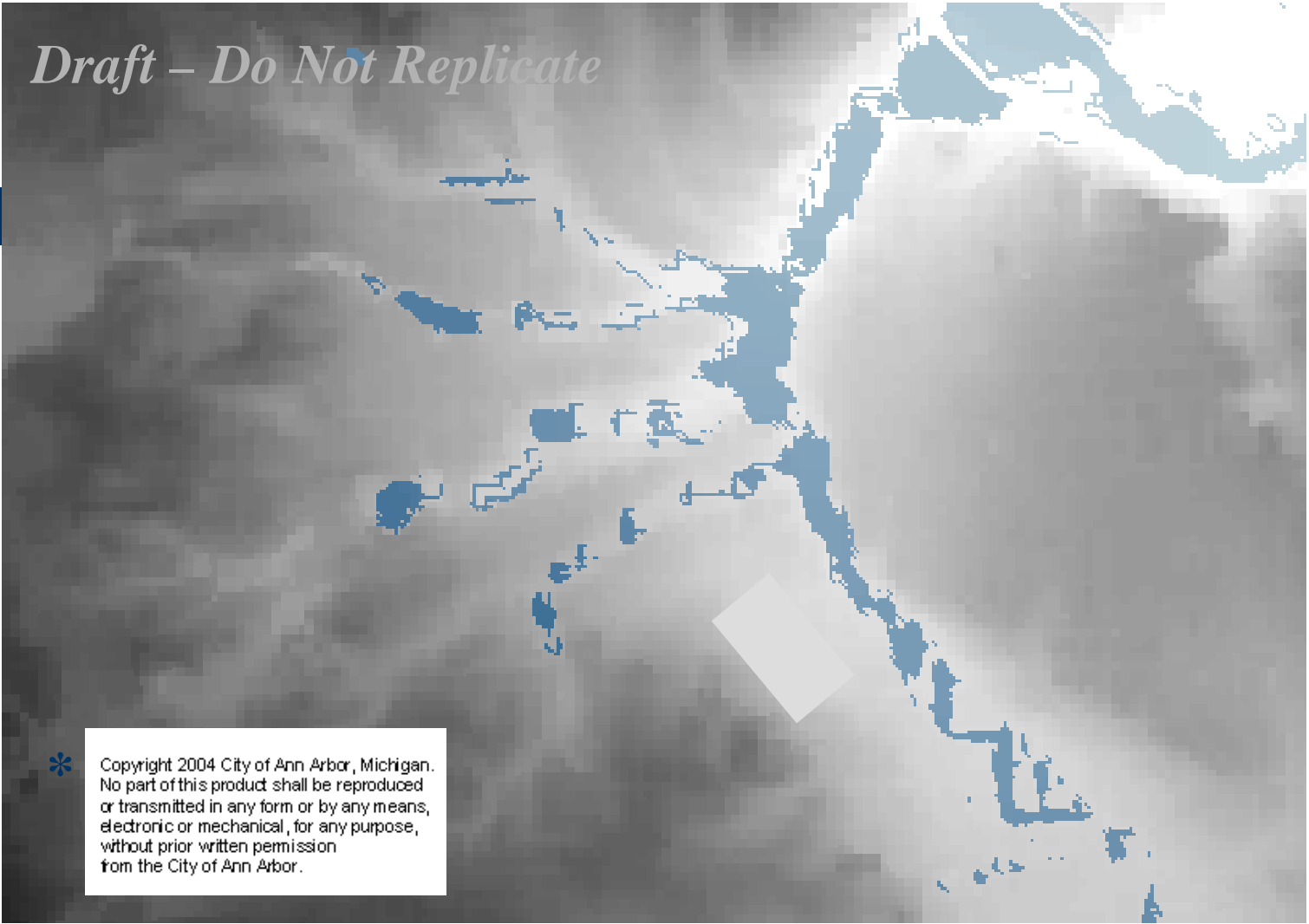


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# Aerial View of Allen Creek: Areas of 3ft or greater Depth During a 100yr Flood Event\*

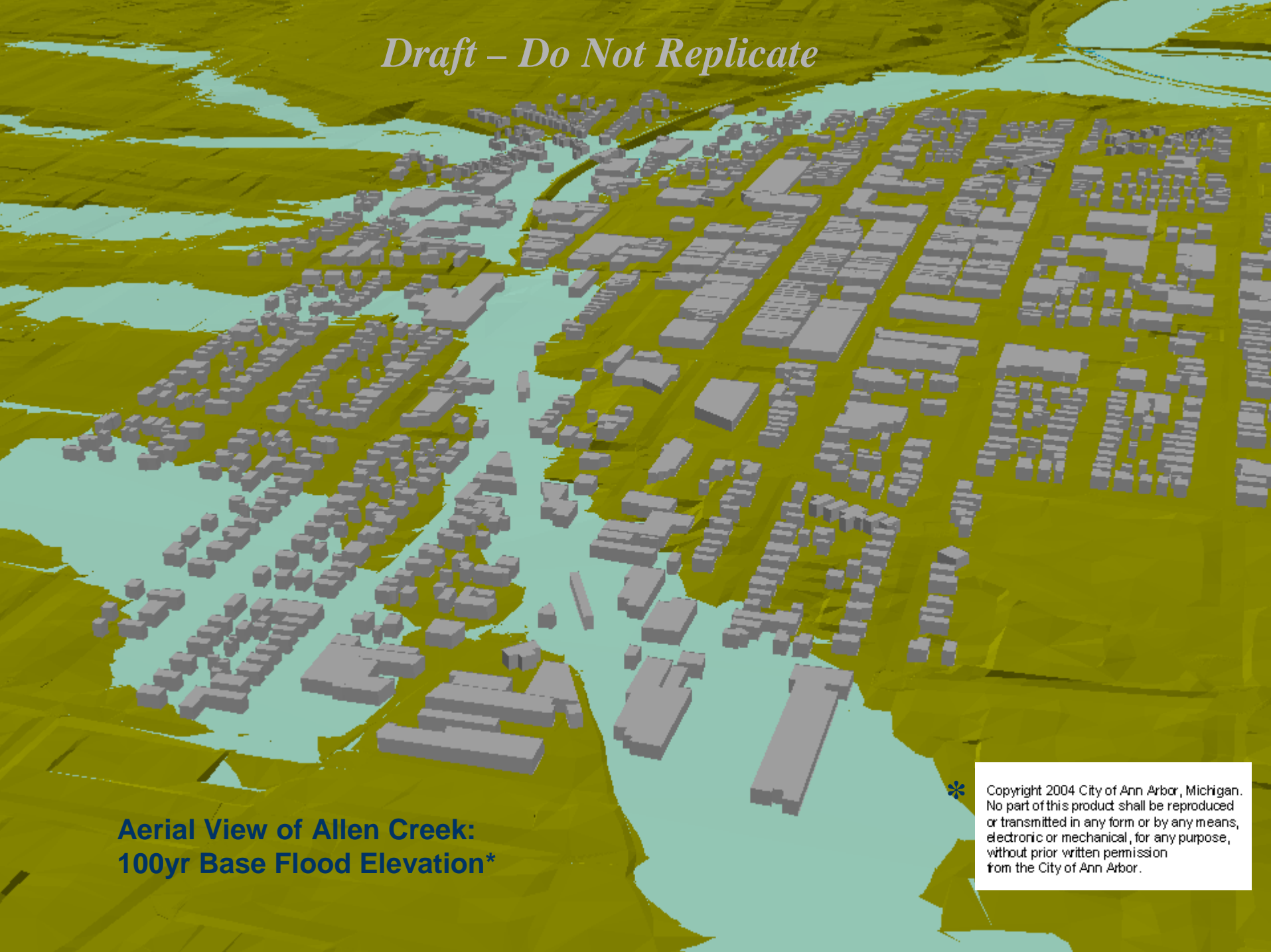
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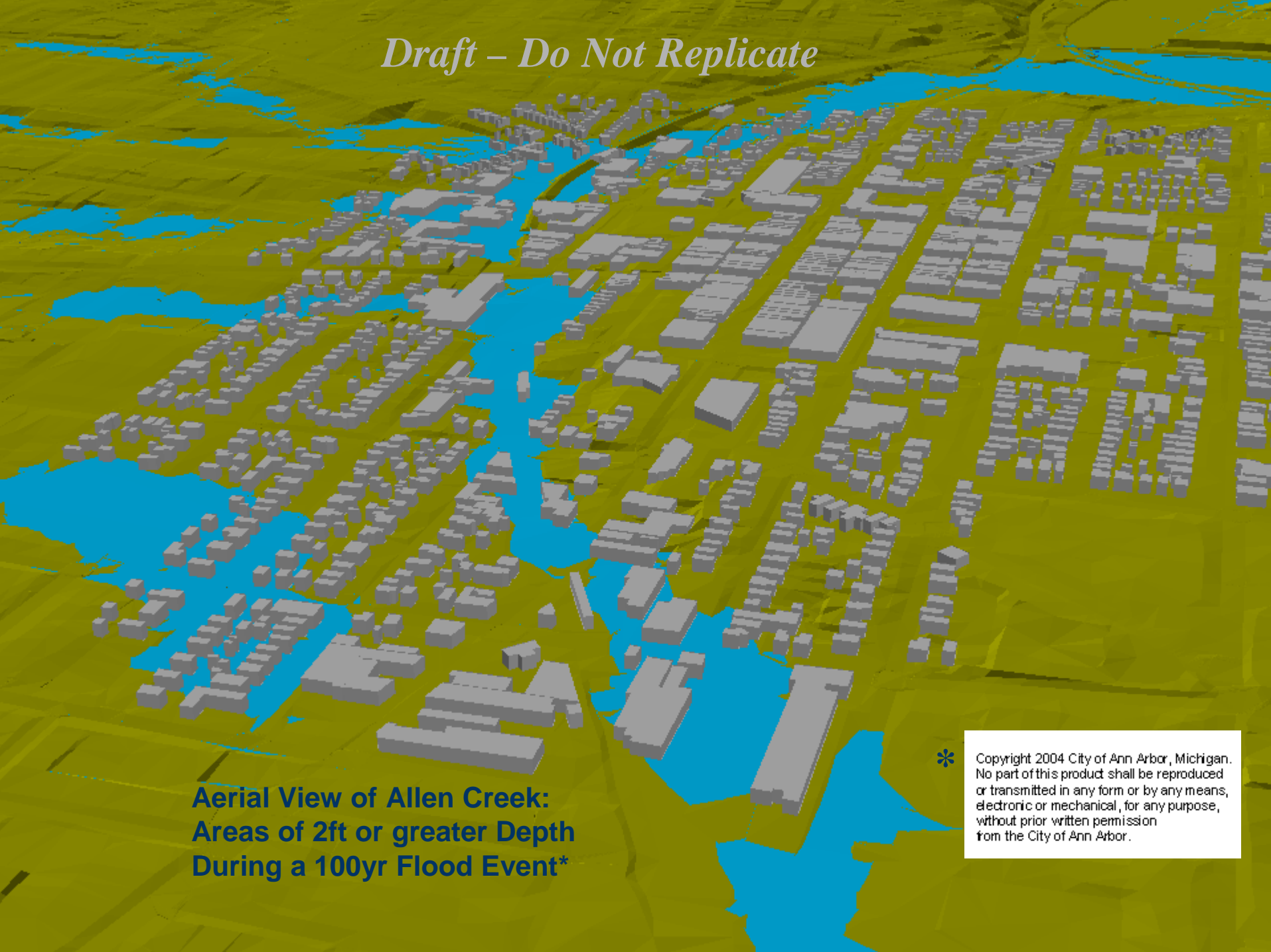


**Aerial View of Allen Creek:  
100yr Base Flood Elevation\***



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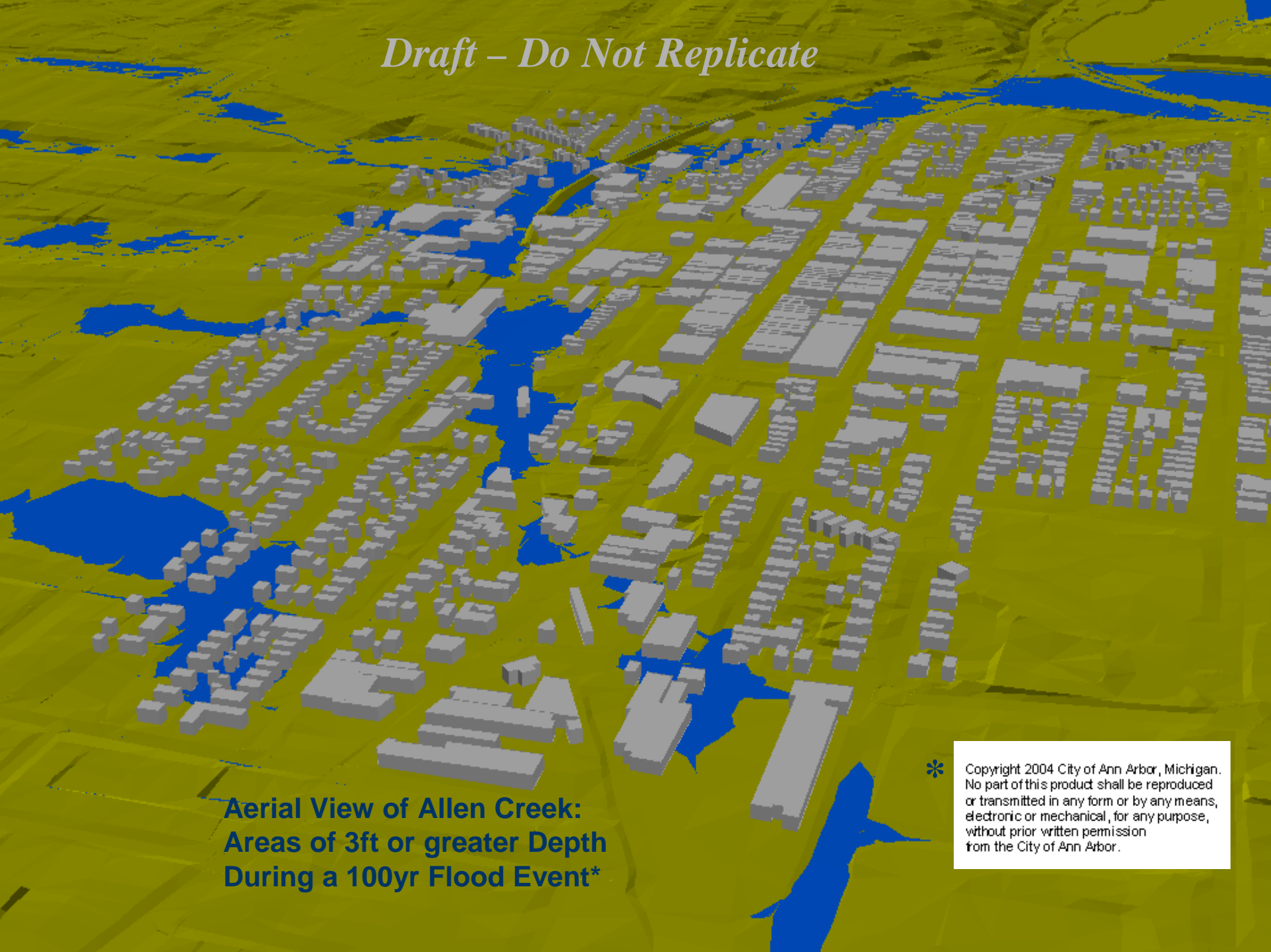
**Aerial View of Allen Creek:  
Areas of 2ft or greater Depth  
During a 100yr Flood Event\***



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# Planning and Policy: Example Mitigation Strategies\*

- **Acquisition.** Public acquisition and management of flood prone properties.
- **Relocation.** Permanent relocation of flood prone structures to areas outside the floodplain.
- **Redevelopment.** Rebuilding damaged or flood prone structures in such a way that the risk is reduced.
- **Modifications.** Site and structural modification to flood proof structures.
- **Public Works Measures.** Storm water management system improvements to reduce flooding. Examples include in-line detention facilities, storm water pipe modifications, reforestation, and native landscaping.
- **Planning and Regulatory Measures.** Modifying land use plans, modifying zoning, re-mapping floodplain boundaries, developing additional floodplain development regulations, development moratoria, and open space planning.
- **Incentives.** Create financial incentives and disincentives based on flood risk factors.
- **Lead by Example.** Establish clear and consistent government policy for public owned land in the floodplain aimed at preventing public buildings in the floodplain.
- **Public Education and Awareness Measures.** Tools include; public relations, information dissemination, public hearings, surveys, polls, workshops, seminars, etc.



\*Strategies outlined in: EMD-PUB 207, Feb 2003; Emergency Management Division Michigan State Police

# Planning and Policy: Other Ideas

- **Greenways.** Setting policy for acquisition of land and easements in Floodplains.
- **Zoning.** Consider zoning recommendations to Downtown Comprehensive Zoning Project about Floodplain.
- **Public Land.** Incorporate the policy options outline by staff and Planning Commission in “FLOODPLAIN POLICY FRAMEWORK: A Policy Proposal for City-Owned Property in Floodplains” Draft 12/03.
- **Emergency management.** Coordinate Review of FMAP with Office of Emergency Management.
- **Infrastructure.** Opportunities to coordinate capital improvements & transportation planning with flood mitigation strategies.
- **Historical Preservation.** Examine guidelines in the building code and the historic preservation ordinance that apply to floodplain management.
- **Floodplain Ordinance.** Facilitate the development and adoption of a Floodplain Ordinance.
- **Brownfields.** Seek ways to pursue environmental remediation through floodplain management .
- **Storm Water.** Insure that City projects (facilities, roads, parks, DDA, public housing) are held to the storm water management criteria outlined in the Storm Water Management Ordinance.
- **Watershed Planning.** Support the recommendations of the Millers Creek and Mallets Creek Watershed Plan and recommend similar plans be developed for other watersheds.



# Planning and Policy Work: Next Steps

- Continue exploring policy and planning options.
  - Develop a tool for soliciting feedback
- Continue review of flood mitigation planning resources
  - Review FEMA Publications
  - Review ASFPM Publications
  - Review State of Michigan Publications
- Flood Mitigation Plan Staff Advisory Committee: Tasks
  - To meet monthly march through may
    - Discuss mitigation strategies
    - Edit a working document
    - Guide public presentation & engagement
    - Incorporate public input into plan



# Public Engagement: Next Steps

- Keep City website updated with project status
- Develop feedback tool for soliciting public input by end of April for a public engagement exercise in June.
- Present to Old West Side Association in April 21st
- Present to Watershed Groups; Allen and Mallets
- Follow up with Environmental Commission on May 26<sup>th</sup>
- Submit to City Planning Commission July
- Submit to City Council August/September



# Contacts

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