

# National Flood Insurance Program (NFIP) updates in Minnesota

presented by  
DNR Ecological & Water Resources



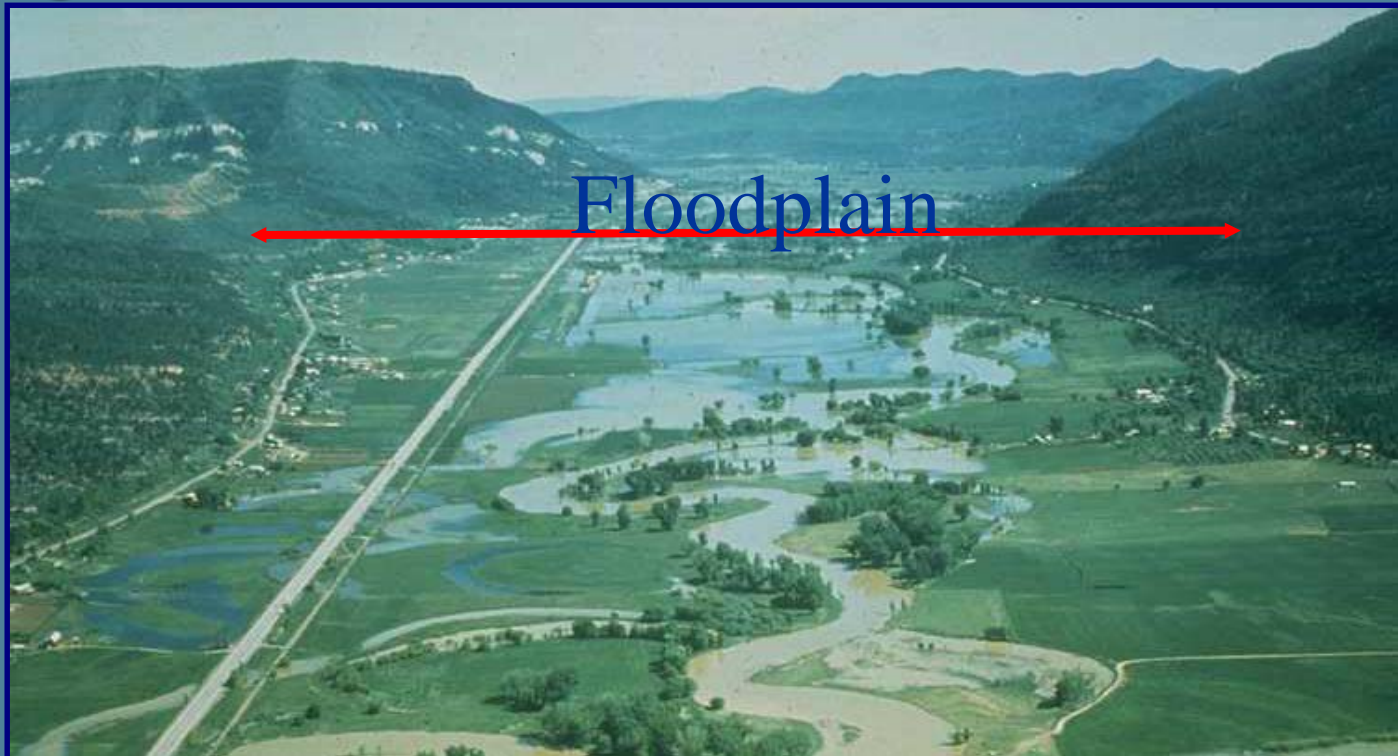
# Agenda

- Regulations
- FEMA maps & map updates
- Mitigation
- Flood insurance
- 2012 & 2014 reform acts
- Interaction of new maps & flood insurance
- Demo of key helpful web sites

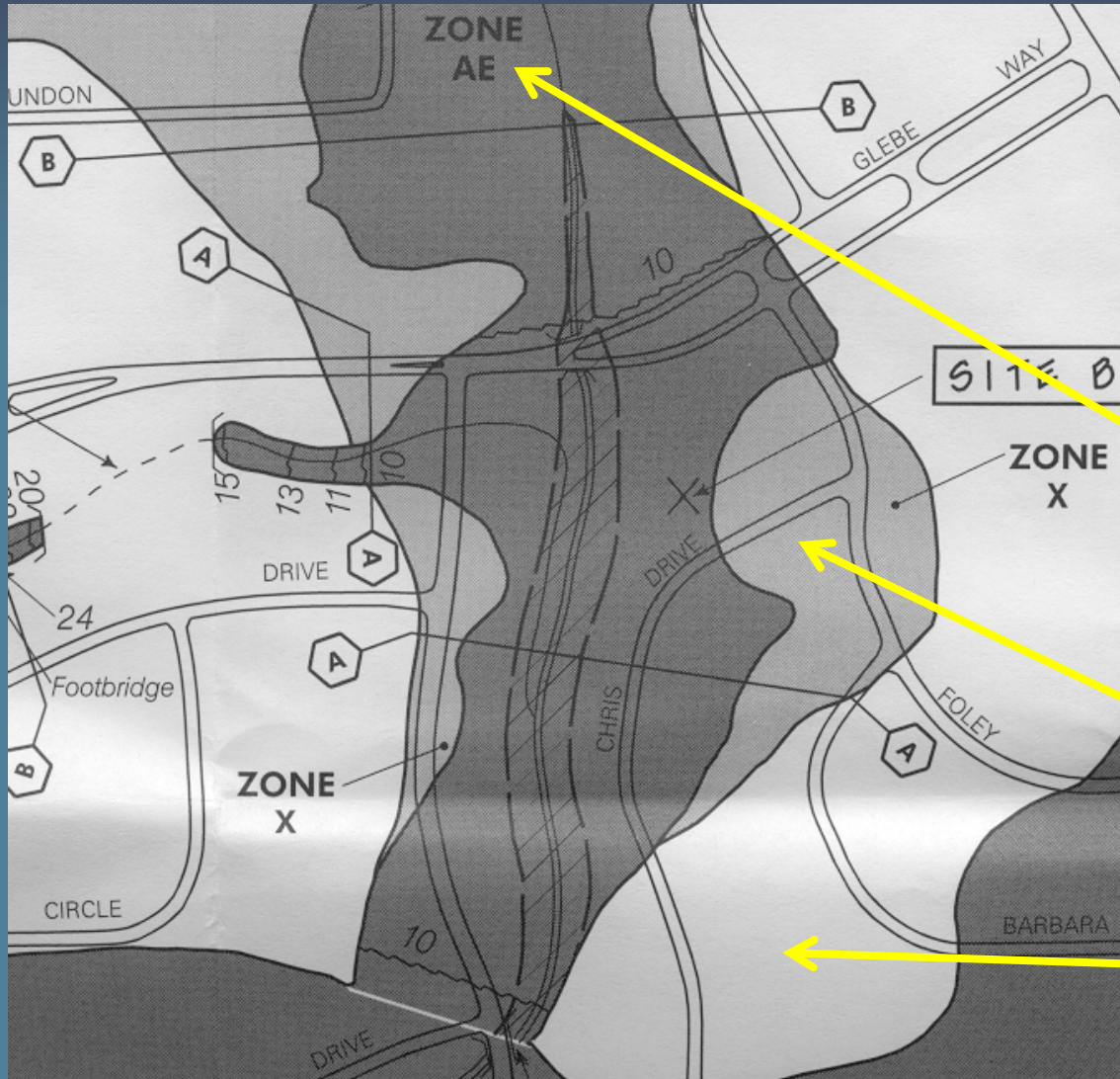


# NATIONAL FLOOD INSURANCE PROGRAM (NFIP) - 1968

- 1) ID FLOODPLAIN (FEMA Maps)
- 2) DEVELOPMENT STANDARDS (administered locally)
- 3) FLOOD INSURANCE (not mandatory yet)
- 4) Mitigation



# Sample FEMA Map with SFHA



National Standard of "100-year flood" chosen

High Flood Risk

- Zone A & AE (old)
- Zone A & AE (new)

Medium Flood Risk

- Zone B (old maps)
- Zone X (shaded)

Low Flood Risk

- Zone C (old maps)
- Zone X (unshaded)

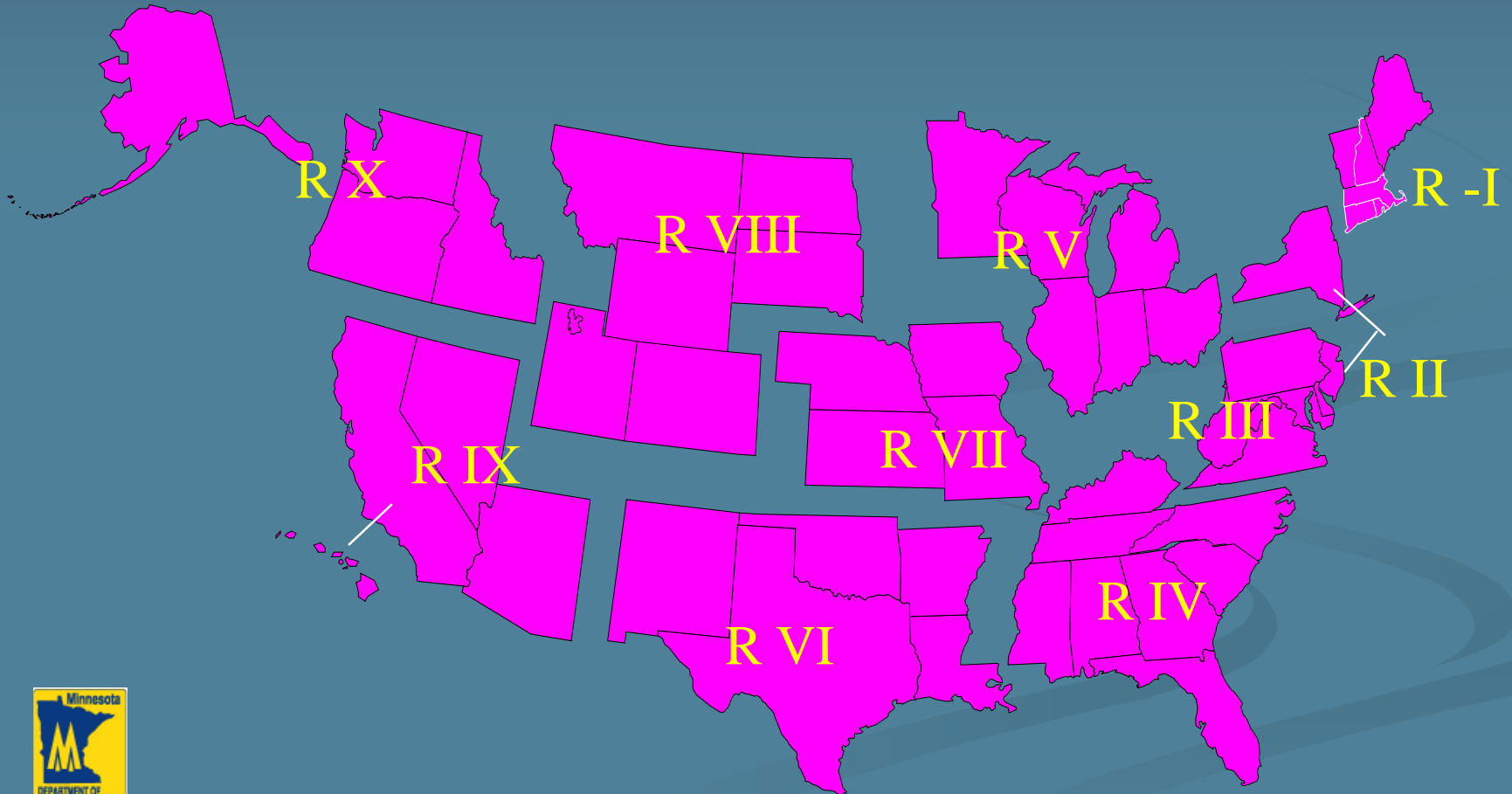
# Key Updates

- **1973** - Flood Disaster Protection Act
  - mandatory flood insurance purchase
- **1977** – EO 11988 – federal projects in FP
  - January 2015 EO 13690 amended EO 11988
- **1994** – NFIP Reform Act
  - lender fines/penalties; 5 day waiting period to 30 day
- **2004** – Stafford Act - Repetitive Losses targeted
- **2012** – Biggert-Waters reform act
  - Extends National Flood Insurance Program 5 years
  - Phasing pre-FIRM to full risk rates (some immediate)
- **2014** – Homeowners Flood Insurance Affordability Act (aka Grimm-Waters Act)





# FEMA REGIONS



# Roles & Responsibilities

- Zoning Authority (city, county or township)
  - Most important!
  - Adopts ordinance, enrolls in National Flood Insurance Program (NFIP), administers & enforces, **KEEPS RECORDS**
- State – Oversight; technical assistance & training; approve ordinances & some data/mapping; coordinate between FEMA & community (& watersheds, HSEM, etc.)
- Watershed District – may have overlapping regulations &/or mitigation projects; often key data source
- FEMA – Oversees NFIP (enrolls; can suspend); produces / approves maps & data



# Participating in National Flood Insurance Program (NFIP)

492 Cities

15 Townships

2 Tribes

85 Counties

(all with zoning; not Hennepin & Ramsey)

594 Total



\* >95% of State Population Eligible



# MN Community Status Book

<http://www.fema.gov/cis/MN.pdf>

## Federal Emergency Management Agency

### Community Status Book Report

MINNESOTA

Report Level: State

#### Communities Participating in the National Flood Program

CID	Community Name	County	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map	Regular or Emergency Date
270323#	ADA, CITY OF	NORMAN COUNTY	05/10/74	08/02/82	07/18/94	08/02/82
270308#	ADAMS, CITY OF	MOWER COUNTY	07/30/76	08/15/79	(NSFHA)	08/15/79
270318#	ADRIAN, CITY OF	NOBLES COUNTY	05/03/74	06/01/82	06/01/82	06/01/82
275226A	AFTON, CITY OF	WASHINGTON COUNTY	04/20/72	04/21/72	01/02/76	04/21/72
270628#	AITKIN COUNTY *	AITKIN COUNTY	12/30/77	03/15/82	02/02/96	03/15/82
270001#	AITKIN, CITY OF	AITKIN COUNTY	12/28/73	03/15/82	03/15/82	03/15/82
270135#	ALBERT LEA, CITY OF	FREEBORN COUNTY	06/07/74	05/03/82	(NSFHA)	05/03/82
275330	ALDEN, CITY OF	FREEBORN COUNTY				
270639	BECKER COUNTY *	BECKER COUNTY	03/18/77	(NSFHA)	05/15/85	
270710#	BECKER, CITY OF FIRM panels numbered 27141C0220 E, 27141C0240 E, 27141C0310 E, 27141C0330 E, and 27141C0335 E.	SHERBURNE COUNTY	03/30/79	05/04/00	06/12/00	06/12/00
270429#	BELLE PLAINE, CITY OF	SCOTT COUNTY	03/08/74	12/18/86	12/18/86	12/18/86
270679#	BELLINGHAM, CITY OF	LAC QUI PARLE COUNTY	08/23/74	03/16/06	03/30/79	03/30/79
270684	BELTRAMI COUNTY *	BELTRAMI COUNTY	03/10/78	(NSFHA)	05/15/85	05/15/85
270362#	BELTRAMI, CITY OF	POLK COUNTY	08/23/74	01/19/83	01/19/83	01/19/83
270467#	BENSON, CITY OF	SWIFT COUNTY	05/17/74	02/16/06	02/16/06	05/25/84
270019#	BENTON COUNTY *	BENTON COUNTY	06/28/74	01/02/81	12/04/81	01/02/81
270474B	BERTHA, CITY OF	TODD COUNTY	04/12/74	07/17/86	07/17/86(M)	07/17/86
270234	BIG FALLS, CITY OF	KOOCHICING COUNTY	08/30/74	(NSFHA)	06/08/84	06/08/84
270663#	BIG LAKE, CITY OF	SHERBURNE COUNTY	01/17/75	05/04/00	(NSFHA)	12/26/78
270652#	BIG STONE COUNTY *	BIG STONE COUNTY	06/05/81	06/17/86	04/17/86	06/17/86
270201#	BIGFORK, CITY OF	ITASCA COUNTY	09/13/74	04/17/89	04/17/89	04/17/89
270720	BIRCHWOOD VILLAGE, CITY OF	WASHINGTON COUNTY	05/17/74	05/25/84	(NSFHA)	06/08/84
270418	BIWABIK, CITY OF	ST. LOUIS COUNTY	05/17/74	05/25/84	(NSFHA)	05/25/84
270007#	BLAINE, CITY OF	RAMSEY COUNTY/ANOKA COUNTY	06/28/74	11/15/79	06/17/02	11/15/79

Current Effective Map

Initial FIRM Identified	08/02/82
Initial FIRM Identified	08/15/79
Current Effective Map	07/18/94
Current Effective Map	(NSFHA)

# MN Community Status Book (pages 15-16)

## Non-participating Communities

### Federal Emergency Management Agency Community Status Book Report

#### MINNESOTA

#### Communities Not in the National Flood Program

CID	Community Name	County	Init FHBM Identified	Init FIRM Identified	Curr Eff Map Date	Sanction Date	Tribal
270492#	ALDRICH, CITY OF	WADENA COUNTY	02/07/75		09/08/78	02/07/76	No
270691#	ARCO, CITY OF	LINCOLN COUNTY	04/15/77		06/10/77	04/15/78	No
270735#	ARNA, TOWNSHIP OF	PINE COUNTY		11/20/91	04/03/12	11/20/92	No
270905A	BETHEL, CITY OF	ANOKA COUNTY		12/16/15	12/16/15	12/16/16	No
270261#	BISCAY, CITY OF	MCLEOD COUNTY	11/15/74	07/07/14	07/07/14	11/15/75	No
270748A	BORUP, CITY OF	NORMAN COUNTY		07/18/94	09/30/15	07/18/95	No
270057	BOY RIVER, CITY OF	CASS COUNTY	06/10/77		06/10/77	06/10/78	No
270557#	BROOK PARK, CITY OF	PINE COUNTY	10/25/74	04/03/12	04/03/12	10/25/75	No
270419	BROOKSTON, CITY OF	ST. LOUIS COUNTY	08/02/74	05/01/87	05/01/87	05/01/87(W)	No
270294	BUCKMAN, CITY OF	MORRISON COUNTY	08/09/74		07/16/76	08/09/75	No
270520#	CARLOS, CITY OF	DOUGLAS COUNTY		11/18/09	11/18/09	11/18/10	No
270281A	CEDAR MILLS, CITY OF	MEEKER COUNTY	02/14/75	04/03/12	04/03/12	02/14/76	No
270728#	COATES, CITY OF	DAKOTA COUNTY		12/02/11	12/02/11	12/02/12	No
270561#	COBDEN, CITY OF	BROWN COUNTY	11/01/74	06/06/00	09/25/09	11/01/75	No
270562	COLOGNE, CITY OF	CARVER COUNTY	11/01/74		11/01/74	11/01/75	No



~89 Communities in MN

# FLOOD FREQUENCY

<u>Flood Frequency</u>	<u>Annual Probability of Occurrence</u>
10-Year	10% *
50-Year	2% *
100-Year	1% *
500-Year	0.2% *

\* Chance of being equaled or exceeded  
in any given year.

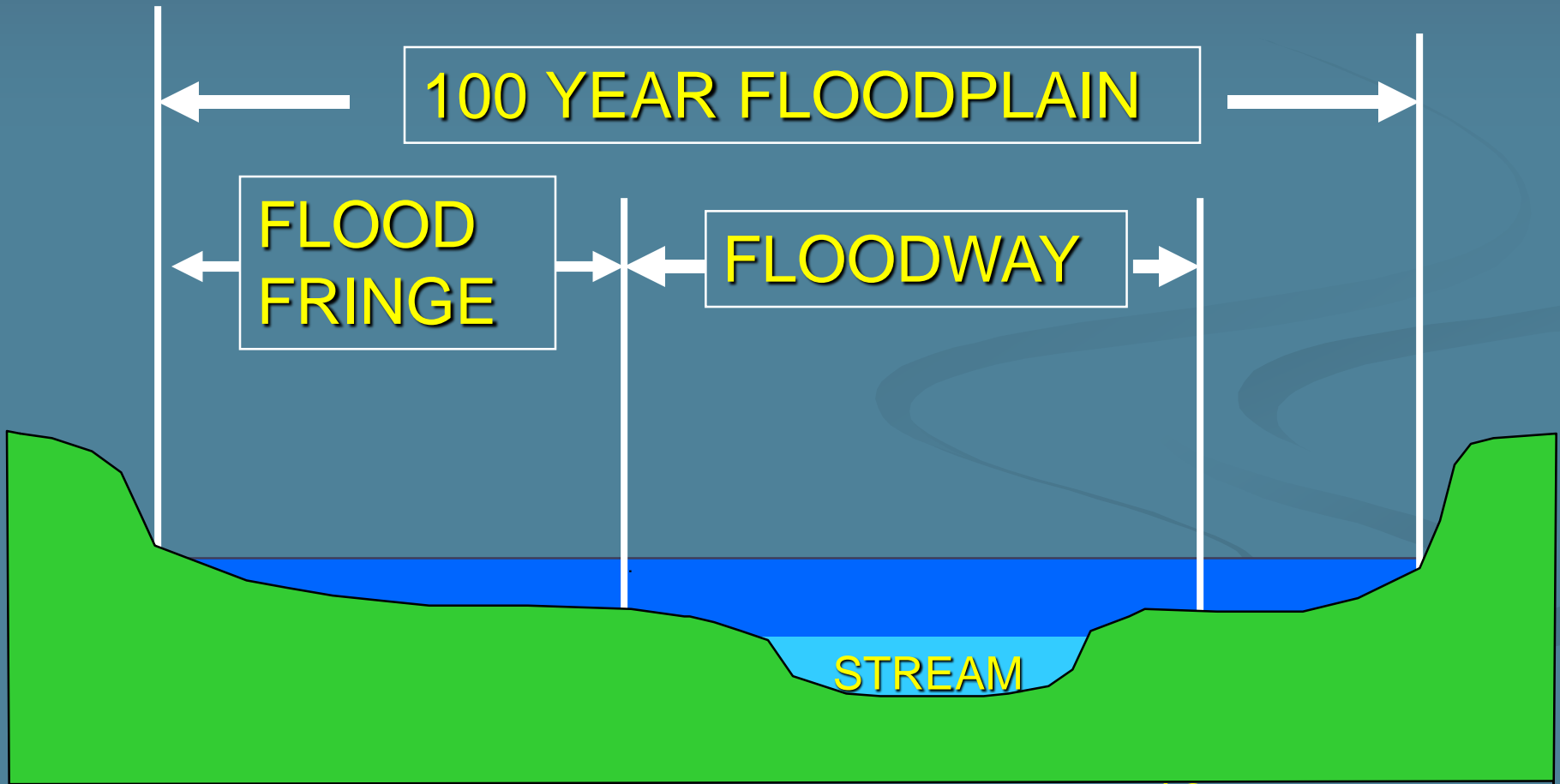


# SYNONYMOUS TERMS

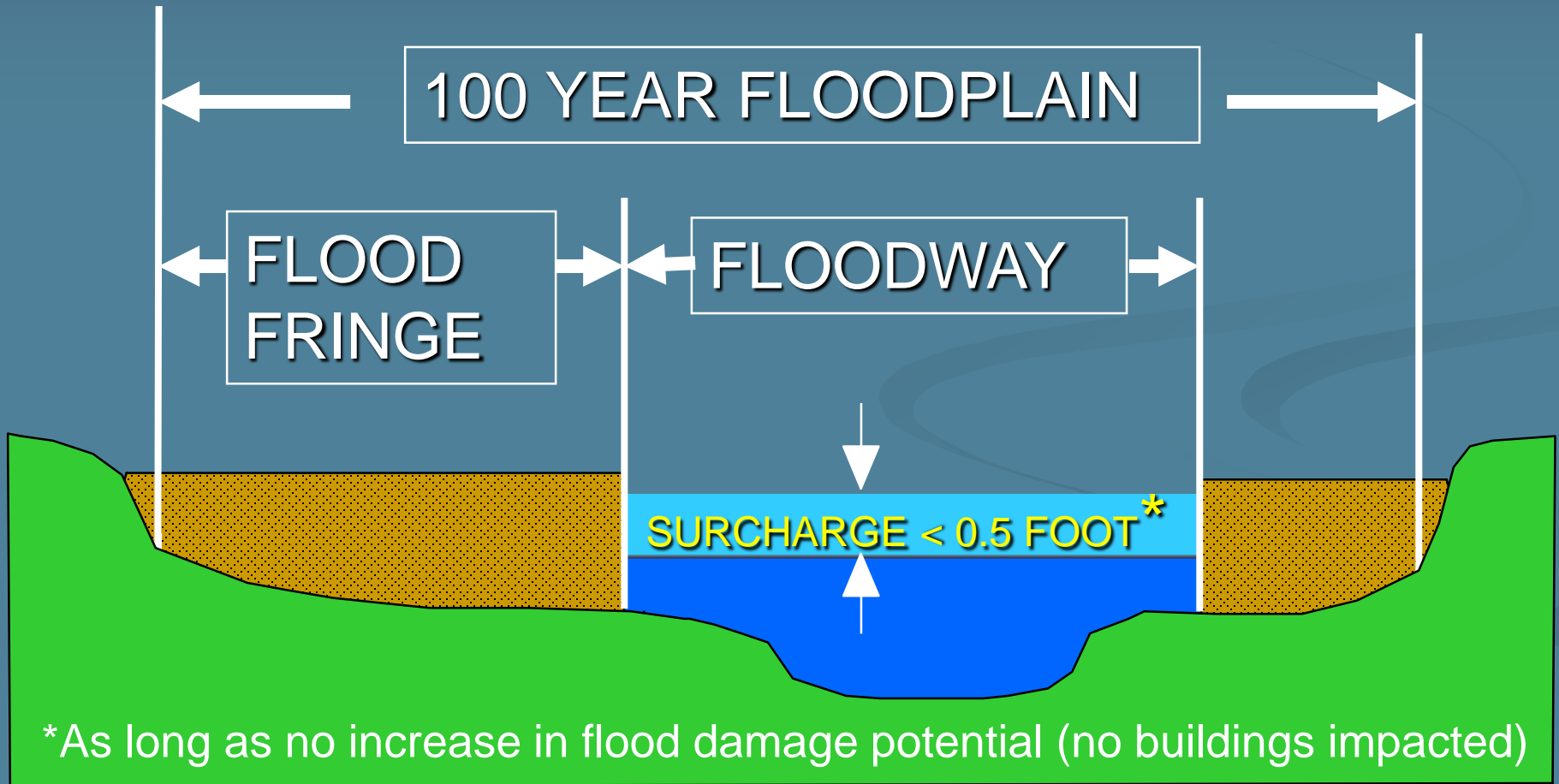
- One-Percent (1%) Chance Flood
- 100-Year Flood
- Base Flood Elevation, or BFE (FEMA)
- Regional Flood (MN DNR)
- Special Flood Hazard Area, or SFHA (FEMA)
- High Flood Risk Area



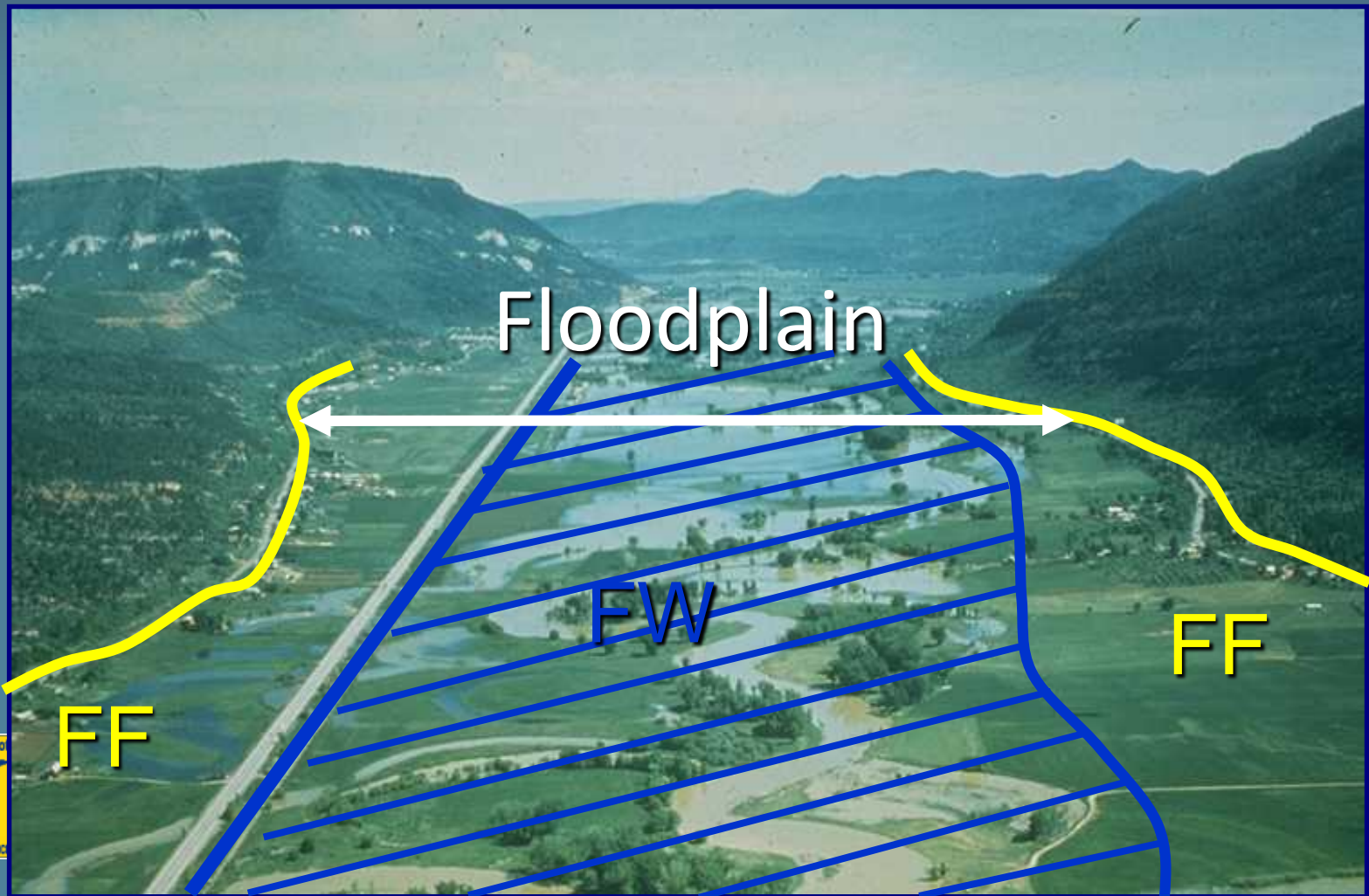
# Floodplain Cross-Section Floodway versus Flood Fringe



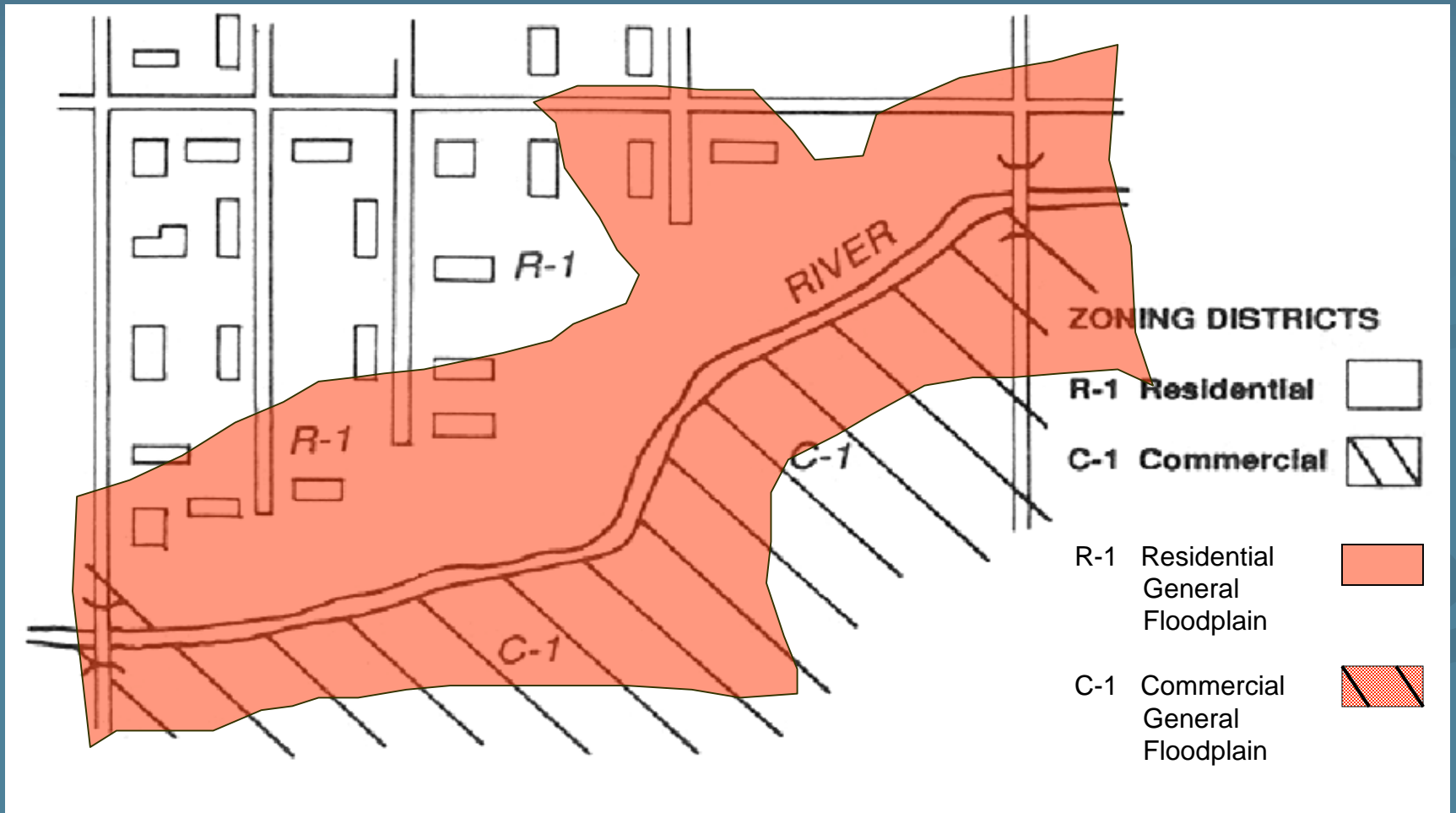
# Floodplain Cross-Section Encroachment Allowed



# FLOODWAY DESIGNATION

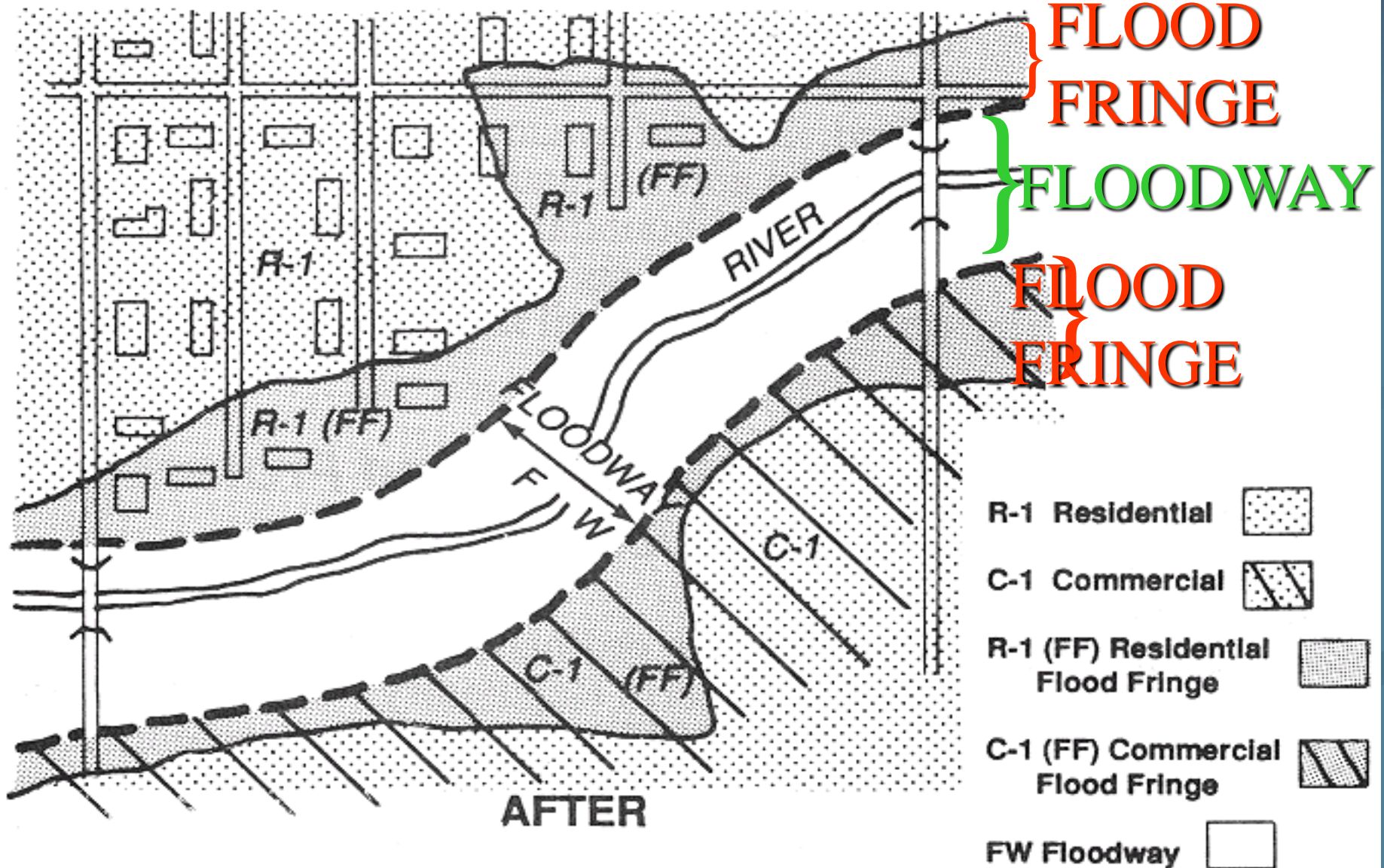


# Typical Zoning Map with General Floodplain District





# Top View of Floodway vs Flood Fringe



# MN REGULATORY FLOOD PROTECTION ELEVATION (RFPE) – Minimum lowest floor

~~1% chance~~

~~100-year flood elevation/BFE~~

FEMA's  
lowest floor  
requirement

+ Stage increase due to Flood Fringe

+ 1 Foot (minimum) of freeboard\*

= Regulatory Flood Protection Elevation  
(State of MN)

\* Mandatory after 1997 State law change



# Ice Jam!



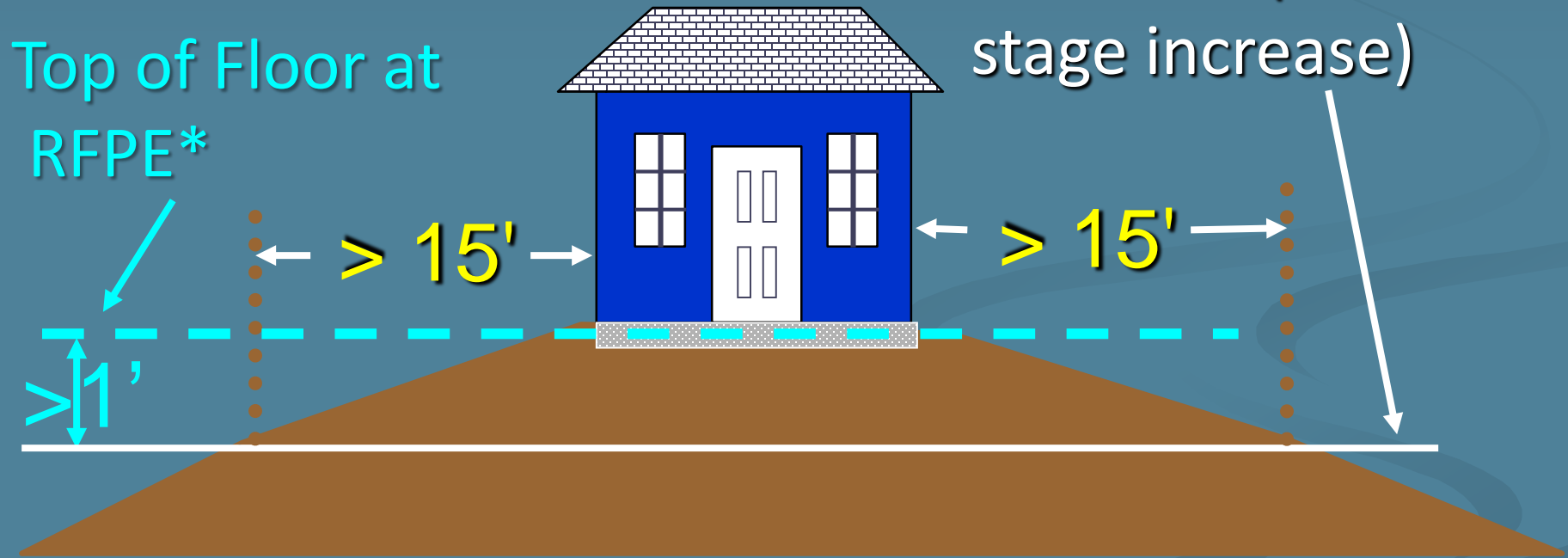
Benson, MN - 2010

# State Minimums for Structures in Flood Fringe Areas

Not to Scale

Top of Floor at  
RFPE\*

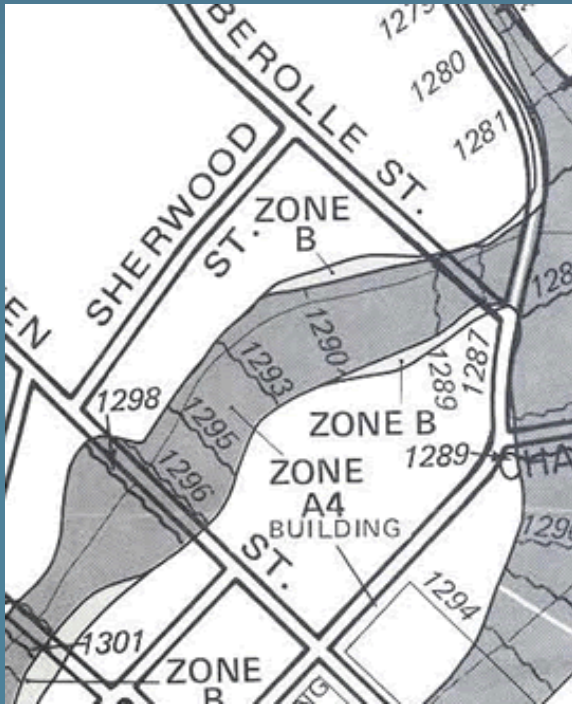
100-year flood  
elevation (BFE +  
stage increase)



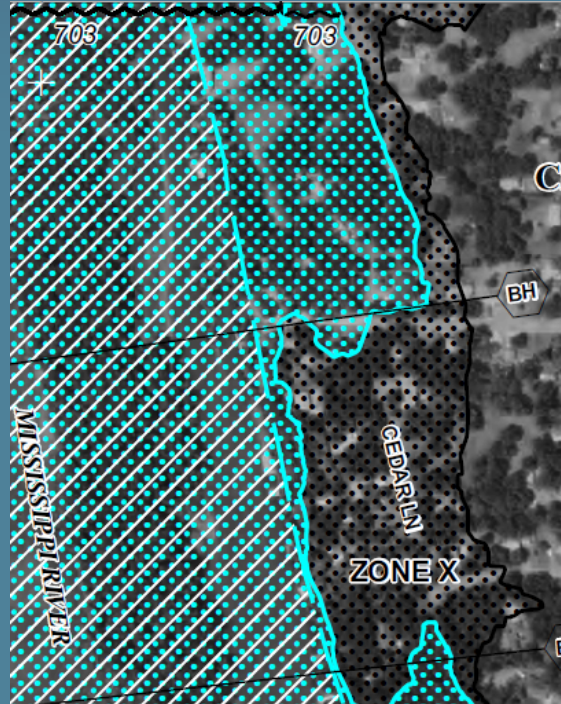
\*RFPE = 100-year flood (BFE) + stage increase + 1' freeboard (minimum)

# Flood Risk Assessment Methods Evolving . . .

Yesterday



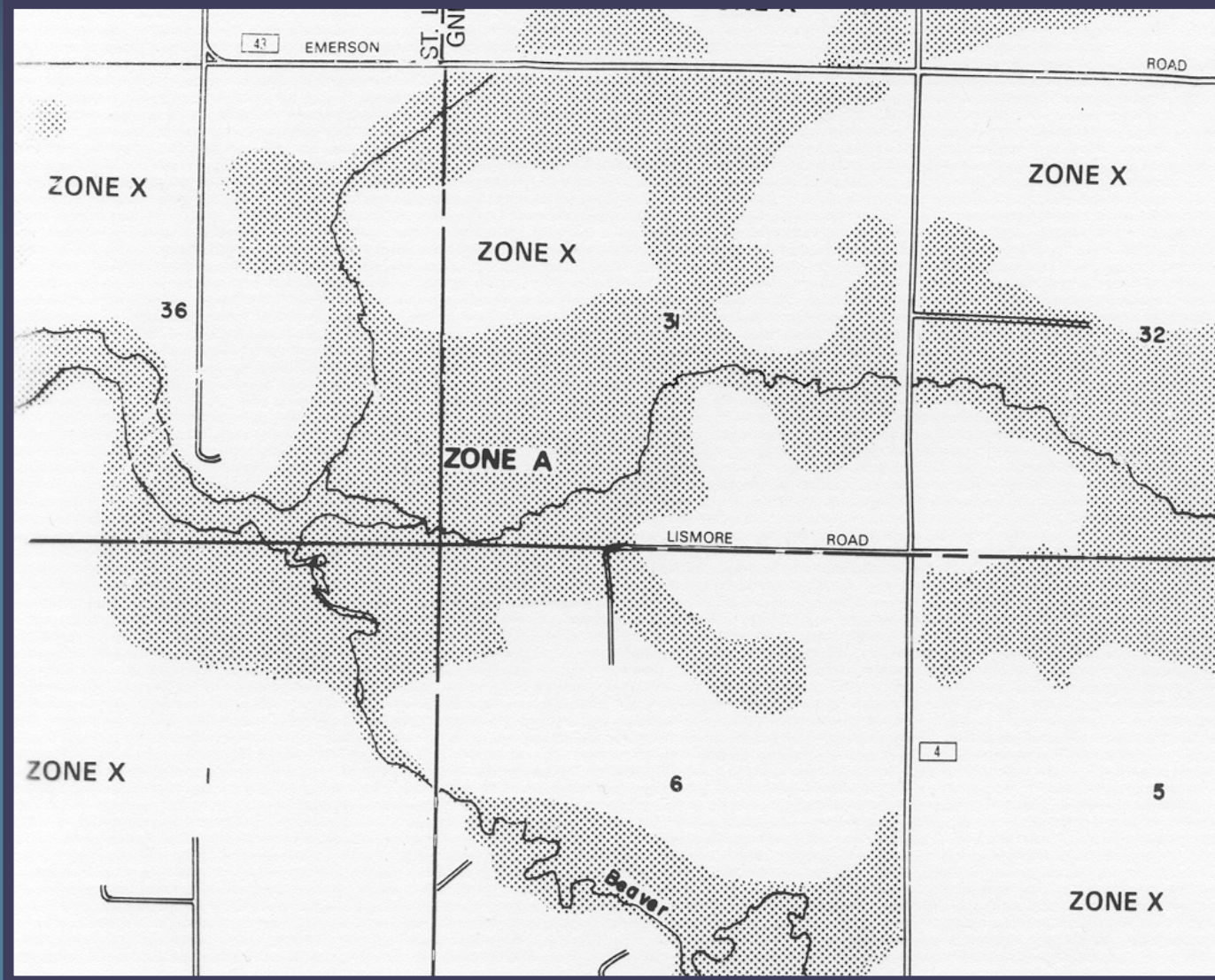
Today



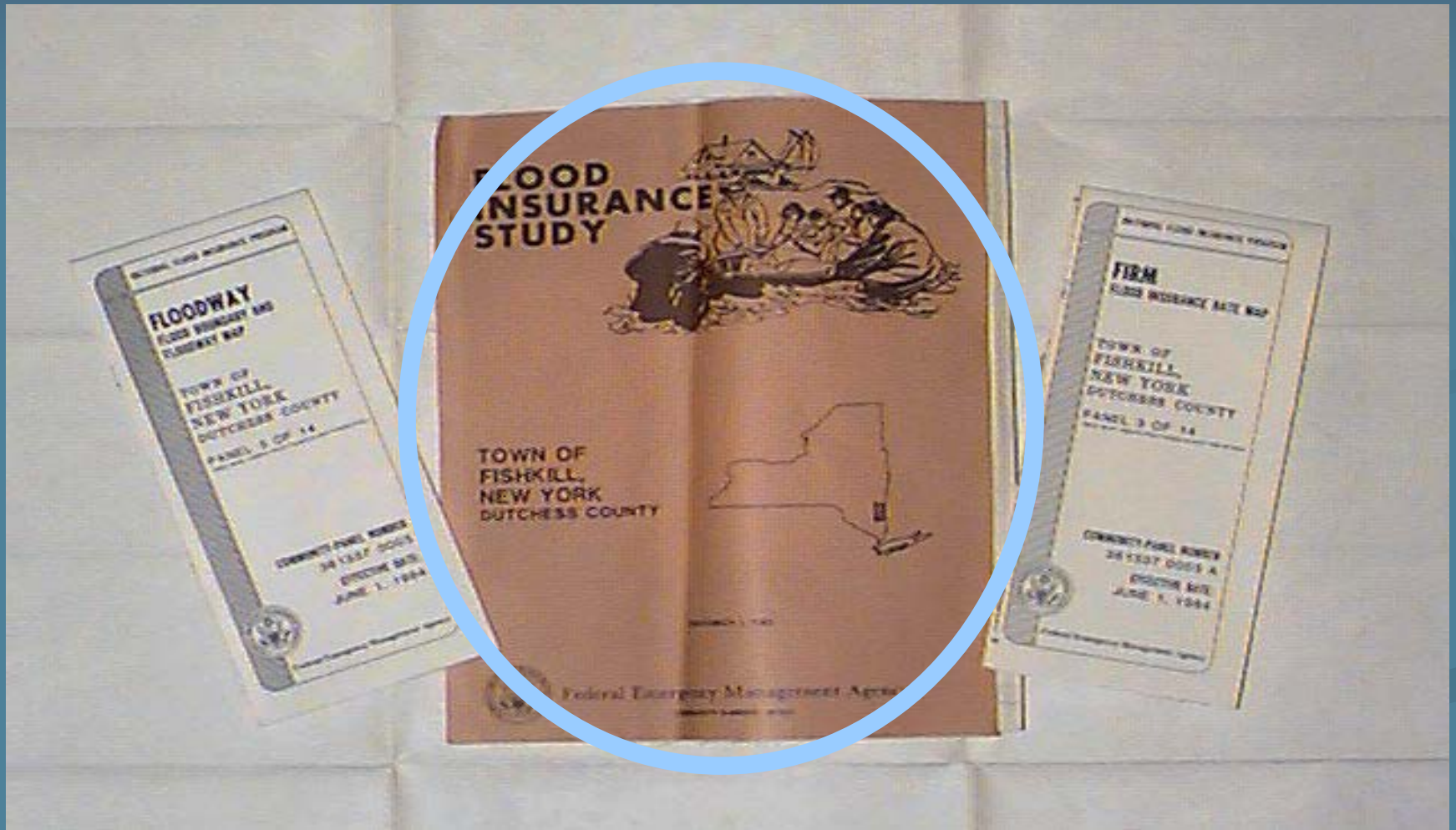
Tomorrow



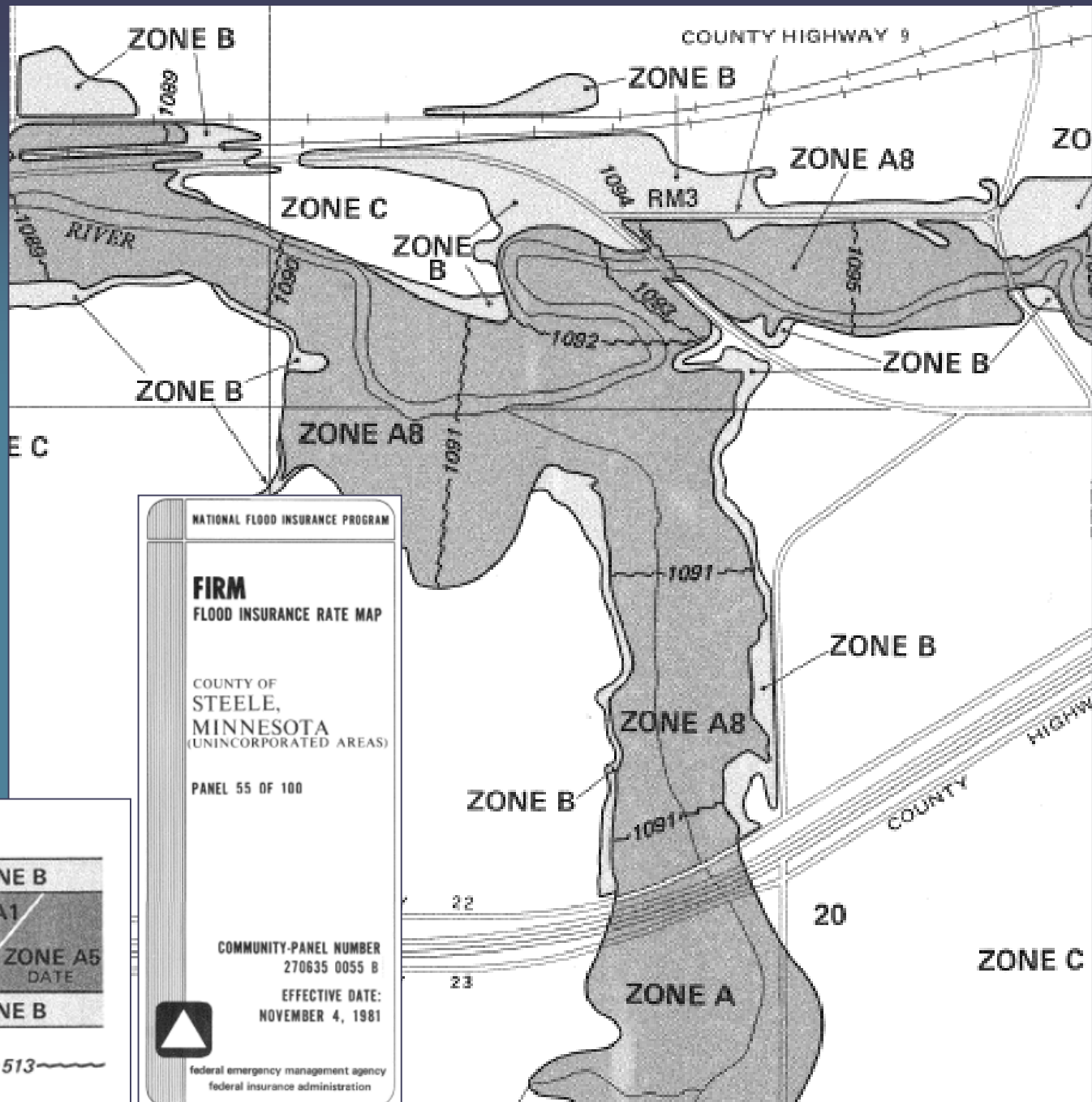
# Flood Hazard Boundary Map (FHBM)



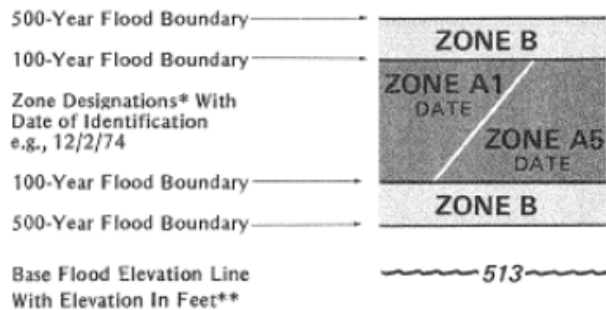
# FIS NARRATIVE



# Flood Insurance Rate Map (FIRM) Two-Map Format (Pre-1988)

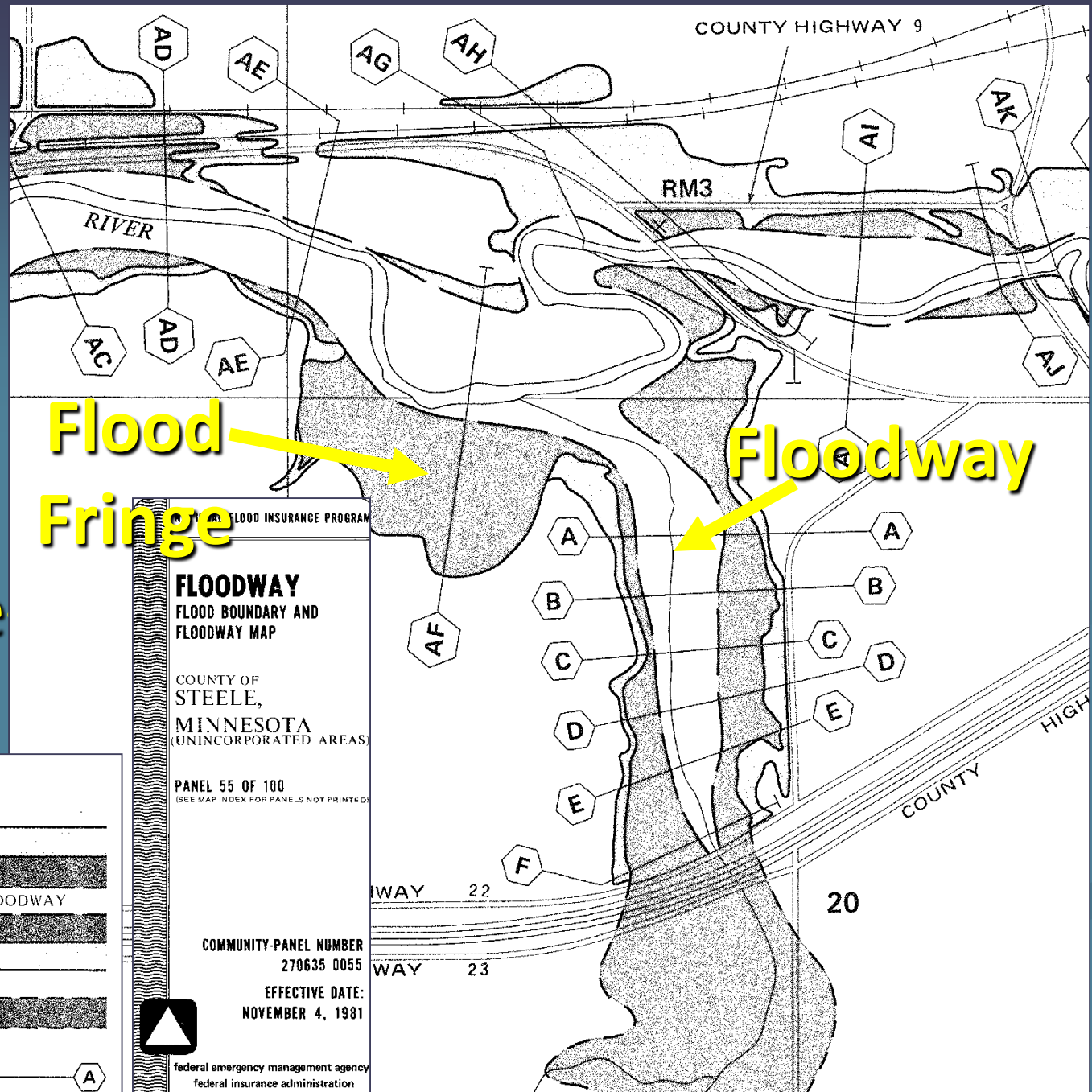


## KEY TO MAP

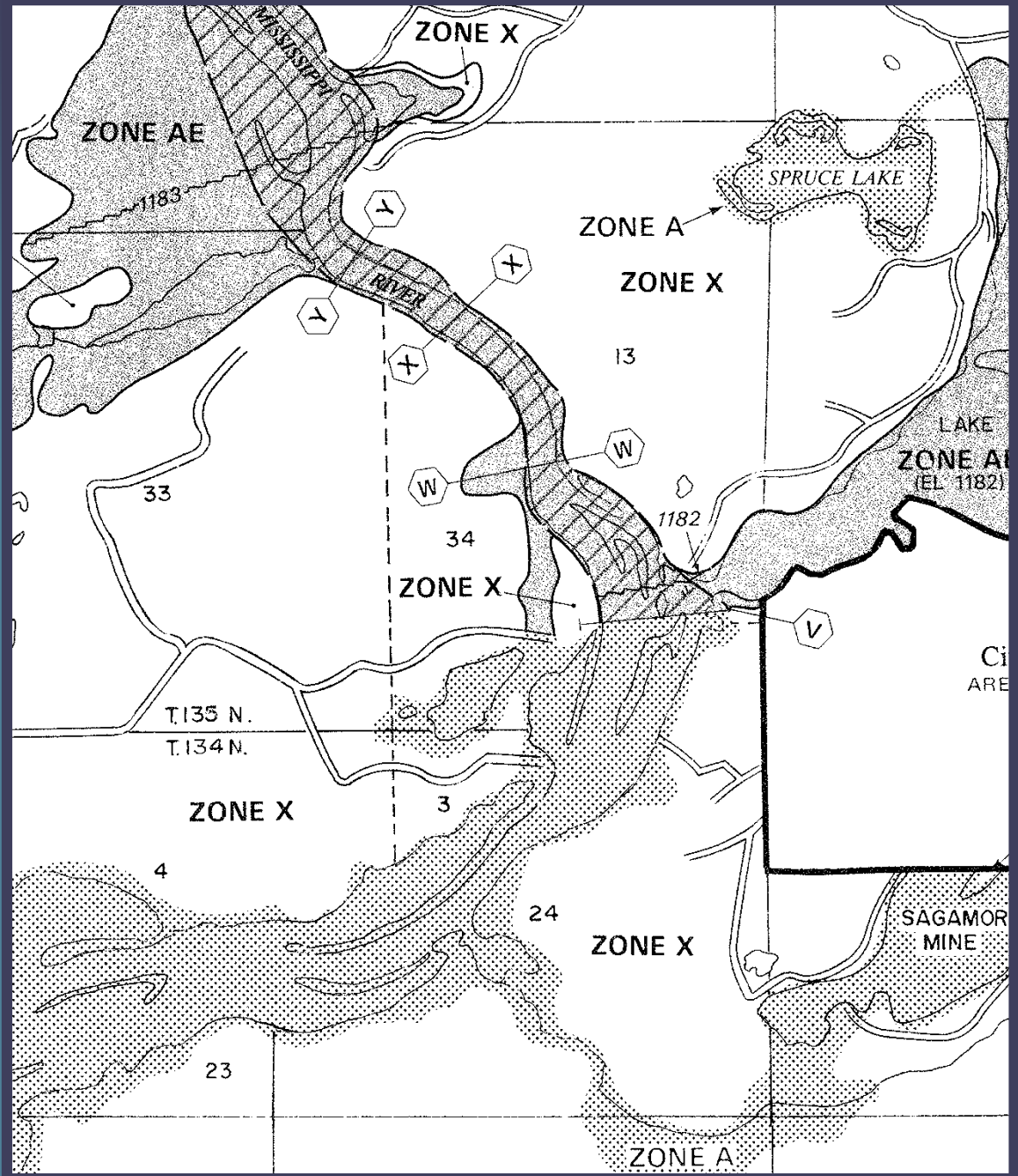




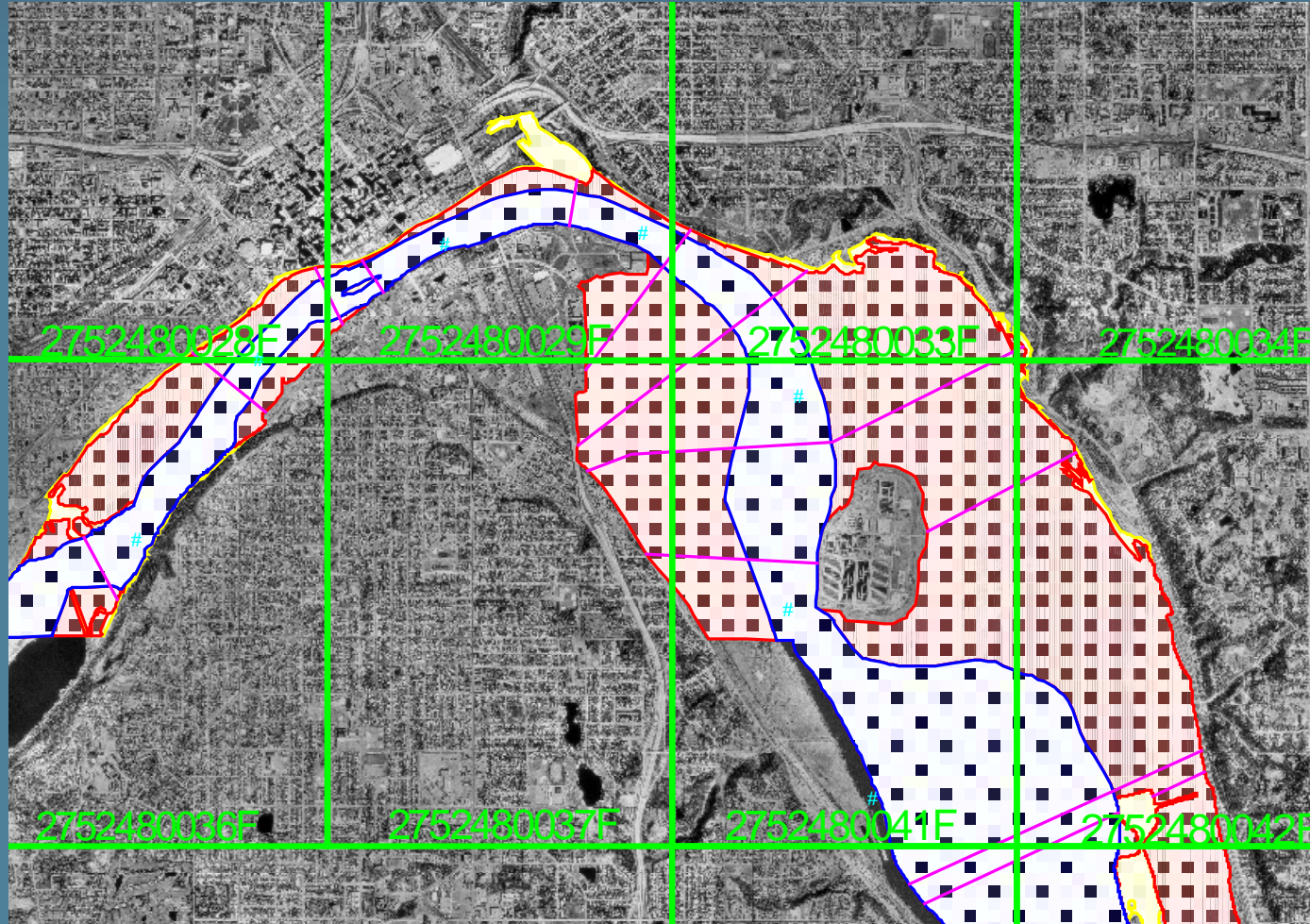
# Flood Boundary Floodway Map (FBFM) Two-Map Format (Pre 1988)



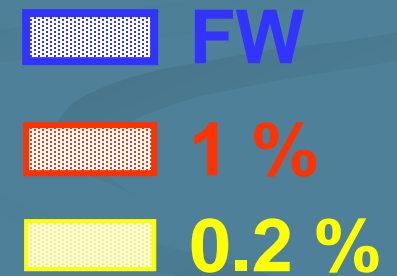
Flood  
Insurance  
Rate  
Map  
(FIRM)  
One-Map  
Format  
(Post 1988)



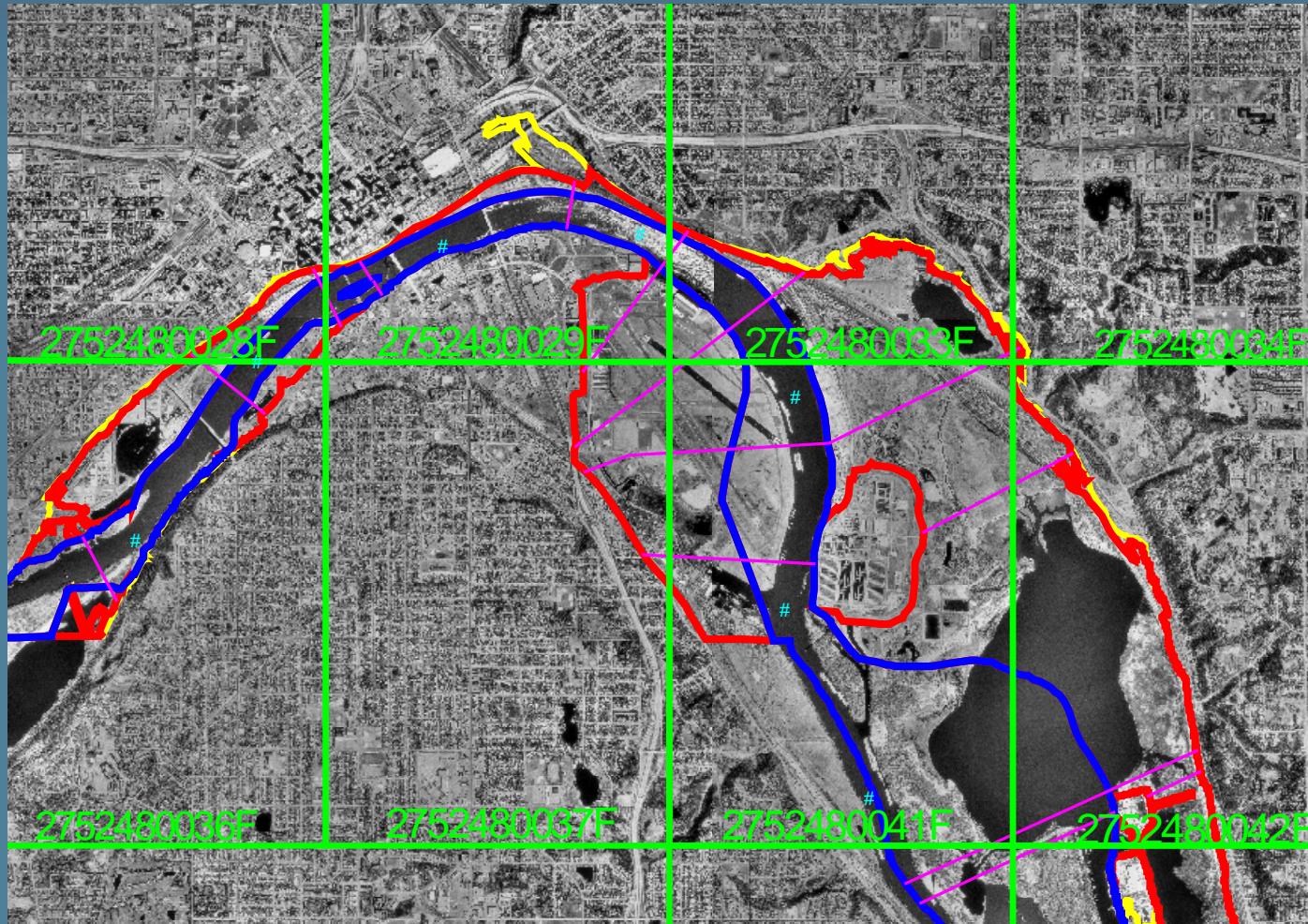
# Floodplain Mapping Modernization






## *St. Paul Digital FIRM*



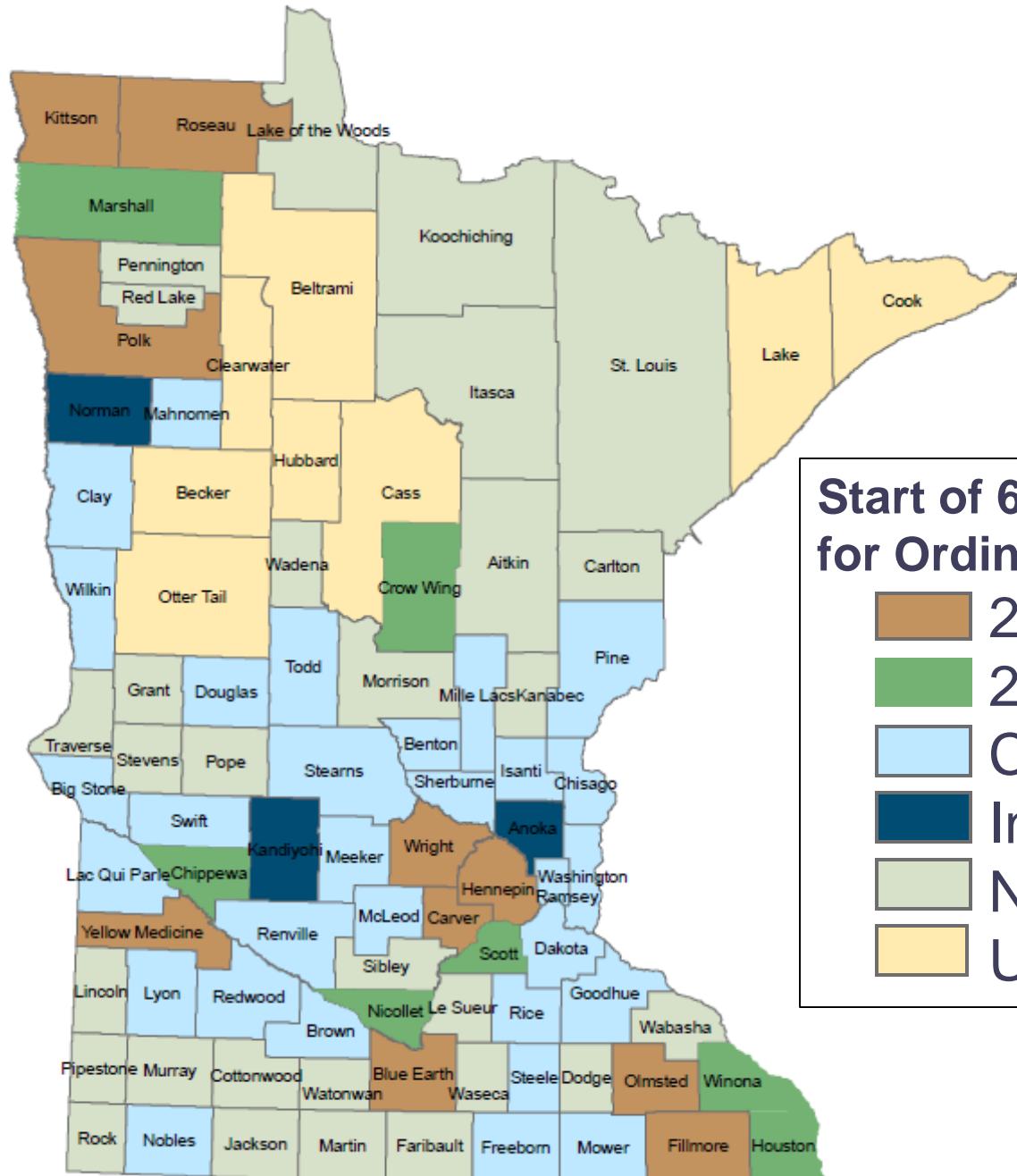
# Floodplain Mapping Modernization



## *St. Paul Digital FIRM*

-  FW
-  1 %
-  0.2 %

# Status of County Floodplain Map Updates (as of 8/31/15)



## Start of 6-Month Window for Ordinance Updates

- 2015
- 2016 and after
- Complete
- In Progress
- No New Map
- Unmapped



Estimated FEMA Map Modernization Status in Minnesota - by County  
(including cities within that county)

08/24/15

Note: Dates shown as Month-Year are estimates; Dates shown as MM/DD/YYYY are actual dates

County	Status*	Preliminary Map	Open House	Resilience	90-day starts	90-day ends	LFD**	New Effective map date***
AITKIN	No New Map							NA
ANOKA	90-day ended	9/30/2011; revised 7/16/13	12/15/11	05/29/13	02/21/14	05/21/14	06/16/15	12/16/15
BECKER	No New Map							NA
BELTRAMI	No New Map							NA
BENTON	Effective	09/29/09	12/08/09		05/18/10	08/16/10	02/16/11	08/16/11
BIG STONE	Effective	10/01/04	02/16/05		06/21/05	09/21/05	10/17/05	04/17/06
BLUE EARTH	90-day ended	12/9/09; 4/19/11	06/01/11	2015	09/21/11	12/20/11	2015	2016
BROWN	Effective	06/15/06	08/09/06		01/04/08	04/04/08	03/25/09	09/25/09
CARLTON	No New Map							NA
CARVER	Open House	9/30/11; revised Aug-15	3/8/2012	8/30/12	Sep-15	Dec-15	2016	2016
CASS	No New Map							NA
CHIPPEWA	Map Production	Aug-15	2015	8/29/12	2015	2016	2016	2016
CHISAGO	Effective	02/19/10	05/12/10		11/11/10	02/10/11	10/17/11	4/17/2012
CLAY	Effective	02/13/09	06/03/09		01/04/10	04/04/10	10/17/11	4/17/2012
CLEARWATER	No New Map							NA
COOK	No New Map							NA
COTTONWOOD	No New Map							NA
CROW WING	Open House	5/27/2011; revised 6/30/11	9/28/2011	7/14/15	Sep-15	Dec-15	2016	2016
DAKOTA	Effective	07/03/08	09/24/08		11/24/2008; 11/17/10	2/22/2009; 2/18/11	rescinded; reissue 6/2/11	12/02/11
DODGE	Data Dev (Risk MAP)							NA
DOUGLAS	Effective	06/04/08	09/25/08		NA	NA	05/18/09	11/18/09
FARIBAULT	No New Map							NA
FILLMORE	Open House	6/30/11; revised Jun-15	4/8/15	2015	2015	2015	2016	2016
FREEBORN	Effective	06/30/11	11/10/11	2/20/13	05/10/13	08/07/13	05/19/14	11/19/14
GOODHUE	Effective	08/22/07	11/07/07		02/08/08	05/08/08	03/25/09	09/25/09
GRANT	No New Map							NA
HENNEPIN	90-day ended	Dec 2005; revised 8/17/12; revised 2/28/13	05/22/06	8/30/12	4/5/13	7/3/13	Oct-15	Apr-16
HOUSTON	Open House	12/31/14; revised Sep-15	4/9/15	2015	2015	2016	2016	2016
HUBBARD	No New Map							NA
ISANTI	Effective	04/25/02	07/10/02		01/22/03	04/22/03	05/05/03	11/05/03
ITASCA	No New Map							NA
JACKSON	No New Map							NA
KANABEC	No New Map							NA
KANDIYOHI	LFD	12/31/05; revised 2/14/13	4/16/13	4/16/13	10/17/14	1/14/15	3/30/15	9/30/15
KITSON	90-day ended	7/20/12	09/11/12		03/20/13	06/17/13	Sep-15	Mar-16
KOOCHICHING	No New Map							NA
LAC QUI PARLE	Effective	07/06/04	09/22/04		done	done	09/16/05	03/16/06
LAKE	No New Map							NA
LAKE OF THE WOODS	No New Map							NA
LE SUEUR	No New Map							NA
LINCOLN	No New Map							NA
LYON	Effective	12/28/06; 9/28/09	04/04/07		11/20/07	02/20/08	05/26/10	11/26/10
MAHNOMEN	Effective	10/17/12	3/20/2013	3/20/2013	4/25/2013; 3/27/2014	7/23/2013; 6/24/2014	11/19/14	04/02/15
MARSHALL	Open House	09/30/11	12/2/14	2015	Jul-15	Oct-15	2015	2016
MARTIN	No New Map							NA
MC LEOD	Effective	09/30/11	01/08/13	05/29/13	05/17/13	08/14/13	01/07/14	07/07/14

# County-Specific Status Updates

[http://files.dnr.state.mn.us/waters/watermgmt/section/floodplain/map\\_update\\_process\\_county\\_timing.pdf](http://files.dnr.state.mn.us/waters/watermgmt/section/floodplain/map_update_process_county_timing.pdf)

Or go to [mndnr.gov](http://mndnr.gov) & search "FEMA map update status"

# Preliminary & Effective DFIRMs

- DNR Eco/Waters posts electronic copies at:

[ftp://ftp.dnr.state.mn.us/pub/waters/floodplain/County\\_data/](ftp://ftp.dnr.state.mn.us/pub/waters/floodplain/County_data/)

Can view:

- FIRM panels as pdfs (FIRM)
- FIS as pdf (FIS)
- GIS files (DFIRM\_DB)

Index of ftp://ftp.dnr.state.mn.us/pub/waters/floodplain/County\_data/

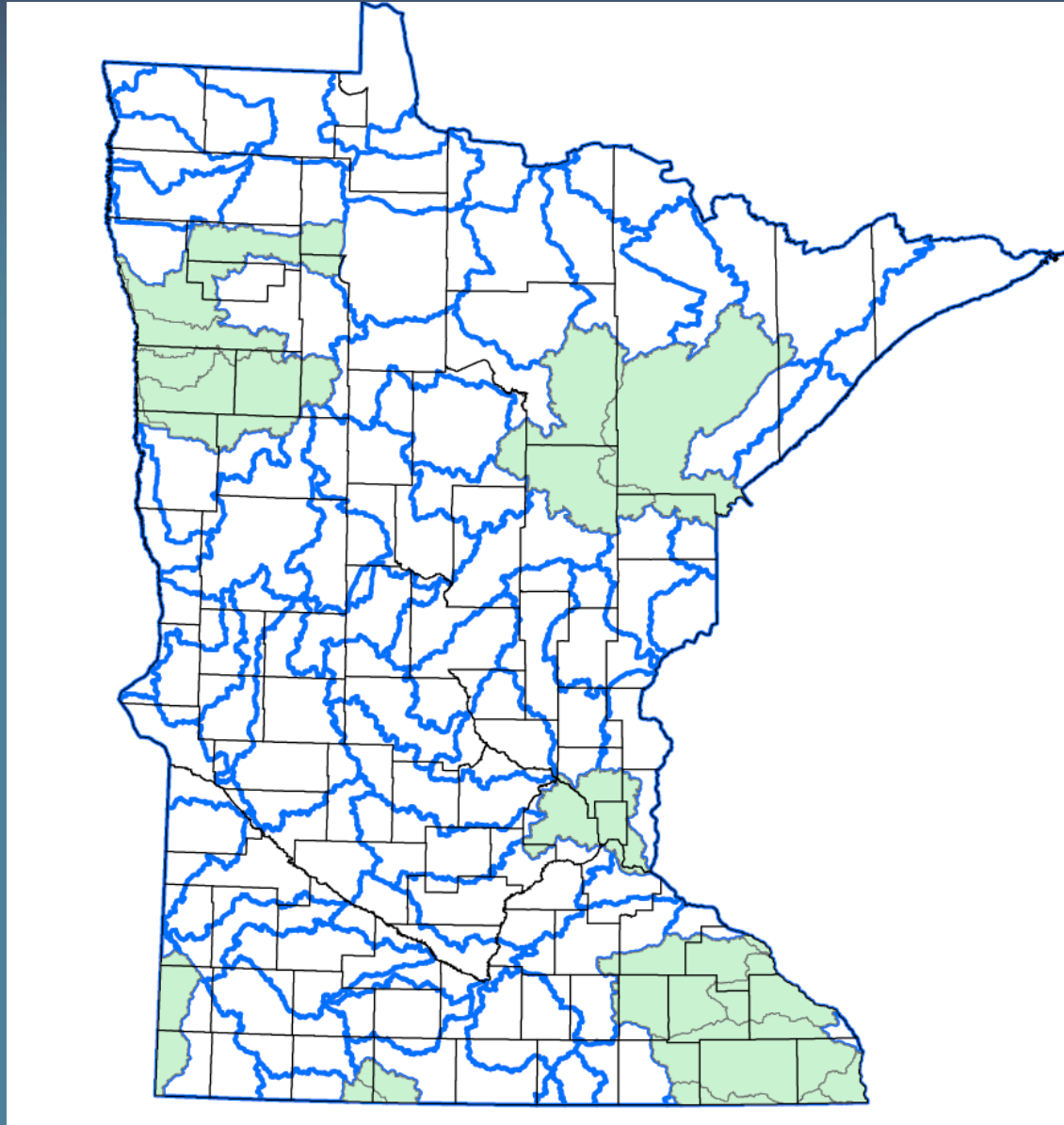
Name
▶ Benton
▶ Big_Stone
▶ Blue_Earth
▶ Brown
▶ Chisago
▶ Clay
▶ Cook
▶ Douglas
▶ Goodhue
▶ Hennepin
▶ Kandiyohi
▶ Lac_Qui_Parle
▶ Lyon
▶ Ramsey
▶ Renville
▶ Rice
▶ Sherburne
▶ Stearns
▶ Steele
▶ Swift
▶ Todd
▶ Washington

## Name

- ▶ DFIRM\_DB
- ▶ Document
- ▶ FIRM\_PDFs
- ▶ FIS

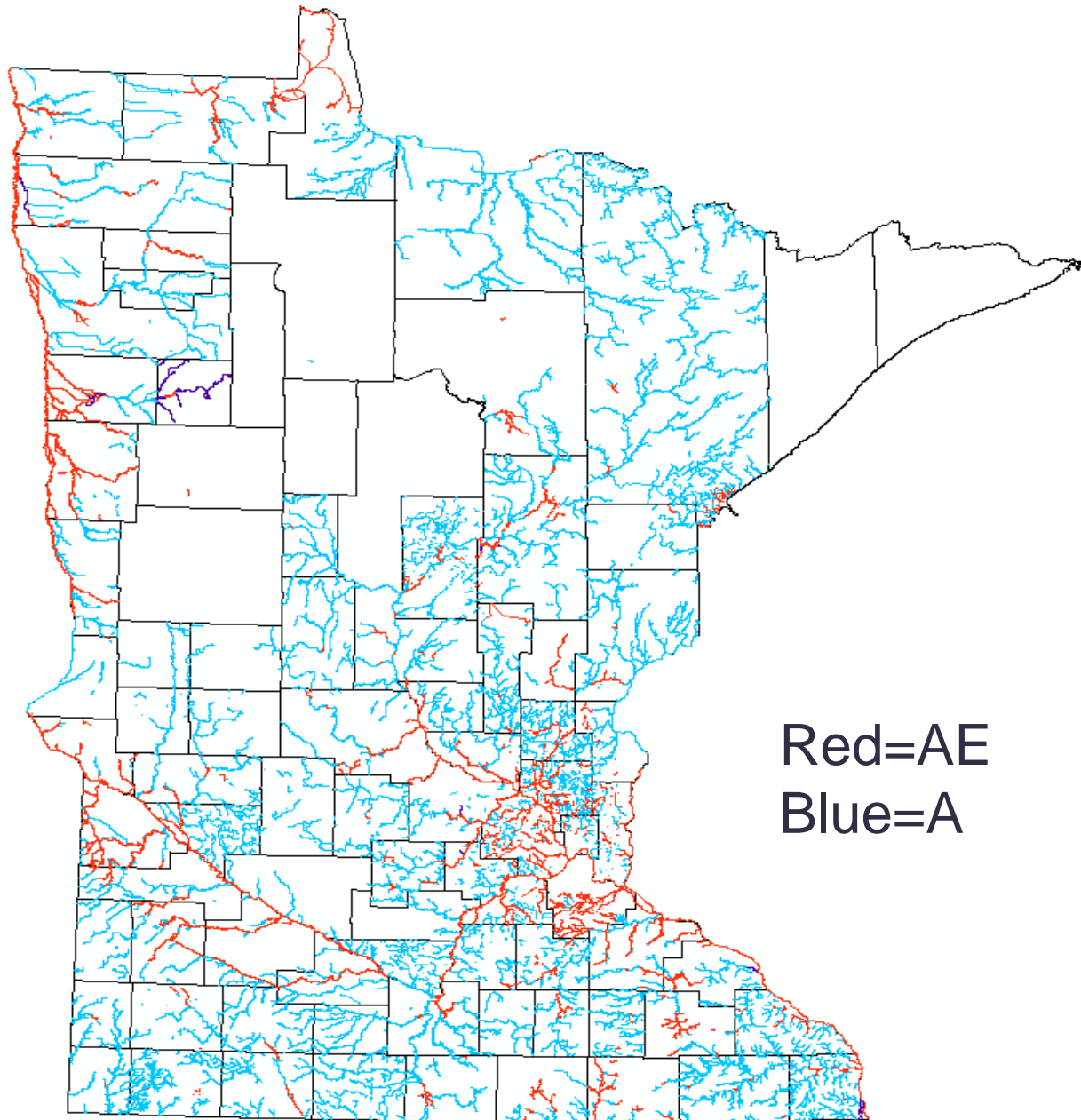


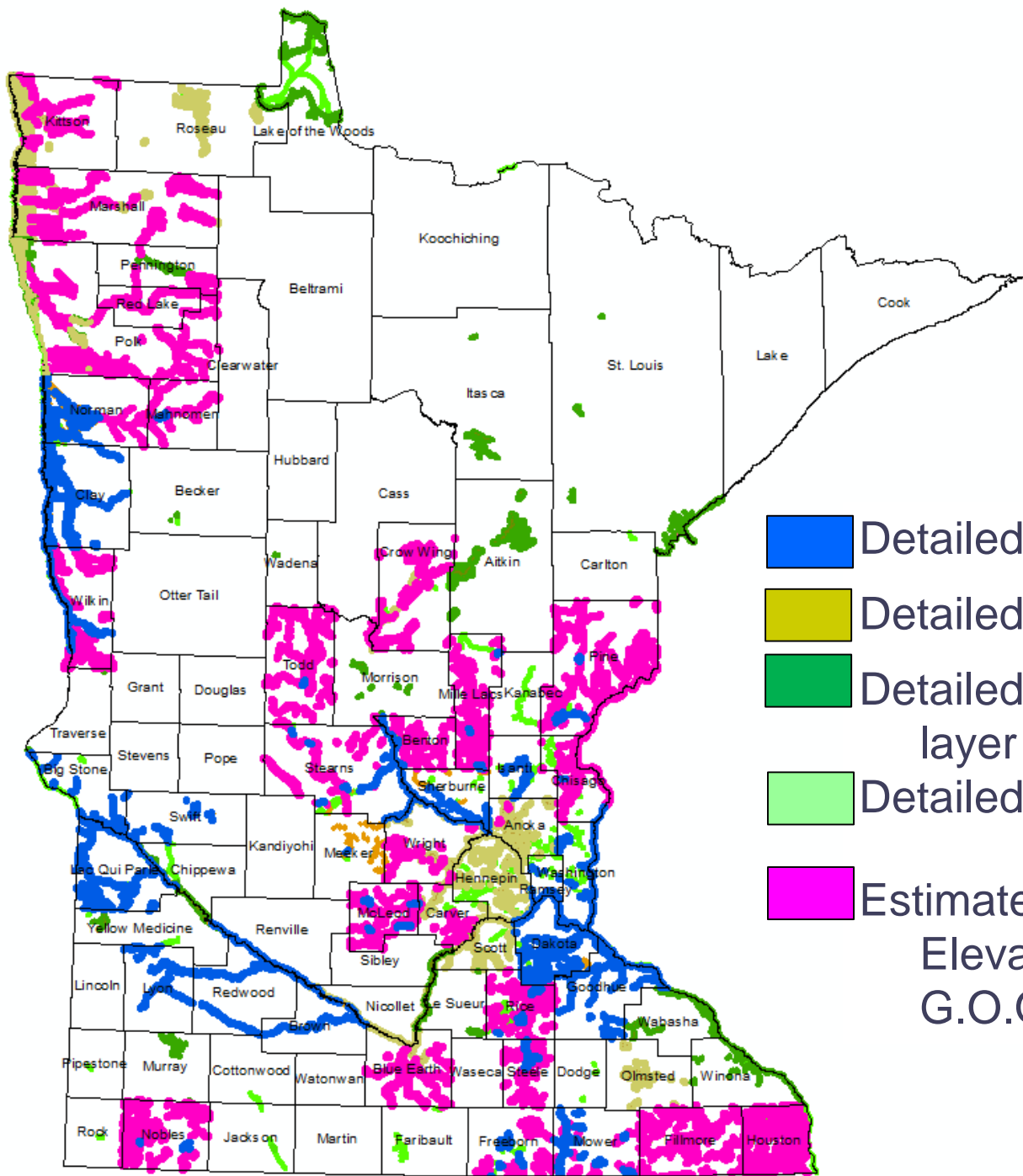
# RiskMap HUC8 Study Areas - 2015





# FEMA Mapped Floodplains





- Detailed in Effective DFIRM
- Detailed in Preliminary DFIRM
- Detailed in "FEMA Unmodernized" layer (aka Q3)
- Detailed on Paper Maps
- Estimated 1% Water Surface Elevation (available soon in G.O.O.D.)

# Model Based A Zone (“Pink Line”) Example





Paused

## Energy Data

Electric Utility Service Area Boundaries 2014



Search "FEMA floodplain"

A collaborative place for users and publishers of geospatial resources in Minnesota

### Search For Resources

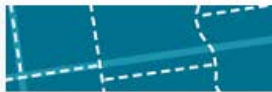
eg. Water, Counties, Environment, etc...

Search

### Categories



Biota



Boundaries



Environment



Climatology,  
Meteorology, and  
Atmosphere

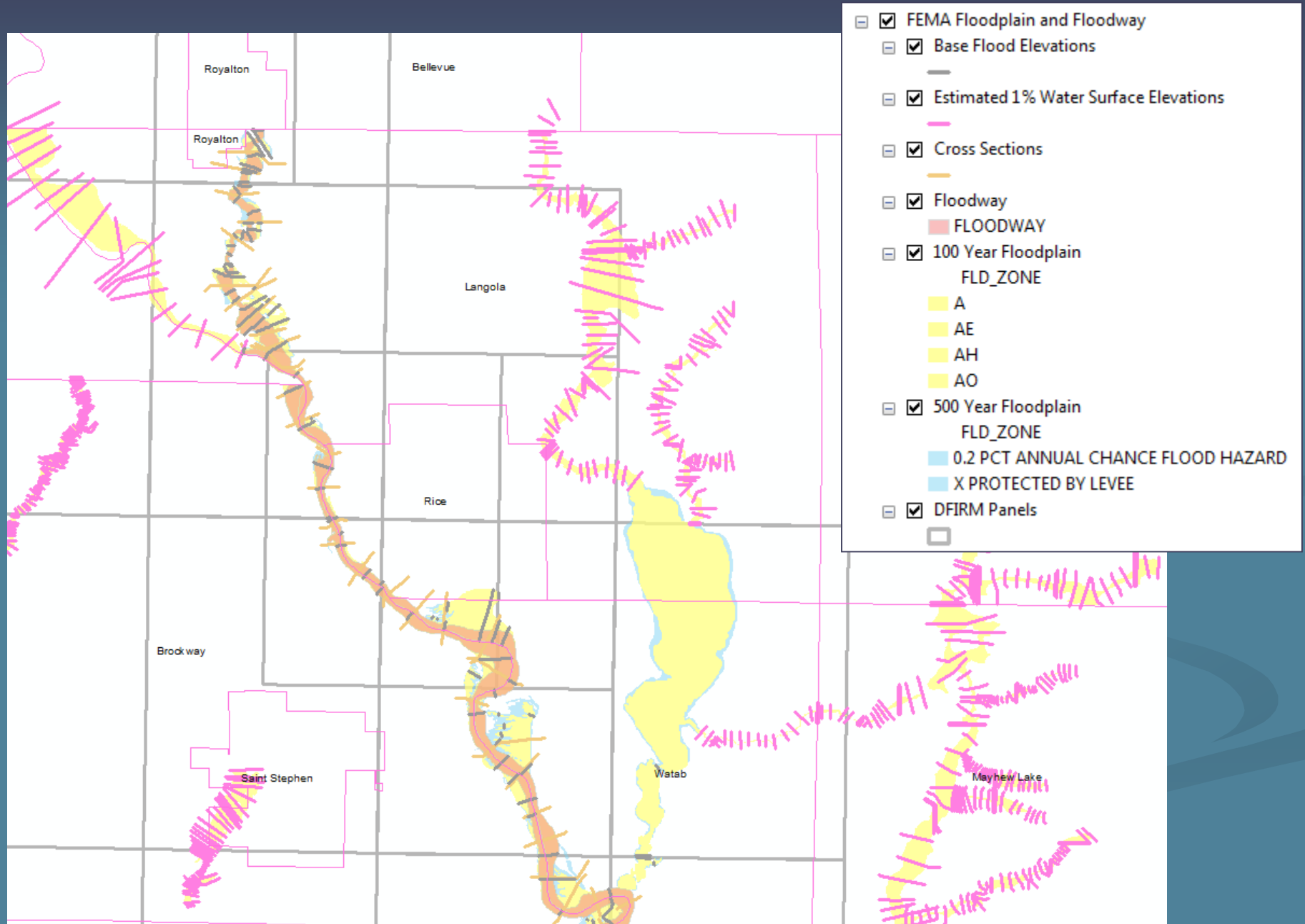


Economy

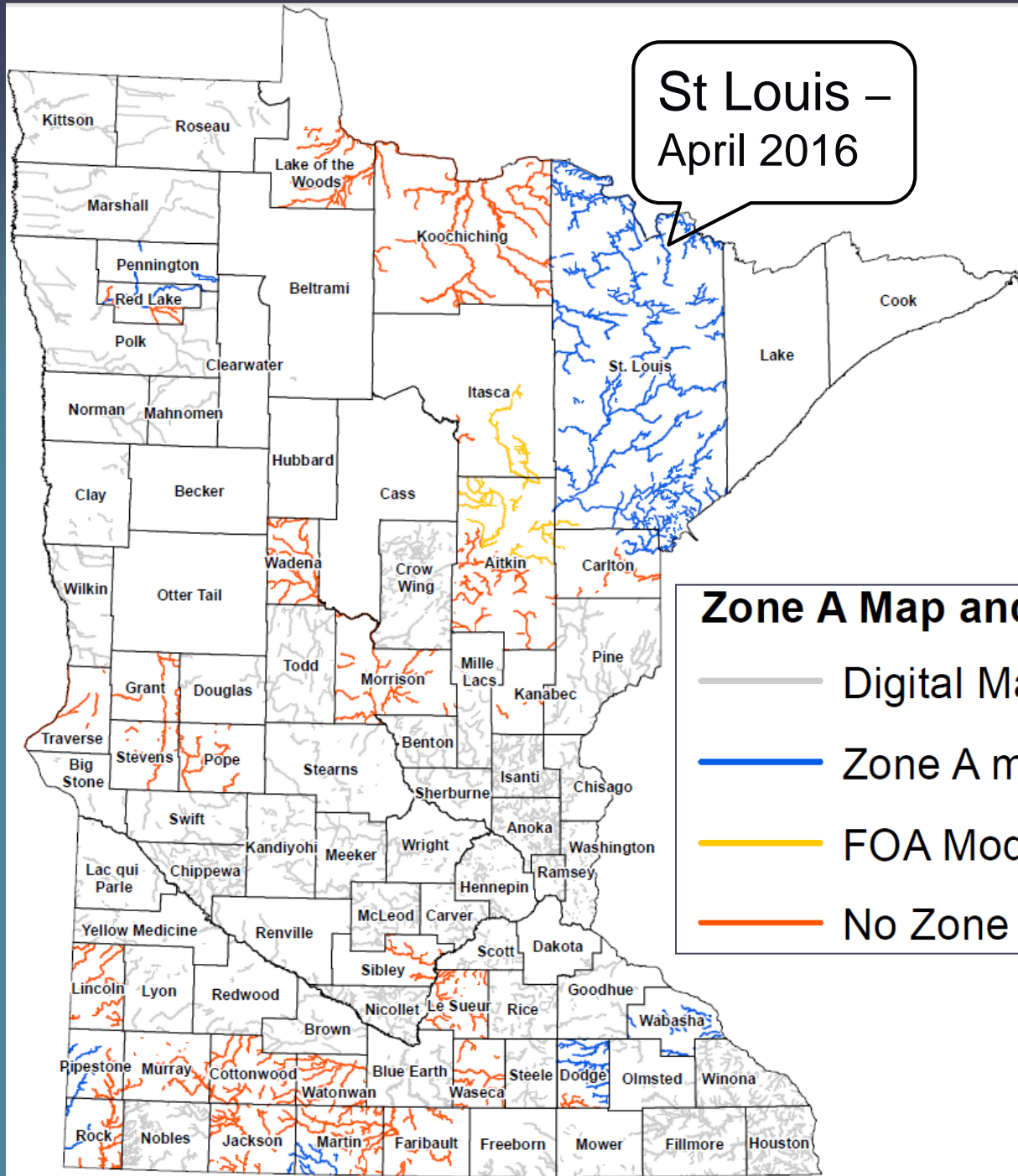


MN Geo Commons  
<https://gisdata.mn.gov/>

# “FEMA Digital Flood Rate Insurance Maps (DFIRM), Minnesota”



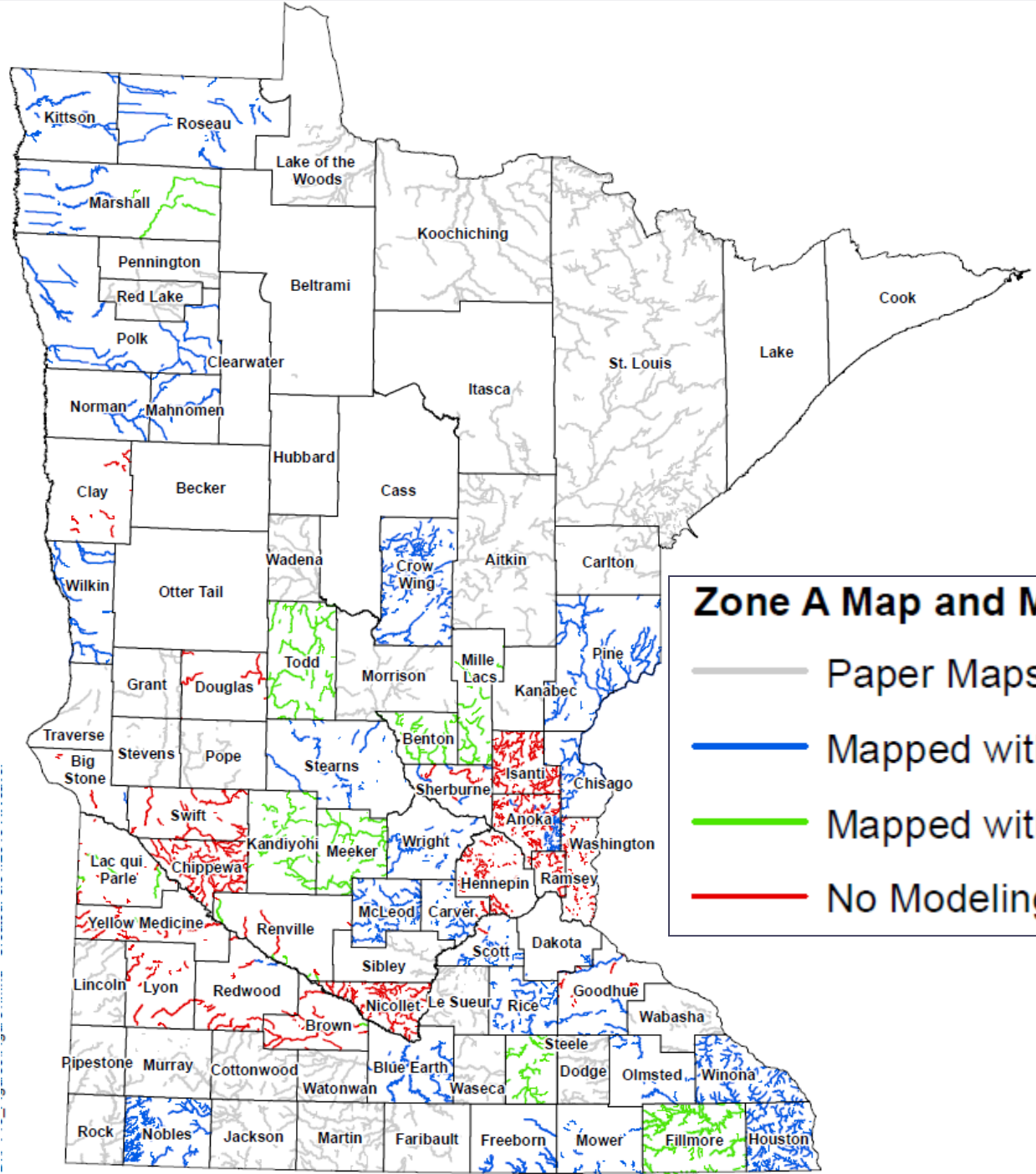
St Louis –  
April 2016



### Zone A Map and Model Status

- Digital Maps
- Zone A models
- FOA Models
- No Zone A models



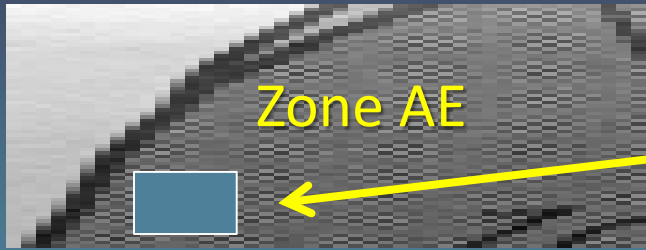


### Zone A Map and Model Status

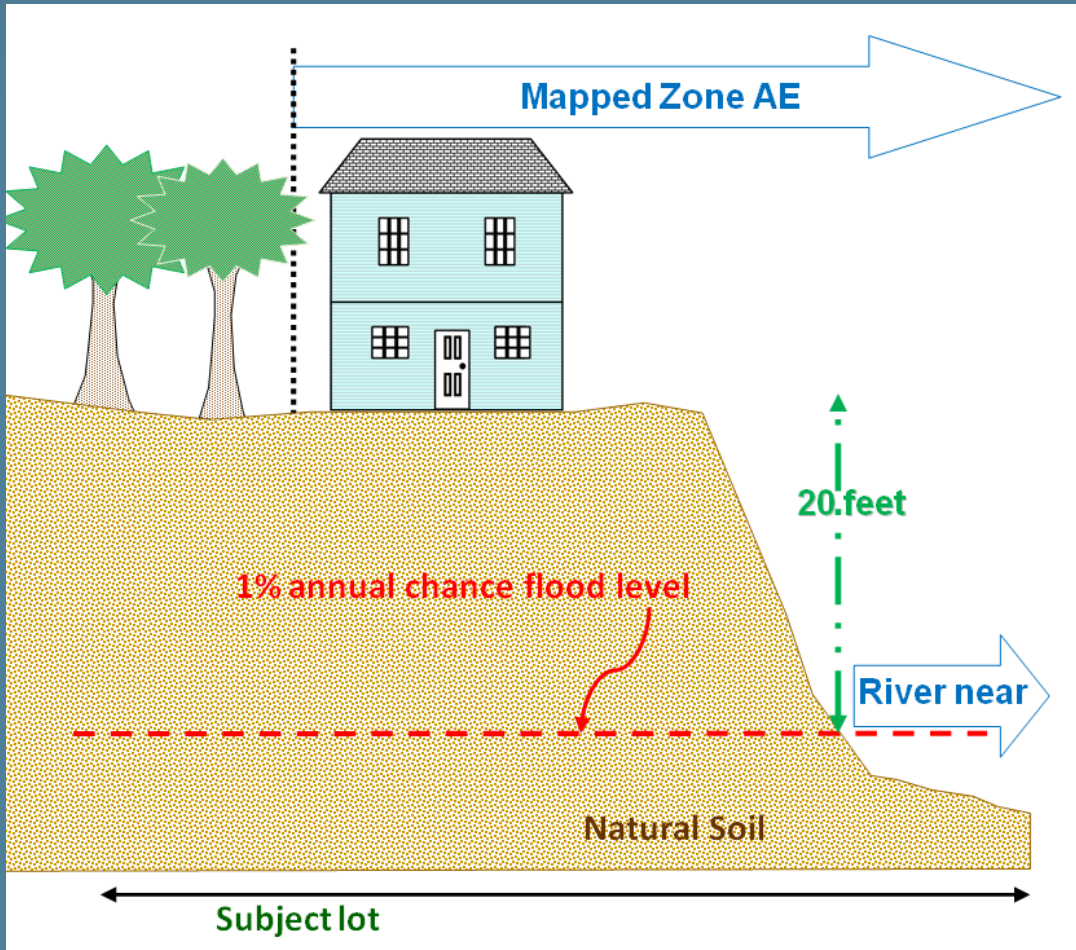
- Paper Maps
- Mapped with LiDAR
- Mapped with Quad Maps
- No Modeling (Redigitized)



# What's the Option if House is Really High?



Location on FIRM for existing house



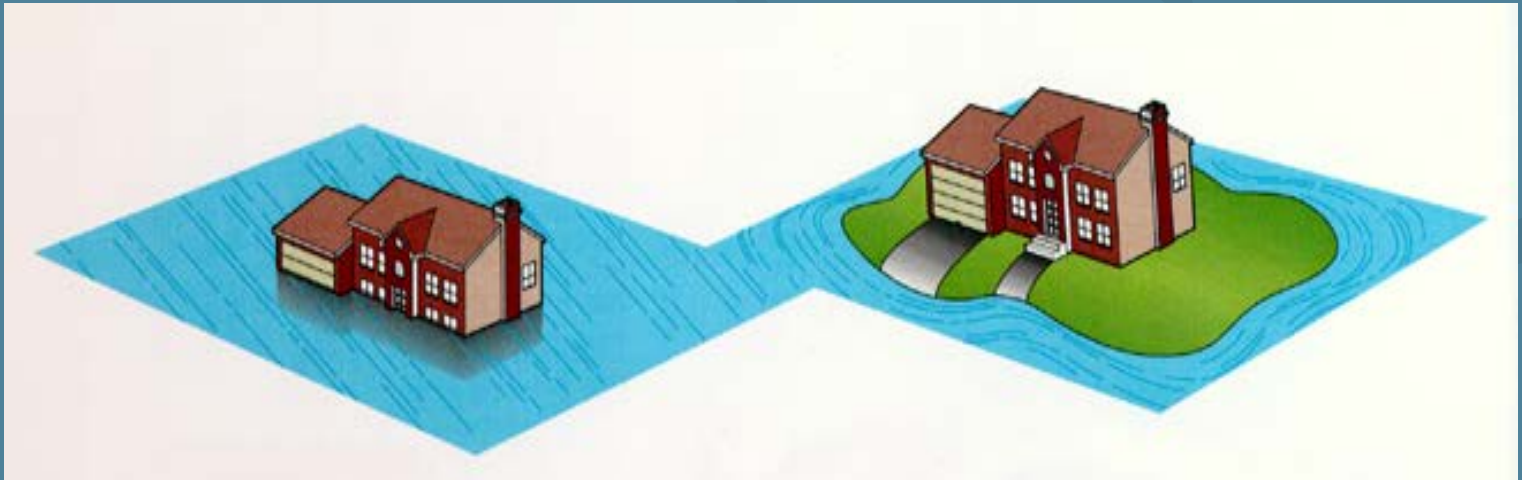
- Lender must require flood insurance if they are “in” the Special Flood Hazard Area (Zone A) on the map, no matter how high they really are.
- Can only be changed by FEMA with Letter of Map Amendment (LOMA)



# LOMA

## Letter of Map Amendment

- A letter from FEMA stating that an existing structure or parcel of land that has not been elevated by fill would not be inundated by the 100-year flood
- The FEMA map is wrong – **better topographic contour lines or a field survey shows site is above BFE**

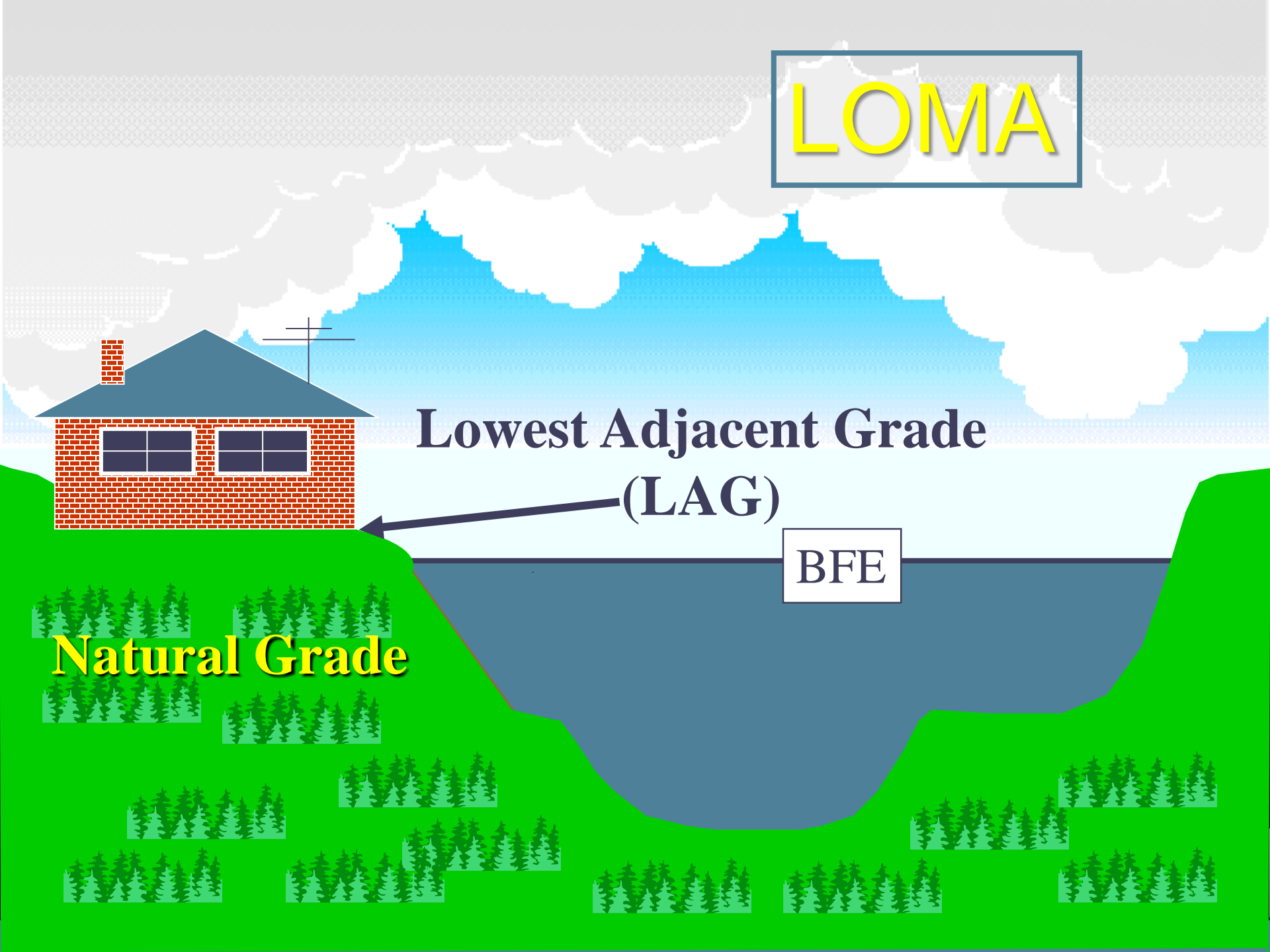


**LOMA**

**Lowest Adjacent Grade  
(LAG)**

**BFE**

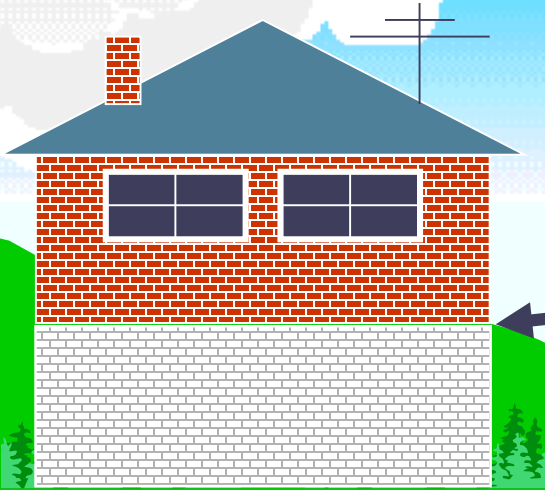
**Natural Grade**

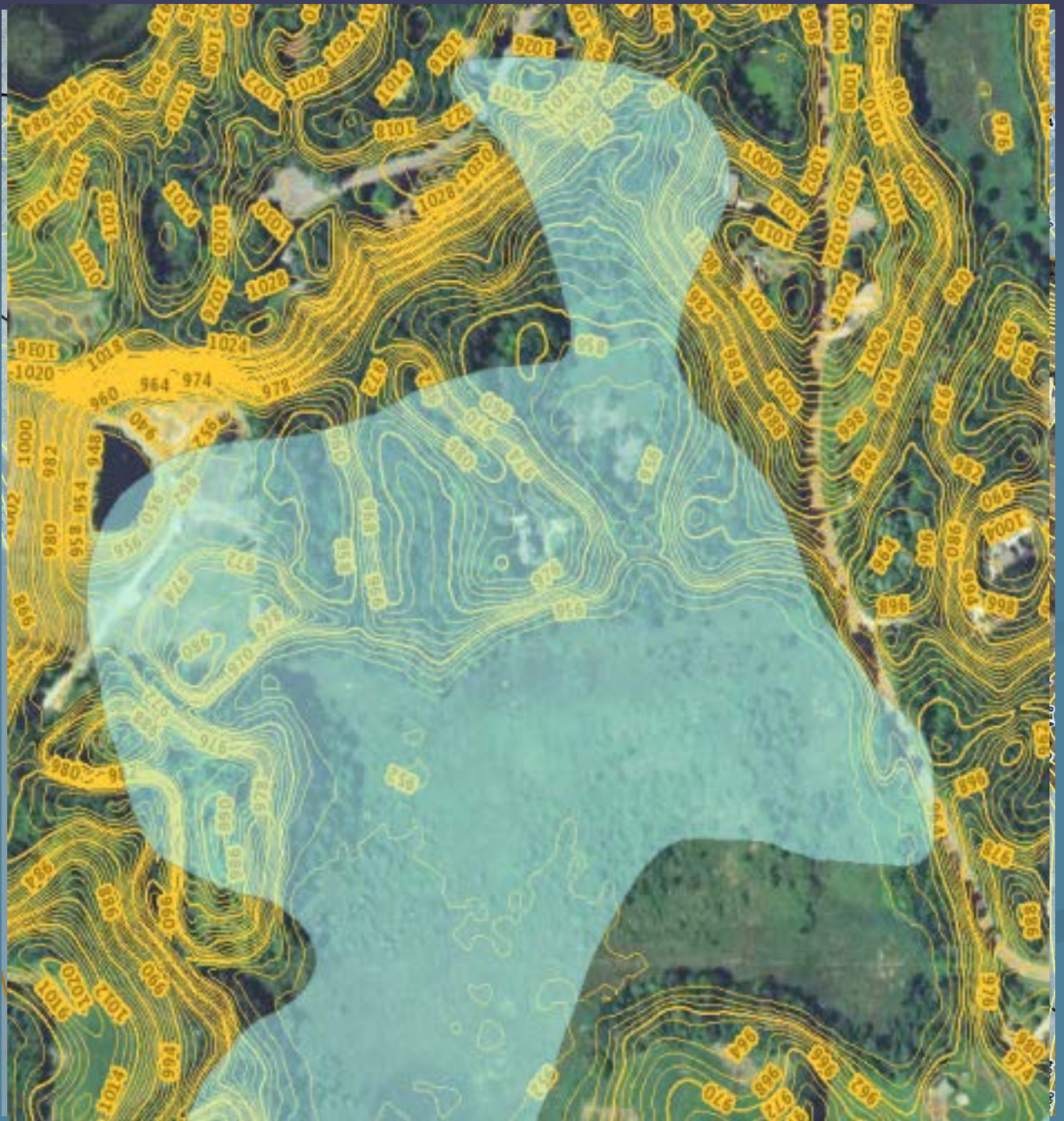


LOMA

Lowest Adjacent Grade  
(LAG)

BFE





# Use of LiDAR for LOMAs

This abbreviated LOMA application process is intended for locations where it is clear that the entire building (or the entire lot) is above the base flood elevation (BFE) based on review of the LiDAR derived contour elevations compared to the base flood elevation.

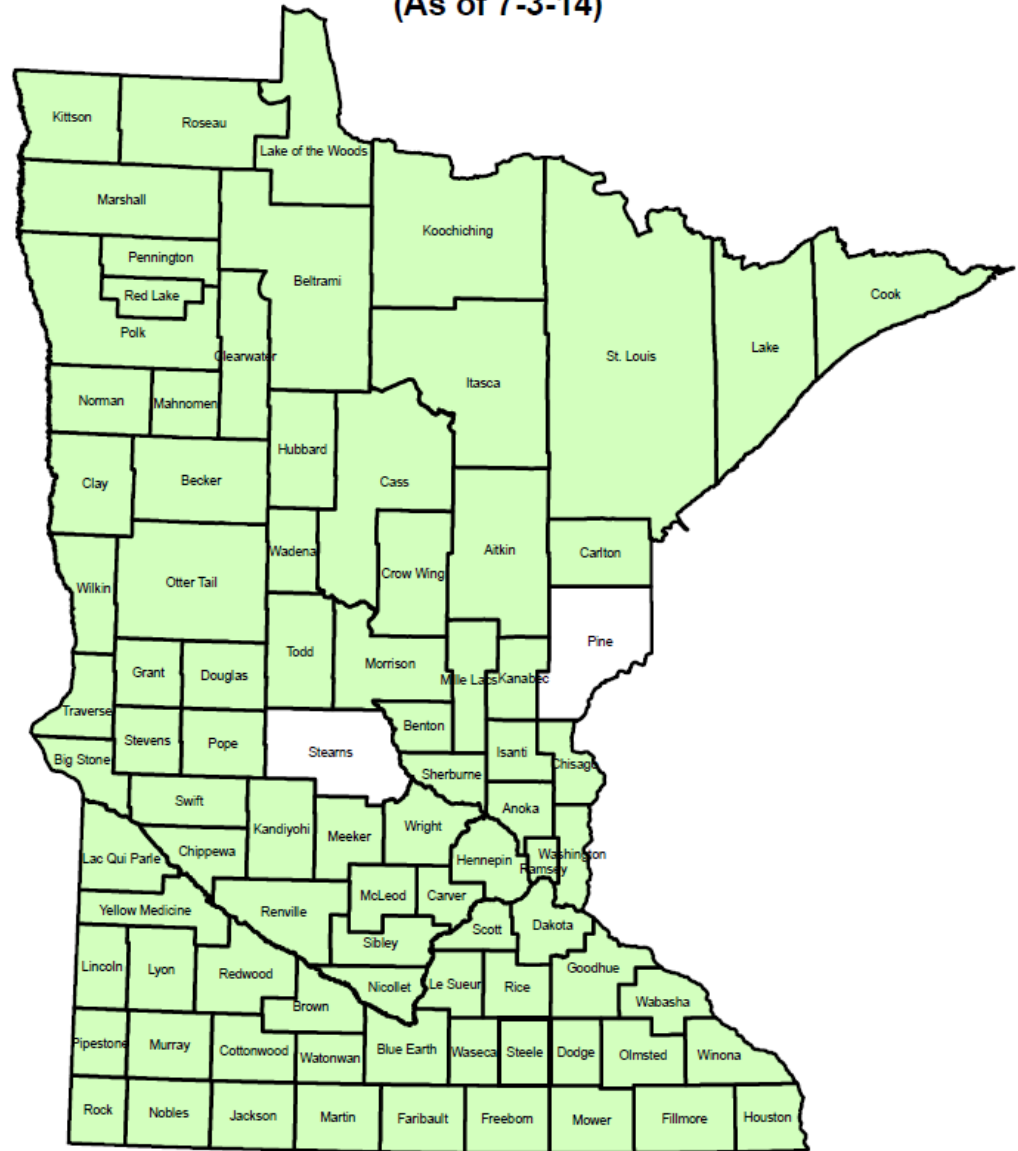


# LiDAR Data Collected by Blocks

- SE Minnesota
- SW Minnesota
- Arrowhead Region
- Metro Area
- Individual Counties
- North Central MN
- Red River Valley



Counties with Certified LiDAR for Streamlined Letter of Map Amendment (LOMA) Process  
(As of 7-3-14)



County with Certified LiDAR for Streamlined LOMA Process



# St. Louis County LiDAR Map



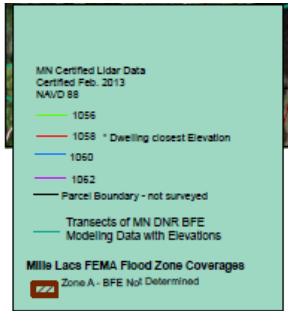
LiDAR Source:  
 State of Minnesota;  
 NAVD88  
 Lake Vermilion BFE =  
 1361.3 (NGVD1929)  
 Source:  
 MN DNR

Building Location  
 Nearest Lowest  
 Contour = 1382'  
 (NAVD88)



Prepared By: Planning & Development  
 Planning, Research, & GIS Division  
 (218) 725-5000  
 www.co.st-louis.mn.us  
 Team Credits: Planning, Land, Public Works, 911  
 Source: St. Louis County, DNR

Map Created:  
 Disclaimer  
 This is a compilation of records  
 as they appear in the St. Louis  
 County Offices affecting the  
 area shown. This drawing is  
 to be used only for reference  
 purposes and the County is not  
 responsible for any inaccuracies  
 herein contained.  
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These data are provided on an "AS-IS" basis, without warranty of any type, expressed or implied, including but not limited to any warranty as their performance, merchantability, or fitness for any particular purpose. Estimated parcel lines are for representation purposes only - not a survey.  
 \* Flood Coverage in NAD 83, UTM Zone 15  
 \*\* BaseMap 2011 Aerial Photo - ArcGIS/Microsoft

Staff Signature/Title

Date:

Can be done by  
 community,  
 surveyor or PE



# Online Map Resources

- FEMA's Map Service Center (MSC) - Good starting point [www.MSC.FEMA.gov](http://www.MSC.FEMA.gov)
- FEMA National Flood Hazard Layer (NFHL) viewer - Best source for Digital Flood Insurance Rate Maps (DFIRMs) <http://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=cbe088e7c8704464aa0fc34eb99e7f30>
- MNTOPPO – Can see 2-ft contours statewide, and floodplain layers (where available) <http://arcgis.dnr.state.mn.us/maps/mntopo/>





# www.msc.fema.gov

# How to Use Updated MSC site Info Sheet on DNR Web site

Enter an address, place, or coordinates: ?

elk river, mn

Search



The buttons below let you view and print the selected flood map, download the flood map image, open an interactive flood map (if available), or expand the search to all products to view effective, preliminary, pending, or historic maps, and risk products for the community. The locator map shows flood map boundaries in your area of interest. You can choose a new flood map by clicking elsewhere on the locator map or entering a new location in the search box.

## Search Results—Products for ELK RIVER, CITY OF

The flood map for the selected area is number **27141C0390F**, effective on **11/16/2011** ?



VIEW MAP



SAVE MAP



INTERACTIVE MAP

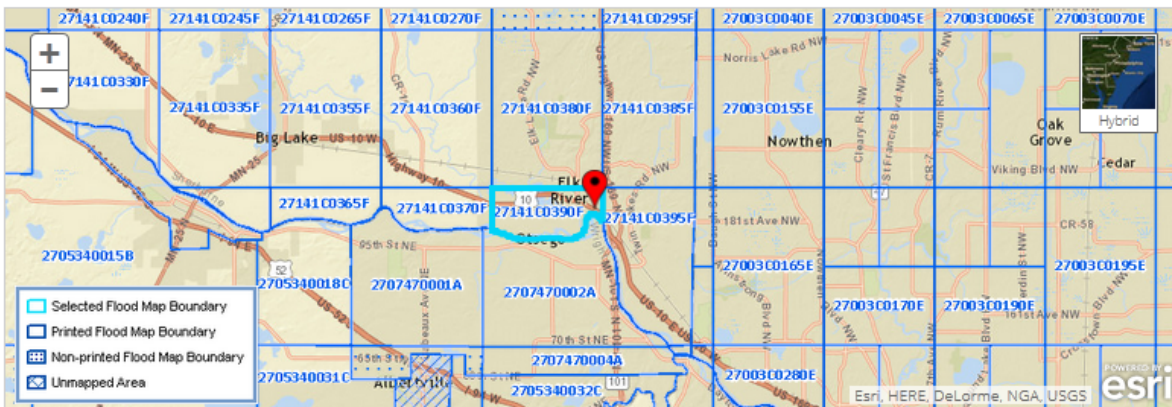
Show all products for this area



## Letters of Map Change ?

- Revisions (0)
- Amendments (5)
- Revalidations (1)

## Locator Map



Have Interactive Map link if finalized DFIRM county



## How to Use FEMA's Map Service Center Site

to find Official Floodplain Data

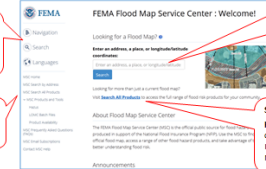
(NOTE: This references the MSC site updated as of 11/13/15)

There is no cost to view these maps or documents. You do not need to log in

Step 1: Go to [FEMA's Map Service Center](#) (link above) or search "FEMA MSC".

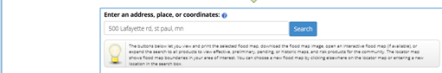
Step 2a (search for specific address or community). Enter address, community name or county name

Note: Navigation & search for the main FEMA site at [www.fema.gov](#)



Note: Navigation for the Map Service Center (MSC) site.

Step 2b (search for products). Search for specific or groups of FEMA maps, Flood Insurance Studies or Letters of Map Change (i.e., LOMAs).



Step 3a: Link to the FEMA map panel number shown for that location. See info sheet on making "BIRMesses" to print official floodplain maps

Step 3b: Interactive map icon will be shown for counties with Digital Flood Insurance Rate Maps (DFIRMs). See info sheet on "Using FEMA's National Flood Hazard Layer (NFHL) Viewer"

Step 3c: Link to the digital products for this community. See step 4.

You can navigate to other neighboring panels by clicking on this



# FEMA's National Flood Hazard Layer (Official)

Modify Map [Sign In](#)

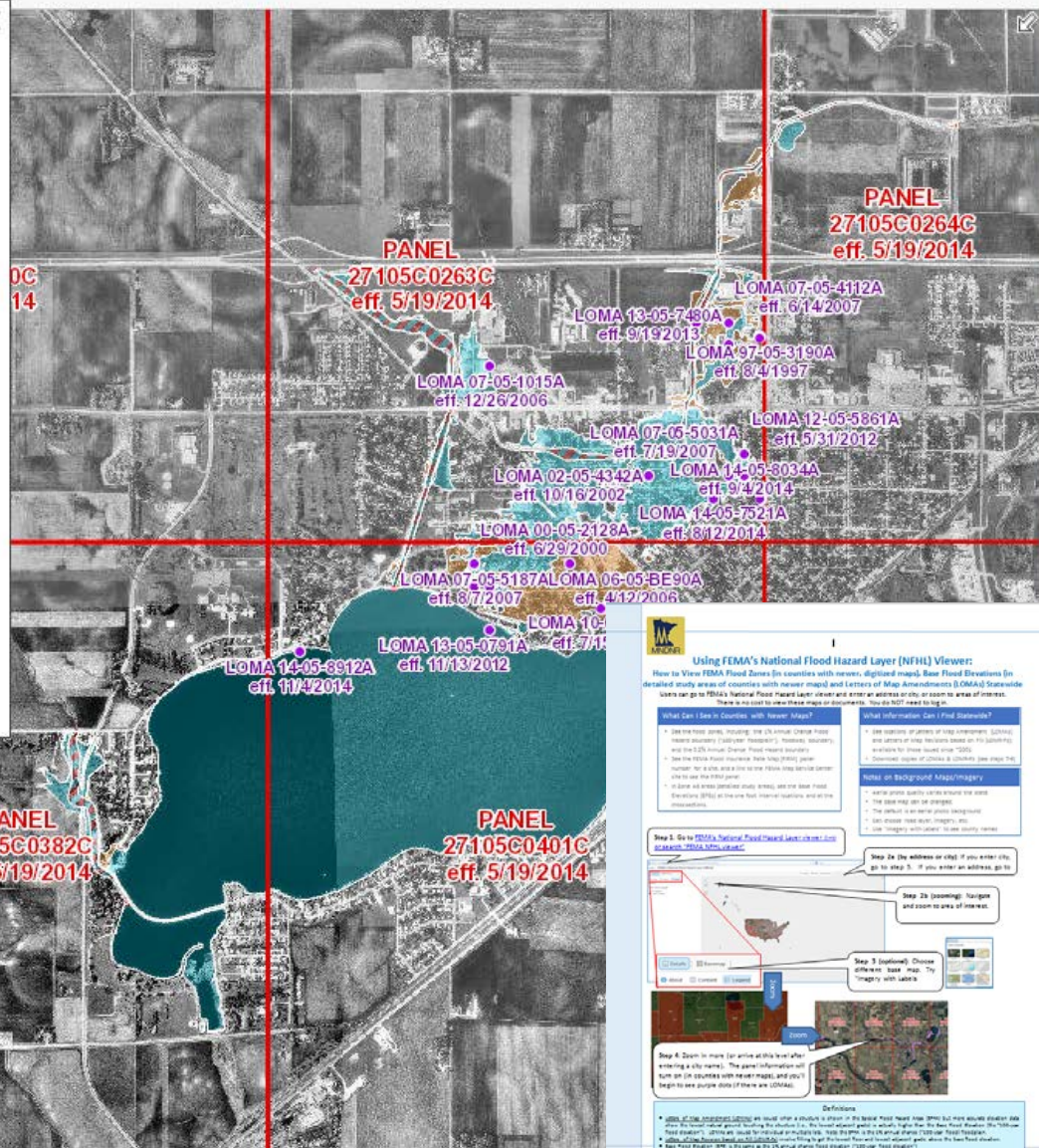
Details Basemap

Share Print Measure Find address or place

- Legend**
- NFHL (click to toggle)**
- LOMRs
    - Effective
  - LOMAs
    -
  - FIRM Panels
    -
  - Flood Hazard Boundary
    - Limit Line
    - SFHA / Flood Hazard Area
    - Other Boundary
  - Flood Hazard Zone
    - 1% Annual Chance Flood Hazard
    - Regulatory Flood Hazard
    - Special Flood Hazard Area
    - Area of Unincorporated Flood Hazard
    - 0.2% Annual Chance Flood Hazard
    - Future Conditions 1% Annual Chance Flood Hazard
    - Area with Reduced Risk Due to Levee

### Select a basemap

Imagery	Imagery with Labels	Streets
Topographic	Dark Gray Canvas	Light Gray Canvas
National Geographic	Oceans	Terrain with Labels
OpenStreetMap	USA Topo Maps	USGS National Map



### Using FEMA's National Flood Hazard Layer (NFHL) Viewer:

How to View FEMA Flood Zones (in counties with rivers, digitized maps, Base Flood Elevations (in detailed study areas of counties with river maps) and Letters of Map Amendments (LOMAs) Special-use maps) on FEMA's National Flood Hazard Layer viewer and enter an address or city or zoom to area of interest. There is no need to enter these maps or boundaries. You do NOT need to log in.

**What Can I See in Counties with River Maps?**

- See river maps, including the US Army Corps of Engineers (ACEP) river maps, National Inventory of Waterways (NIW) maps, National Inventory of Waterways (NIW) maps, and the US Army Corps of Engineers (ACEP) river maps.
- See the FEMA Flood Hazard Area (FHA) maps.
- See the FEMA Flood Hazard Area (FHA) maps.
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- See the FEMA Flood Hazard Area (FHA) maps.

**What Information Can I Find?**

- See the FEMA Flood Hazard Area (FHA) maps.
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- See the FEMA Flood Hazard Area (FHA) maps.

**How to Use the National Flood Hazard Layer Viewer:**

- Step 1: Go to FEMA's National Flood Hazard Layer viewer.
- Step 2: Enter the address or city. If you enter city, go to step 3. If you enter an address, go to step 3.
- Step 3 (optional): Select map. The Imagery with Labels.
- Step 4: Click on the map to see the details. The map information will turn on (in counties with river maps), and you'll begin to see people (see the map).

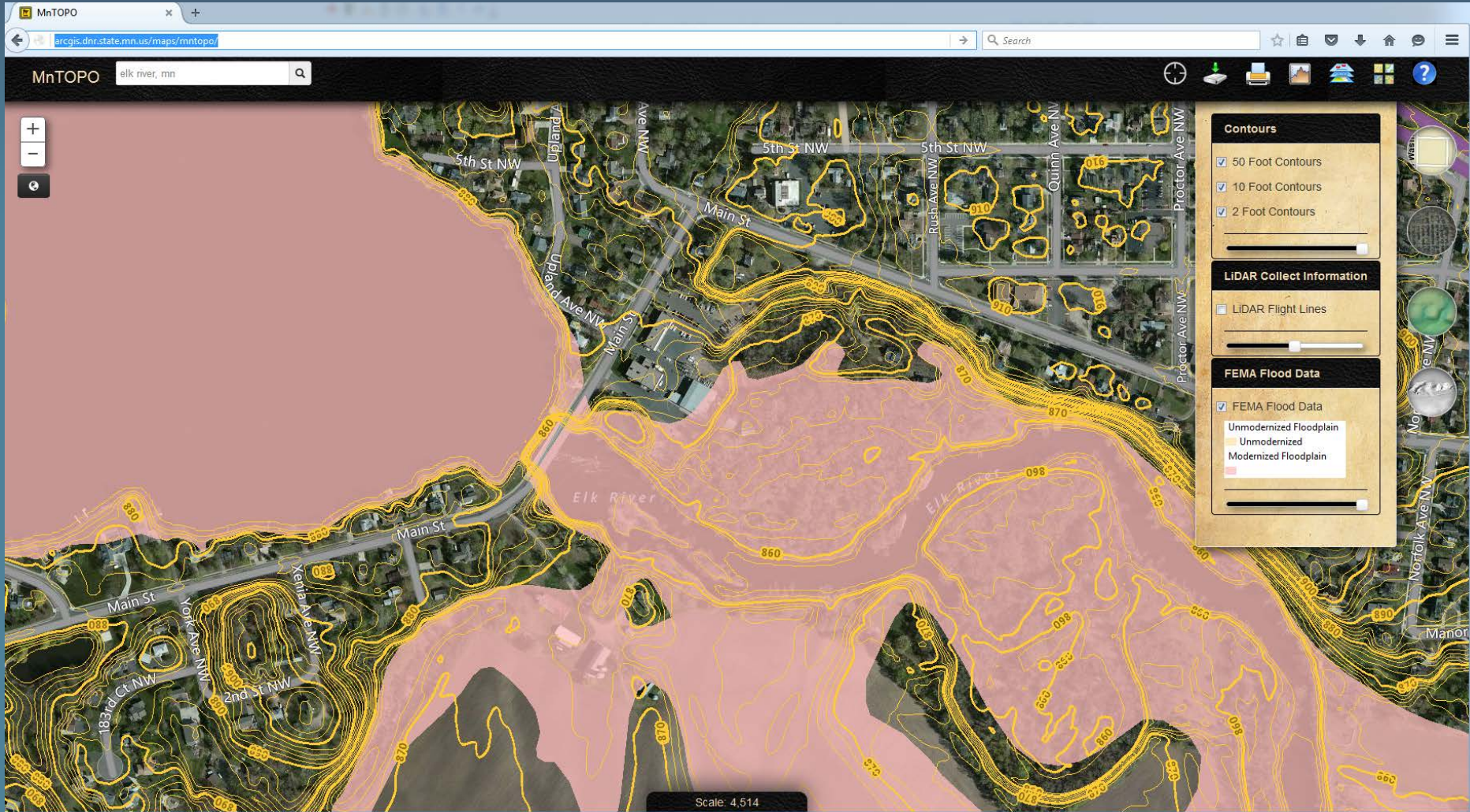
**Definitions**

- 1% Annual Chance Flood Hazard:** The area of land that is expected to be flooded once every 100 years on average.
- Regulatory Flood Hazard:** The area of land that is expected to be flooded once every 100 years on average.
- Special Flood Hazard Area:** The area of land that is expected to be flooded once every 100 years on average.
- Area of Unincorporated Flood Hazard:** The area of land that is expected to be flooded once every 100 years on average.
- 0.2% Annual Chance Flood Hazard:** The area of land that is expected to be flooded once every 500 years on average.
- Future Conditions 1% Annual Chance Flood Hazard:** The area of land that is expected to be flooded once every 100 years on average.
- Area with Reduced Risk Due to Levee:** The area of land that is expected to be flooded once every 100 years on average.

# FEMA NFHL Viewer



# MNTOPO



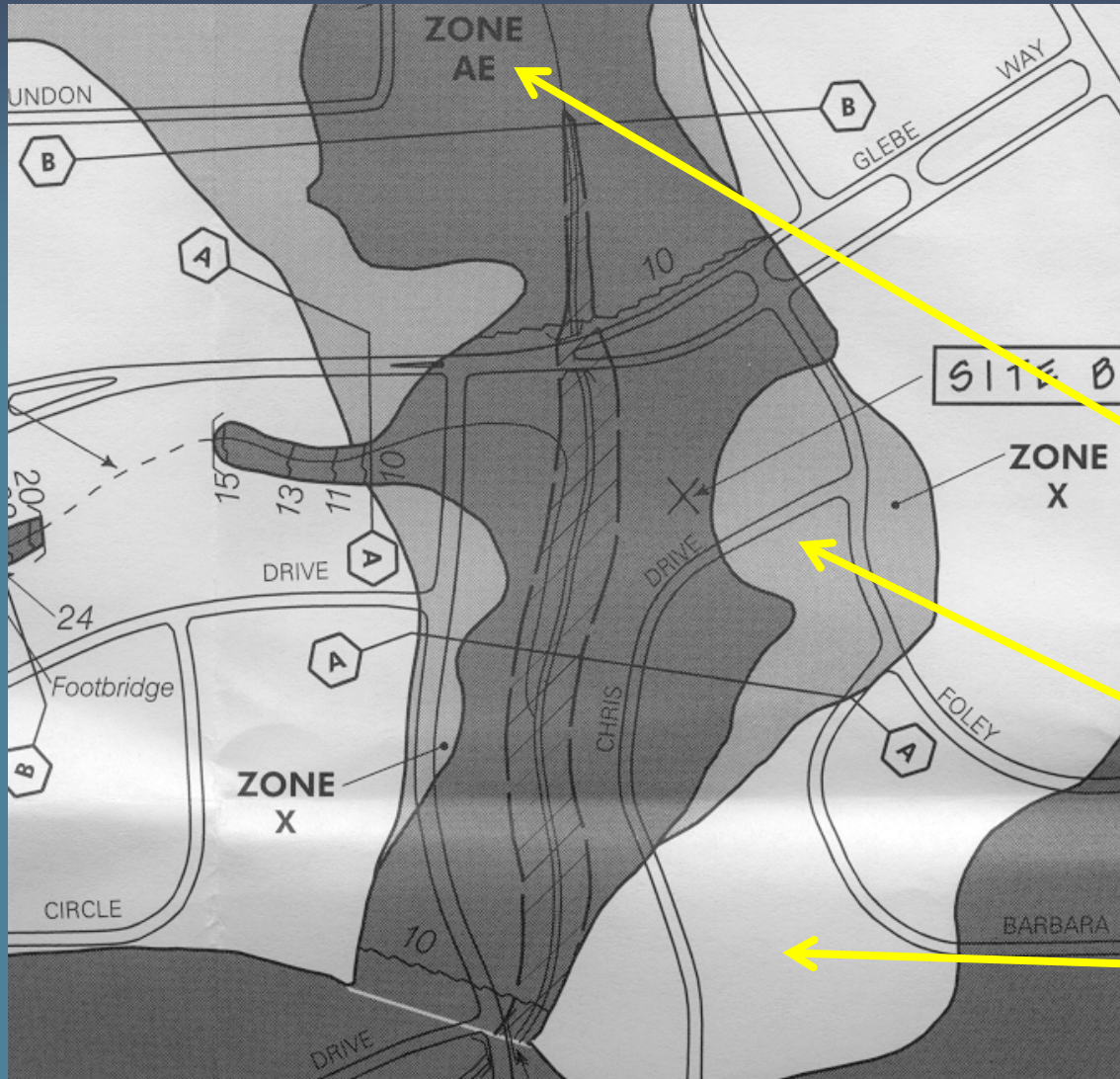


# Who Can Buy Flood Insurance?

- Community Participation
- All Zones



# Sample FEMA Map with SFHA



National Standard of “100-year flood” chosen

High Flood Risk

- Zone A & AE (old)
- Zone A & AE (new)

Medium Flood Risk

- Zone B (old maps)
- Zone X (shaded)

Low Flood Risk

- Zone C (old maps)
- Zone X (unshaded)

# Mandatory Flood Insurance

- If **STRUCTURE** is in Zone A, AE, AO, A1-30 AND they have loan from federally regulated institution (since 1974)
- Even if structure is really high, unless they obtain a Letter of Map Amendment (LOMA)
- NOTE: Some lenders have more restrictive requirements for their business (i.e., in 500-year, or replacement cost vs loan balance)



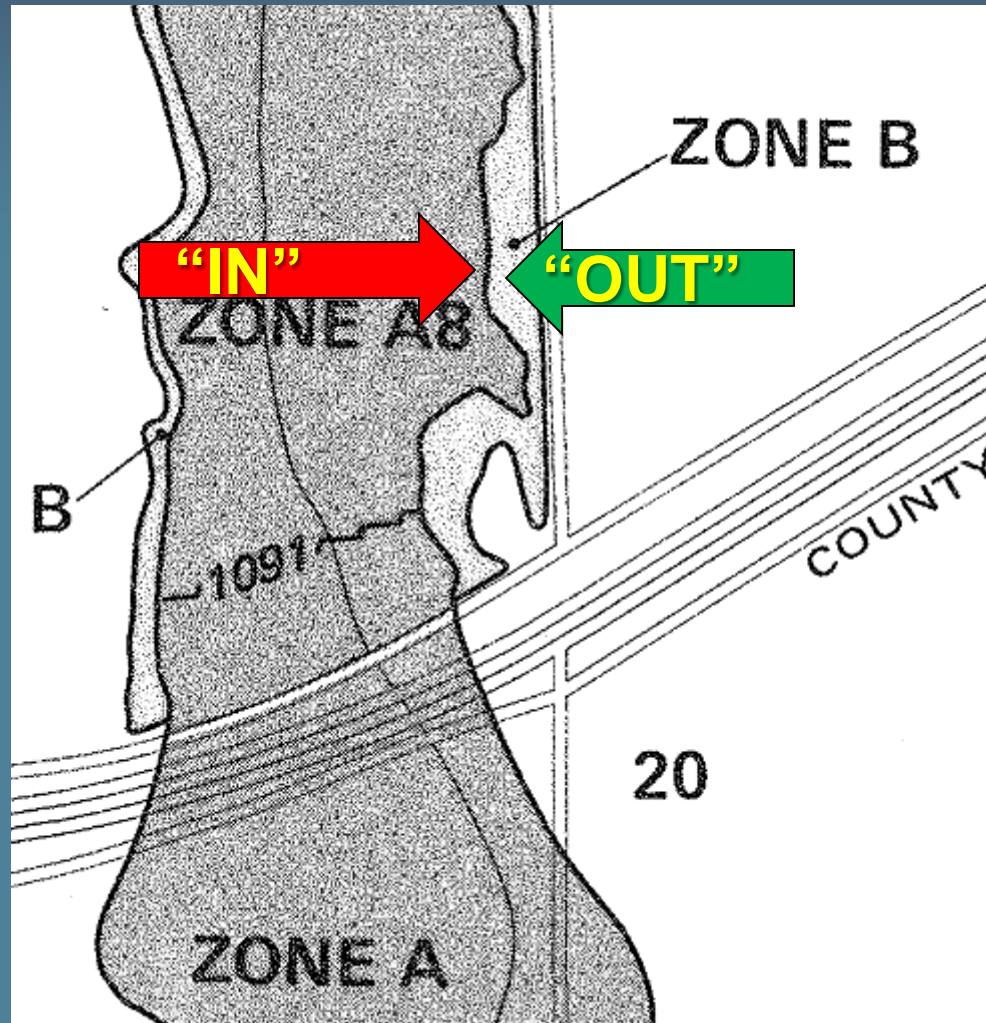


# NON-SFHA Flood Zones

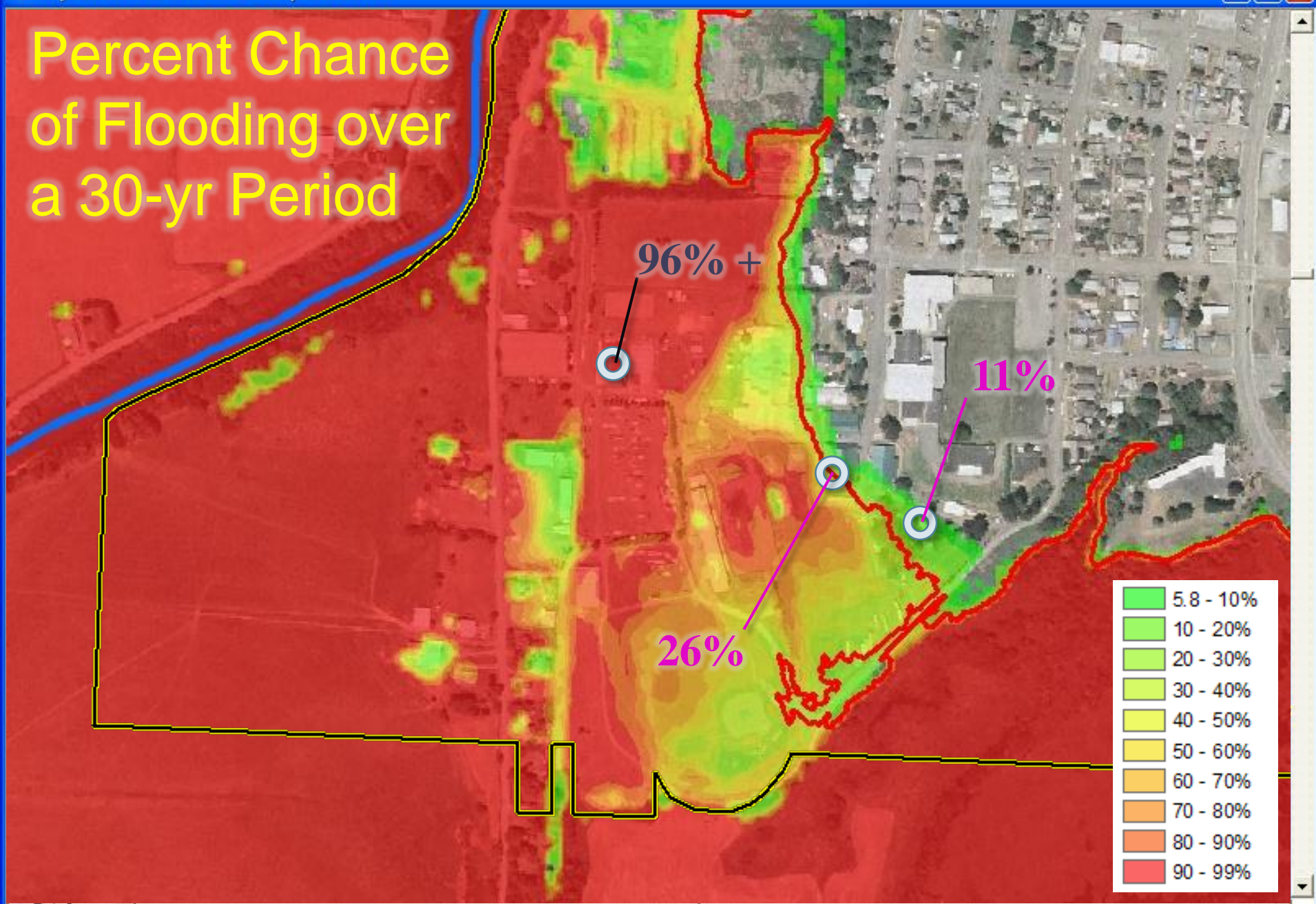
- Zones B, C, and X
- Voluntary Market
- ¼ of all claims paid in these zones



# Flood Risk is Seen as Black & White!



# Percent Chance of Flooding over a 30-yr Period



# Standard vs. Preferred Risk

## ■ Standard Rates-

- Rate Tables provided in Flood Insurance Manual
- Fixed premiums; fixed limits
- For those not eligible for Preferred Risk Policy due to loss history

## ■ Preferred Risk Rates-

- Must be in Zone B, C, or X at time of application *AND each subsequent renewal\**
- Limited loss history

### NOTE:

\*A building which becomes ineligible for PRP due to a zone change will renew using Standard Rates.

However, the old low- or moderate-risk zone can still be “locked” in.



**TABLE 1. THE PRP COVERAGE LIMITS**

COVERAGE TYPE	MAXIMUM LIMITS BY OCCUPANCY TYPE		
	1-4 FAMILY	OTHER RESIDENTIAL	NON-RESIDENTIAL
Combined Building/Contents	\$250,000/\$100,000	\$500,000/\$100,000	\$500,000/\$500,000
Contents Only	\$100,000	\$100,000	\$500,000

APRIL 1, 2015

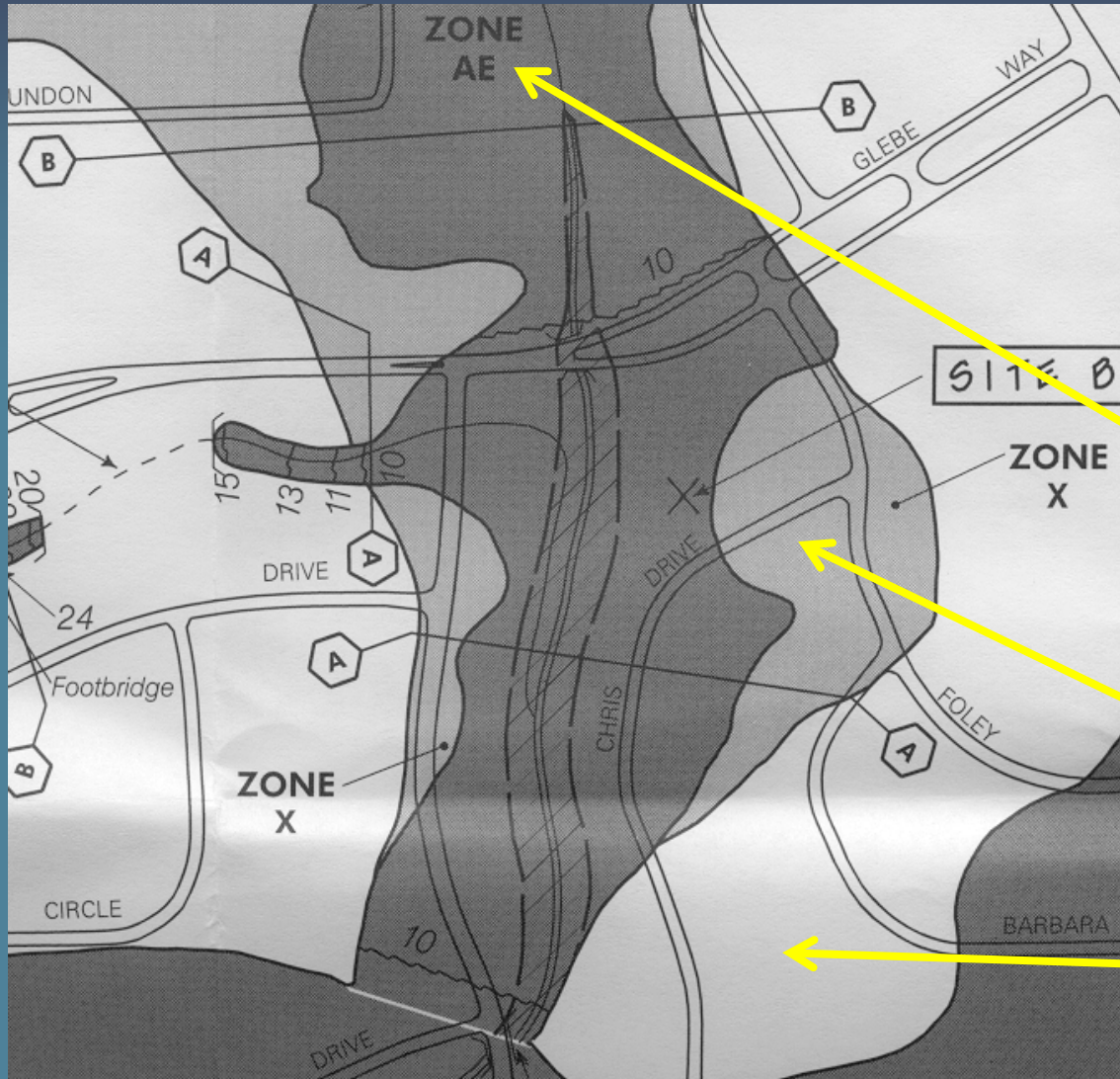
**TABLE 3A. PRP COVERAGE LIMITS AND PREMIUMS  
FOR PROPERTIES CURRENTLY MAPPED IN B, C, OR X ZONES<sup>1, 2, 3</sup>****1-4 FAMILY RESIDENTIAL BUILDING AND CONTENTS COVERAGE COMBINATIONS<sup>4</sup>**

WITH BASEMENT OR ENCLOSURE <sup>5</sup>			WITHOUT BASEMENT OR ENCLOSURE <sup>6</sup>		
BUILDING	CONTENTS	PREMIUM	BUILDING	CONTENTS	PREMIUM
\$ 20,000	\$ 8,000	\$167	\$ 20,000	\$ 8,000	\$137
\$ 30,000	\$ 12,000	\$203	\$ 30,000	\$ 12,000	\$173
\$ 50,000	\$ 20,000	\$262	\$ 50,000	\$ 20,000	\$233
\$ 75,000	\$ 30,000	\$311	\$ 75,000	\$ 30,000	\$276
\$100,000	\$ 40,000	\$342	\$100,000	\$ 40,000	\$308
\$125,000	\$ 50,000	\$359	\$125,000	\$ 50,000	\$324
\$150,000	\$ 60,000	\$380	\$150,000	\$ 60,000	\$346
\$200,000	\$ 80,000	\$421	\$200,000	\$ 80,000	\$380
\$250,000	\$100,000	\$452	\$250,000	\$100,000	\$405

**RESIDENTIAL CONTENTS-ONLY COVERAGE**

CONTENTS ABOVE GROUND LEVEL MORE THAN 1 FLOOR		ALL OTHER LOCATIONS (BASEMENT-ONLY NOT ELIGIBLE)	
CONTENTS	PREMIUM	CONTENTS	PREMIUM
\$ 8,000	\$44	\$ 8,000	\$66
\$ 12,000	\$63	\$ 12,000	\$95

# Sample FEMA Map with SFHA



National Standard of "100-year flood" chosen

High Flood Risk

- Zone A & AE (old)
- Zone A & AE (new)

Medium Flood Risk

- Zone B (old maps)
- Zone X (shaded)

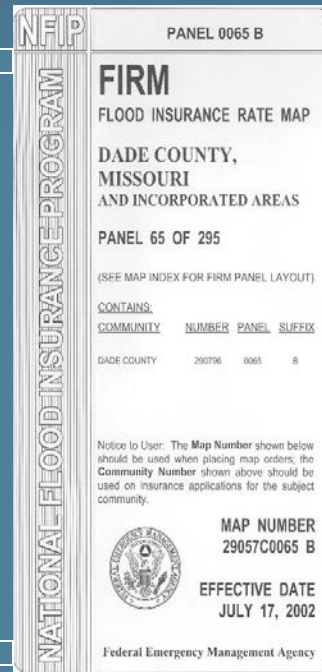
Low Flood Risk

- Zone C (old maps)
- Zone X (unshaded)

# For Structures IN SFHA

## Two rate structures:

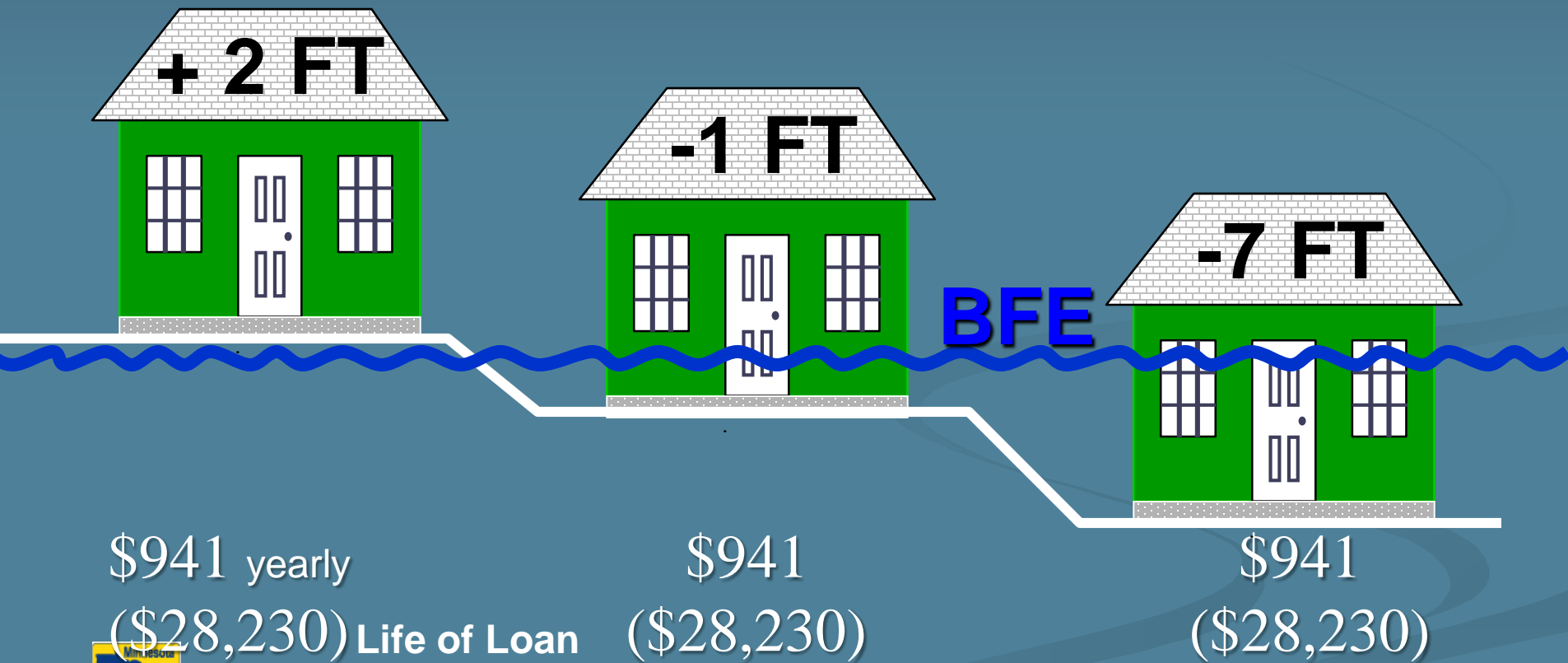
- Pre-FIRM
  - Before initial FIRM
- or
- On or Before 12/31/1974
  - Whichever is LATER
- 
- “OLD STANDARDS”



- Post-FIRM
  - On or After the initial FIRM
- or
- After 12/31/1974
  - Whichever is LATER
- 
- “NEW STANDARDS” or “In Compliance”

# Comparison of Flood Insurance Costs Over a 30-yr Period

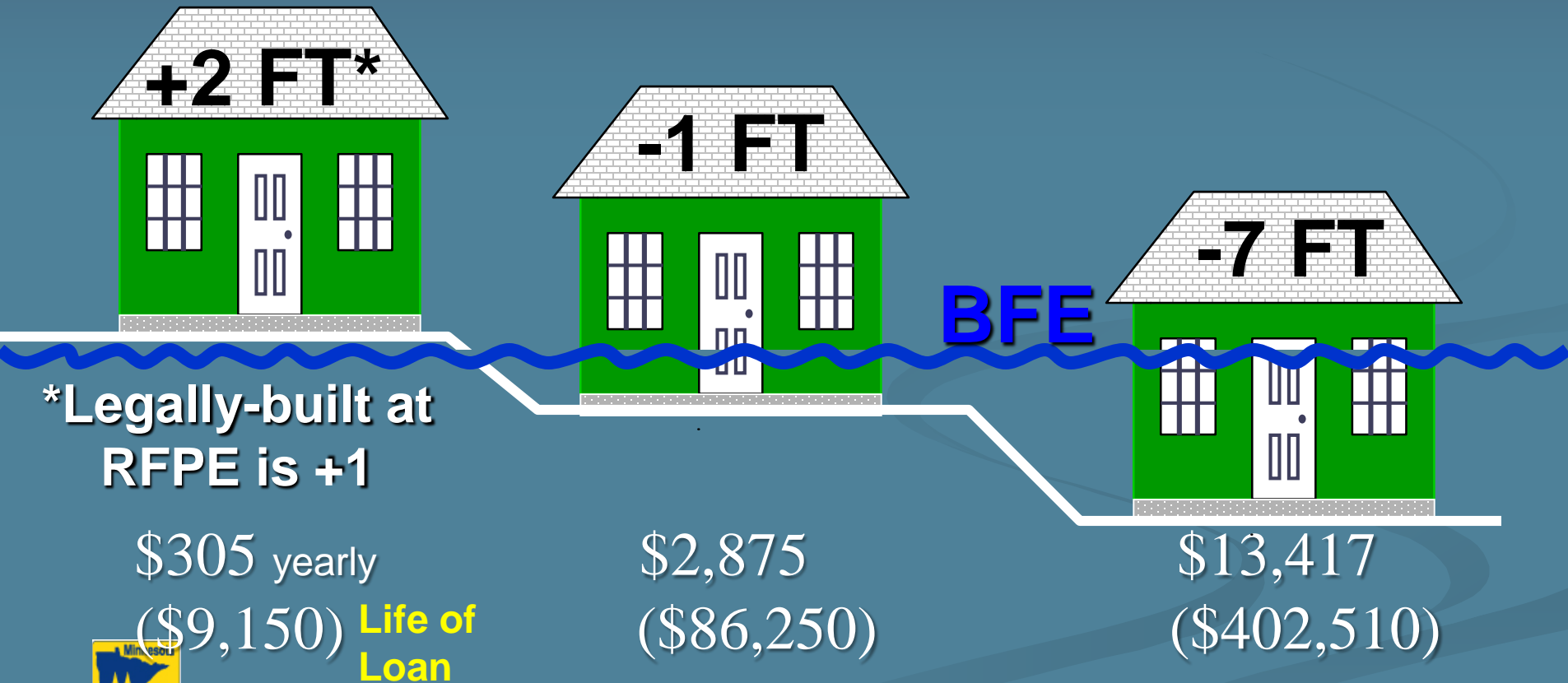
*Existing Pre-FIRM House slab on grade*



**BASED ON \$100,000 BLDG & NO CONTENTS COVERAGE;  
\$1,000 deductible (10/1/09 rates)**



# Comparison of Flood Insurance Costs Over a 30-yr Period *Existing POST-FIRM House*

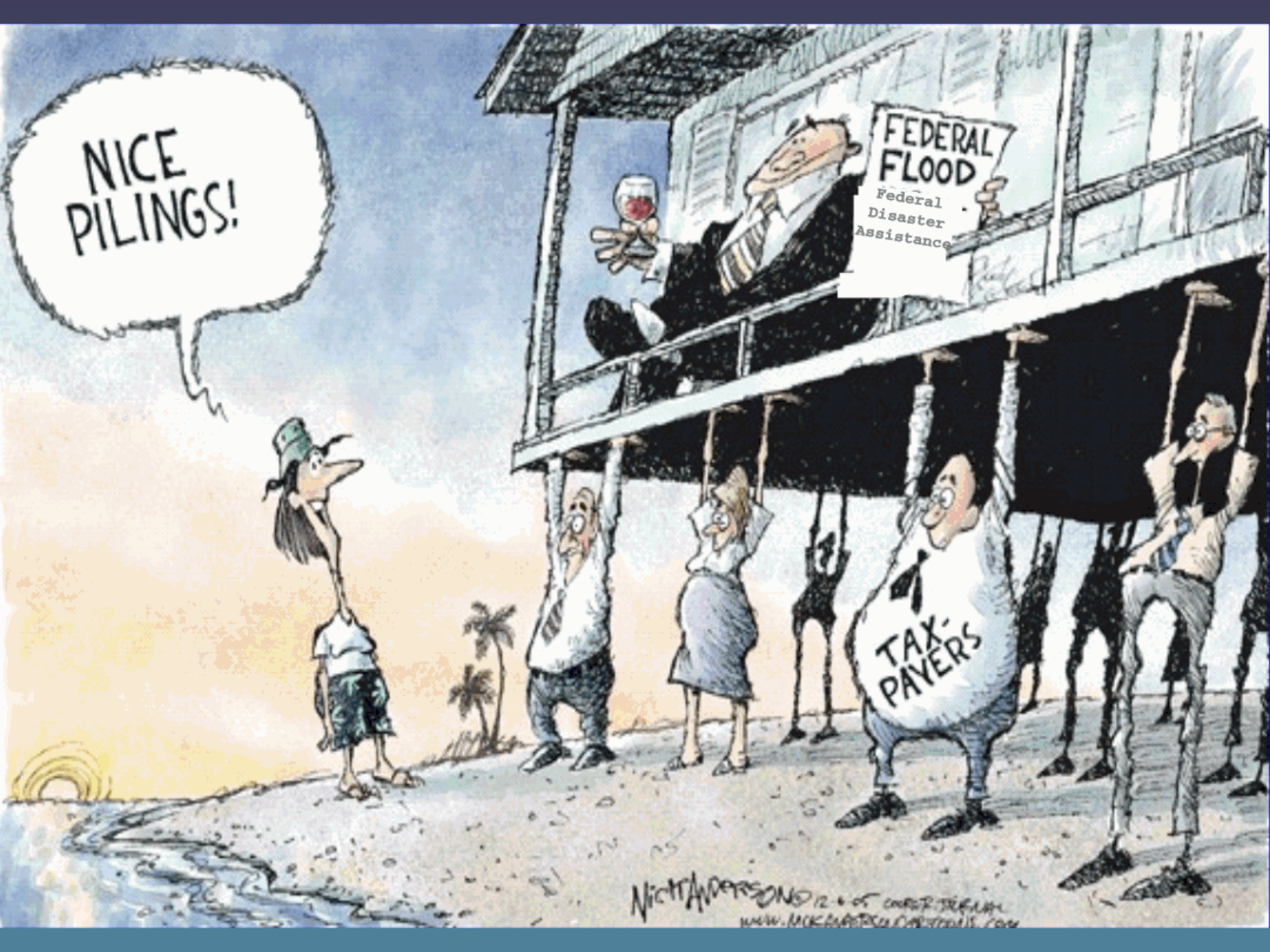


**BASED ON \$100,000 BLDG & NO CONTENTS COVERAGE;  
\$1,000 deductible (10/1/09 rates)**

# Reform Acts

- Biggert-Waters Act of 2012 (BW-12)
- Homeowners Flood Insurance Affordability Act of 2014 (HFIAA)





NICE  
PILINGS!

FEDERAL  
FLOOD  
Federal  
Disaster  
Assistance

TAX-  
PAYERS

NICK ANDERSON 12-6-05  
WWW.MICKANDERSON.COM

# Philosophy Behind Biggert-Waters

- Signed July 6, 2012 - Extends NFIP 5 years
- Establishment of the National Flood Mapping Program; Technical Mapping Advisory Council (TMAC) set up; recognizes mapping importance
- Grant program changes
- Majority of reforms focused on financial solvency of the program
  - Those living at risk should pay more
  - Truly pricing risk may equal better mitigation decisions

## Philosophy behind Grimm-Waters

- Signed March 21, 2014
- Retreat from some provisions of BW-12, especially the big pain points!

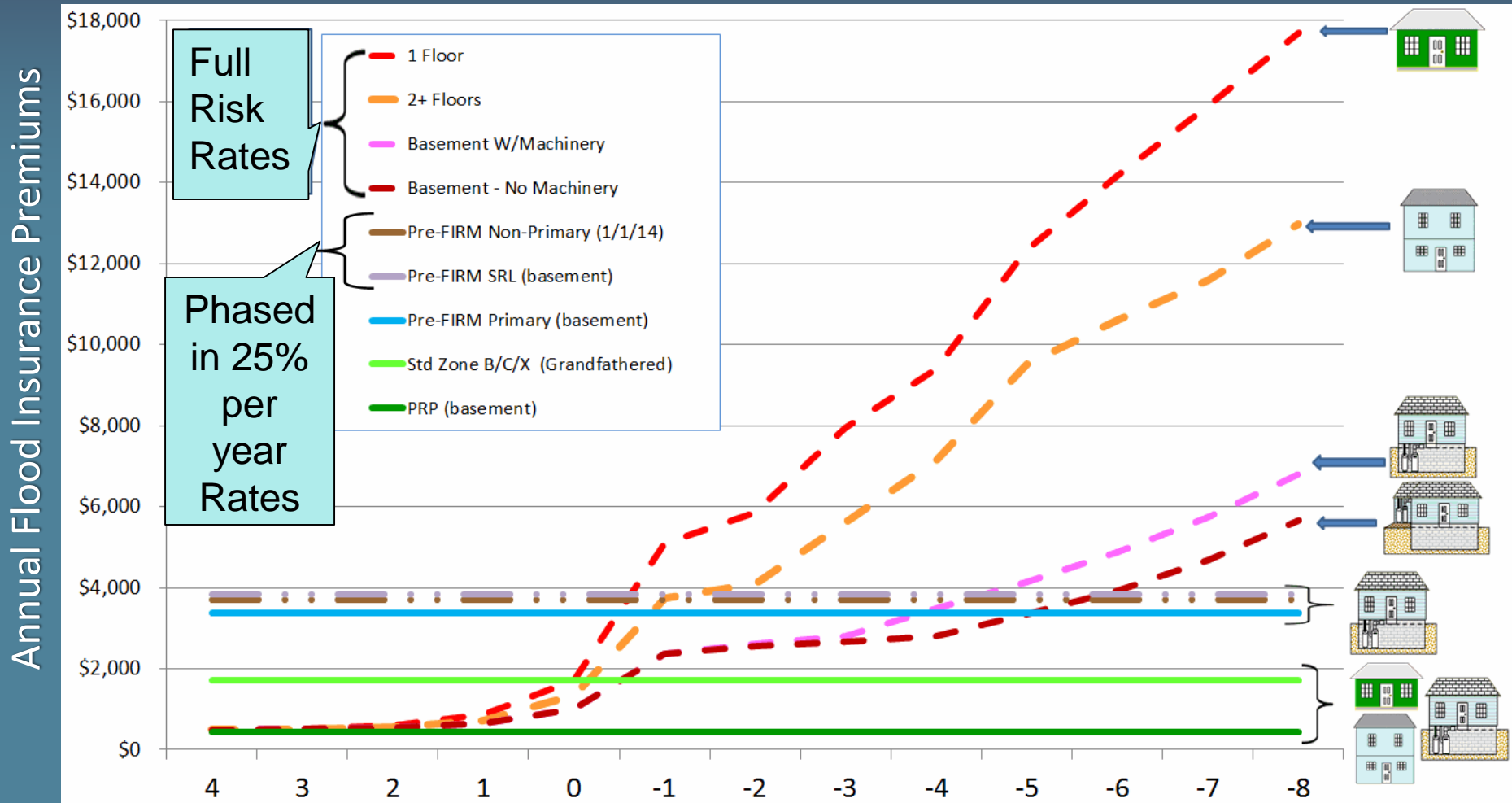


# BW-12 Changes with Biggest Impacts (on pre-FIRM buildings in Zones A, D & V)

- Policies went straight to full risk rates
  - New sales
  - New policies
  - Policies that had lapsed for certain time period
- Impacts
  - Sales stalled – huge impacts in some markets
  - Those who got new policy or had sale between 7/6/2012 and when the full risk rates took effect after 10/1/2013 got sticker shock
  - Lots more interest in mitigation options



# How Does Elevation Affect Premiums? Phased in & Immediate Changes



Rates for \$200K Building/\$80K Contents coverage on 10/1/2013 (except as noted).

# Homeowners Flood Insurance Affordability Act (HFIAA)

- HFIAA signed 3/21/2014
- Also known as Grimm-Waters Act of 2014 (GW-14)
- Addressed most painful impacts of BW-12
  - Not straight to full risk rates for new policies/sales, on slower glide path to full risk rates
    - 18% annual cap for primary residential
    - 25% for non-primary residential, businesses, repetitive losses
  - Primary residential to 50% (vs 80%)



# Determining Full-Risk Rate

- Obtain an Elevation Certificate (EC)
- Ask their insurance agent to rate using EC
- Estimate when 25% Phase-in = Full-Risk Premium

**Example 1\*: LFE-BFE = -3' Full-Risk Premium = \$7,922**



**Example 2\*: LFE-BFE = 0' Full-Risk Premium = \$1,722**



**RATE USING FULL-RISK RATES**

\*Pre-FIRM, Slab, Secondary Home, \$200K/\$80K (Building/Contents), Zone AE



# Surcharges

To keep GW-14 cost neutral (and meet house requirements), they needed to balance the funds lost by not going straight to full risk rates, and the slower increases.

## Annual surcharges to be applied\*:

- \$25 for primary residences
- \$250 for all other buildings
- Included on all policies until all pre-FIRM subsidies are eliminated
- Surcharges are not subject to premium increase caps



\*Started April 1, 2015

New map dated 11/16/11

Date: NOVEMBER 28, 2011

Re: Bank of America Loan #:  
Property Address:

Loan Principal Balance: \$156,590.00  
Flood Insurance Coverage Amount under the Policy, if obtained: \$190,000.00  
(This insurance may provide less coverage than was in effect previously).

Dear [redacted]:

Under the guidelines of the National Flood Insurance Reform Act of 1994 (Flood Act), and the requirements of the investor of your loan, we contracted with an independent provider to perform a flood zone determination of your property. This flood zone determination was performed to determine if recent changes to your community flood maps have affected your property. This flood zone determination indicates that the improved real estate securing your home loan is currently within zone AE\*, an area designated by the director of the Federal Emergency Management Agency (FEMA) as a Special Flood Hazard Area (SFHA).

The Flood Insurance Rate Map (FIRM) used to complete the determination, published by FEMA, is reference number 270435-020-5, and is dated 11/16/2011. This map can be reviewed at the office of your local government official or agency. Under the authority provided by your loan documents, we require that any improved real estate within an SFHA be covered by an acceptable flood insurance policy. Our records do not currently reflect that an acceptable flood policy covering your property is in force.

In order to remove the flood insurance requirement from your account, please forward us a copy of your current Flood Insurance Policy (FIP) (DMR) which specifically removes your structure(s) from the SFHA community/property.

Within 45 days!!

If you have already purchased flood insurance or you own a condominium or townhouse that is covered by a master flood insurance policy, please provide us with a copy of your current flood insurance policy showing that your policy is in force and complies with the enclosed insurance requirements. You may also provide us with the front page of your policy that summarizes coverage, limits, deductibles, and states the current period of your policy. Please mail it to the address shown below or fax it to us at (800) 293-8158. Upon receipt of your policy, we will update your insurance information.

If you do not provide us with evidence of appropriate flood insurance on your property within 45 days of the date of this letter, we are authorized by your loan documents to purchase flood insurance on your behalf, and it will be effective 01/13/2012. Lender-Placed Flood Insurance may be purchased by us through agencies that are affiliates of Bank of America.

Please send correspondence to:  
P.O. BOX 961291, FORT WORTH, TX 76161-0291  
Please write your loan number on all correspondence

ARW4U1F7

If citizen gets letter from bank, advise them to act quickly:

- Verify if structure's in Zone A(AE)
- See if eligible for LOMA or LOMA-OAS
- Get NFIP flood insurance if they can't resolve within 45 days or lender will/can "force place" insurance that is not NFIP.

# Newly Mapped Rates

## POLICIES FOR BUILDINGS NEWLY MAPPED INTO A HIGH-RISK AREA RATING OPTION INFORMATION FOR INSURANCE AGENTS TO EASE THE TRANSITION >>>



FEMA



New Flood Insurance Rate Maps (FIRMs) can show that the risk of flooding has changed. And for some property owners, a change in risk means new flood insurance requirements. In recent years, the Federal Emergency Management Agency (FEMA) has sought to ease the financial impact of a map change by extending eligibility for a lower-cost Preferred Risk Policy (PRP) if a building outside of the high-risk area called a Special Flood Hazard Area (SFHA) is newly mapped into the SFHA.

Until now, the PRP Eligibility Extension has applied to any building newly mapped into an SFHA since October 1, 2008, although as of October 1, 2013, PRP Eligibility Extension premiums began increasing at a higher rate on renewal. But beginning April 1, 2015, FEMA is implementing a new procedure to meet requirements of the Homeowner Flood Insurance Affordability Act of 2014 (HFIAA).

Following a map revision, the owner of a building newly mapped into an SFHA will be rated according to a new procedure for newly mapped properties. This rate will be equal to the PRP rate, but with a higher Reserve Fund Assessment and Federal Policy Fee, for the first 12 months following the map revision. After the introductory year, the rate will begin its transition to a full-risk rate with annual rate increases of no more than 18 percent each year. Here's how it will work:

### NEWLY MAPPED INTO AN SFHA

Scenario	Property Owner Eligibility
Property newly mapped into an SFHA on or after April 1, 2015	Eligible for the Newly Mapped procedure if the policy becomes effective within 12 months of the map revision date
Property newly mapped into an SFHA on or after April 1, 2015, but not covered within 12 months of the map revision date	Property no longer eligible for Newly Mapped procedure. Post-FIRM buildings are eligible for grandfather rating. Pre-FIRM buildings must be rated using the new maps, and may be eligible for pre-FIRM subsidized rates.
Property newly mapped into an SFHA between October 1, 2008, and March 31, 2015, but not currently covered	Eligible for the Newly Mapped procedure if covered before April 1, 2016
Property with policy validly issued under the PRP Eligibility Extension prior to April 1, 2015	Renewed using the Newly Mapped procedure on the first effective date on or after April 1, 2015; policies for these buildings will receive the same premium as those newly issued using the Newly Mapped procedure

\* Note that a new, Congressional mandated, annual FIRM surcharge (2% for primary homes, 3.25% for all other buildings) will need to be applied to the final premium. This surcharge could increase the total out-of-pocket expense for the 2015 policy year by more than 38 percent over the previous year's premium for some policyholders who had coverage prior to April 1, 2015.

Property owners who do not have flood insurance and find that their buildings are being newly mapped into an SFHA should be encouraged to purchase a PRP before the new FIRMs become effective. Not only is their risk higher than they thought (and any potential flooding will not wait until the new maps become effective), but they also will be able to renew their policies at lower-cost PRP rates during the first 12 months after the new map becomes effective. In other words, they will gain almost an extra year at PRP rates.

Note that the same eligibility requirements that apply for PRPs also apply for the Newly Mapped procedure. A property that falls outside this category might be eligible for the Standard X Zone rating.

#### Additional Information

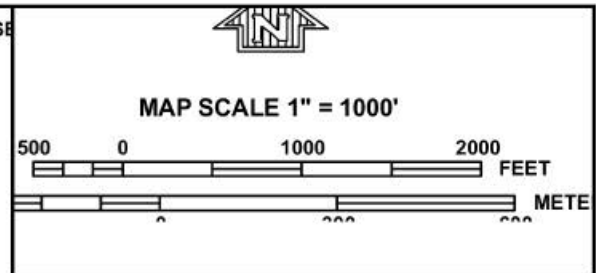
- For more details on the new Newly Mapped procedure, read WYO Bulletins W-14053 and W-14055, which can be found at [NFIPService.com](http://NFIPService.com).
- For information about grandfathering and other rating options, refer to the latest Flood Insurance Manual found at [fema.gov/Flood-Insurance-Manual](http://fema.gov/Flood-Insurance-Manual).
- To monitor flood map updates in your area and download related marketing material to better communicate the impact of these changes on your clients, visit [Agents.FloodSmart.gov](http://Agents.FloodSmart.gov) and select Map Updates listed under Managing Policies.
- To stay up-to-date on the implementation of other sections of the reform legislation, visit [fema.gov/Flood-Insurance-Reform](http://fema.gov/Flood-Insurance-Reform).





If structure is near Zone A, use better aerial photos.

Check if structure is "in." Might be clear.



**INFIP** PANEL 0340E

**FLOOD INSURANCE RATE MAP**  
**WOODBURY, NEW JERSEY**  
**UNINCORPORATED AREAS**  
**270699**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

**CONTAINS:**

COMMUNITY	NUMBER	PANEL	SUFFIX
NEWPORT, CITY OF	270510	0340	E
WOODBURY, CITY OF	270699	0340	E

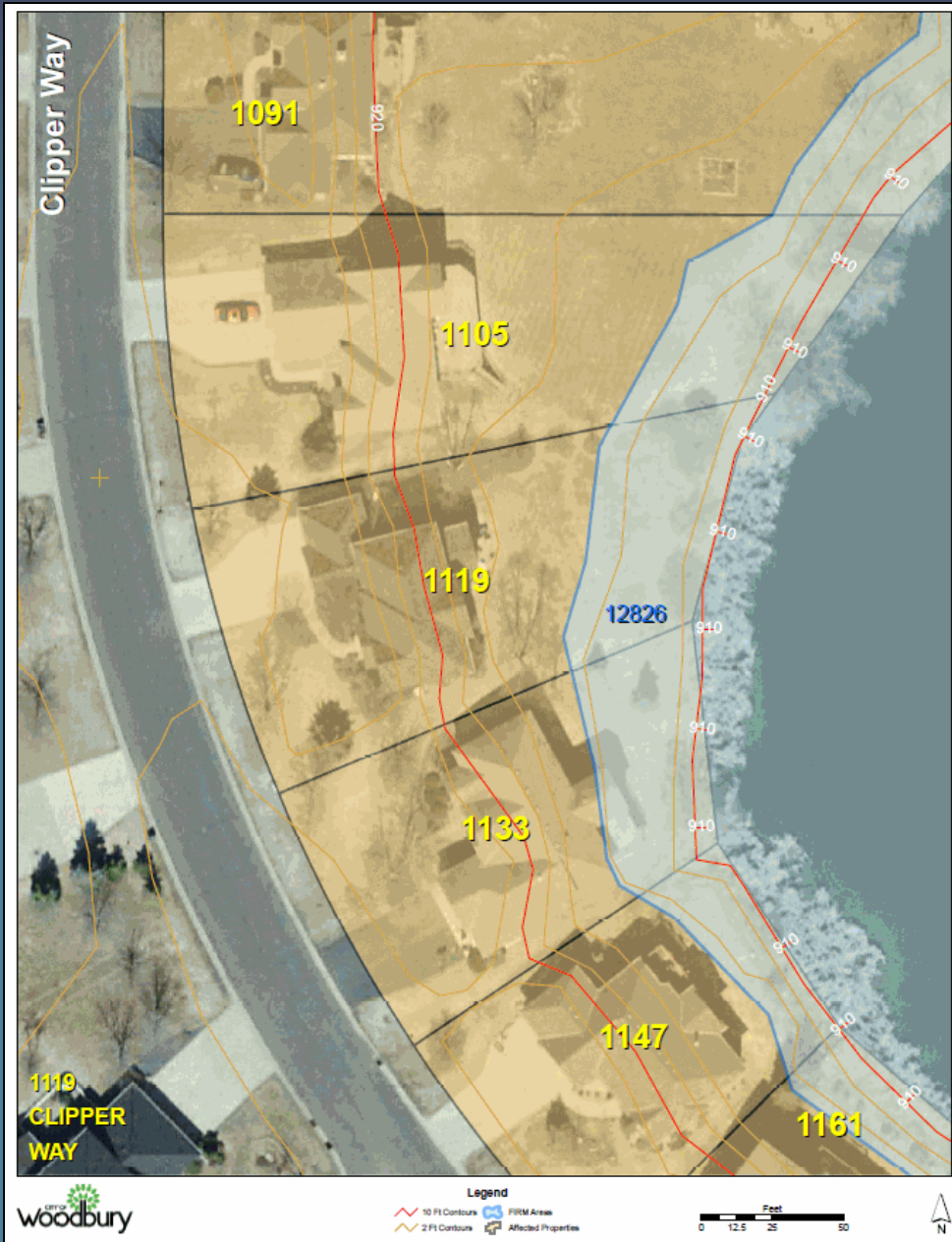
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

**MAP NUMBER**  
**27163C0340E**  
**EFFECTIVE DATE**  
**FEBRUARY 3, 2010**

**Federal Emergency Management Agency**

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

# IF Better Aerial in Overlay Shows “Out”



- Show to lender.
- Some will accept the better data.
- Some lenders will still insist on getting Letter of Map Amendment (LOMA) from FEMA
- Would be eligible for cheaper policy in meantime.

# Be Aware of Letter of Map Amendment Process & Options

- See information at MnDNR web site about LOMAs & LOMAs-OAS
- Now online application options
- Newer option to use 2-foot contours derived from LiDAR in lieu of a field survey
  - Option available for much of state
  - Good when not a close call



# New Message to Homeowners

- Get an **Elevation Certificate** to determine your correct rate or see if LOMA is option!
- Talk to insurance agent about policy options, i.e., Higher deductibles might lower your premium  
(but consider your situation; not good idea if basement flooding is most likely scenario)
- Look at options to elevate or partially mitigate





# The Case for Freeboard

## New Construction of 2,000 sq. ft. Primary Residence, A-Zone, Monthly Payment\*

### At BFE

\$963 – principle + interest  
+\$144 – flood insurance  
\$1,107

### +2 Feet Freeboard

\$992 – principle + interest  
+\$ 51 – flood insurance  
\$1,043 – **6% decrease**

### +3 Feet Freeboard

\$1,006 – principle + interest  
+\$ 44 – flood insurance  
\$1,050 – **5% decrease**

\*\$200K/\$80K Bldg/Contents. Assumes \$190,000 in initial construction costs plus all additional freeboard construction costs financed at 4.5%, 30-year fixed rate



# Community Rating System

- A way to reduce premium for all in community
- Community does higher level of floodplain management and earns a rating of class 1 to 9 (based on points)
- Must use FEMA's Elevation Certificate, but can choose points from lots of possible activities like: higher standards, open space in floodplain, mitigation projects, public education, etc.



# CRS Classes & Discounts

Credit Points	Class	Premium Reduction SFHA*	Premium Reduction Non-SFHA**
4,500+	1	45%	10%
4,000 – 4,499	2	40%	10%
3,500 – 3,999	3	35%	10%
3,000 – 3,499	4	30%	10%
2,500 – 2,999	5	25%	10%
2,000 – 2,499	6	20%	10%
1,500 – 1,999	7	15%	5%
1,000 – 1,499	8	10%	5%
500 – 999	9	5%	5%
0 – 499	10	0	0



For more information, contact MN's CRS contact  
Melissa Mitchell at [MMitchell@iso.com](mailto:MMitchell@iso.com) or 913-543-0632

# Flood Damage Reduction (FDR)

Over 3,500 structures removed from floodplain  
(with FDR assistance)

## Large Flood Control Structures



*East Grand Forks: Set back levee; many buyouts*



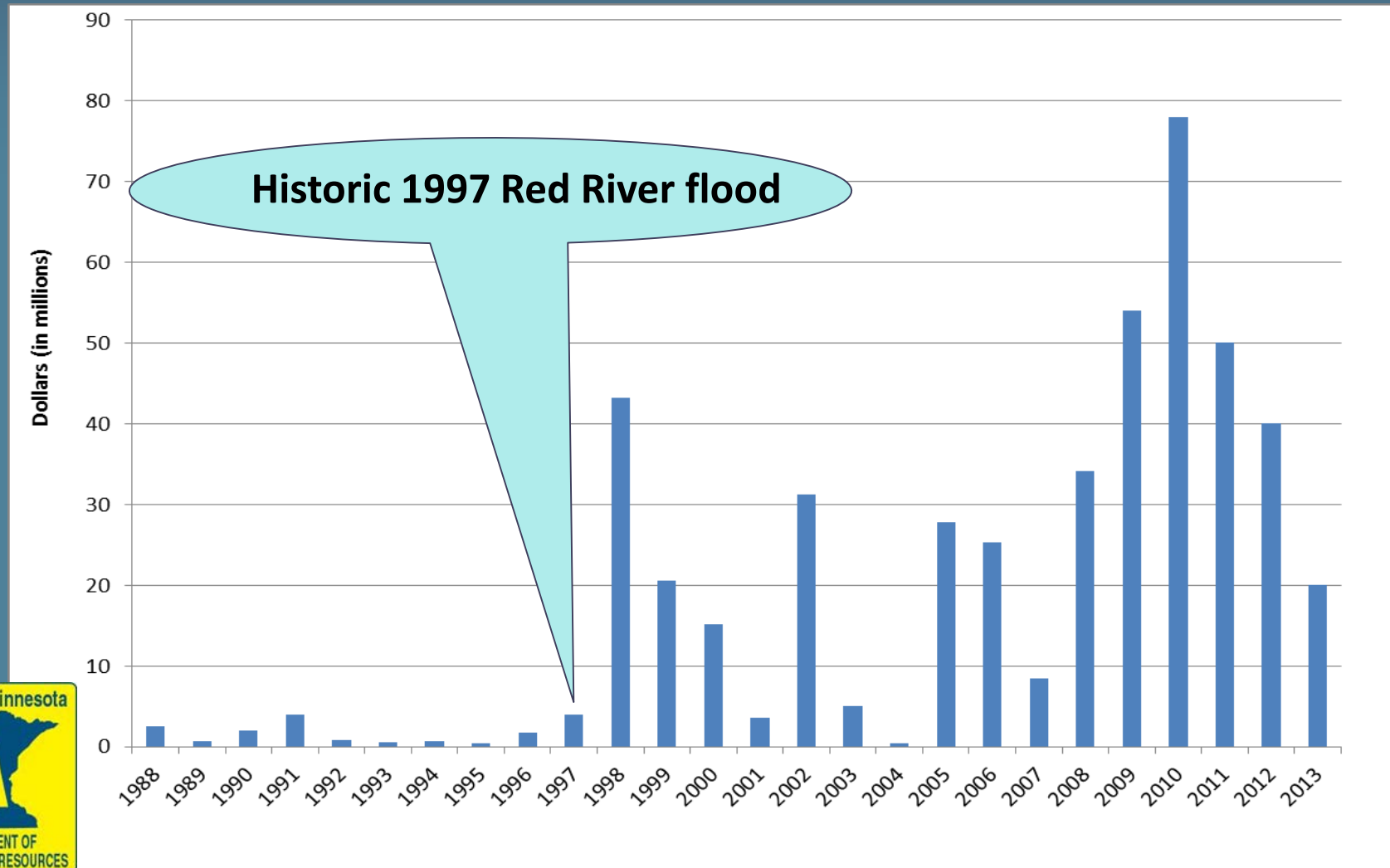
## Acquisitions



**Ring Dikes**  
*Red River Valley:  
Over 215 ring dikes  
1998 to present;  
~ \$4.5 Million FDR*

# Funding History for Minnesota's Flood Damage Reduction Grant Program

\$473.7 million - predominantly bond funds



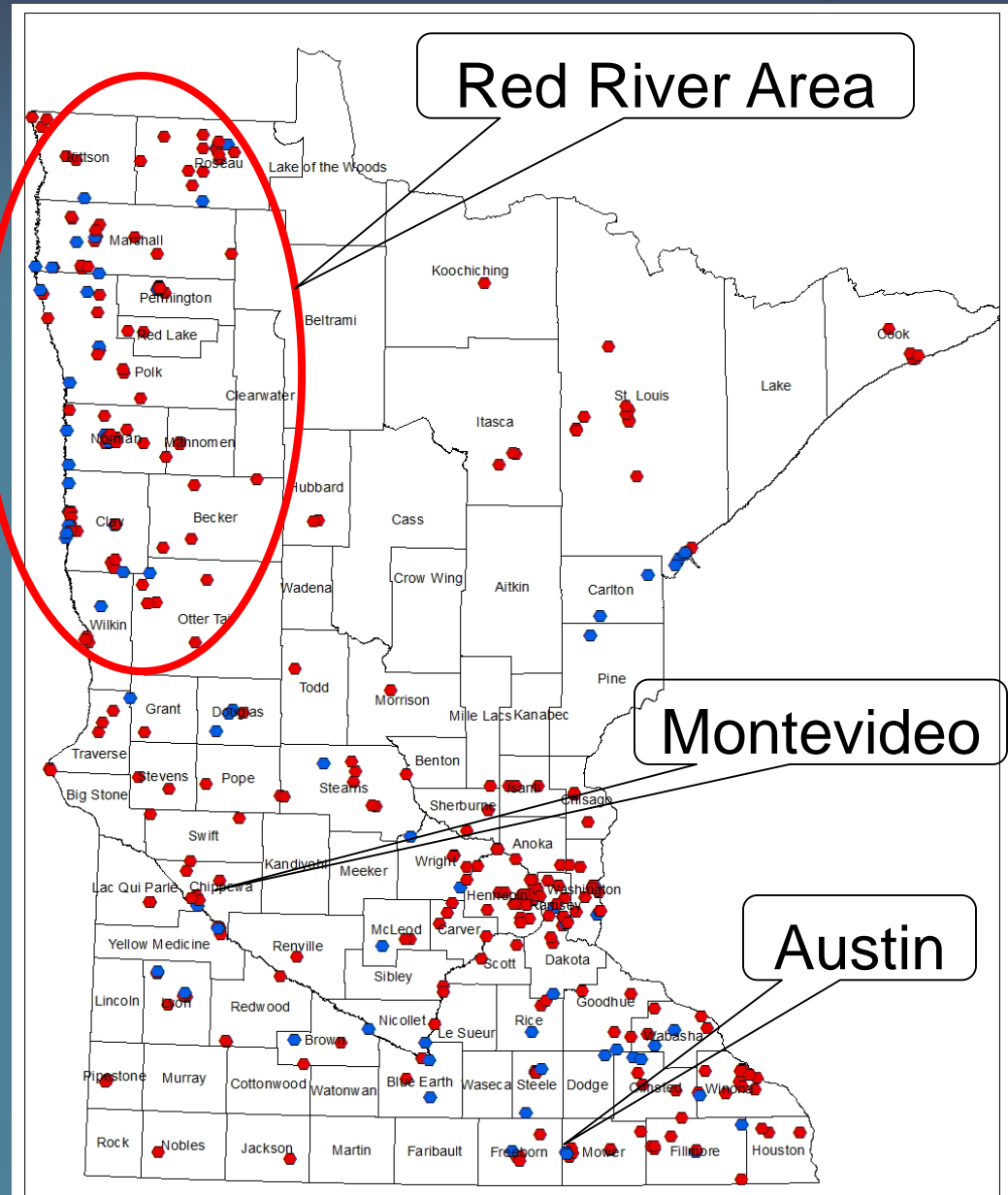
# Minnesota Flood Risk Reduction Projects

1987 – 2013:  
285 Completed &  
72 In-Progress  
(as of 10/4/2013)

~85% of  
funding in Red  
River Valley



- Complete
- In-Progress



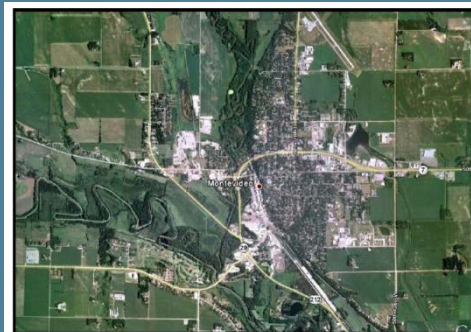
# Returns on Investment

- 3.18 in Moorhead for 27 acquisitions
- 7.47 in Montevideo for 48 acquisitions
- 2.65 in Austin for 165 acquisitions  
(2013 update)



## Evaluating Losses Avoided Through Acquisition Projects

Moorhead, Minnesota  
December 2010



## Evaluating Losses Avoided Through Acquisition Projects

Montevideo, Minnesota  
December 2010



## Loss Avoidance Study

Austin, Minnesota, 163 Building Acquisitions  
Update of March 2001 Study  
October 2013



Federal Emergency Management Agency  
U.S. Department of Homeland Security  
500 C Street, Southwest  
Washington, DC 20472

# Moorhead Mitigation Example



Brookdale Area

# East Grand Forks



After

50 m



# Floodplain Higher Standards

Minnesota's had many higher floodplain management standards since the first State Rules were adopted in 1970.

Examples:

- 1 to 1.5 feet freeboard (1 foot plus any stage increase)
- Stage increase limited to 0.5 feet, AND no increased damage potential
- Most structures prohibited in floodway
- Many “optional” higher standards in state model ordinance are being adopted



# Enforce Ordinance Now to Prevent Future Damage

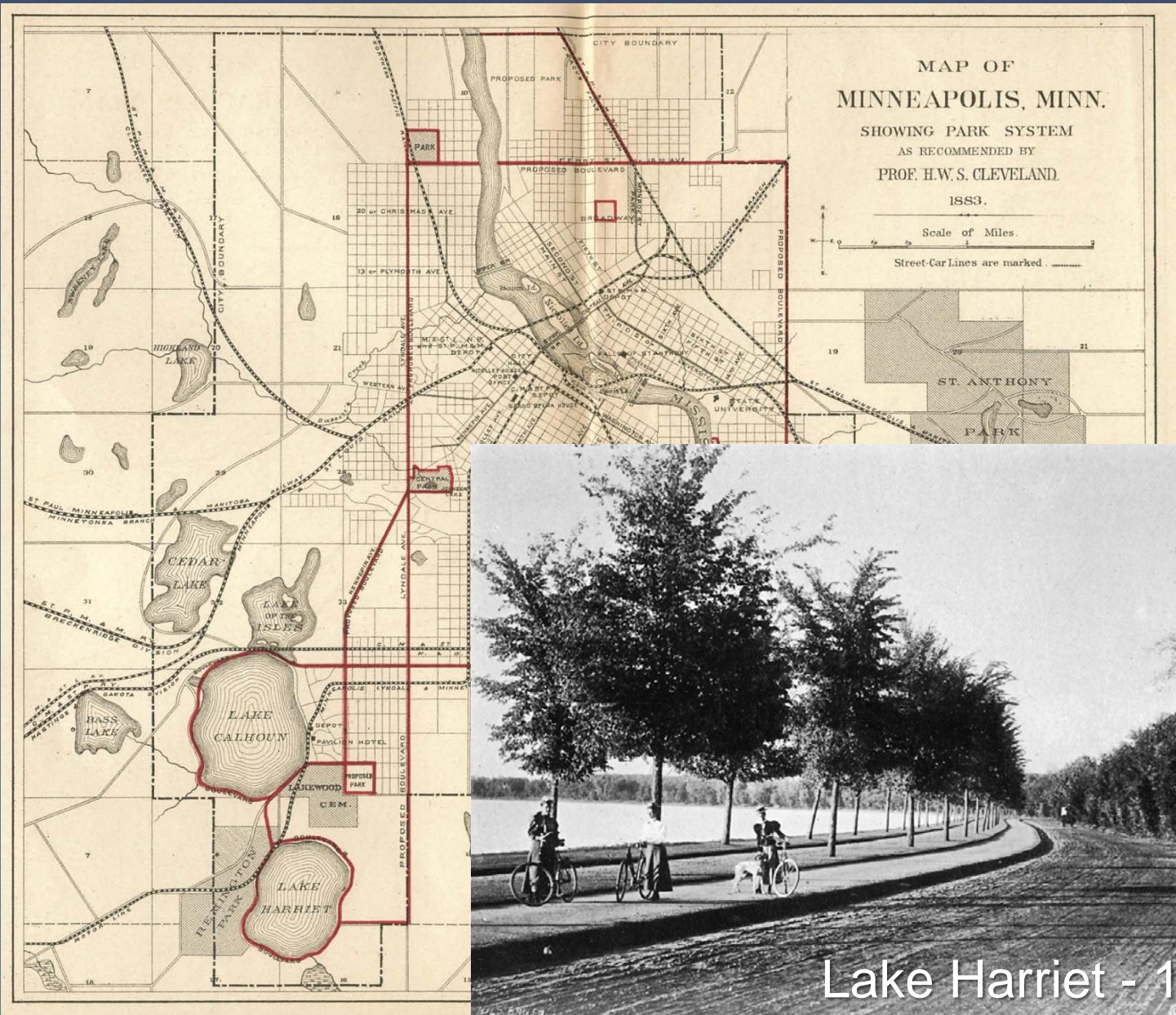


Roseau, MN  
June 12, 2002  
(close to 500-yr)



Photos source:  
MNDNR Forestry

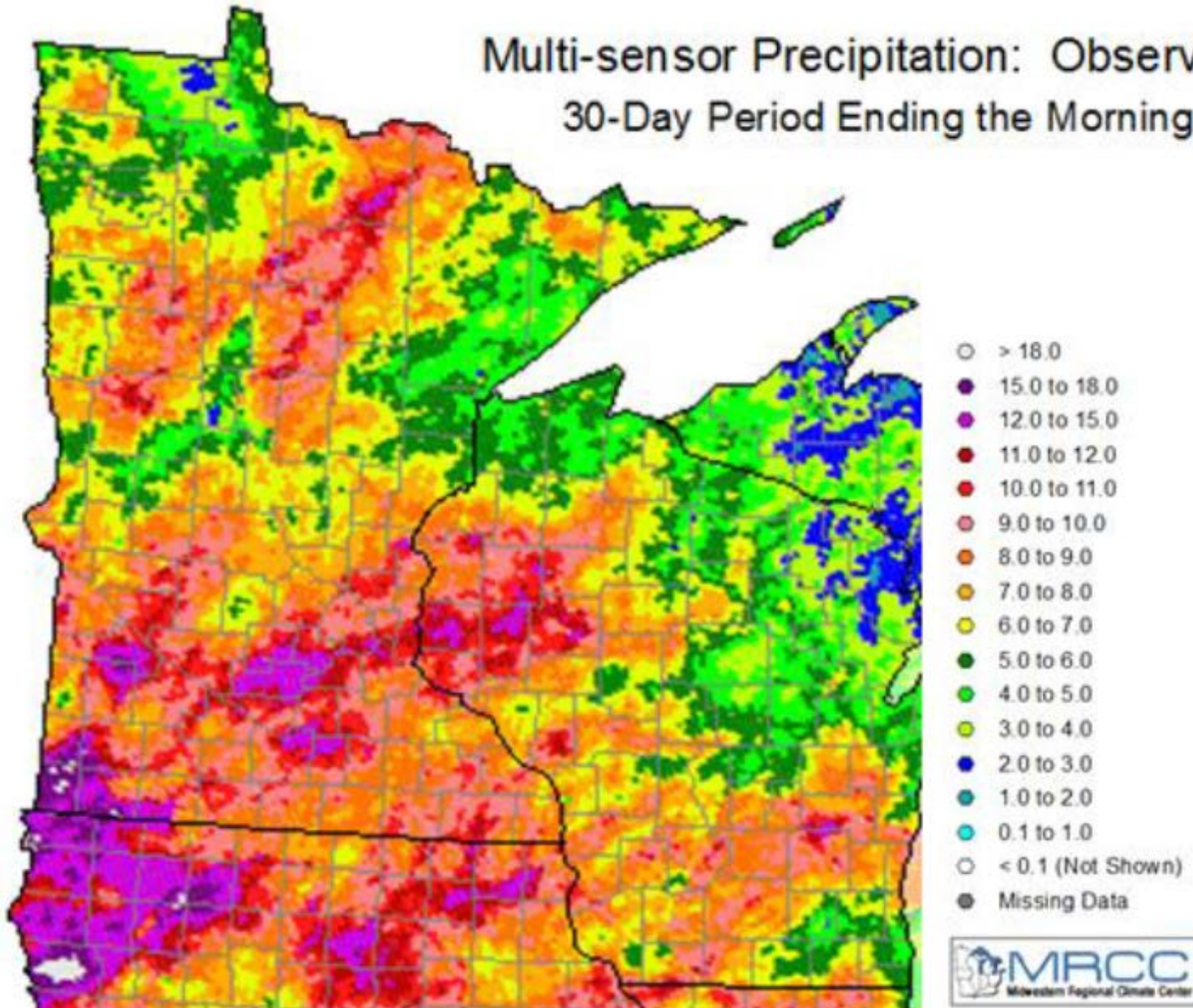
# Keep Development out of Floodplain From Beginning



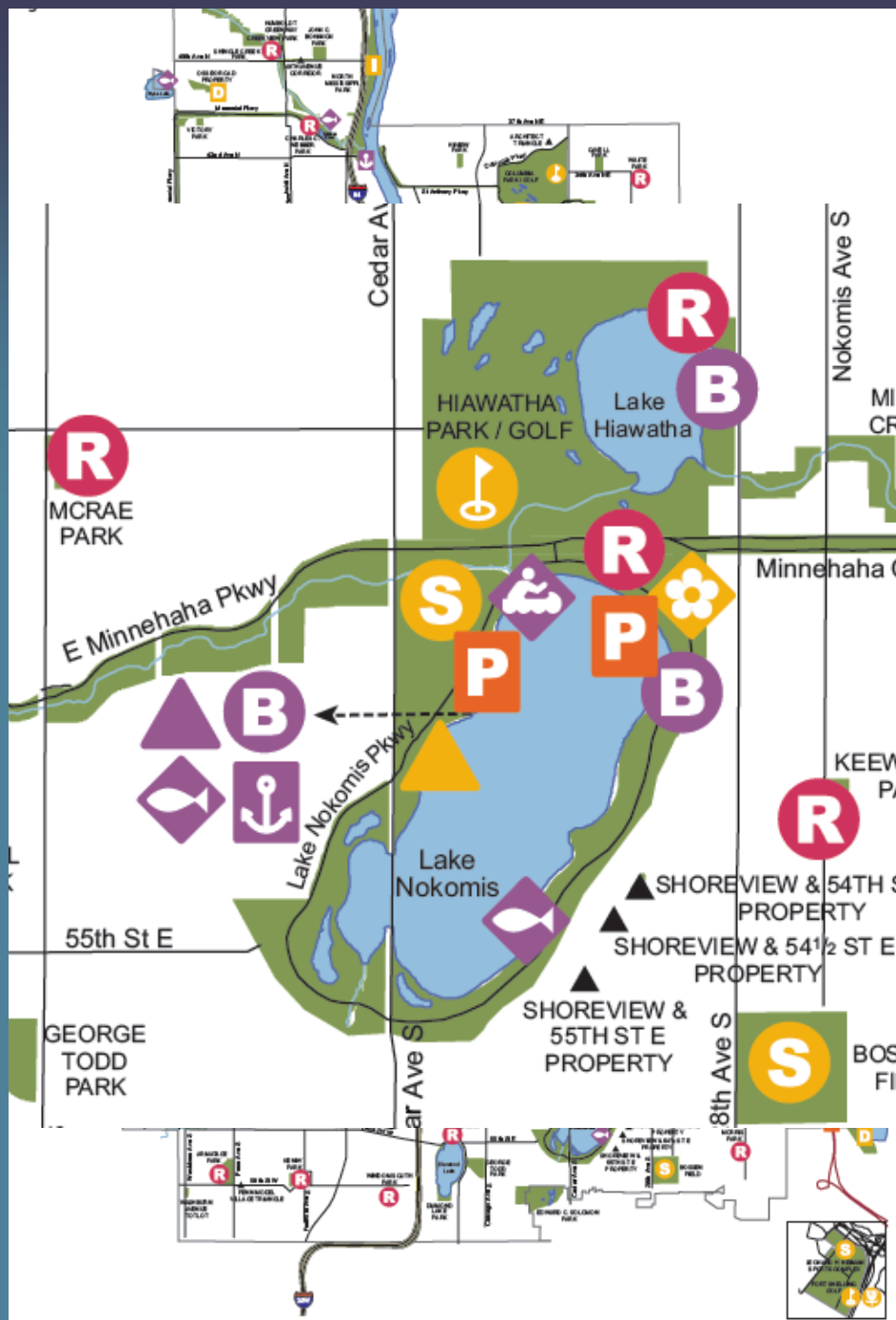
Lake Harriet - 1896

# 2014 Flooding in Minnesota

Multi-sensor Precipitation: Observed (inches)  
30-Day Period Ending the Morning of 6/30/2014



Precipitation data from NWS AHPS: <http://water.weather.gov/precip>



# Lake Hiawatha & Lake Hiawatha Golf Course During Record High Levels



June 20, 2014

Copyright Erdahl Aerial Photos

# Mainly Public Infrastructure Damage



Landslide next to U of MN Hospital (closes road)

Walkers & bikers must share!

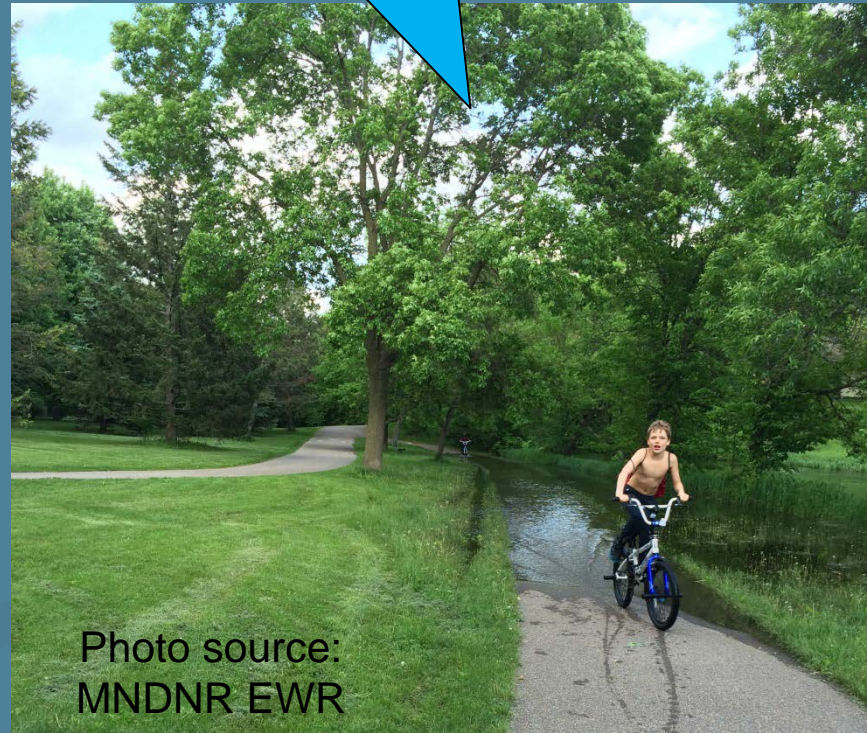


Photo source:  
MNDNR EWR

# July 15, 2014 All Star Game

Photo: Star Tribune

