



Flood Zones

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A grayscale photograph of a two-story house with a tiled roof, tilted at an angle as if by a flood. The house is surrounded by water, and the background shows a hazy, overcast sky. The image is used as a background for the text.

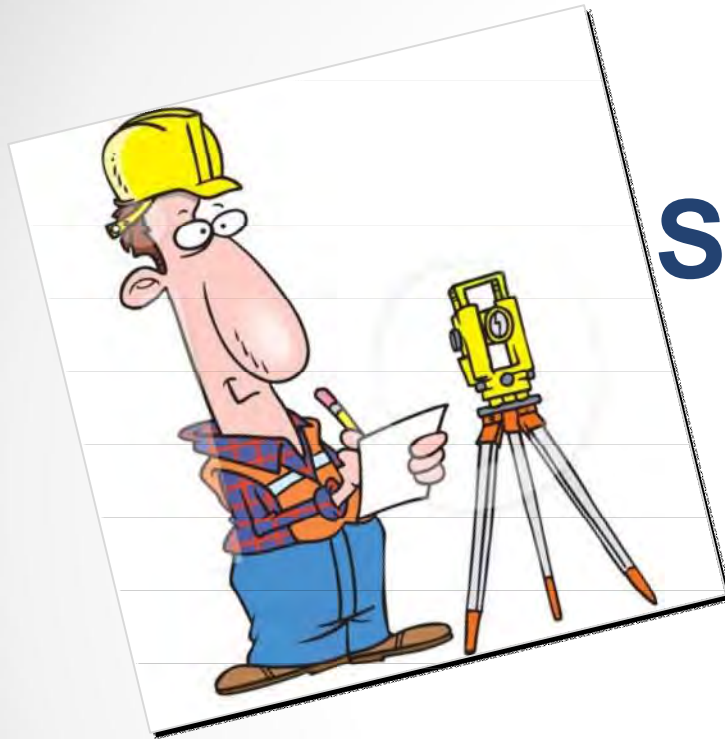
Get ready to think outside of the box....

Get ready to think about flood zones and flood insurance in a whole new light.....

Think about everything you think you know about Flood Zones & Elevation Certificates...

Now forget it all for the next few hours!!

You are about to go from...



SURVEYOR

to

SUPERHERO!!!

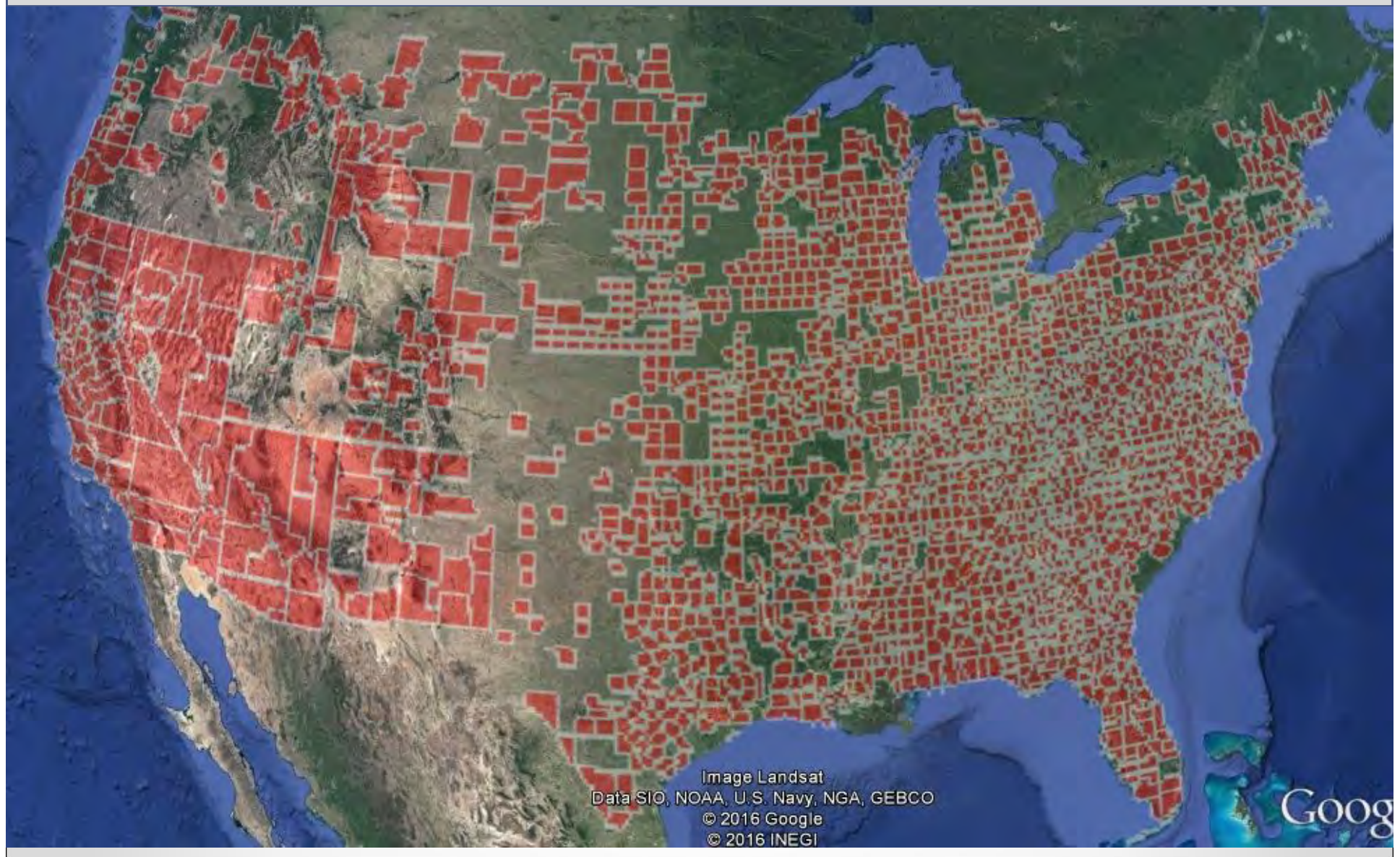


SURVEYORS / FLOOD ZONES

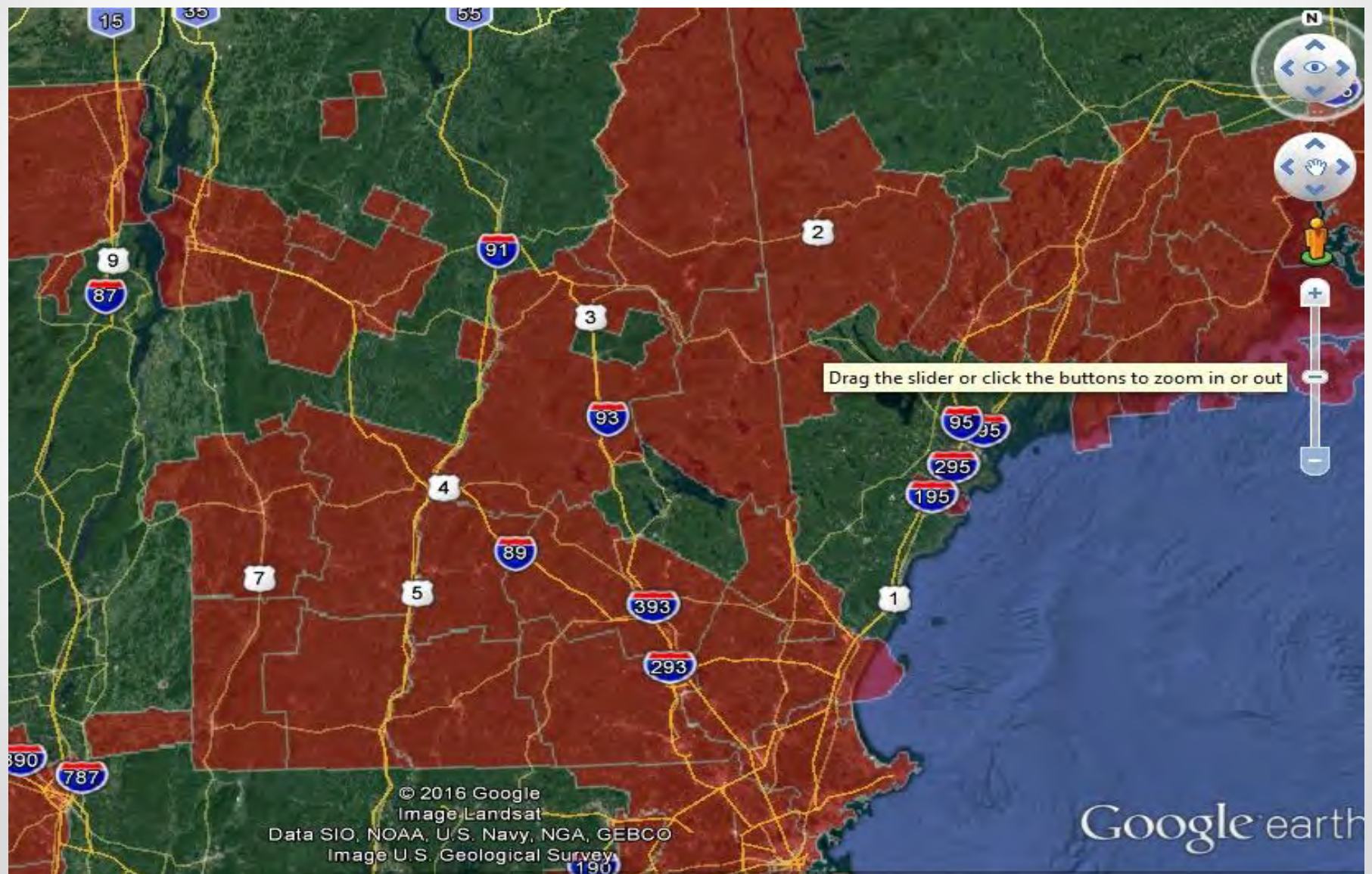
What YOU will need to know:

- LOMA, eLOMA, LOMR-F
- Flood Insurance Studies (FIS)
- Flood Maps / FIRMettes
- Community Acknowledgement Forms
- Elevation Certificates
- Compliance vs Non-compliance
- New Construction in Flood Zones
- Additions to Existing Construction
- Biggert Water's Act 2012 (BW-12)
- Flood Insurance Affordability Act 2014

FLOOD MAPS...USA



FLOOD MAPS.....VERMONT



FLOOD MAPS...BURLINGTON AREA





FEMA teaches from above...

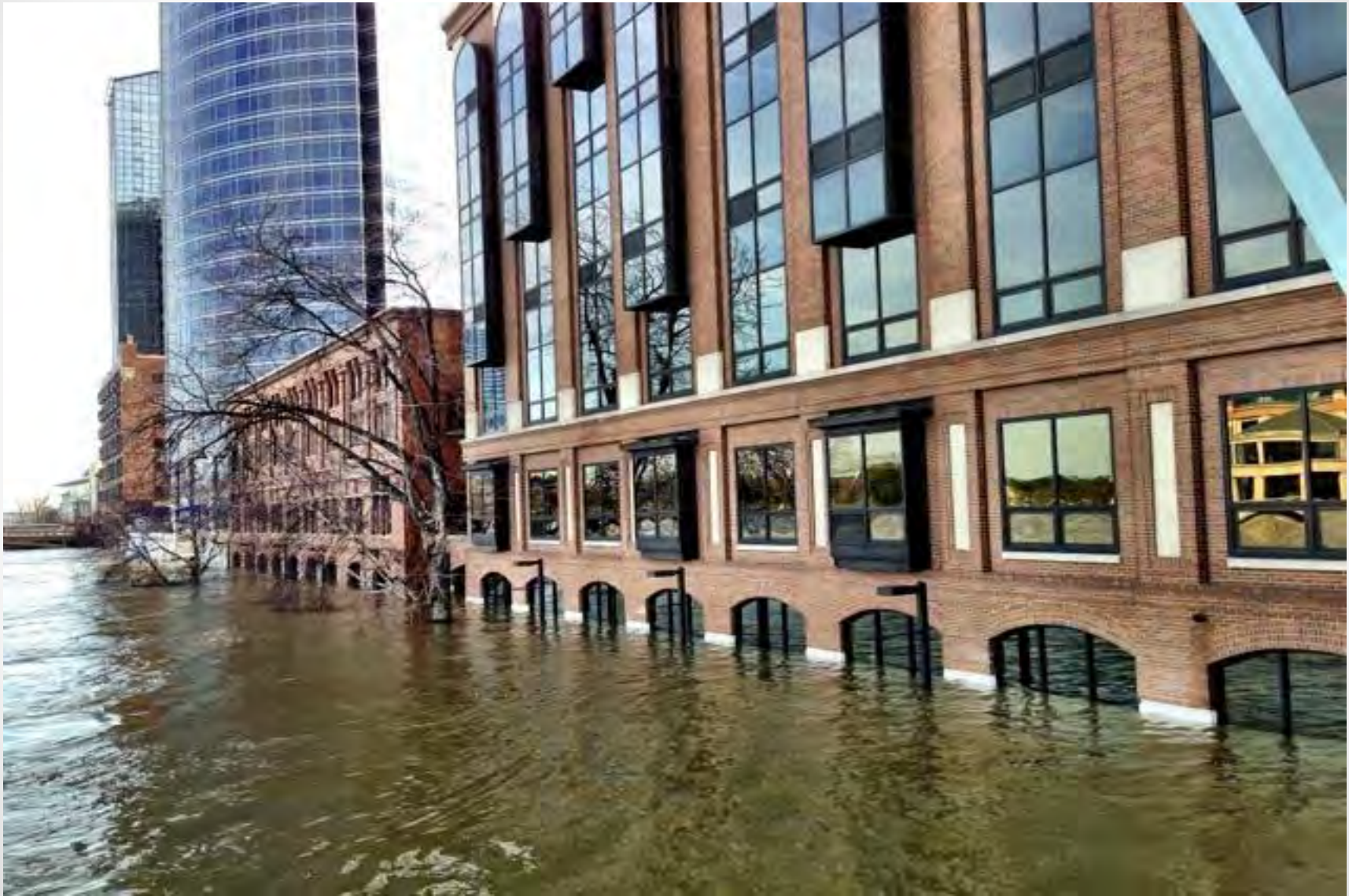


Teaching from the bottom...

Flooding or Flood Zones



Flooding



The Power of Water



What is a Flood Zone?

100 year or 1%

Zone AE, A1-A30, A
AO, AH, V, VE

Base Flood Zone

- **100 year flood zone**
- **1% flood zone**
- **Special flood zone hazard area**

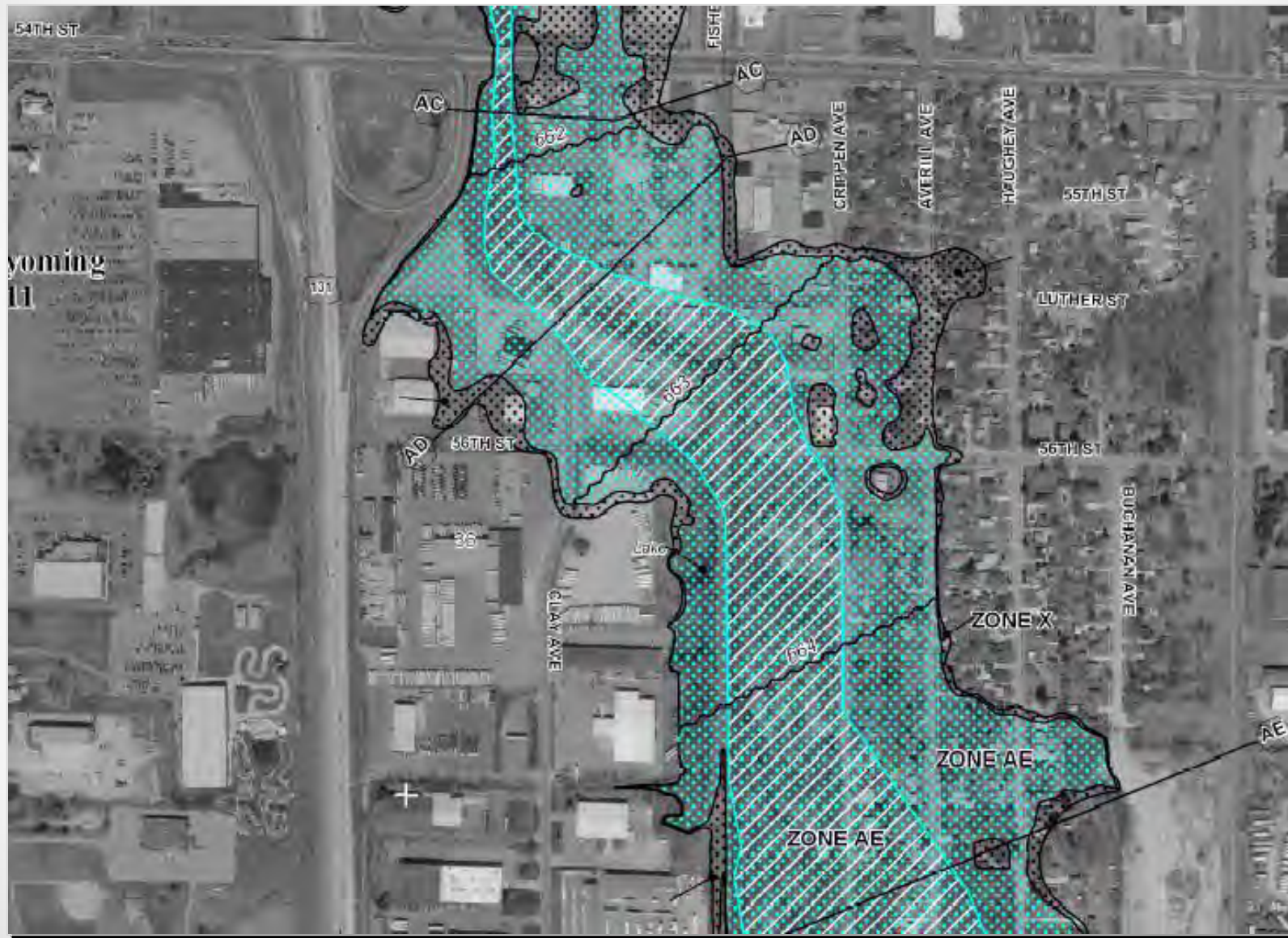
Most Common Types of Flood Zones

- **Zone AE, A1-A30 (Studied Area)**
- **Zone A, AO, AH (Non-Studied Area)**
- **Zone V (BFE Unknown) or VE (BFE Known)**
- **Zone X shaded or Zone B (100 yr to 500 yr)**
- **Zone X un-shaded or Zone C (greater than 500 yr)**

Floodway:

- Area of moving water
- High hazard area
- Needed to carry flood waters
- “Highway for the water”

New Maps / Flood Zones / Floodways



Let me tell you a FLOODWAY story...



History.....FLOOD MAPS

1968	National Flood Insurance Act
1969	Fairbanks, AK (1 st FIRM)
1973	Flood Disaster Protection Act
1986	FEMA Community Probation Procedures
1994	National Flood Insurance Reform Act
2004	Flood Insurance Reform Act
2005	Katrina
2006	Beginning of New Flood Maps
2012	Biggert Waters Act (2014 Affordability Act)

Elevation Certificate

- No longer the Animal it used to be...
- When are they needed???



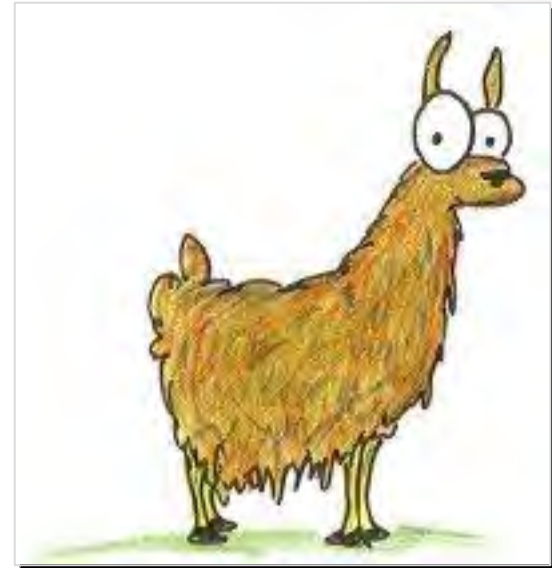
LOMA

???????

**LETTER OF MAP
AMENDMENT**

LOMA Types

1. Electronic LOMA / eLOMA
2. On-Line LOMC
3. “Out as Shown” LOMA
4. LOMR-F
5. CLOMA & CLOMR-F



eLOMA vs. On-Line LOMC

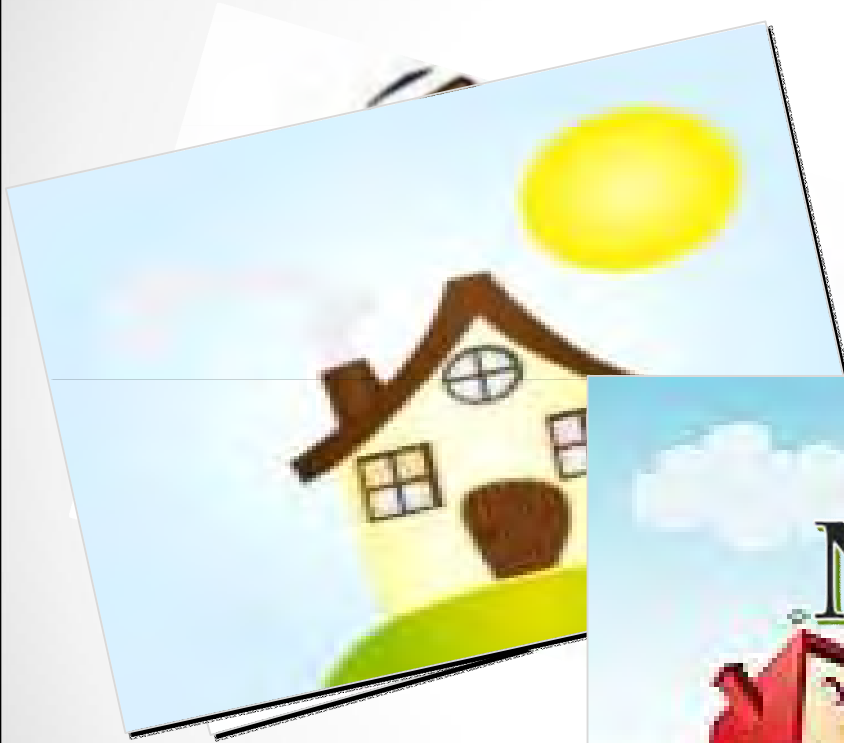
- Single or Multiple Structures (w/BFE)
- Single or Multiple Parcels (w/BFE)
- Zone A-Stillwater (w/BFE)
- Zone A with BFE known
- Out As Shown
- Floodway

- Condominium Unit (multi-owners)
- Zone A - BFE Unknown
- Fill LOMR-F

LETTER OF MAP AMENDMENT (LOMA)



ELEVATION CERTIFICATE



Non-Compliant
Vs
Compliant

People are losing their homes due to the high cost of flood premiums!



History....FLOOD MAPS

FIRMs Are Not “Set In Stone”

**Processes Available To Correct Or Change
A Federal Insurance Rate Map (FIRM):**

Letter of Map Amendment (LOMA)

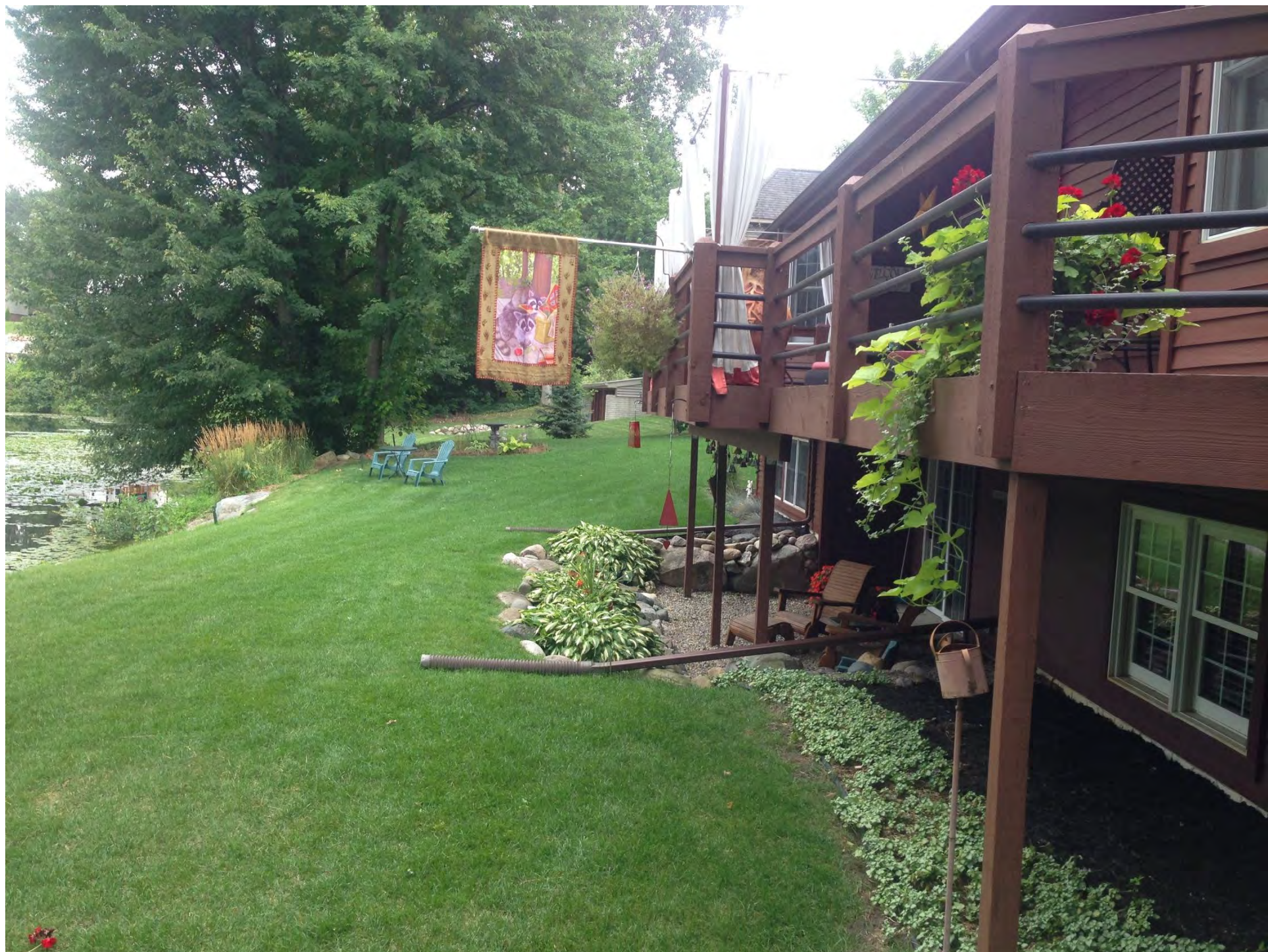
Letter of Map Revision based on fill (LOMR-F)

Physical Map Revision

Shooting the Structure



Checking the LAG



Establishing the BFE
AE, A1-A30 Zone

**FLOOD INSURANCE
STUDY
(FIS)**

Not the FIRM

FLOOD INSURANCE STUDY

VOLUME 1 OF 3



RUTLAND COUNTY, VERMONT (ALL JURISDICTIONS)

COMMUNITY NAME	COMMUNITY NUMBER
BENSON, TOWN OF	500259
BRANDON, TOWN OF	500090
CASTLETON, TOWN OF	500091
CHITTENDEN, TOWN OF	500092
CLARENDON, TOWN OF	500093
DANBY, TOWN OF	500312
FAIR HAVEN, TOWN OF	500094
HUBBARDTON, TOWN OF	500313
IRA, TOWN OF	500260
KILLINGTON, TOWN OF ¹	500268
MENDON, TOWN OF	500095
MIDDLETOWN SPRINGS, TOWN OF	500261
MT. HOLLY, TOWN OF	500096
MT. TABOR, TOWN OF	500262
PAWLET, TOWN OF	500097
PITTSFIELD, TOWN OF	500263
PITTSFORD, TOWN OF	500098
POULTNEY, TOWN OF	500099
POULTNEY, VILLAGE OF	500266
PROCTOR, TOWN OF	500265
RUTLAND, CITY OF	500101
RUTLAND, TOWN OF	500267
SHREWSBURY, TOWN OF	500102
SUDBURY, TOWN OF	500269
TINMOUTH, TOWN OF	500270
WALLINGFORD, TOWN OF	500103
WELLS, TOWN OF	500271
WEST HAVEN, TOWN OF	500272
WEST RUTLAND, TOWN OF	500104



¹Non-floodprone community

EFFECTIVE:
AUGUST 28, 2008



Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
50021CV001A

THE FLOOD INSURANCE STUDY (FIS)

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<u>EXHIBITS</u>	
Exhibit 1 - Flood Profiles	
Arnold Brook	Panels 01P-02P
Castleton River	Panels 03P-11P
Clarendon River	Panels 12P-15P
Clark Hill Brook	Panels 16P-20P
Cold River	Panels 21P-25P
Creed Brook	Panels 26P-27P
Curtis Brook	Panels 28P-31P
East Creek	Panels 32P-38P
Flower Brook	Panels 39P-42P
Freeman Brook	Panel 43P
Guernsey Brook	Panel 44P
Homer Stone Brook	Panels 45P-46P
Indian River	Panel 47P
Mettawee River	Panels 48P-50P
Mill Brook No. 1	Panels 51P-52P
Mill Brook No. 2	Panels 53P-54P
Mill River	Panels 55P-67P
Moon Brook	Panels 68P-74P

Establishing the BFE

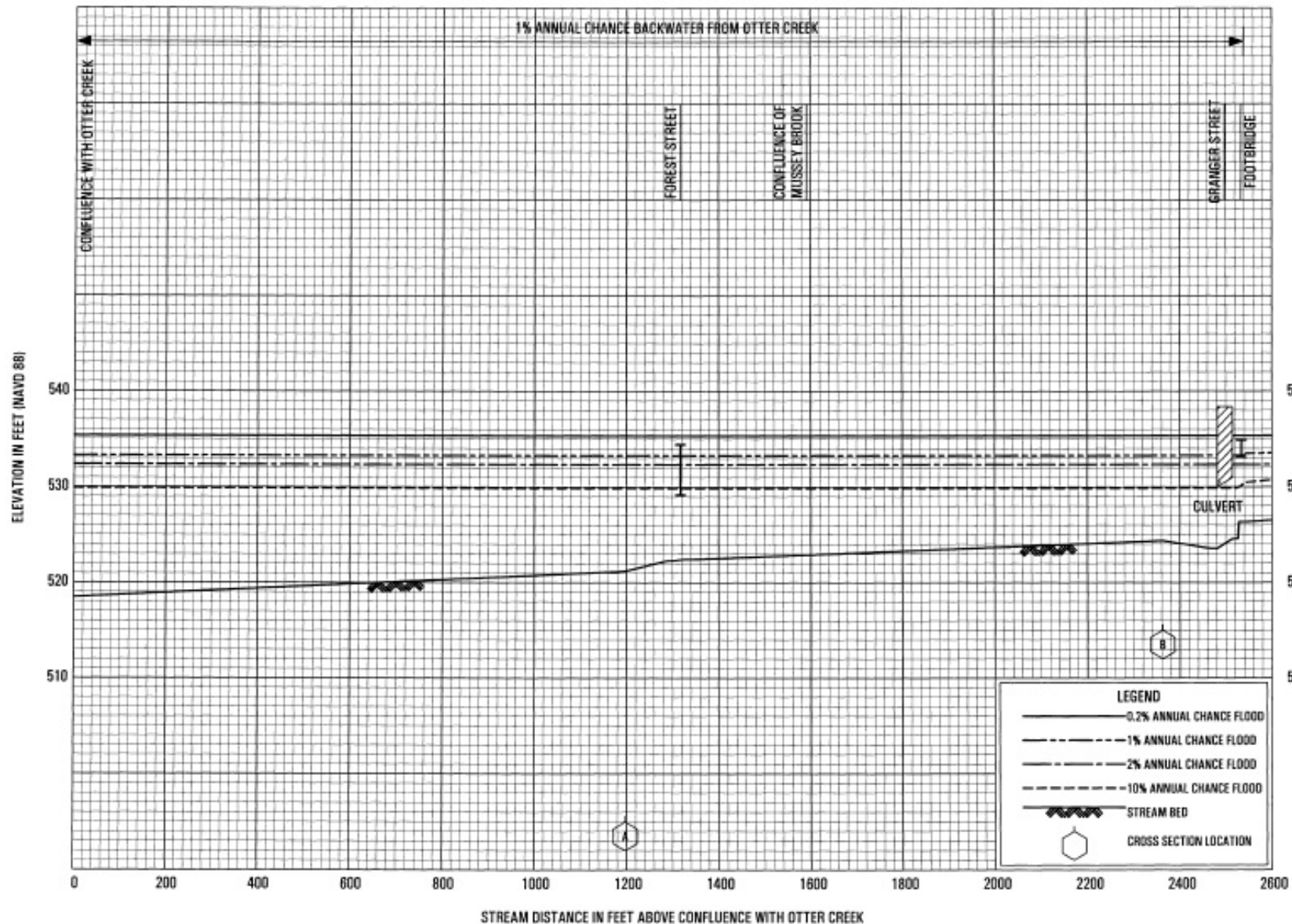
TABLE 4 – SUMMARY OF STILLWATER ELEVATIONS

<u>FLOODING SOURCE AND LOCATION</u>	<u>ELEVATION (feet NAVD*)</u>			
	<u>10-PERCENT</u>	<u>2-PERCENT</u>	<u>1-PERCENT</u>	<u>0.2-PERCENT</u>
LAKE LUCIDIAN				
Entire shoreline	498.0	498.2	498.6	499.1
LAKE ST. CATHERINE				
Entire shoreline	485.3	485.8	486.0	486.5
LITTLE LAKE				
Entire shoreline	485.3	485.8	486.0	486.5

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the source studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals. Users should be aware that flood elevations shown on the FIRM represent rounded whole-foot elevations and may not exactly reflect the elevations shown on the Flood Profiles or in the Floodway Data tables in the FIS report. For construction and/or floodplain management purposes, users are encouraged to use the flood elevation data presented in this FIS in conjunction with the data shown on the FIRM.

Establishing the BFE



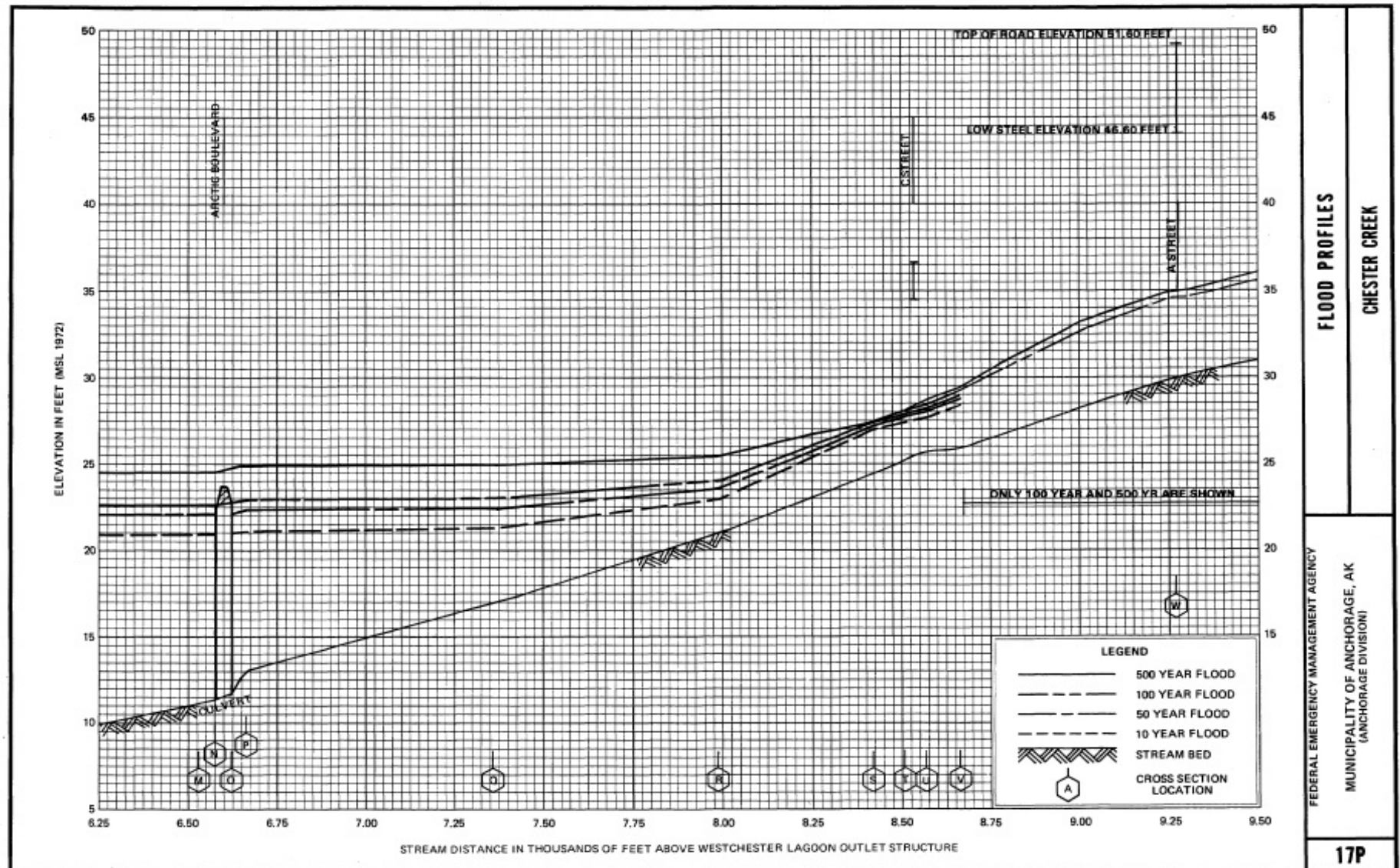
FLOOD PROFILES

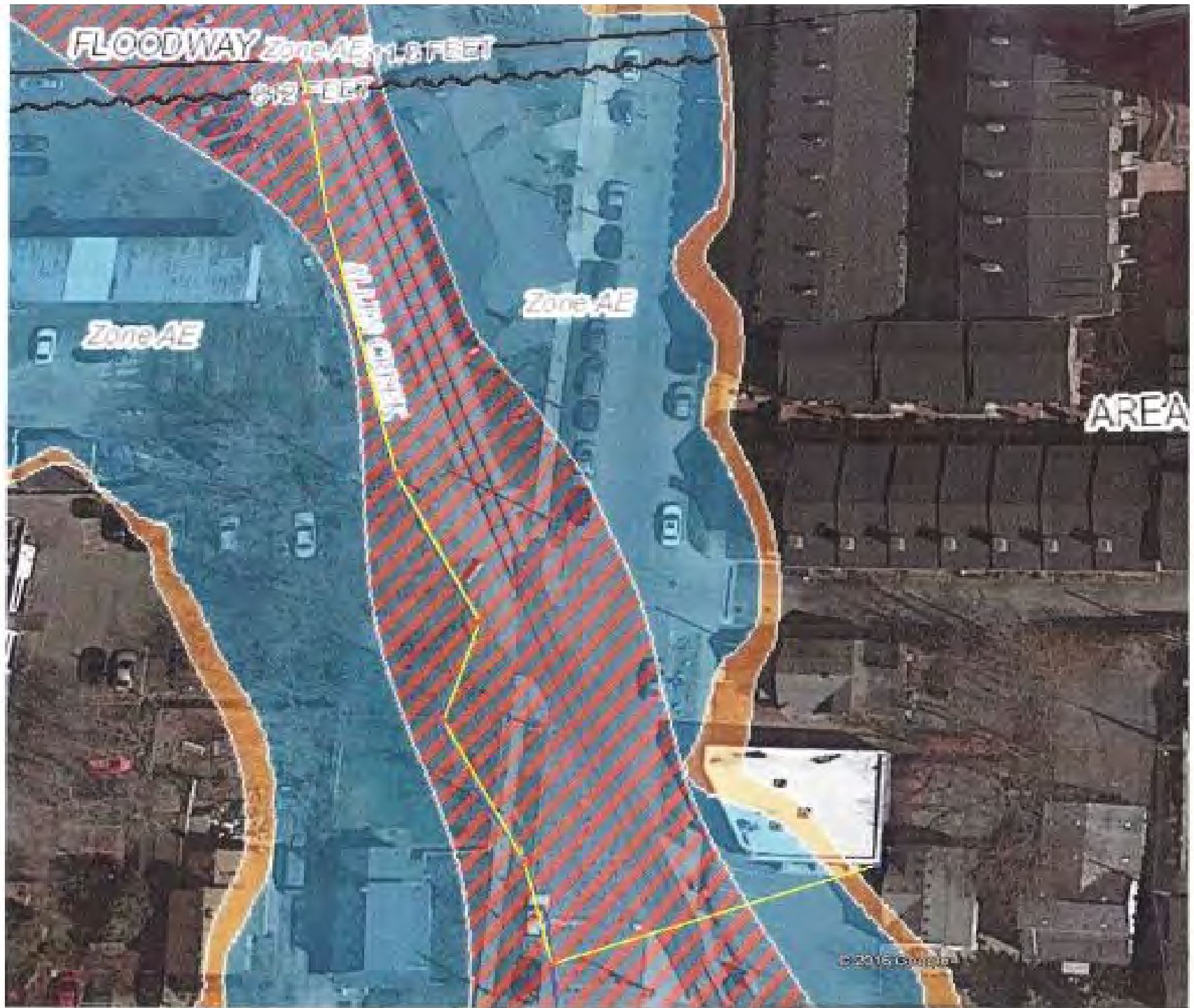
MOON BROOK

FEDERAL EMERGENCY MANAGEMENT AGENCY
RUTLAND COUNTY, VT
(ALL JURISDICTIONS)

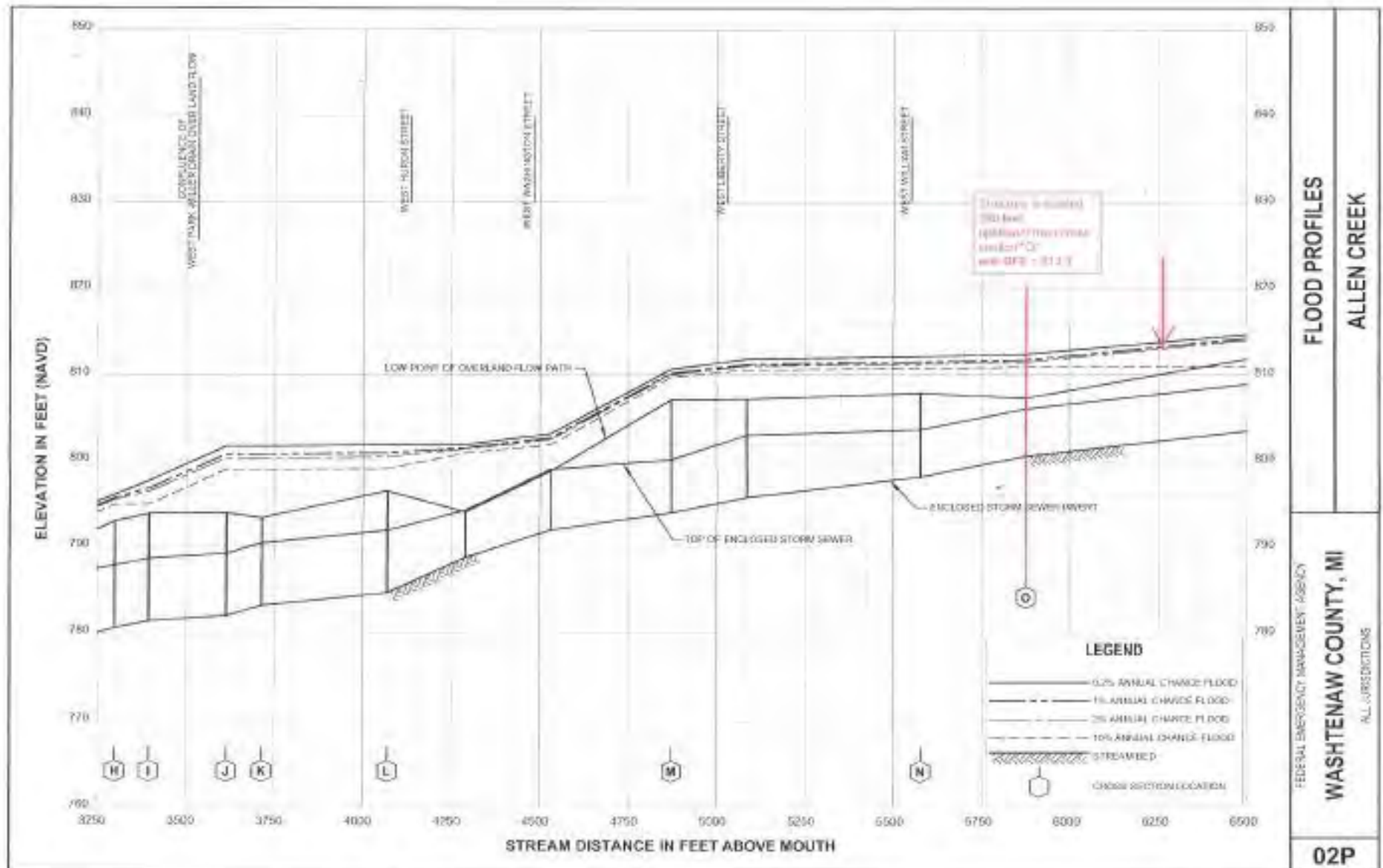
68P

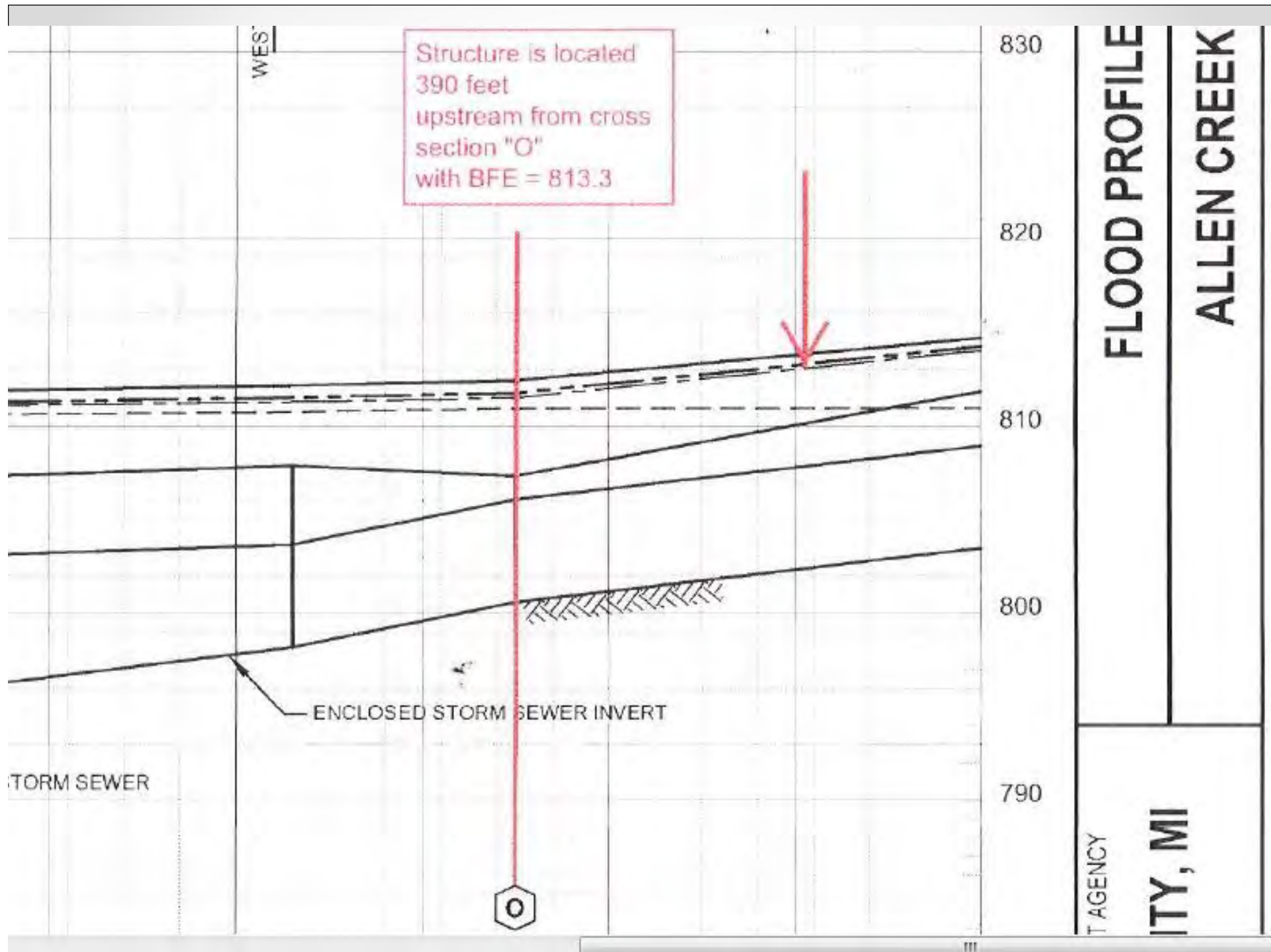
The Flood Insurance Study Profile Sheet





The Flood Insurance Study Profile Sheet







Establishing a Base Flood Elevation

THE FLOOD INSURANCE STUDY (FIS)

- Only on the Studied Areas (AE, A1-A30, V Zones)
- 3 important places in the FIS
 - ✓ The Stillwater Chart
 - ✓ Floodway Data Chart
 - ✓ Profile Sheets

Establishing a Base Flood Elevation





[illegible]

Establishing the BFE Zone A

Where do we go?

Non-Studied Area?

Bridge Design









Ogemaw County H



**Look at the age of the
culvert or bridge**

Zone A: (do a little more)

How important is it to do a little more work in the process of determining a Base Flood Zone (BFE) Elevation in a Zone A?