

SNOHOMISH COUNTY, WA FLOOD STUDY REVIEW SESSION



OCTOBER 19, 2010



FEMA

AGENDA

Flood Study Review

- **Overview**
- **Base Map Changes**
- **Flood Study Methodologies**
- **Review of Data/Changes from Existing Maps**
- **Appeal/Comment Process**
- **Map Adoption Process**



Tools and Outreach Strategies

- **Online/Interactive MapViewer**
- **Outreach-Public Meetings**

WHAT IS MAP MODERNIZATION?



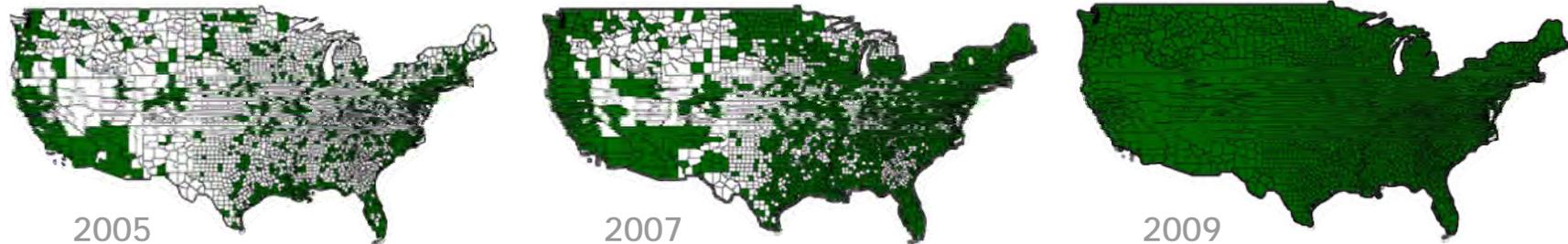
Through Map
Modernization...

...FEMA will provide
digital flood insurance
rate maps and studies...

...for communities
nationwide...

...that are more accurate,
easier to use, and more
readily available.

WHY MODERNIZE?



- **Outdated maps (10+ years old)**
- **Physical changes in floodplains – man-made and natural**
- **Digital format enables overlays/analysis**
- **Easier to update maps**
- **Maps are foundation for flood risk reduction and insurance (5.6 million policies, 1.2 trillion coverage)**

WHAT'S NEW

Flood Insurance Study

- **New maps are county-wide**
- **Follows a USGS Quad layout – countywide coverage with no city “cut-outs”**
- **Contains 100- & 500-year floodplains (AE/X zones)**
- **10, 50, 100, 500 year flood elevations published**
- **Re-delineation of flooding sources where better topography was available**
- **Vertical Datum change (NGVD 1929 to NAVD 1988)**

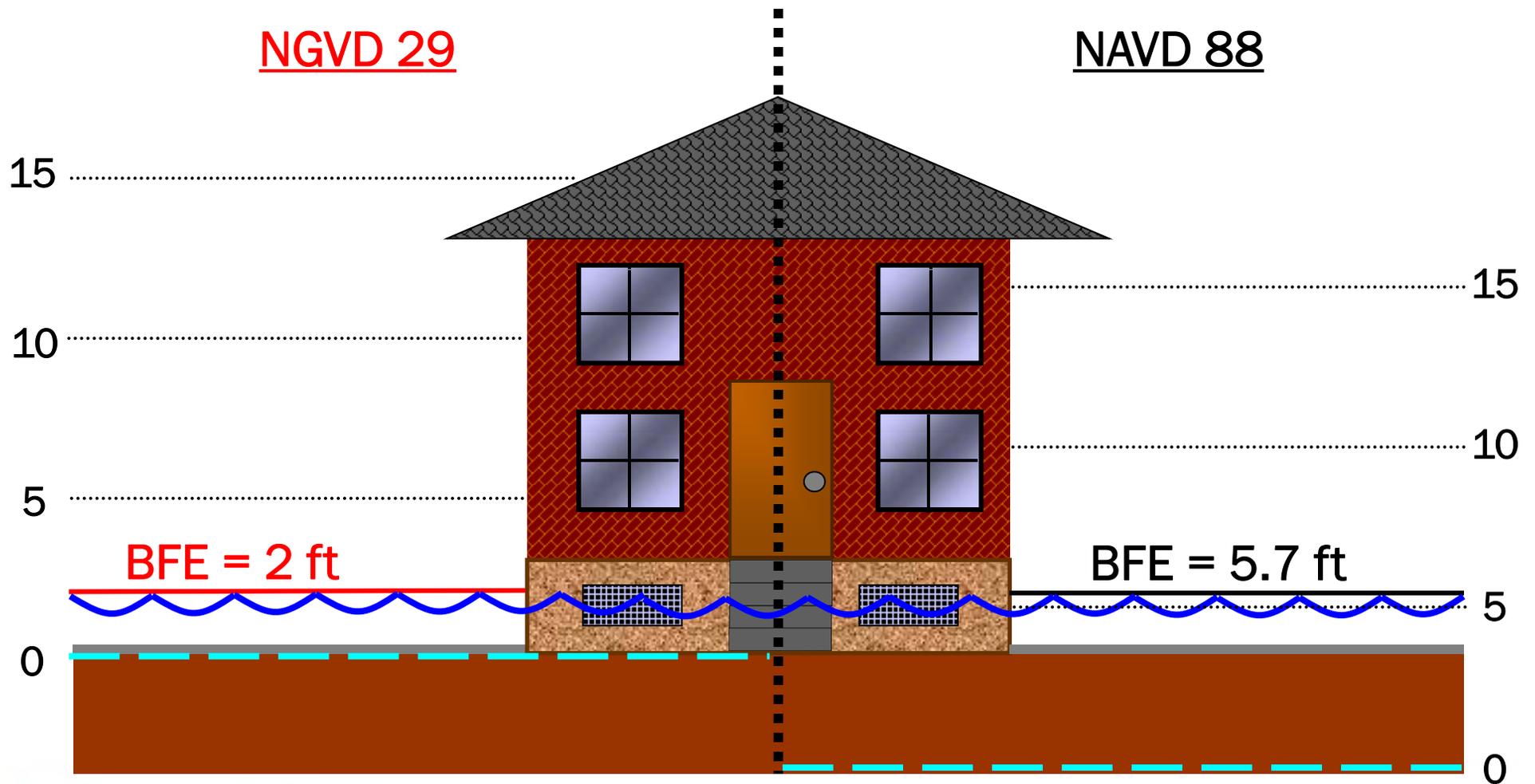
WHAT'S NEW

Vertical Datum Change

- **NGVD 29**
 - Based on a mean sea level from 21 tidal stations in the US & 5 stations in Canada
- **NAVD 88**
 - Based on the density of the Earth instead of varying values of sea heights
 - More accurate
- **Conversion for Snohomish County Varies**
 - $\text{NGVD} + (\text{vertical adjustment}') = \text{NAVD}$
 - Conversion factor for County for FIS ranges from 3.6 to 3.9 feet

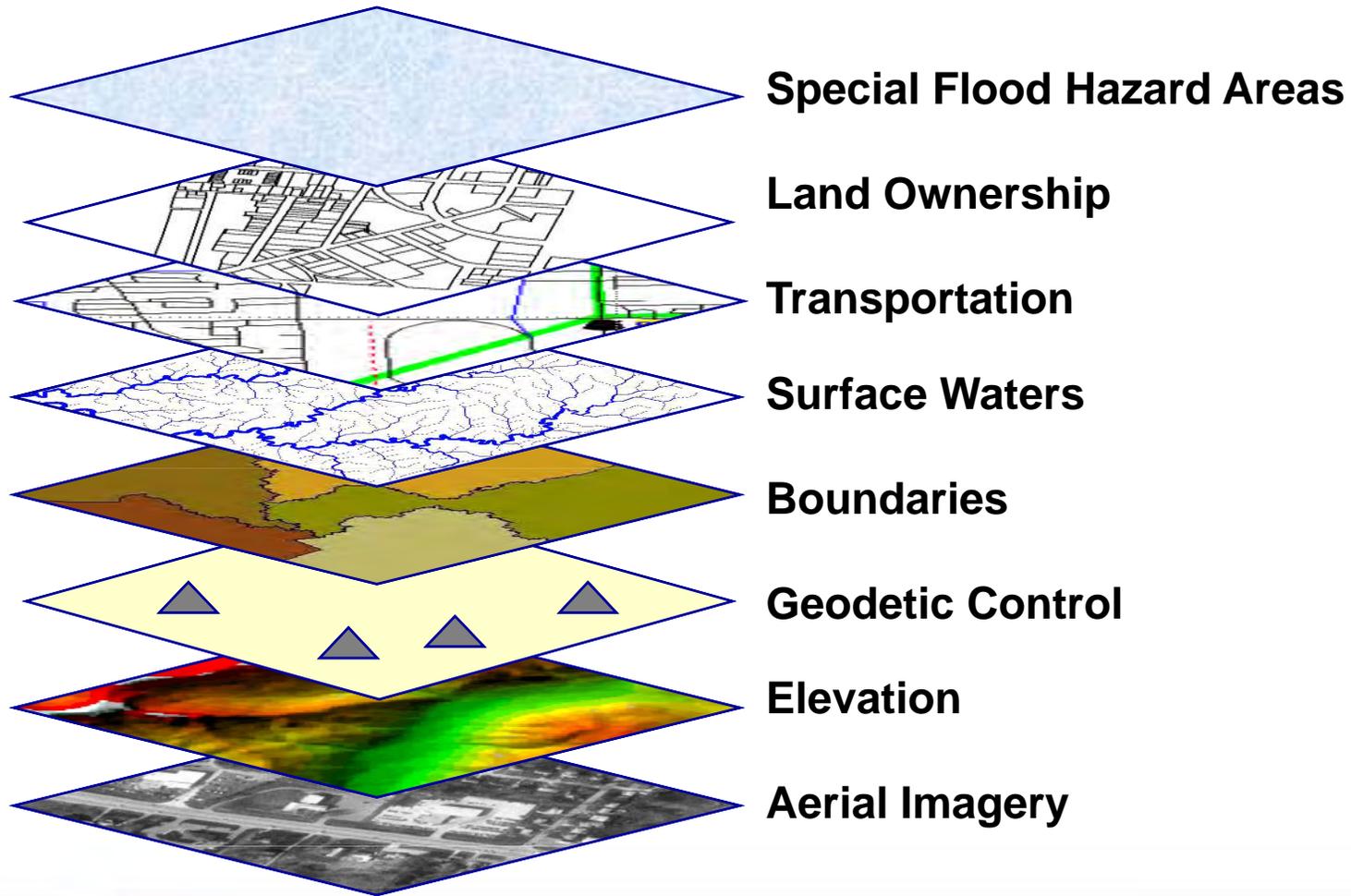
DIGITAL FLOOD INSURANCE RATE MAPS

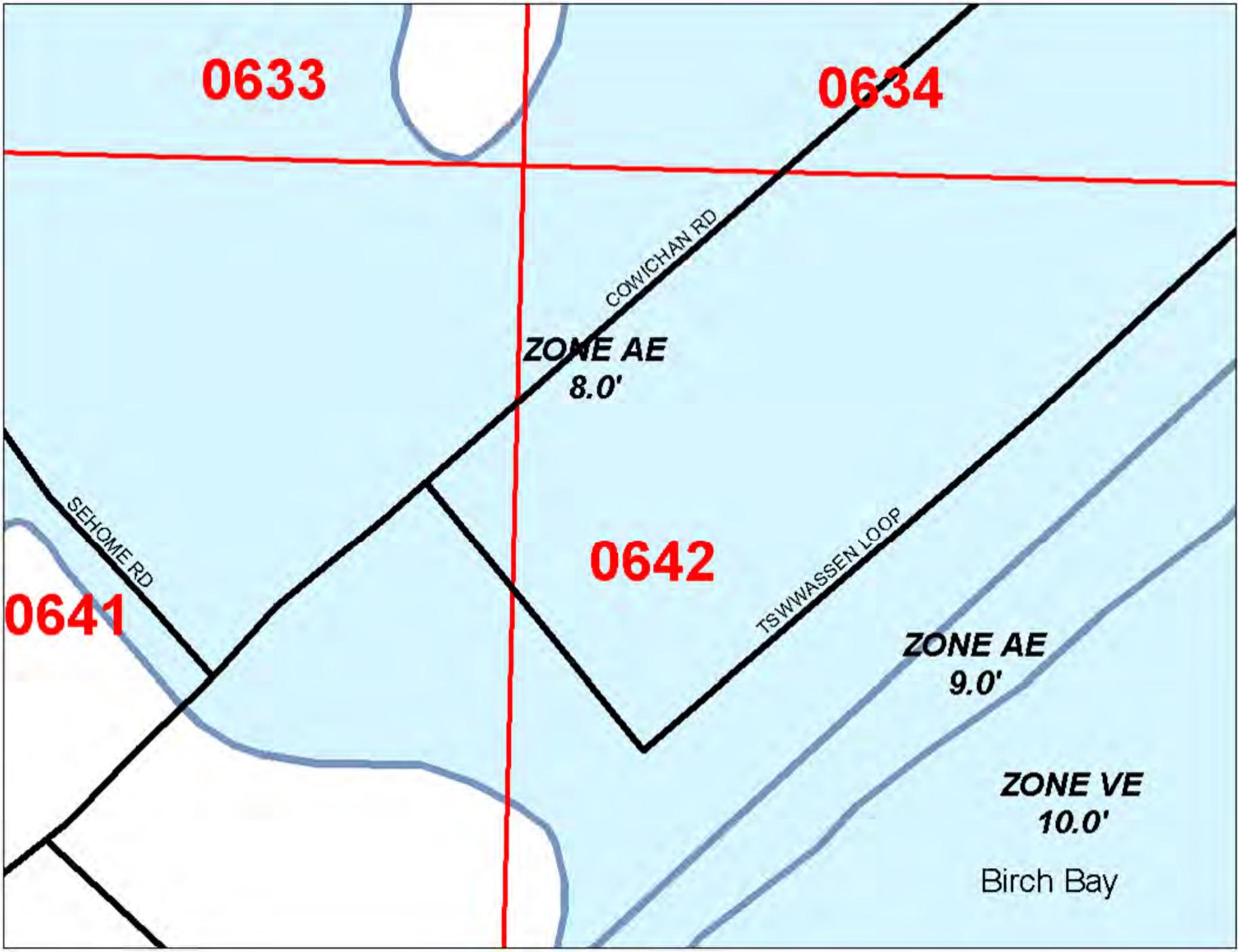
Vertical Datum and FIRMs (e.g. uses 3.7' conversion)



DIGITAL FLOOD INSURANCE RATE MAPS

Digital Format





0633

0634

COWICHAN RD

**ZONE AE
8.0'**

SEHOME RD

0641

0642

TSWWASSEN LOOP

**ZONE AE
9.0'**

**ZONE VE
10.0'**

Birch Bay





0633

0634

ZONE AE
8.0'

0641

0642

ZONE AE
9.0'

ZONE VE
10.0'

Birch Bay

MAYHEW RD

THOMAS BEN LODGE

DIGITAL FLOOD INSURANCE RATE MAPS

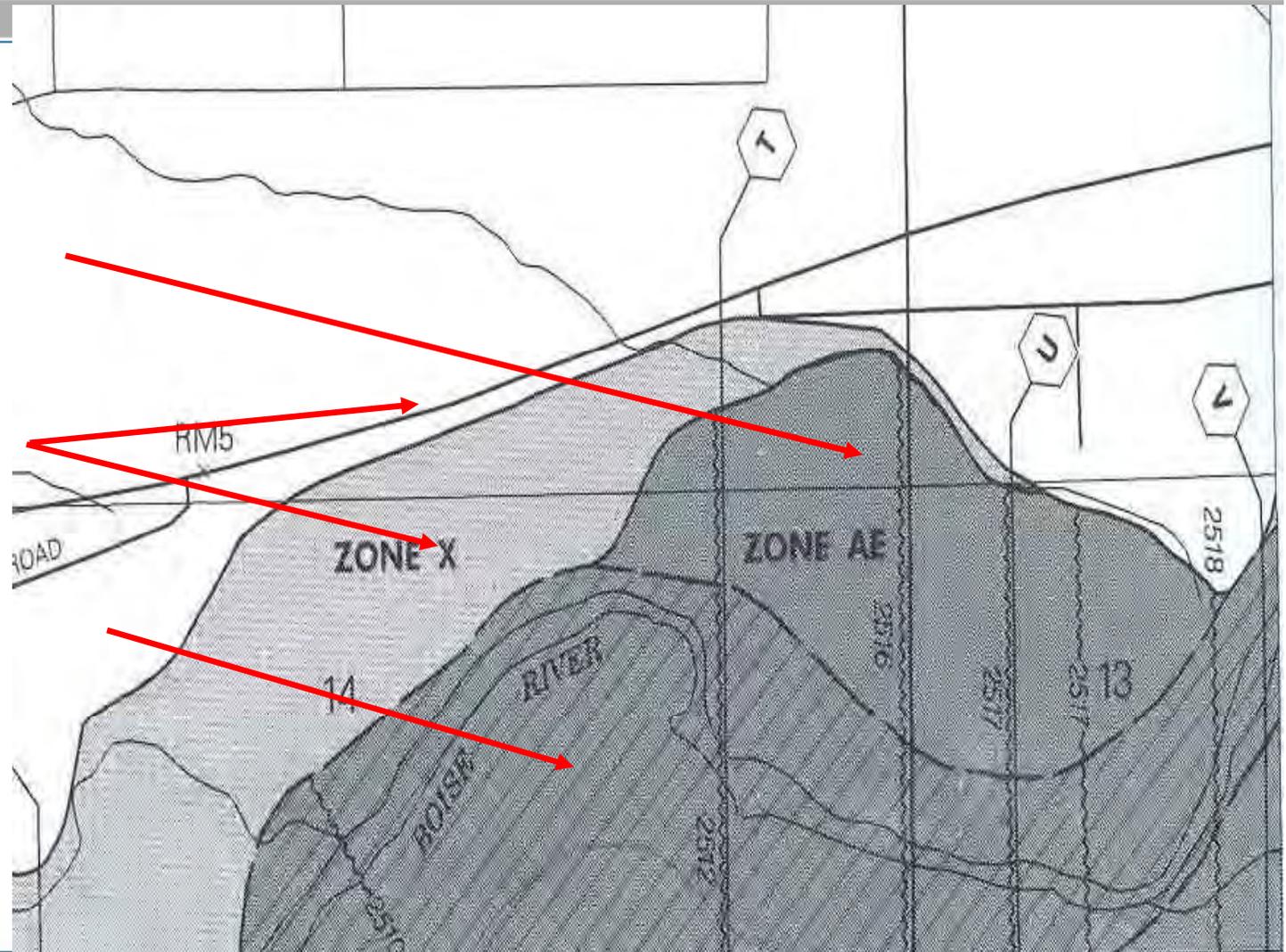
Zone Designation Changes

Old FIRMs	New FIRMs	Definition
A	A	Approximate Floodplain (SFHA)
A1- A30	AE	Detail River Floodplain (SFHA)
A99	A99	Protected by Levee
AH	AH	Shallow Floodplain with BFE
AO	AO	Shallow FP without BFE
B	X (shaded)	500 Year Floodplain
C	X (un-shaded)	Outside 500 Year Floodplain
D	D	Undetermined Floodplain
V	V	Approx Coastal Floodplain
V1-30	VE	Detailed Coastal Floodplain

DIGITAL FLOOD INSURANCE RATE MAPS

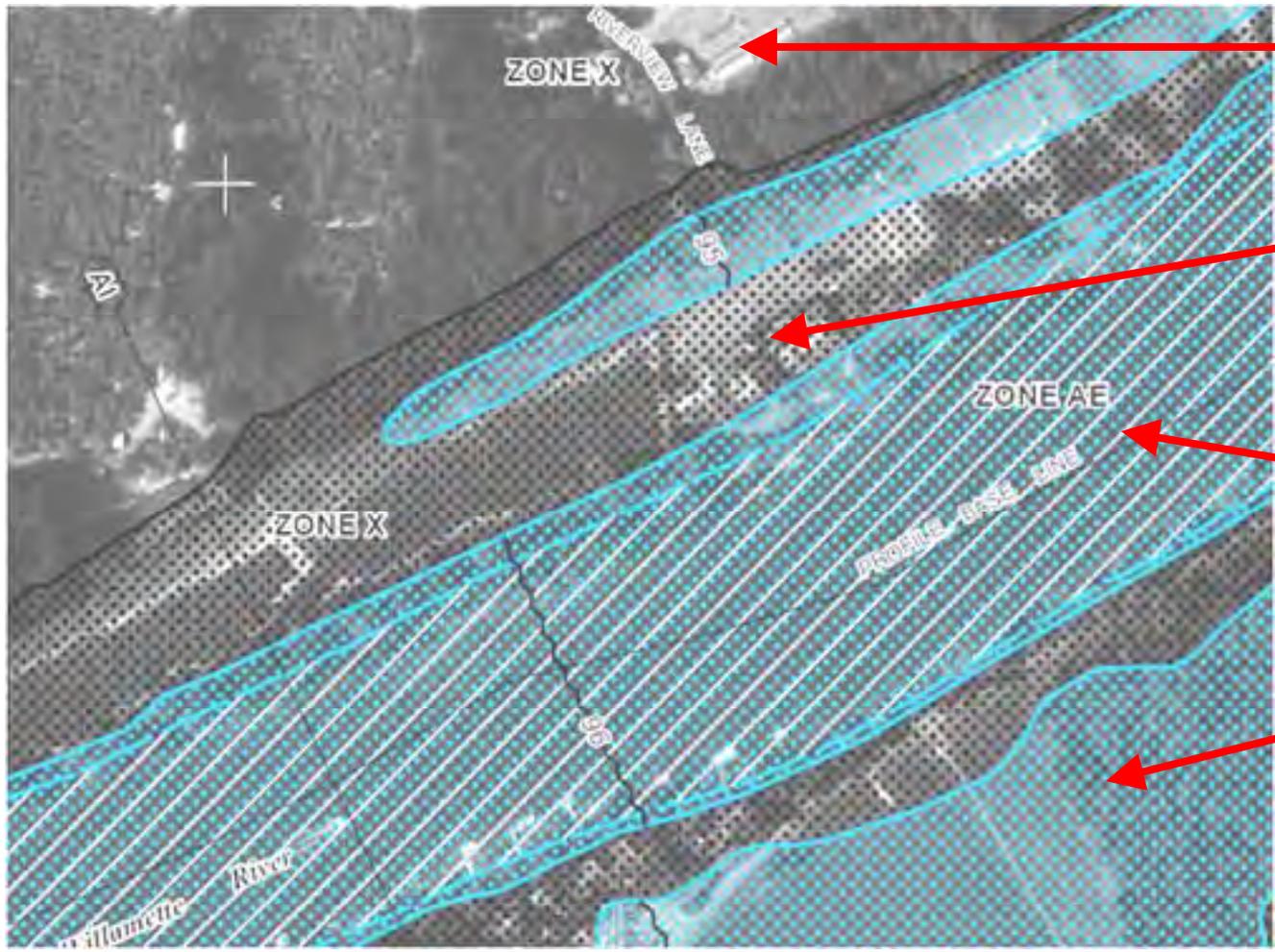
FIRM Labels

- **AE Zone**
- **X Zone (shaded)**
- **Floodway**



DIGITAL FLOOD INSURANCE RATE MAPS

Some new labels on dFIRMs look like this...



X (Un-shaded)

X (Shaded)
(500-year)

Floodway

A & AE Zones
SFHA (100-year)

SNOHOMISH COUNTY FLOOD STUDY DETAILS

COOPERATING
TECHNICAL PARTNERSHIP:
SNOHOMISH COUNTY

FEMA CONTRACTOR:
MICHAEL BAKER JR., INC.



POST PRELIMINARY PROCESSING

Timeline of events

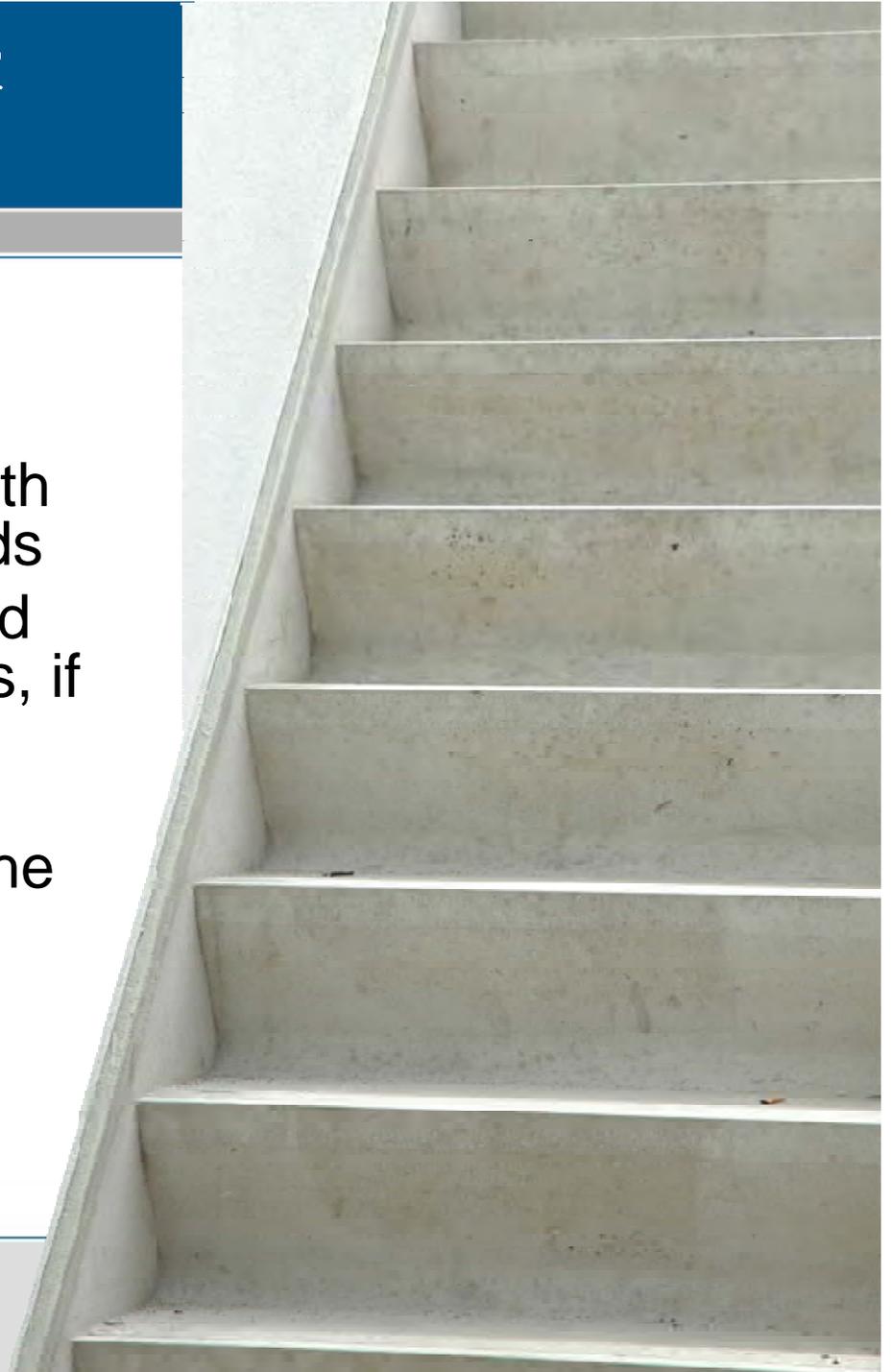
- **Preliminary maps issued** **September 28, 2010**
- **Flood Study Review Meeting** **October 19, 2010**
- **Public Meeting – Arlington** **November 3, 2010**
- **Public Meeting – Monroe** **November 9, 2010**
- **90 day appeal period begins** **e.g. December 1, 2010**
after 2nd public notice in local newspaper
- **90-day appeal period ends**..... **e.g. March 1, 2011**
FEMA reviews submitted technical appeals and modifies or maintains maps as appropriate
- **FEMA issues “Letter of Final Determination (LFD)”** **Est. June 2011**
to communities and publishes the BFEs in the Federal Register
Communities have 6 months to adopt the study before the data becomes “effective”. *Failure to adopt results in suspension from NFIP*
- **Effective date** **Est. December 2011**

LETTERS OF MAP CHANGE (LOMC) (WAYS TO APPEAL AT ANY TIME)

- **LOMA** - for property owners who believe a property was incorrectly included in a SFHA. An elevation certificate supports a LOMA, but by itself, does not remove the insurance requirement.
- **LOMR** – removes land that has been graded or filled (physical changes) since the date of the map. A LOMR can waive flood insurance requirements.
- **(LOMA) Hotline - 1-877-FEMA-MAP**

FUTURE STEPS AFTER APPEAL PERIOD ENDS

- FEMA addresses submitted comments
- Local jurisdictions adopt an ordinance that is compliant with your map and FEMA standards
- Local jurisdictions develop and implement outreach strategies, if desired.
- Upon receipt of LFD, local jurisdictions begin enforcing the maps



LETTER OF FINAL DETERMINATION (LFD)

- **Starts with the Letter of Final Determination (LFD) stating that the Appeals have been resolved, if applicable**
- **Officially notifies community of final base flood elevations**
- **Indicates effective date of FIRMs as 6 months from the date of the letter**
- **Ordinance meeting FEMA regulations MUST become effective by end of 6 months or community will be suspended**

QUESTIONS & COMMENTS

FEMA Flood Study Engineer:	Ted Perkins	(425) 487-4684
Snohomish County SWM:	Chris Nelson	(425) 388-3464 x4696
WA DOE: NFIP Coordinator	Chuck Steele	(425) 649-7139
Flood Study Coordinator	Jerry Franklin	(360) 407-7470
NFIP Insurance Specialist:	Jeff Woodward	(425) 487-4664
Floodplain Management Spec.:	John Graves	(425) 487-4737
Risk Analyst/GIS Specialist:	Kelly Durst	(425) 487-4636
Flood Insurance Information:	www.floodsmart.gov	
FAQs for Preliminary FIS usage:	www.fema.gov/plan/prevent/floodplain/fis_data.shtm#4	