

KING COUNTY, WA DFIRM UPDATE AND SECLUSION PROCESS



WEBINAR
JUNE 14, 2016



FEMA

AGENDA

King County DFIRM Study

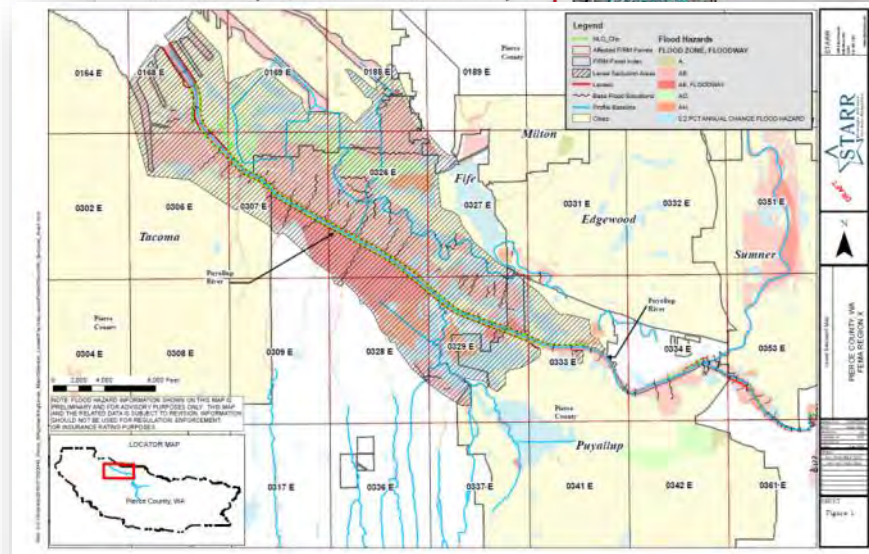
- History
- What is/has been done
- Process for moving forward

Seclusion

- Seclusion mapping process
- Seclusion Criteria
- Areas to be Secluded
- Areas that are eligible for a Provisionally Accredited Levee Status
- Timeline for update

As shown in Figure 1, this particular option leverages a map note placed on the FIRM panel to alert the user that the flood hazard associated with a specific levee are exactly as shown on the formerly printed FIRM and are subject to change once the LAMP mapping protocols are finalized. The verbiage for the map note (shown in Figure 1) is as follows:

ATTENTION: The levee, dike, or other structure inside this boundary has not been shown to comply with Section 65.10 of the NFIP Regulations. As such, this FIRM panel will be revised at a later date to update the flood hazard information associated with this structure. The flood hazard data shown inside this boundary (which have been re-published from the May 5, 2004 FIRM for the City of



I have shown to comply with the NFIP Regulations. As such, this FIRM panel will be revised at a later date to update the flood hazard information associated with this structure. The flood hazard data shown inside this boundary (which have been re-published from the May 5, 2004 FIRM for the City of

above will need to

KING COUNTY DFIRM TIMELINE

History

- Scoping Meeting – July 27, 2005
- Levee Certification Documentation Needs Identified – April 2006
- Preliminary Map Release – September 2007
- King County Appeal – February 2008
- Revised Preliminary Map Release – November 8, 2010
- CCO Meeting – November 29, 2010
- Public Meeting – Auburn– January 26, 2011
- Public Meeting – Renton– January 27, 2011
- Public Meeting – Kent – February 7, 2011
- FEMA Letter to Senators on Levee Policy– **March 2011**

MAP MODERNIZATION PROCESS

WHAT'S NEW

- **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)**

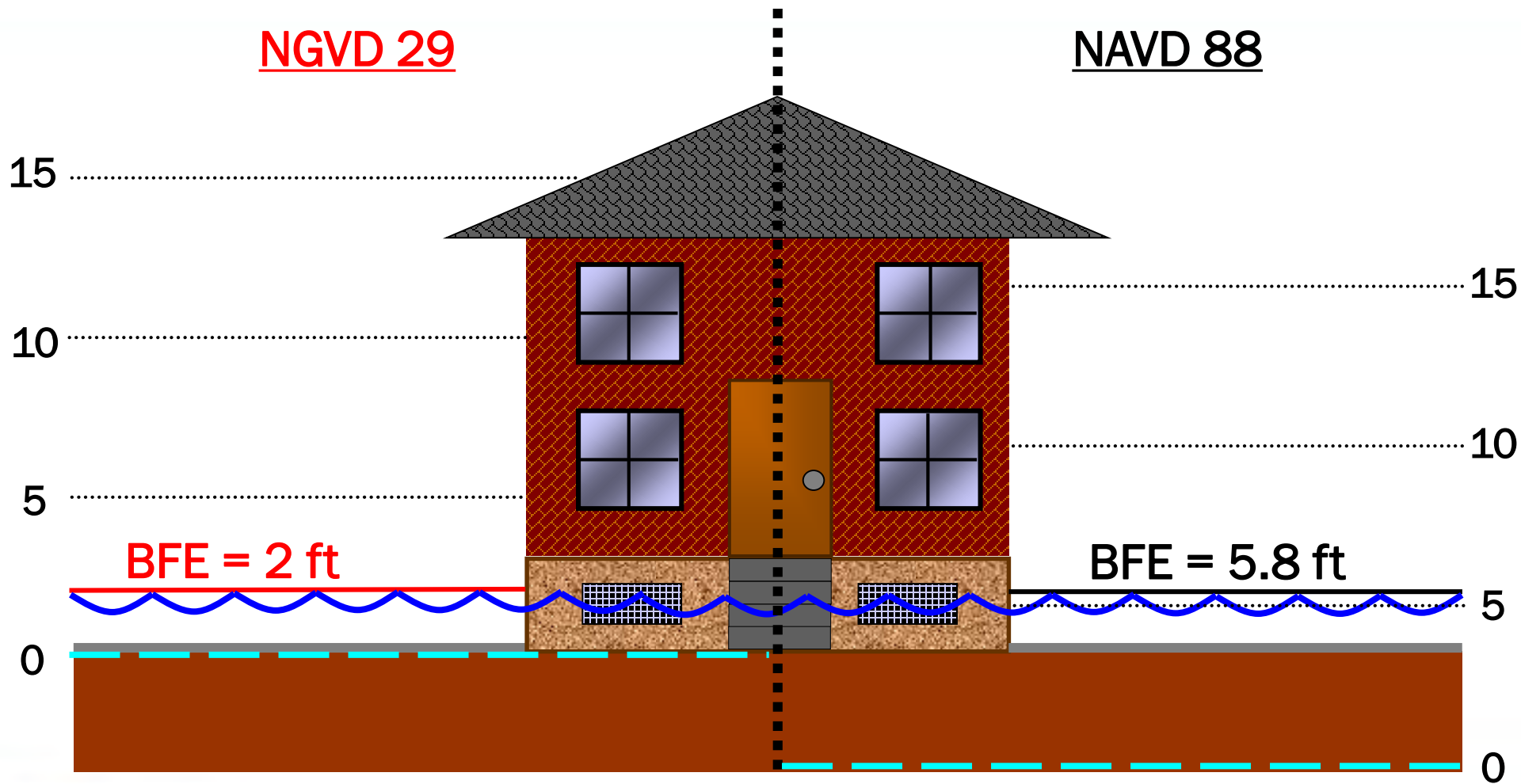
WHAT'S NEW

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 King County Varies**
 - $\text{NGVD} + (\text{vertical adjustment}') = \text{NAVD}$
 - Conversion factor for County for FIS ranges from 3.5 to 4.1 feet

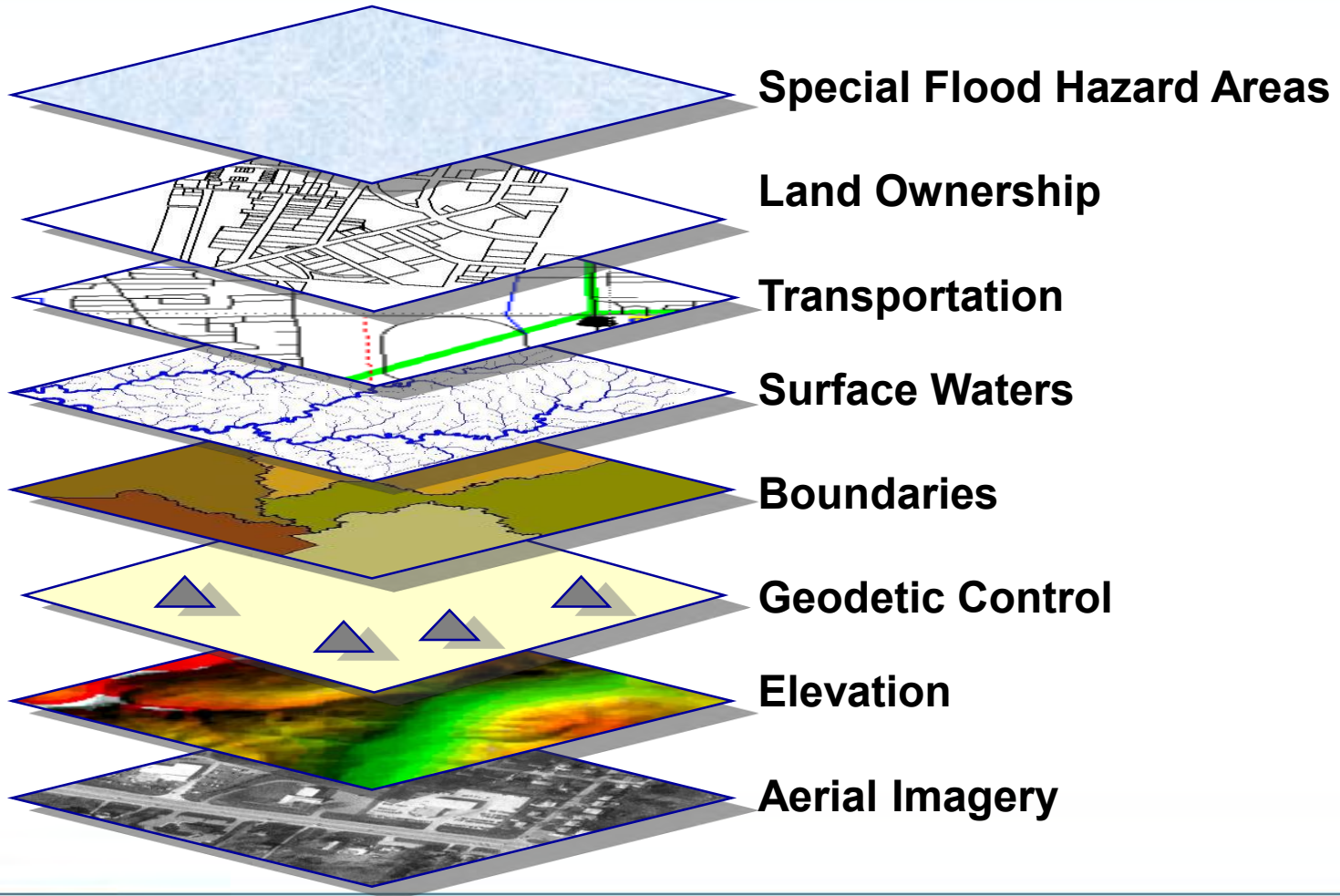
DIGITAL FLOOD INSURANCE RATE MAPS

Vertical Datum and FIRMs (e.g. uses 3.8' conversion)



DIGITAL FLOOD INSURANCE RATE MAPS

Digital Format



0633

0634

**ZONE AE
8.0'**

0642

**ZONE AE
9.0'**

**ZONE VE
10.0'**

Birch Bay

COWICHAN RD

TSWWASSEN LOOP

SEHOME RD

0641



0633

0634

ZONE AE
8.0'

0642

ZONE AE
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**ZONE AE
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10.0'**

Birch Bay

COWICHTAN RD

TO MIWASSEN LOOF

SEFOHNE RD

0641



DIGITAL FLOOD INSURANCE RATE MAPS

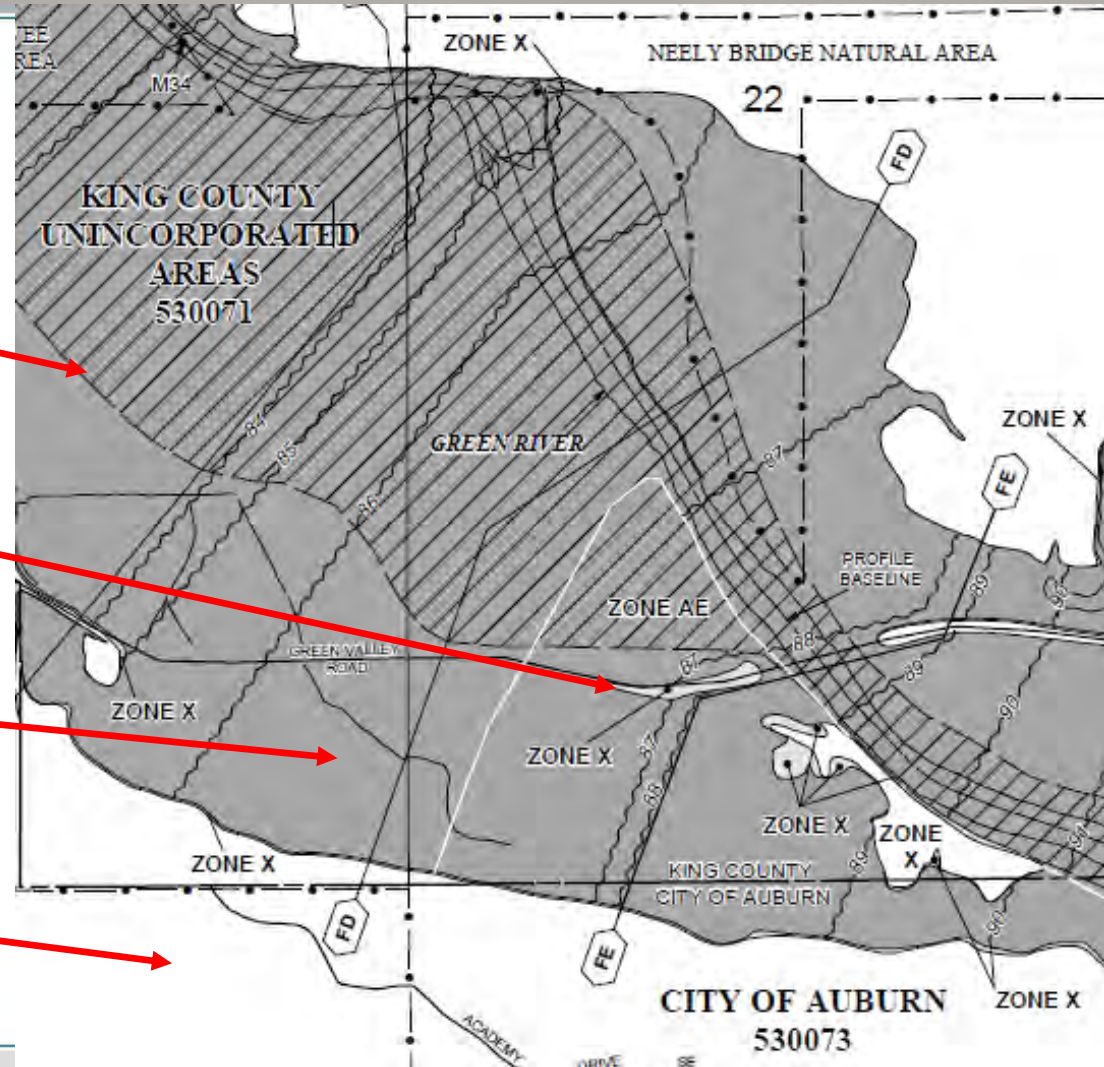
Zone Designation Changes

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

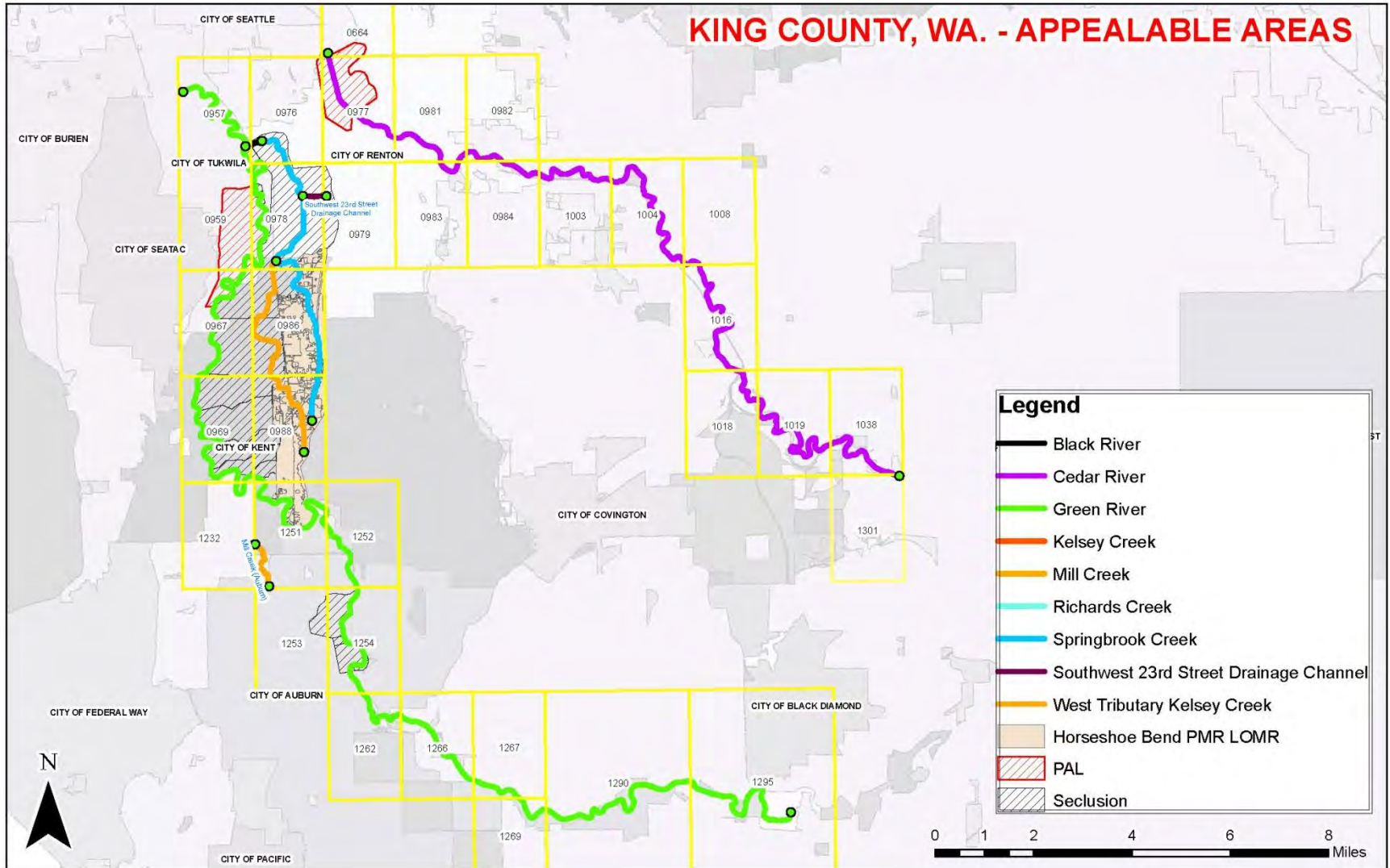
FIRM Labels

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



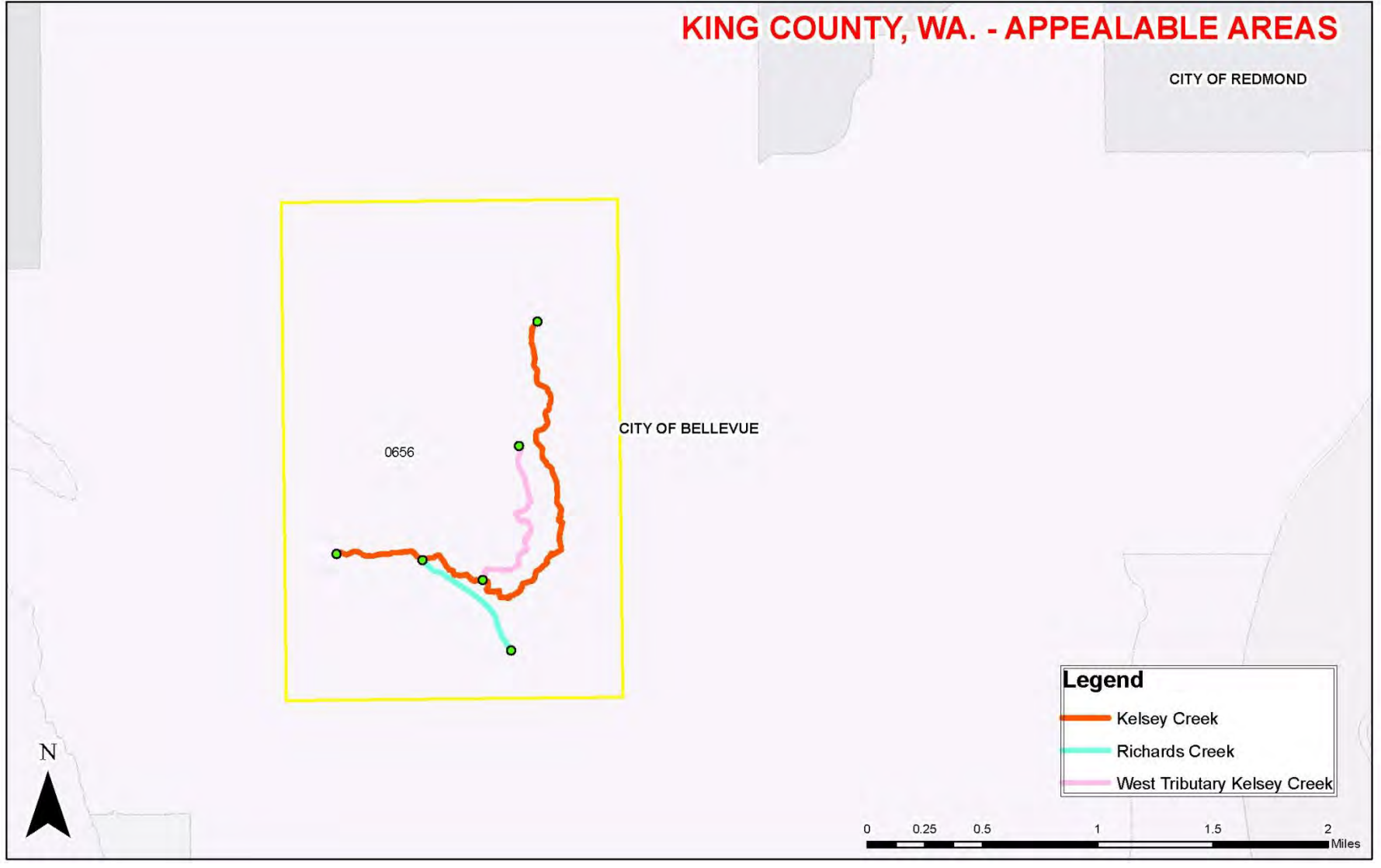
APPEAL PERIOD AREA

KING COUNTY, WA. - APPEALABLE AREAS



APPEAL PERIOD AREA

KING COUNTY, WA. - APPEALABLE AREAS



APPEAL PERIOD AREA

Flooding Source	Description	Affected Communities
Black River	Approximately 330 feet downstream of Oaksdale Avenue Southwest to the confluence with Green River	City of Renton – City Tukwila
Cedar River	At the upstream side of North Boeing Bridge to approximately 350 feet upstream of Landsburg Road Southeast	City of Renton - Unincorporated Areas of King County
Green River	Approximately 250 feet upstream of 42 nd Avenue South to approximately 1.8 miles upstream of Southeast Flaming Geyser Road	City of Auburn – City of Kent – City of Renton – City of SeaTac – City of Tukwila – Muckleshoot Tribe – Unincorporated Areas of King County
Kelsey Creek	At the upstream side of I-405 to the upstream side of Northeast 8 th Street	City of Bellevue
Mill Creek (Auburn)	Approximately 125 feet downstream of West Valley Highway to approximately 1,500 feet upstream of State Route 167	City of Auburn – City of Kent – Unincorporated Areas of King County
Mill Creek (Kent)	At the Springbrook Creek Confluence to approximately 133 feet downstream of East Smith Street	City of Kent
Richards Creek	At the confluence with Kelsey Creek to the approximately 752 feet upstream of Richards Road	City of Bellevue
Southwest 23 rd Street Drainage Channel	At the confluence with Springbrook Creek to Approximately 170 feet upstream of East Valley Road	City of Renton
Springbrook Creek	At the upstream side of the Black River Pump Station to approximately 0.32 miles upstream of South 228 th Street	City of Kent – City of Renton
West Tributary to Kelsey Creek	At confluence with Kelsey Creek to approximately 320 feet downstream of Northeast 1 st Street	City of Bellevue

WHY MODIFY OUR CURRENT APPROACH?

- Throughout Map Modernization, stakeholders expressed concern on the “without-levee” procedures used to map non-accredited levees
- In February 2011, a group of U.S. Representatives and Senators wrote to FEMA requesting a revision to the current practice of mapping levees and their associated flood risk.
- Stakeholders and Congress felt the historical mapping approach did not reflect the hazard reduction that some non-accredited levees may still afford.

For these reasons, we request that you prohibit the use of such all-or-nothing modeling approaches when a community notifies you that it believes that it is negatively affected by “without levees” modeling. Even with such a prohibition in place, we are hopeful that FEMA will continue to use simpler, more cost-effective techniques when no community is harmed.

Thank you for your attention to this matter. Please do not hesitate to contact us if you have any questions about this request.

Sincerely,




RICHARD DURBIN
United States Senator



THAD COCHRAN
United States Senator



MARK PRYOR
United States Senator



ROGER WICKER
United States Senator



TOM HARKIN
United States Senator



KAY BAILEY HUTCHISON
United States Senator



RON WYDEN
United States Senator



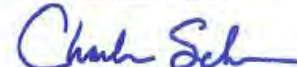
PAT ROBERTS
United States Senator




MARY LANDRIEU
United States Senator



MIKE CRAPO
United States Senator



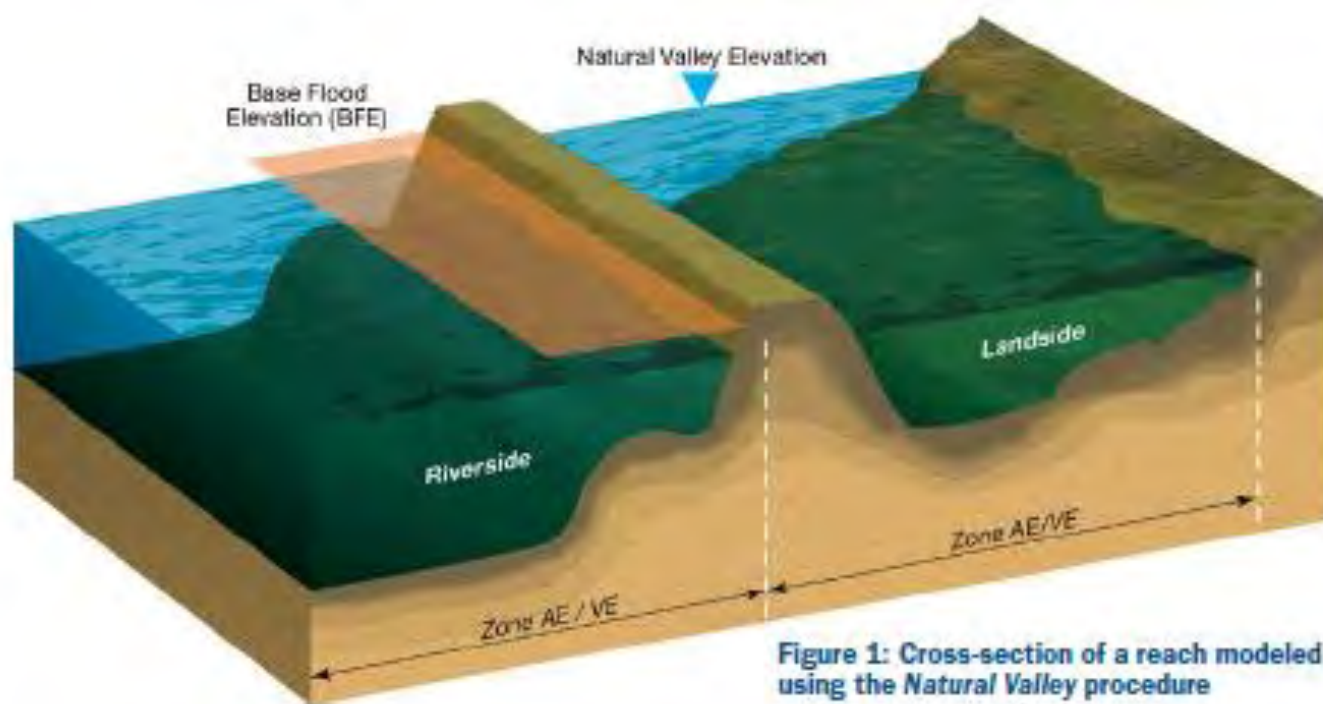
CHARLES SCHUMER
United States Senator



LAMAR ALEXANDER
United States Senator

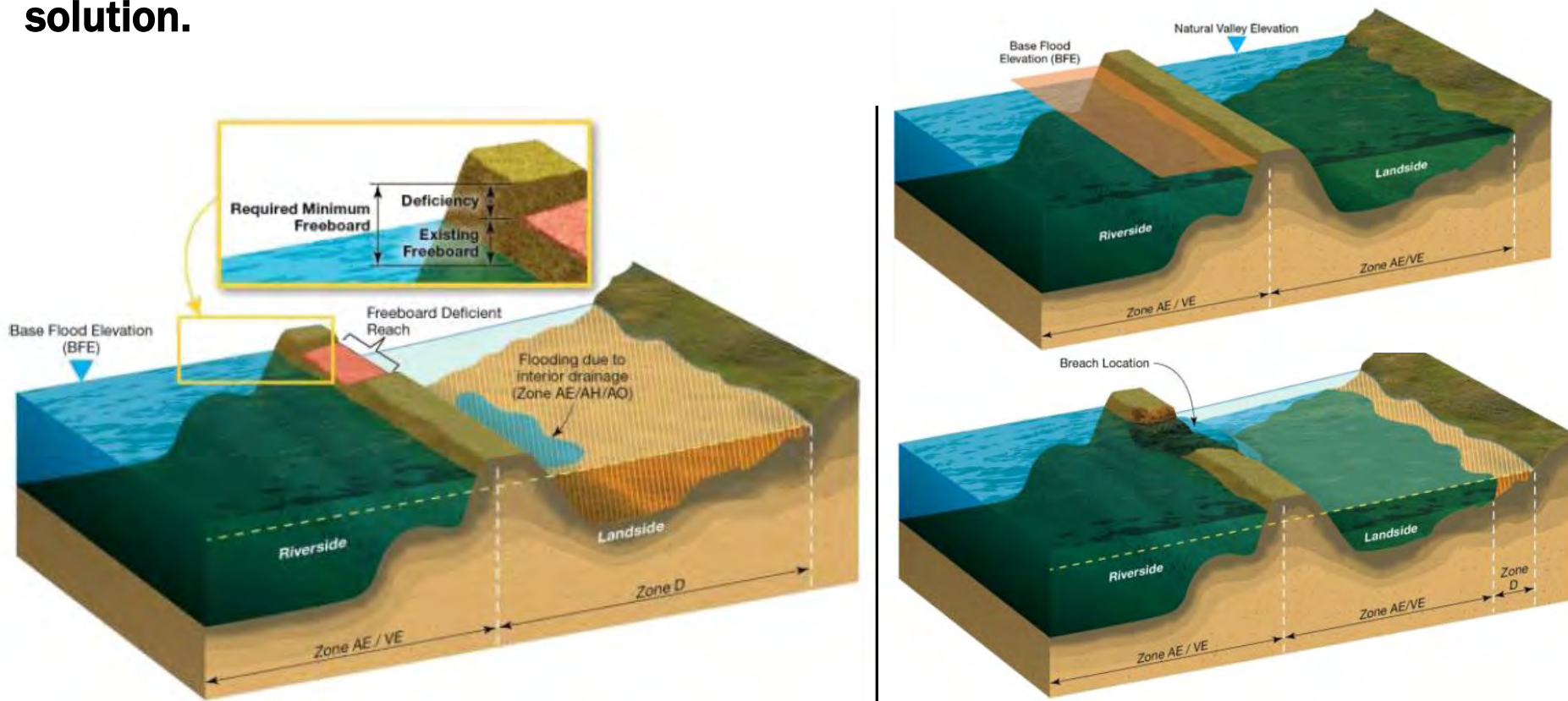
LEVEE POLICY PROCESS

- The King County Flood Insurance Study has been on hold as it waits for FEMA to finalize a new approach in showing floodplains on the landward side of levees that are not accredited to protect against the 1% flood.



LEVEE POLICY PROCESS

- FEMA has been introducing the new levee policy approach with a small number of pilot projects to understand the approach's impacts, benefits, allowing the agency to consider its broader implementation. The Agency rolled-out the new levee policy approach in about 10% of the current on-hold studies, where communities were interested in moving forward with the new levee policy solution.



LEVEE POLICY PROCESS

- **FEMA has been working since March 2011 to develop guidance for the new levee policy implementation on a national scale. The Agency will engage with the pilot project communities to:**
 - **document the trial applications of the new levee policy,**
 - **refine the standards and guidance for implementation, and**
 - **prepare educational and training materials for future communities that will be engaged in the new levee policy.**

LEVEE POLICY PROCESS

- **Implement the new levee policy on a larger scale across the nation. The Agency is aware that the new levee policy approach requires more interaction between FEMA and the local communities and is committed to understanding the local knowledge and operation of a levee system prior to its determination of the appropriate new levee policy procedure(-s)**
- **King County was not chosen as one of the pilot studies. For more detail on the process, see:**
<http://www.fema.gov/final-levee-analysis-and-mapping-approach>
- **It is for these reasons that we do not have a timeframe for moving forward at this time but we will be sure to communicate this to all of the affected communities when this becomes known.**

SECLUSION MAPPING PROCESS

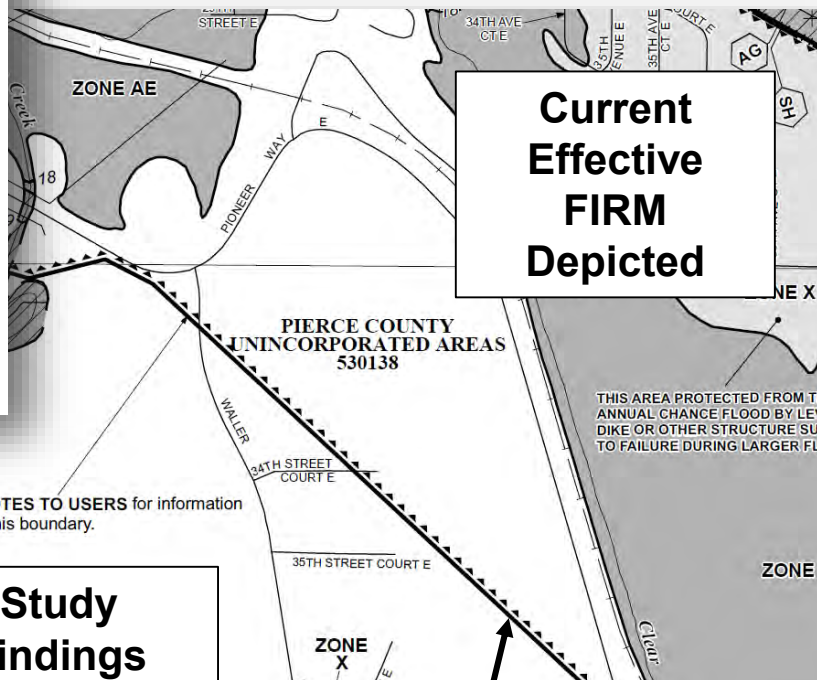
This Process Allows:

- **Historic investments of updated flood hazard analyses are able to be released on updated mapping**
- **Community officials, residents, and business owners are provided with more up to date flood hazard risk information**
- **On-hold projects (due to non-accredited levee) to move forward**
- **The Region reviews projects to determine applicability, works with community to verify they understand approach prior to its application**

SECLUSION MAPPING PROCESS

ATTENTION: The levee, dike, or other structure that impacts flood hazards inside this boundary has not been shown to comply with Section 65.10 of the NFIP Regulations. As such, this FIRM panel will be revised at a later date to update the flood hazard information associated with this structure.

The flood hazard data inside this boundary on the FIRM panel has been republished from the previous effective (historic) FIRM for this area, after being converted from NGVD 29 to NAVD 88.



Current Effective FIRM Depicted

Study Findings Depicted

Seclusion Boundary

See NOTES TO USERS for information about this boundary.

SECLUSION MAPPING PROCESS

- **Inside the Levee Seclusion Area** – Flood hazards related to the levee system(s) will be defined as depicted on the current effective FIRM.
- **Outside the Levee Seclusion Area** – Flood hazards may be modified and updated by the current revision and study efforts. *A countywide database will be provided at preliminary and effective issuance for communities to review the flood hazards in their vicinity. Community officials should consult their current effective FIRM to determine the areas that have been modified.*

SECLUSION MAPPING PROCESS

Important items of note:

- Process is not applicable to all non-accredited levee systems
- This effort results in:
 - Updated set of effective FIRMs for the community.
 - Digital Data (DFIRM database) will be provided to aid community floodplain management enforcement and operations
- FEMA will return to analyze the flood risk in the vicinity of the levee at a future date
 - Accreditation Status Change
 - Analysis and Mapping Procedures for Non-Accredited Levees will be applied
 - All levees in the nation will be addressed and updated

SECLUSION CRITERIA

- **The levee has not been shown to meet 44 CFR 65.10**
- **The levee is hydraulically significant during the 1% flood,**
- **The levee has an owner,**
- **the levee meets the definition of a levee as spelled out in 44 CFR 59, and/or,**
- **the flood hazards on the river side of the levee will be updated with the most recent analysis in the flood study efforts.**

PROVISIONALLY ACCREDITED LEVEE (PAL)

Letter of Agreement and Request for Provisionally Accredited Levee (PAL) Designation and Agreement to Provide Adequate Compliance with the Code of Federal Regulations, Title 44, Section 65.10 (44 CFR 65.10)

We, the undersigned, have received the letter from FEMA dated July 1, 2016 and the enclosed document entitled "Requirements of 44 CFR 65.10". We understand that FEMA is in the process of providing updated flood maps for King County and that the area behind the lower Cedar River Levee will be remapped to reflect that the levee has been designated as a PAL.

To the best of our knowledge, the lower Cedar River Levee meets the requirements of 44 CFR 65.10. We hereby submit to FEMA, within 90 days (before October 1, 2016) our agreement to provide FEMA with all the necessary information to show that the lower Cedar River Levee complies with 44 CFR 65.10. We understand that this documentation will be required before October 1, 2018. This information will allow FEMA to move forward with the flood mapping for King County. We fully understand that if complete documentation of compliance with 44 CFR 65.10 is not provided within the designated timeframe of 24 months, FEMA will initiate a revision to the Flood Insurance Rate Map to redesignate the area as flood-prone.

City of Renton Chief Executive Officer: _____ (signature)
_____ (print)

Date: _____

Levee Owner Representative (if applicable): _____ (signature)
_____ (print)

Date: _____

Levee Owner Representative (if applicable): _____ (signature)
_____ (print)

Date: _____

Other (if applicable): _____ (signature)
_____ (print)

Date: _____

PROVISIONALLY ACCREDITED LEVEE (PAL) CRITERIA

- Levee system needs to currently show accreditation by FEMA but the documentation needs updating**
- A PAL is a process to provide a community seeking re-accreditation of a levee system with additional time to submit the necessary documentation**
- This process can only take place if the levee owner and a representative of each impacted community sign and return an enclosed agreement within 90 days of a letter to be sent shortly**

PROVISIONALLY ACCREDITED LEVEE (PAL) CRITERIA

- **Completion and submittal of the enclosed template will serve as your official request that FEMA label the levee as a Provisionally Accredited Levee (PAL) on the DFIRM and will serve as your agreement that, to the best of your knowledge, the levee meets the requirements of 44 CFR 65.10**
- **It is the responsibility of the levee owner to submit the data required by 44 CFR 65.10 in order to certify the levee as providing protection from the base flood**
- **By endorsing the agreement, it acknowledges that if all necessary documentation to comply with 44 CFR 65.10 is not provided in 2 years from the agreement start date, FEMA may initiate a map revision to re-designate certain areas on the landward side of the levee as flood-prone.**

KING COUNTY LEVEE REPORT

Levees Identification, Seclusion and PAL

King County, WA

This document contains the details on what is required to do seclusion in the identified levee areas of King County, WA.

5/9/2016

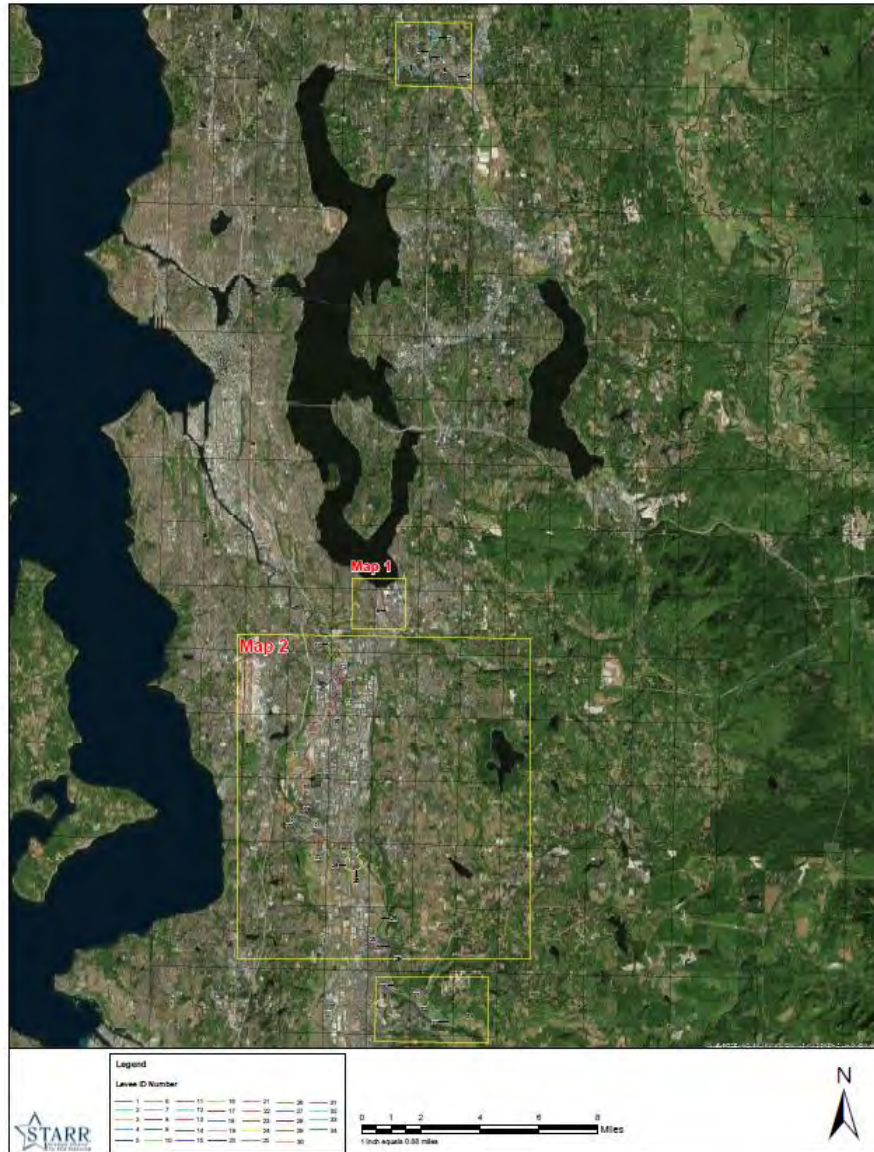


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LEVEE AREAS EVALUATED

Levee Location Map - King County, WA



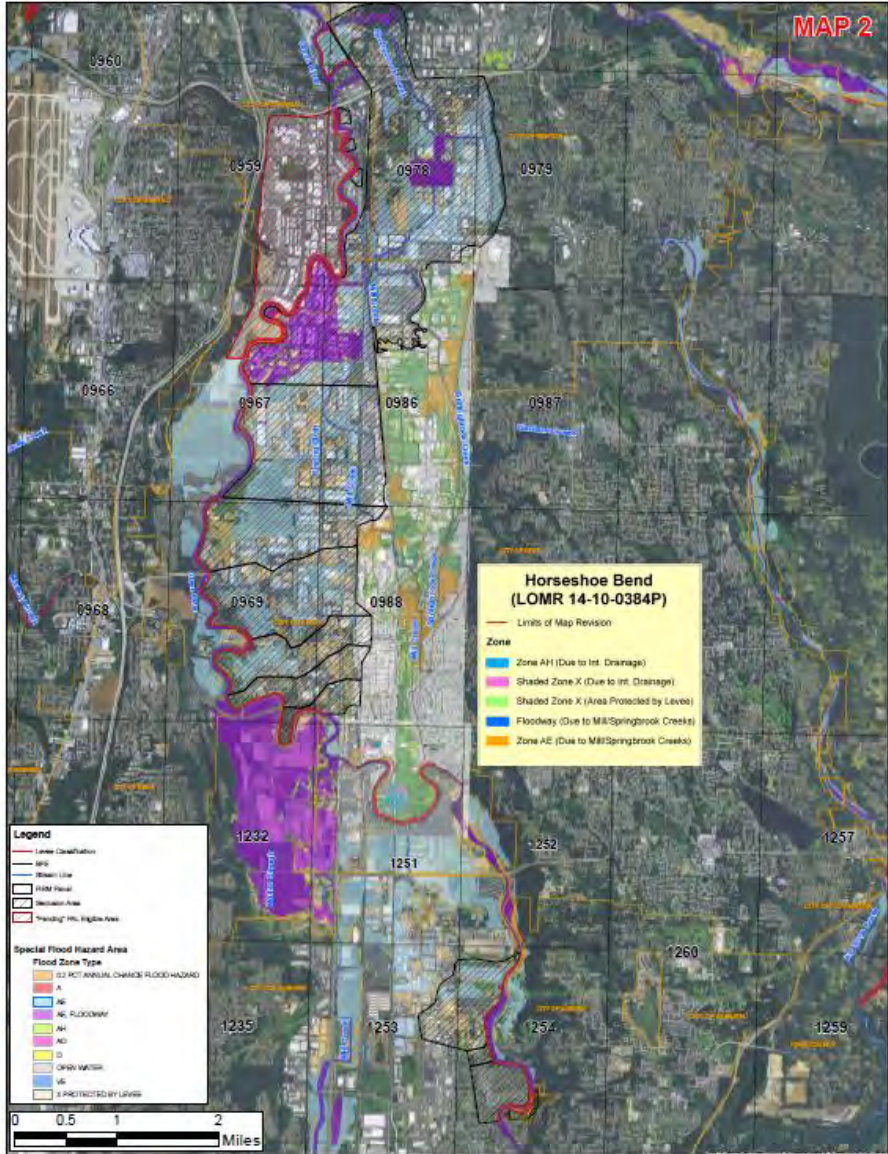
LEVEE AREAS EVALUATED

Levee Areas for the Cedar River



LEVEE AREAS EVALUATED

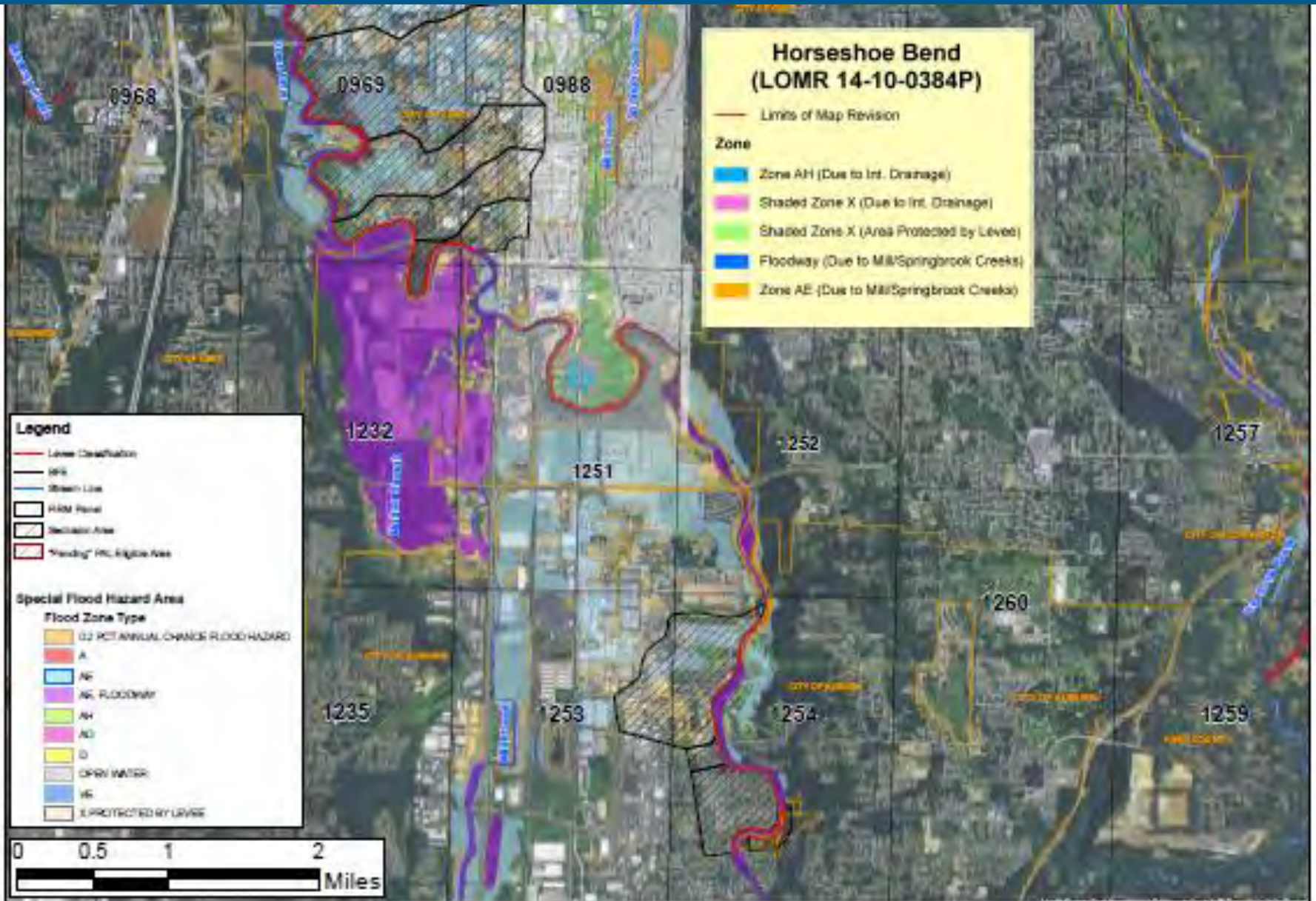
Levee Areas for Left and Right Banks of Green River
(Seclusion and PAL-eligible)



LEVEE AREAS EVALUATED



LEVEE AREAS EVALUATED

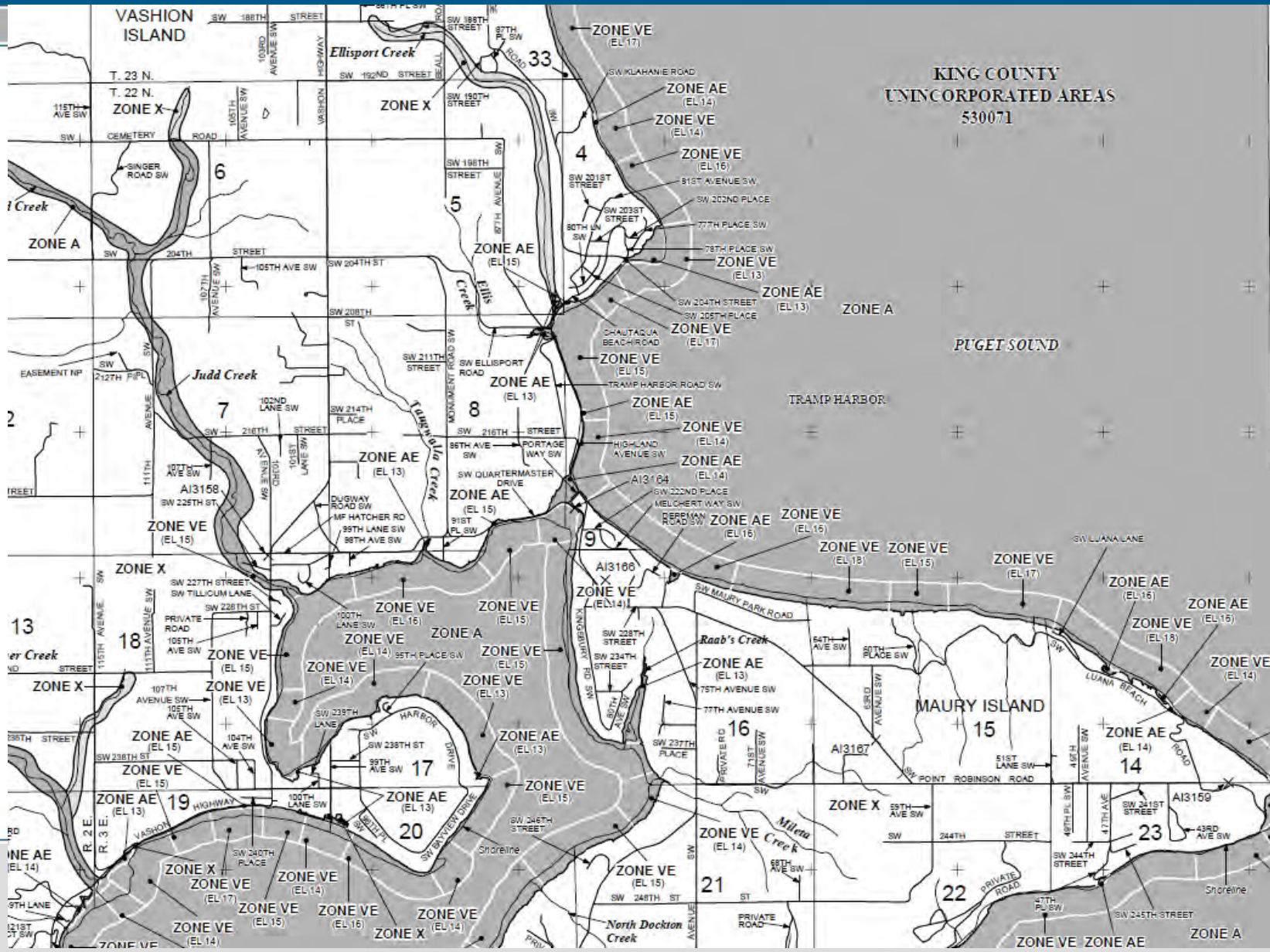


POST PRELIMINARY PROCESSING

Timeline of events

- **Preliminary maps issued** **~September 2016**
- **Appeal Period**..... **~Winter 2016/2017**
- **End of Appeal Period** **~Spring 2017**
- **FEMA issues “Letter of Final Determination (LFD)”** **~Fall 2017**
 - 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** **~Spring 2018**

KING COUNTY COASTAL STUDY



KING COUNTY COASTAL STUDY

Timeline of events

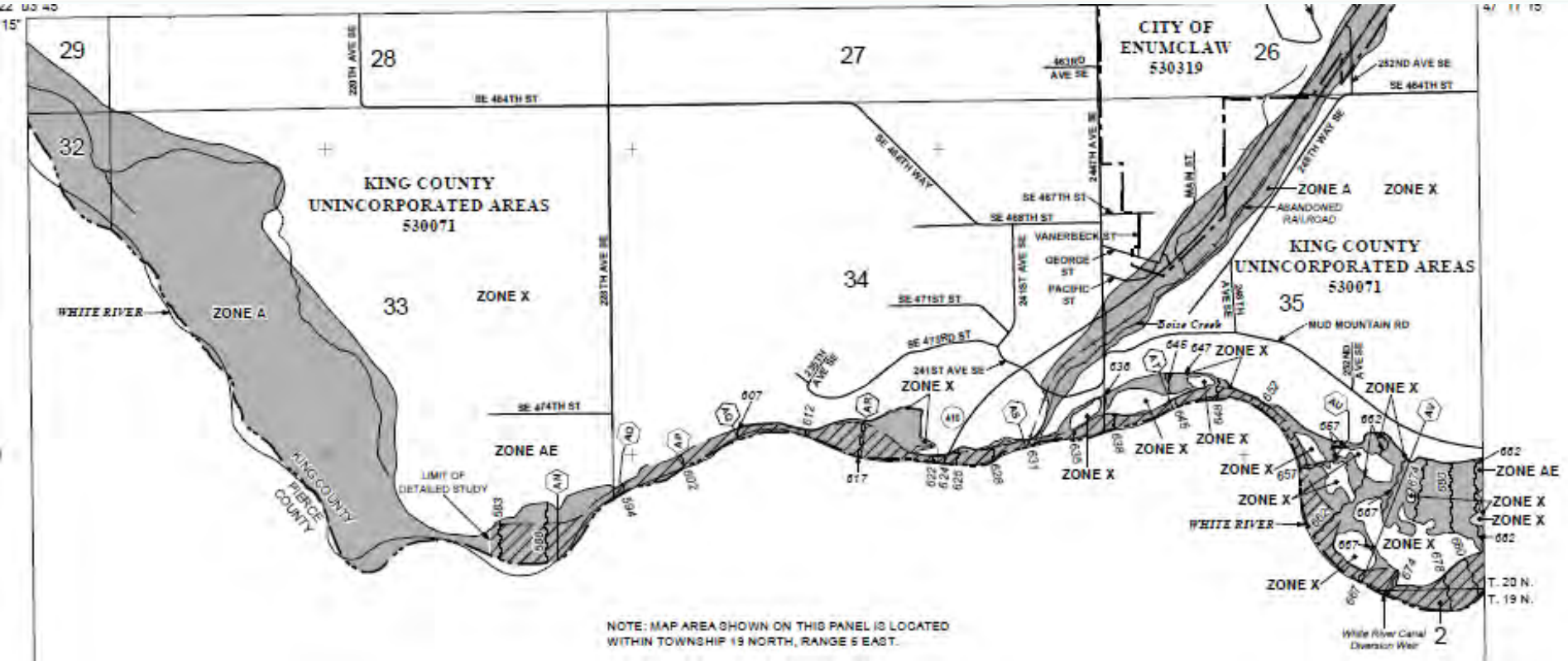
- **Preliminary maps issued** **February 1, 2013**
- **CCO Meeting** **May 6 & 7, 2013**
- **Public Meeting.....** **August 12, 2013**
- **Appeal Period Start.....** **September 11, 2013**
- **Appeal Period End.....** **December 10, 2013**
- **Letter of Final Determination.....** **~Fall 2017**
- **Effective Date** **~Spring 2018**

Sammamish River Floodplain Mapping Study Lake Sammamish to Lake Washington

The map shows the Sammamish River flowing from Lake Sammamish in the north to Lake Washington in the south. The river is highlighted in blue. The surrounding area is divided into several jurisdictions: City of Bothell (top center), City of Woodinville (top right), City of Kenmore (left), Unincorporated King County (right), and City of Redmond (bottom right). The map also shows a grid of streets and various land use patterns.

- Study initiated to develop up-to-date and accurate floodplain analyses and to update FEMA's Digital Flood Insurance Rate Map (DFIRM)
 - 14 river miles studied
 - Prior data from 1978

KING COUNTY WHITE RIVER STUDY

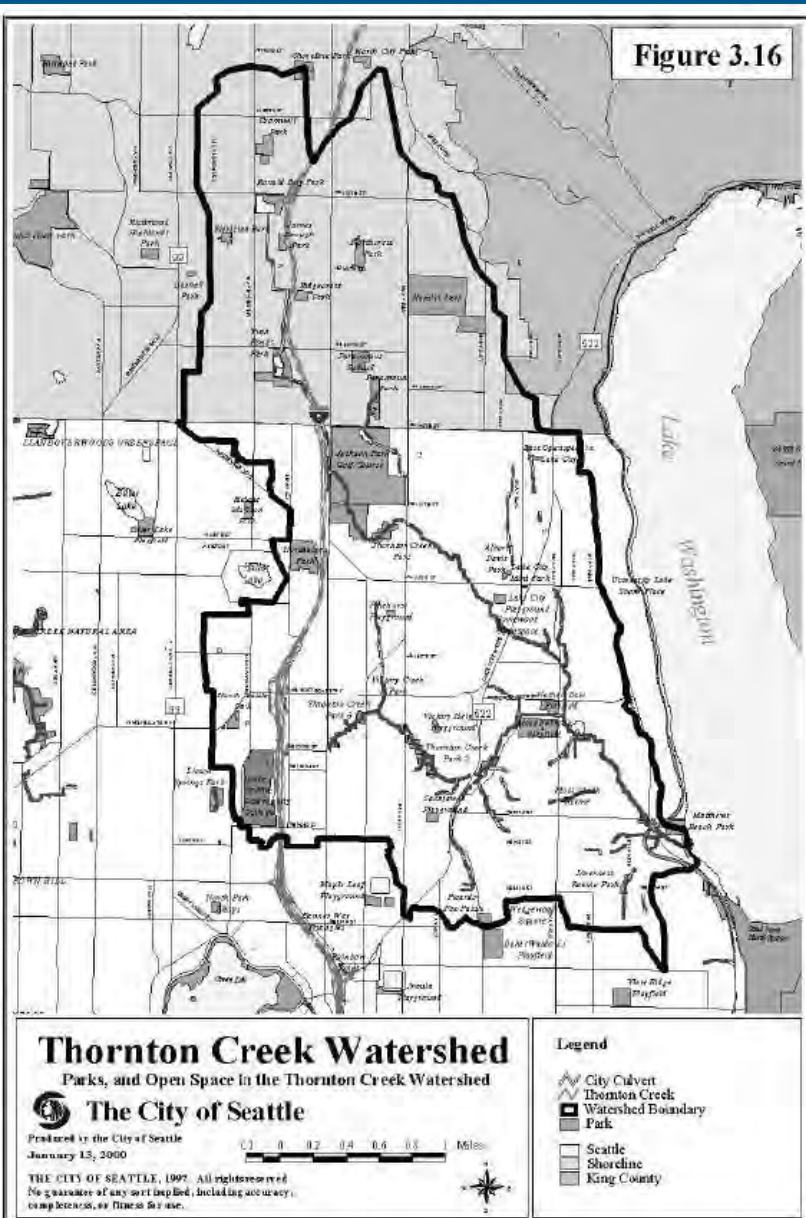


SAMMAMISH RIVER/WHITE RIVER STUDY

Timeline of events

- **Preliminary maps issued** **February 1, 2013**
- **CCO Meeting** **June 6, 2013**
- **Public Meetings.....** **July 29, August 14, and August 21, 2013**
- **Appeal Period Start.....** **September 11, 2013**
- **Appeal Period End.....** **December 10, 2013**
- **Letter of Final Determination.....** **~Fall 2017**
- **Effective Date** **~Spring 2018**

THORNTON CREEK WATERSHED



STUDY LIMITED TO THE CITY OF SEATTLE BOUNDARIES

EXTENDS FROM MOUTH AT LAKE WASHINGTON TO INTERSTATE 5 (NORTHGATE AREA)

DETAILED STUDY OF THORNTON CREEK MAINSTEM, SOUTH BRANCH AND NORTH BRANCH (TOTAL OF 6.8 MILES)

APPROXIMATE STUDY OF 5 TRIBUTARIES: LITTLEBROOK, WILLOW, VICTORY, KRAMER, AND MAPLE CREEKS (TOTAL OF ~ 1 MILE)

THORNTON CREEK STUDY

Timeline of events

- **Preliminary maps issued** **September 3, 2013**
- **CCO Meeting** **September 12, 2013**
- **Public Meeting.....** **October 2, 2013**
- **Appeal Period Start.....** **April 18, 2014**
- **Appeal Period End.....** **July 15, 2014**
- **Letter of Final Determination.....** **~Fall 2017**
- **Effective Date** **~Spring 2018**

QUESTIONS & COMMENTS

FEMA:		
Flood Study Engineer:	Ted Perkins	(425) 487-4684
Risk Analyst/GIS Specialist:	Kelly Stone	(425) 487-4636
NFIP Insurance Specialist:	Deb Gauthier	(425) 487-2023
Floodplain Management Spec.:	Karen Wood-McGuinness	(425) 487-4675
Mitigation Planner:	Brett Holt	(425) 487-4553

WA DOE:		
Flood Study Coordinator	Jerry Franklin	(360) 407-7470
NFIP Coordinator	David Radabaugh	(425) 649-4260

STARR Project Manager:	Carmen Burducea	(301) 575-3153
	Mark Seidelmann	(614) 844-4015

Flood Insurance Information: www.floodsmart.gov