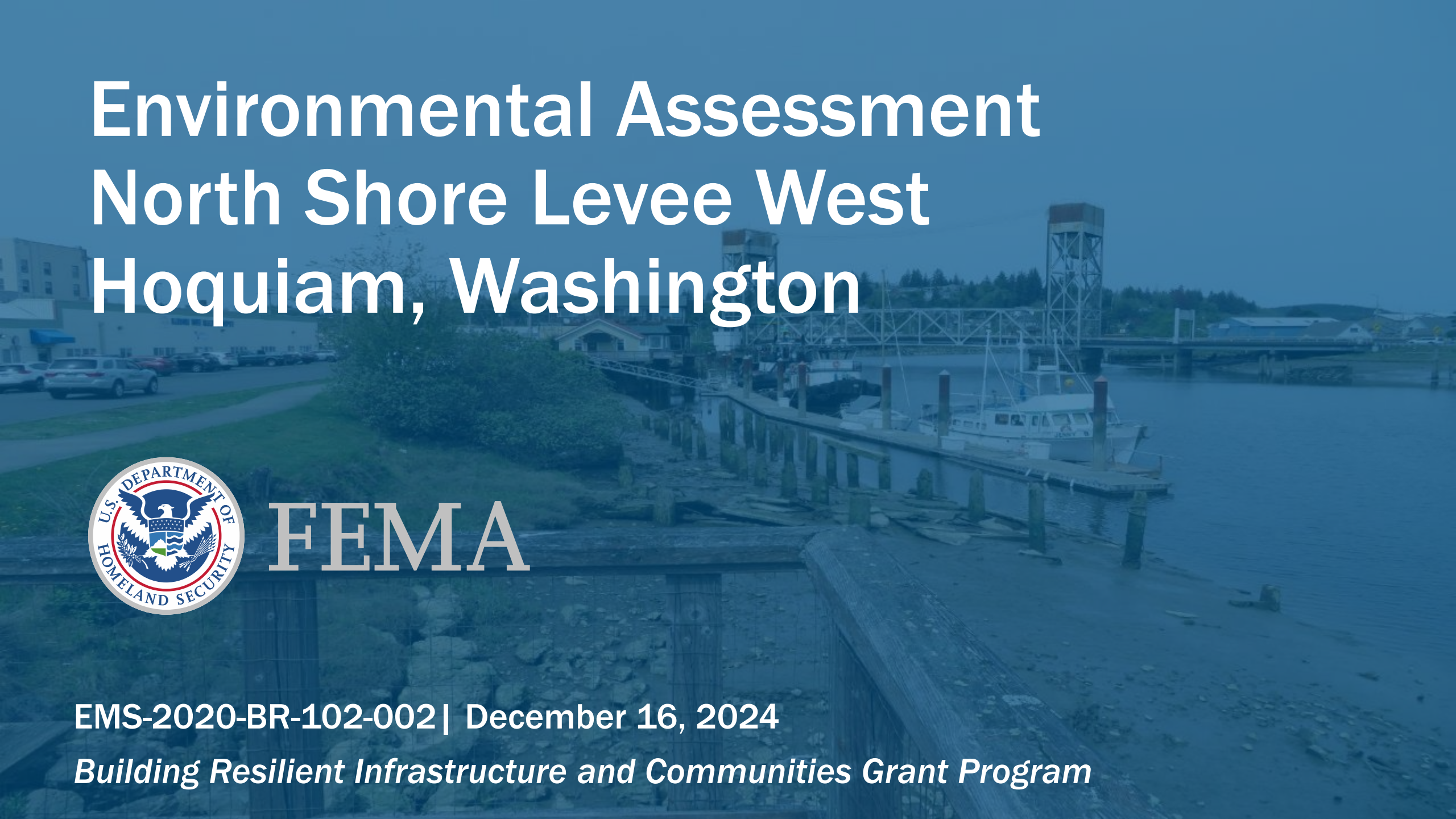
Environmental Assessment North Shore Levee West Hoquiam, Washington



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EMS-2020-BR-102-002| December 16, 2024

Building Resilient Infrastructure and Communities Grant Program

Agenda

- Team Introductions
- Project Overview
- Environmental Review Process
- NEPA Environmental Assessment
- Potential Impacts
- Hydraulic Modeling
- How to Comment
- Next Steps

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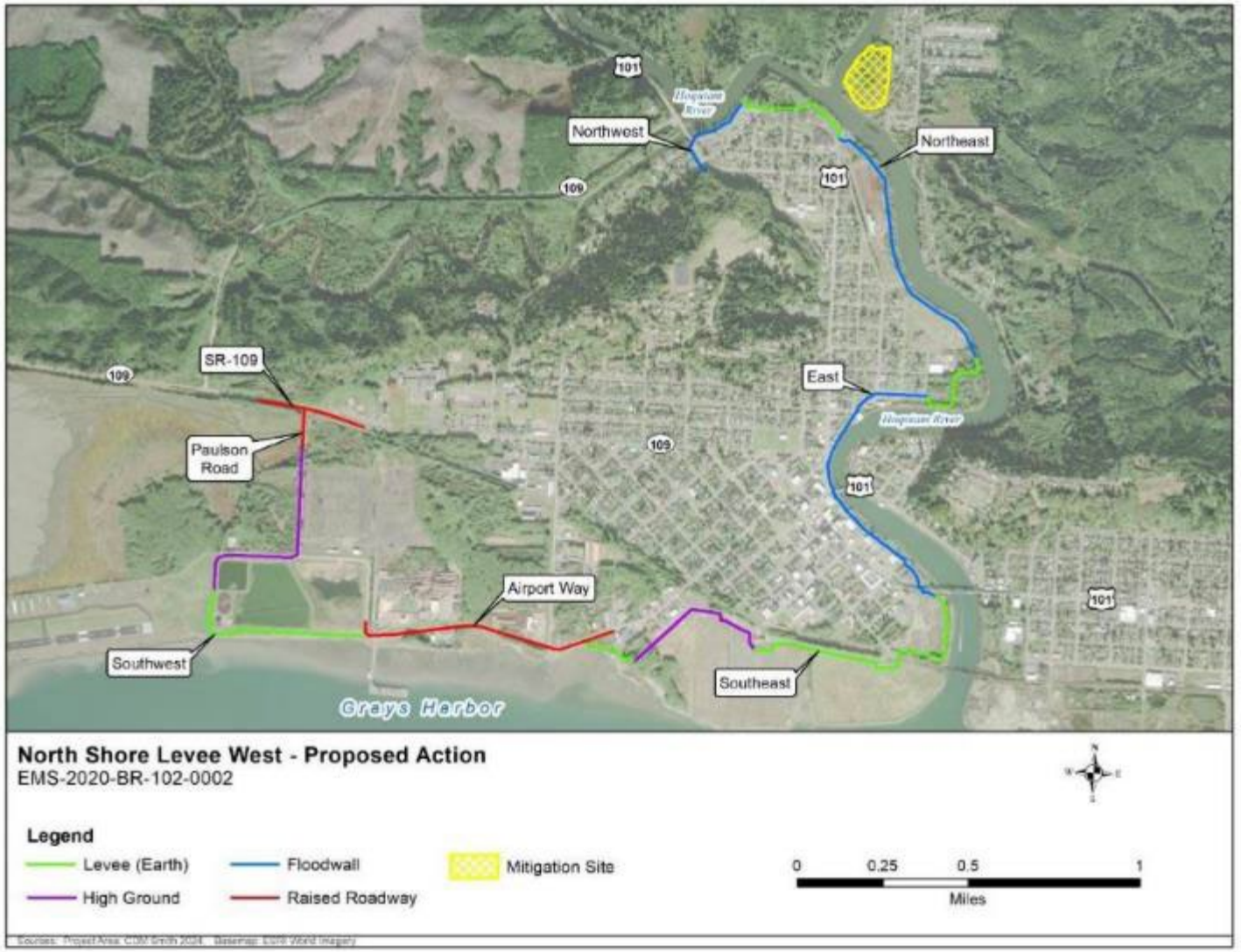
Introductions

- FEMA
- Washington Emergency Management Division
- City of Hoquiam
- Other Federal Agencies
- Consultants

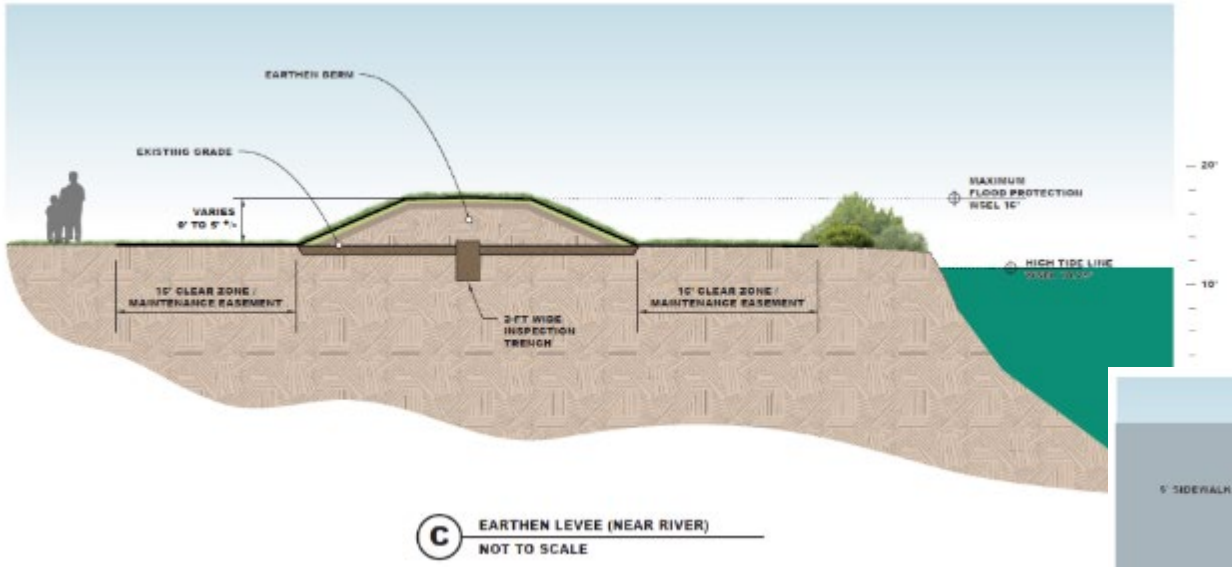
Project Overview



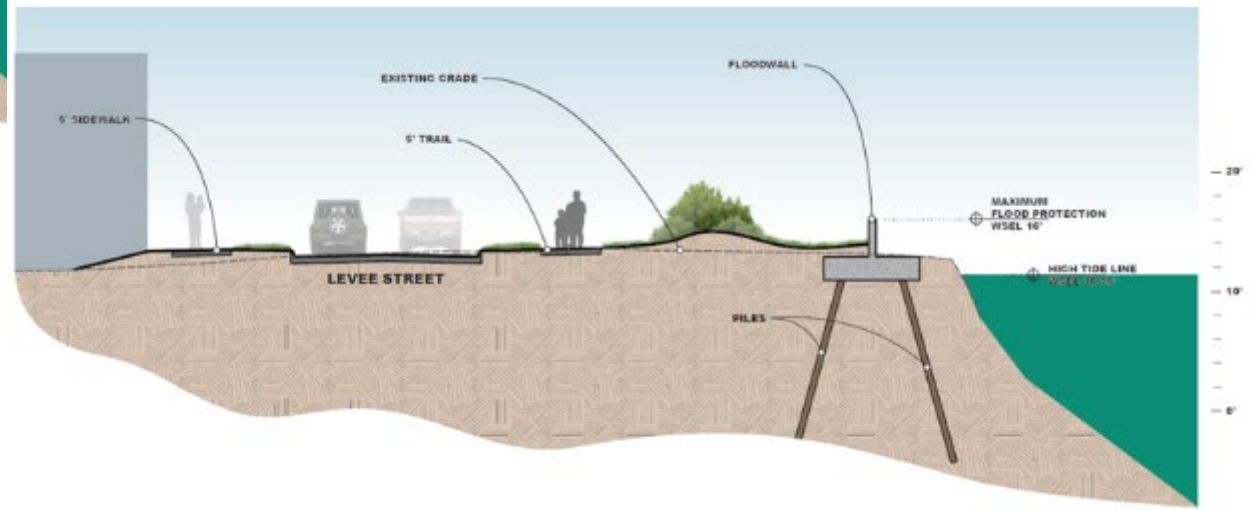
- Approximately 6.6 miles of new earthen berms, floodwalls, and raised road segments and existing high ground
- Restoration of industrial site on the east side of the Hoquiam River to replace impacted wetlands and floodplain habitats
- Reduce risks from a 500-year flood event; does not protect against tsunamis

Project Overview (cont.)

- Earthen levees
- Floodwalls



C EARTHEN LEVEE (NEAR RIVER)
NOT TO SCALE



A FLOODWALL ALONG LEVEE STREET
NOT TO SCALE

- Generally, ranges in height from approximately 2 to 5 feet above the existing ground surface.

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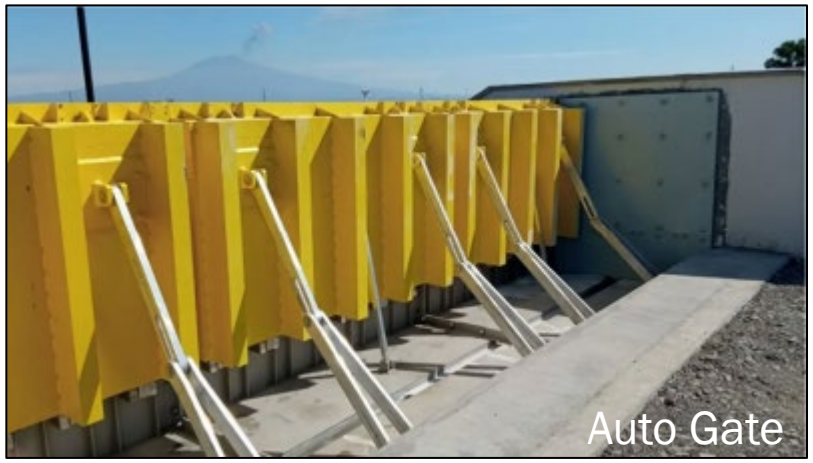
Proposed Closure Structures

- Federal regulations require that all levee openings be provided with closure devices.
- Openings (closures) must be provided for pedestrian, vehicle and equipment access.
- 15 closures are required for the NSLW (original design had 60).
- Flood/storm warning system will be utilized to inform decisions on when closures are activated.
- Closures designed quick deployment/installation and removal.


Auto Gate


Swing Gate


Slide Gate

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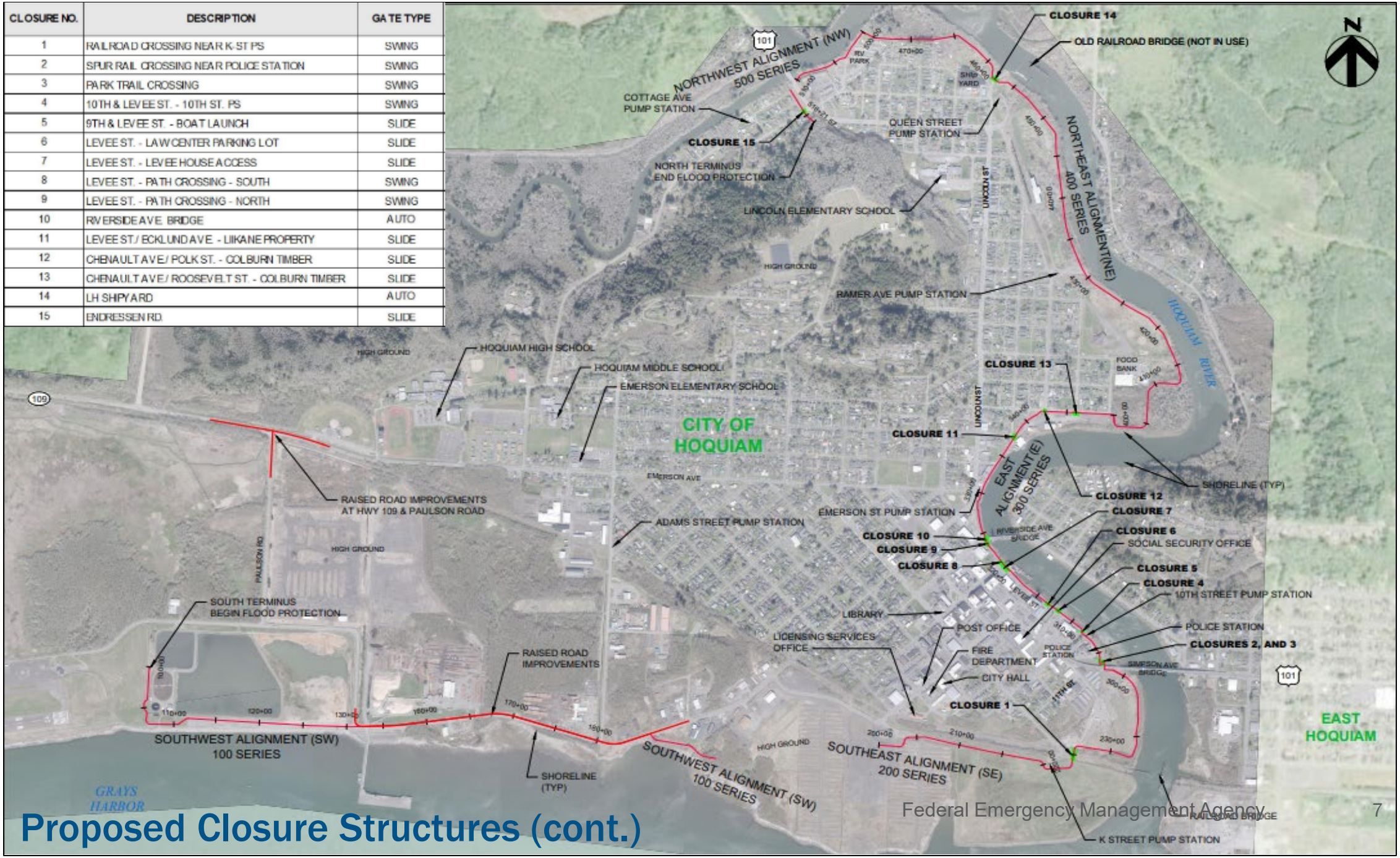
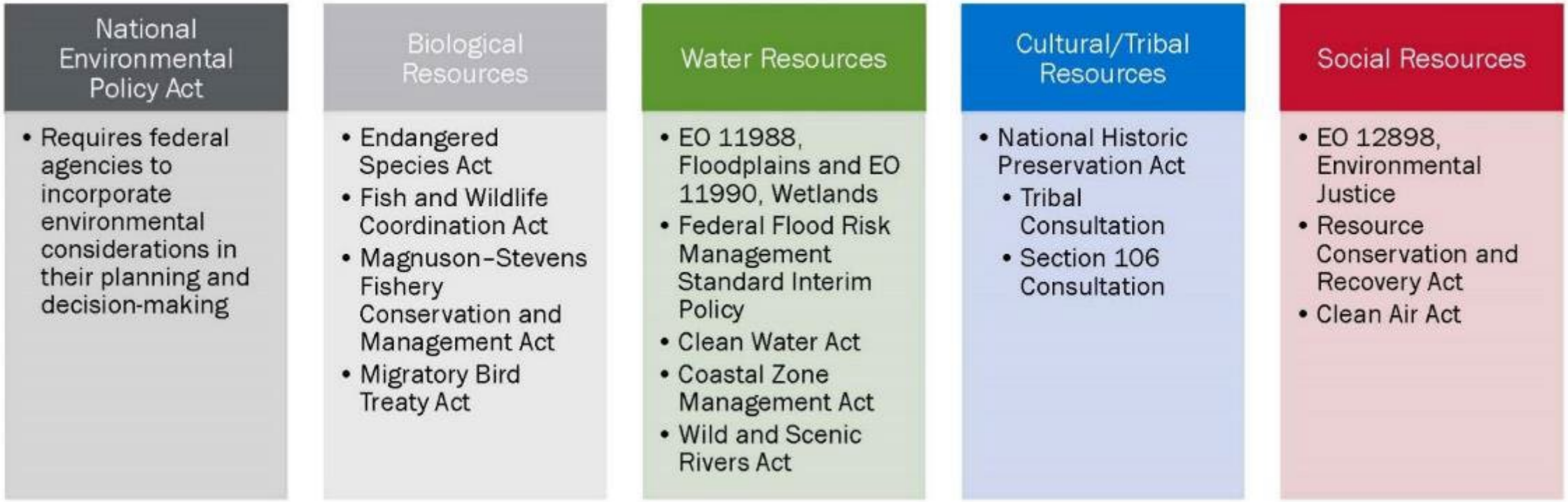
CLOSURE NO.	DESCRIPTION	GATE TYPE
1	RAILROAD CROSSING NEAR K-ST PS	SWING
2	SPUR RAIL CROSSING NEAR POLICE STATION	SWING
3	PARK TRAIL CROSSING	SWING
4	10TH & LEVEE ST. - 10TH ST. PS	SWING
5	9TH & LEVEE ST. - BOAT LAUNCH	SLIDE
6	LEVEE ST. - LAW CENTER PARKING LOT	SLIDE
7	LEVEE ST. - LEVEE HOUSE ACCESS	SLIDE
8	LEVEE ST. - PATH CROSSING - SOUTH	SWING
9	LEVEE ST. - PATH CROSSING - NORTH	SWING
10	RIVERSIDE AVE. BRIDGE	AUTO
11	LEVEE ST./ ECKLUND AVE. - LIIKANE PROPERTY	SLIDE
12	CHENAULT AVE./ POLK ST. - COLBURN TIMBER	SLIDE
13	CHENAULT AVE./ ROOSEVELT ST. - COLBURN TIMBER	SLIDE
14	LH SHIPYARD	AUTO
15	ENDRESSEN RD.	SLIDE



Proposed Closure Structures (cont.)

Environmental Review Process

Evaluate impacts and compliance with federal laws, regulations, and Executive Orders



Environmental Review Process

Environmental Review under NEPA

- 1970 National Environmental Policy Act (NEPA) last amended by Congress in 2023
- Requires federal agencies to evaluate potential environmental impacts as part of their decision-making process
- Prepare an Environmental Impact Statement if expect significant impacts or an Environmental Assessment if no significant impacts
- Decision based on the design, impacts, and ESA, MSA, and NHPA analyses

- Environmental Assessment contents:
  - Purpose and Need
  - Alternatives
  - Project Description
  - Direct, Indirect, and Cumulative Impacts
  - Other Permits and Approvals

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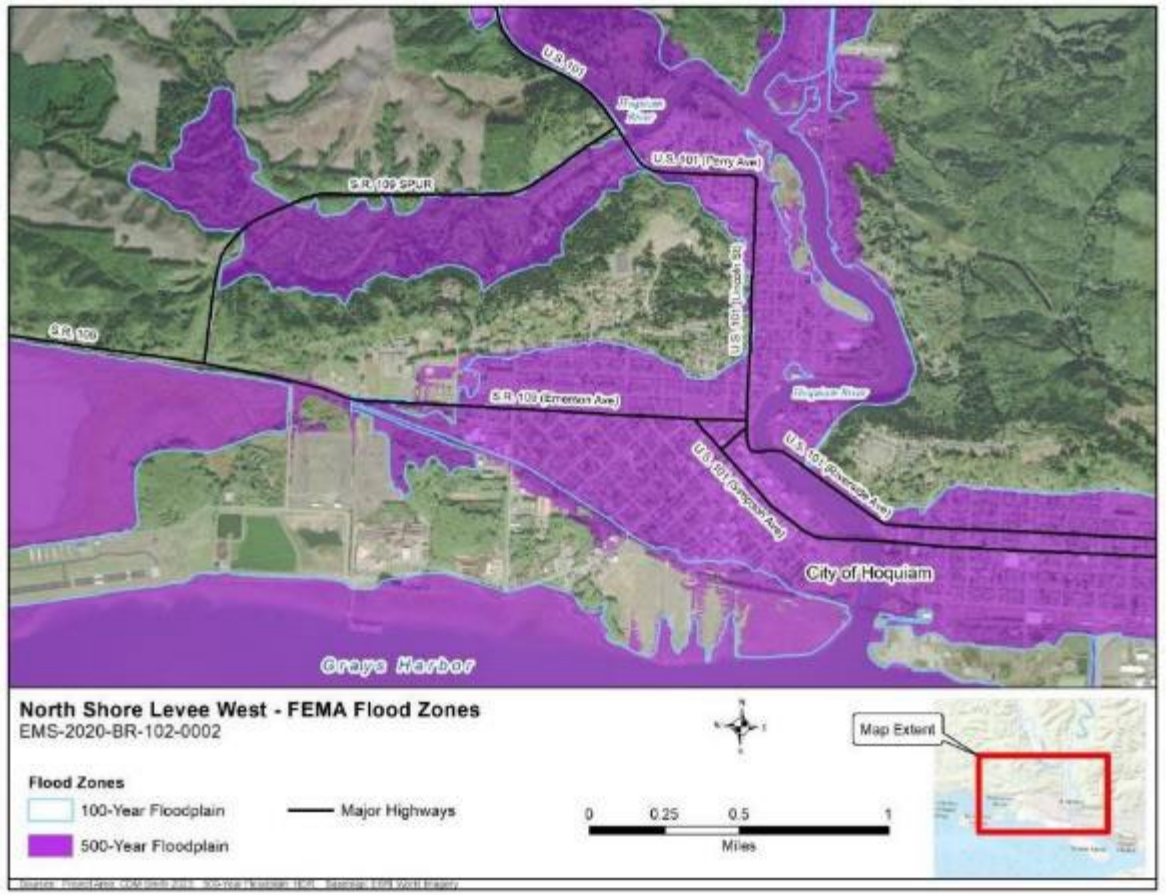
Purpose and Need



- The purpose is to reduce riverine and coastal flooding and flood damage
- To reduce flood impacts on the business district, critical infrastructure, and residences
- Project would also reduce flood insurance costs for residents

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What is the 100 Year flood and the 500Yr flood? What's the Difference?

The 1-percent Annual Exceedance Probability flood has a 1 in 100 chance of being equaled or exceeded in any 1 year, it often is referred to as the "100-year flood"

The "500-year flood" corresponds to an Annual Exceedance Probability of 0.2 percent, which means a flood

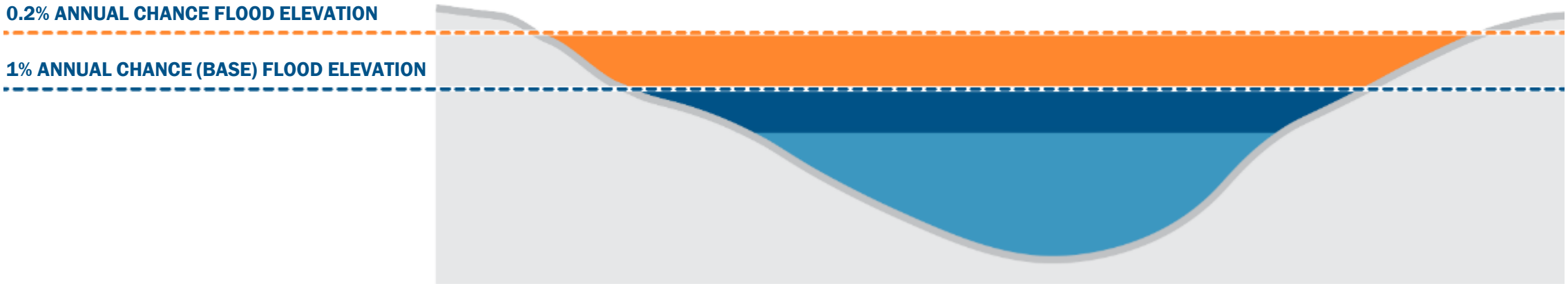
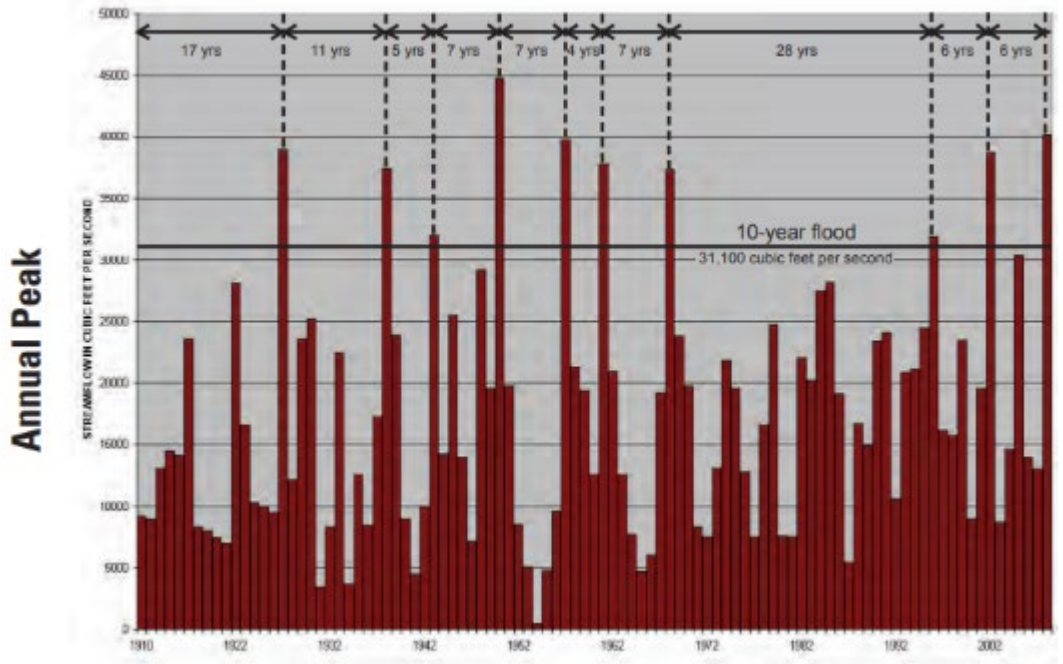


Figure 6 – Pre-FFRMS flood elevation requirements

How could we experience a "100-year flood" two years in a row?

- Flood has a 1 % chance of occurring in any year
- The chances that a river will flow as high as the 100-year flood stage this year is 1 in 100
- Statistically, each year begins with the same 1 % chance that a 100-year event will occur
- During the span of a 30-year mortgage, a home in the 1-percent (100-year) floodplain has a 26-percent chance of being flooded at least once during those 30 years!



Alternatives

- No Action:
  - No change in current flood impacts
- Proposed Action
  - Construct levee system
- Alternatives considered and dismissed
  - Elevate structures
  - Different alignments (proposed action has been refined based on public input and technical studies)
  - Retrofit pump stations

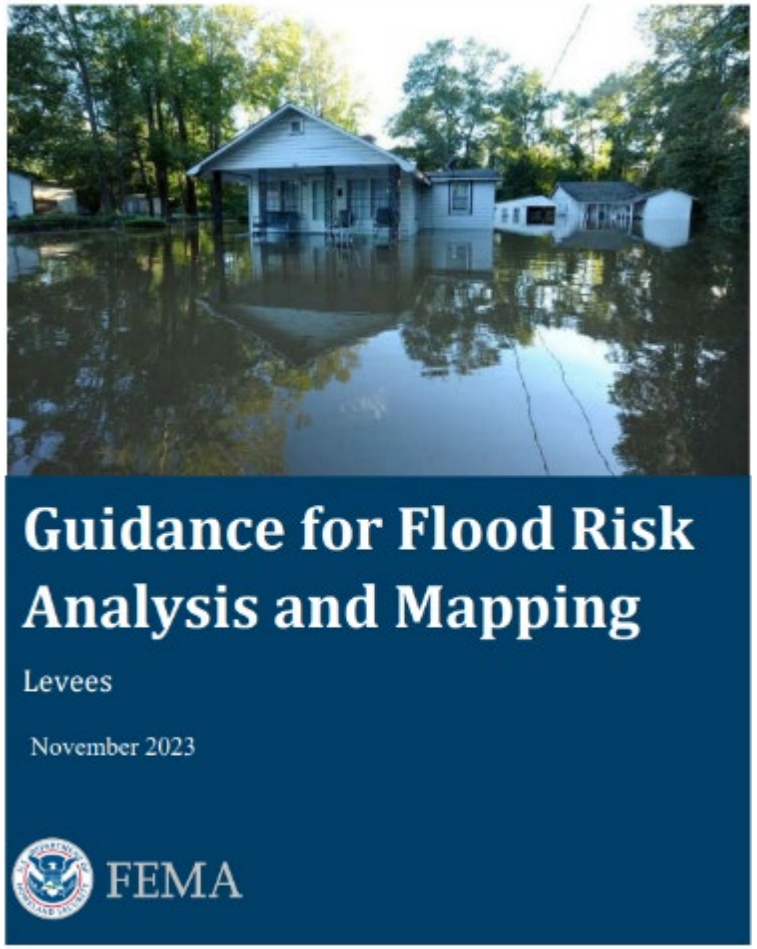
Potential Impacts

- **Short Term:**
  - Negligible to minor adverse impacts on
    - soils, topography, visual quality, air quality, water quality, wetlands, floodplains, vegetation, fish and wildlife, historic resources, hazardous materials, utilities, public health and safety, and environmental justice.
  - Moderate noise and vibration impacts from use of pile drivers to install floodwall foundations
  - Traffic impacts from multiple truck trips to import soil and materials for earthen berms
  - Use of best management practices during construction would reduce impacts.

- **Long Term:**
  - Minor adverse impacts on
    - topography, visual quality and aesthetics, vegetation, wildlife, fish, and threatened and endangered species
  - Benefits from wetland and floodplain creation at mitigation site
  - Reduction in flood risk for most parcels in west Hoquiam (1,765 parcels)

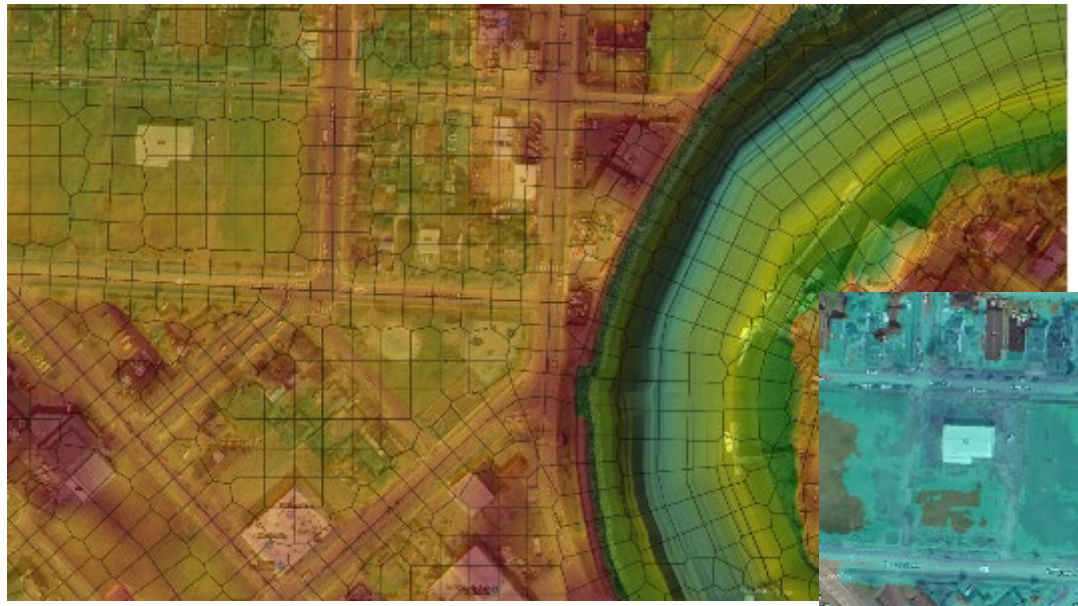
Hydraulic Modeling Methods

- Key Requirements
  - Accreditation: 44 CFR 65.10
  - Primary analysis for flooding related to freeboard, overtopping, and interior drainage.
- Interior Drainage
  - Management of runoff and water pooling within levee-protected areas.
  - Integration of gravity outlets, pumping stations, and drainage channels in modeling.
- Data Inputs
  - Topography, hydrology, storm network, and levee specs.
- Considered NSL-W only and both NSL-W & NSL



Hydraulic Modeling Selection: Coastal & Riverine

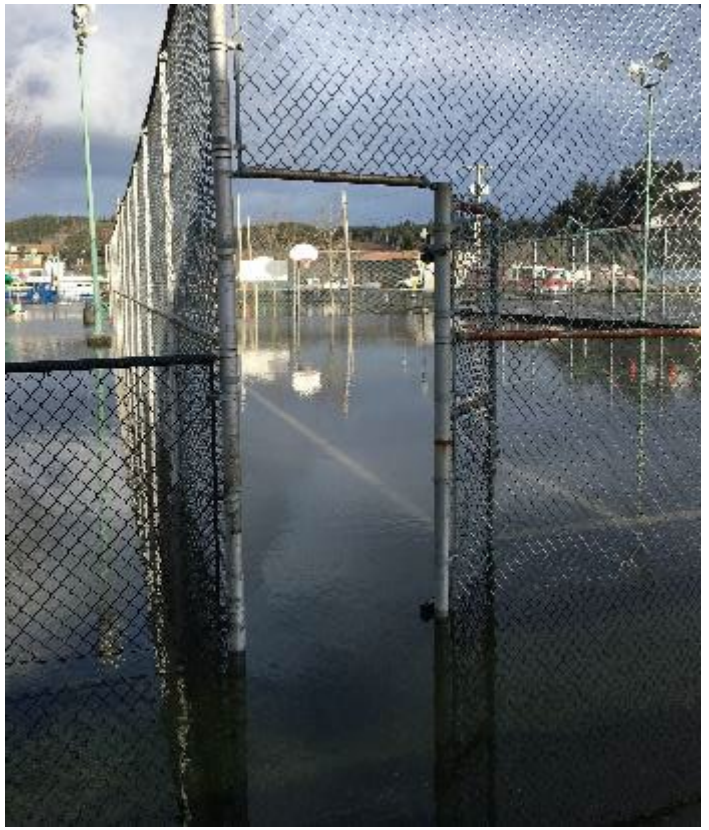
HEC-RAS 2D



January 2022 Flood Depths

January 2022 Flood

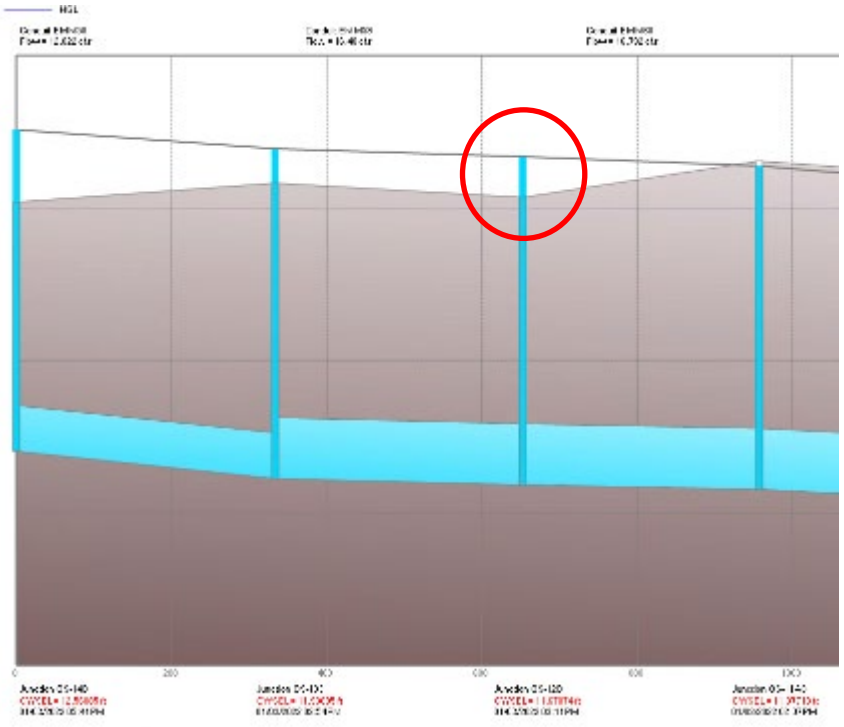
(5th & H Street)



Hydraulic Modeling Selection: Interior Drainage

PCSWMM

Pipe and Pump Modeling



January 2022 Flood

Surcharge (Cherry Street)

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Potential Impacts

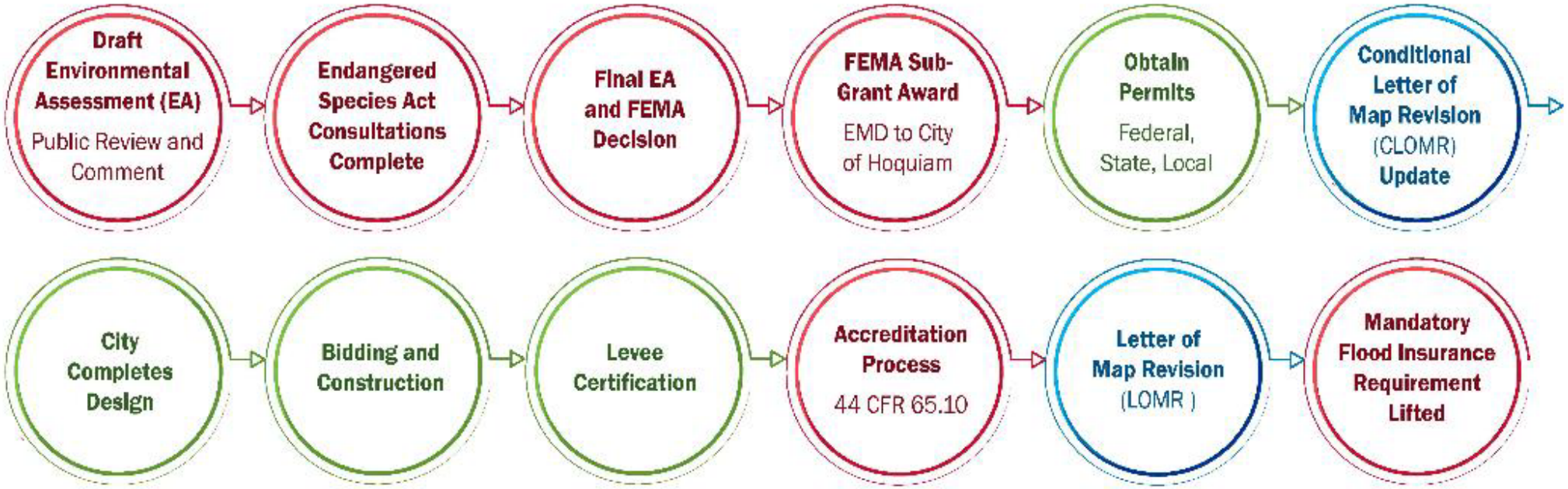
- **Change in flood risk**
  - Slight increases in flood risk at 107 parcels
  - None of the currently developed parcels would experience modeled increases greater than 6 inches.
  - Up to five parcels may be added to Zone X-(1% Depth less than 1 Foot) where the average depth of the 1-percent annual chance floodplain is less than 1 foot.
  - 91 percent reduction of structures within revised regulated floodplain (1,765 parcels)
  - Following the accreditation and LOMR review processes parcels removed from regulated floodplain would have reduced flood risks.

Potential Impacts

- Overview maps created to show impact regions (pre- vs post-)
- Overview Maps showing future flood risk under NSL-W only and NSL-W & NSL conditions

Details at Station

Next Steps



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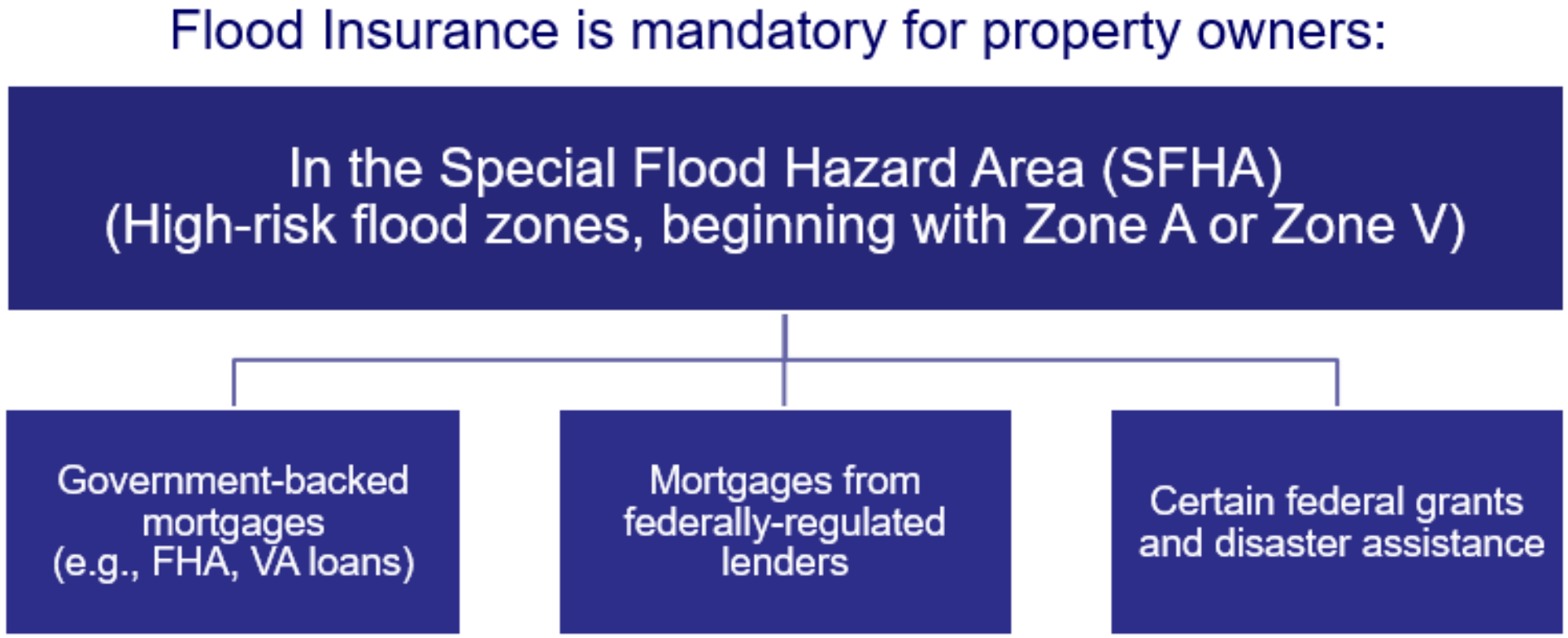
When is Flood Insurance Mandatory?



When is Flood Insurance Mandatory (cont.)

Property owners who receive disaster assistance for acquisition, construction, or repair of a structure

- Must purchase flood insurance if within SFHA
- May not be eligible for some disaster assistance if flood insurance policy lapses

How to Comment

Review the Draft EA at FEMA's NEPA Repository or a hard copy at:

- Hoquiam Library, 420 - 7th Street, Hoquiam, WA
- The Building Department, Hoquiam City Hall, 2nd Floor
  609 - 8th Street, Hoquiam, WA

Provide written comments before January 22, 2025:

- Tonight – using the comment cards available at registration
- Tonight - Talk to the court reporter
- Email to: fema-r10-ehp-comments@fema.dhs.gov (Please include "Hoquiam" in the subject line)
- Mail to: FEMA Region X, 130 228th Street SW, Bothell, WA 98021

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Open House

- Discuss the project with FEMA staff, City staff, and consultants
- Review the design for specific parcels
- Review the hydraulic modeling results for specific parcels
- Complete a comment card
- Share the fact sheet and comment card with other residents
- Give comments to the court reporter

FEMA

For more information about the project contact:

Science Kilner
Regional Environmental Officer, FEMA Region 10
fema-r10-ehp-comments@fema.dhs.gov

Brian Shay
City Administrator, City of Hoquiam
BShay@cityofhoquiam.com

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