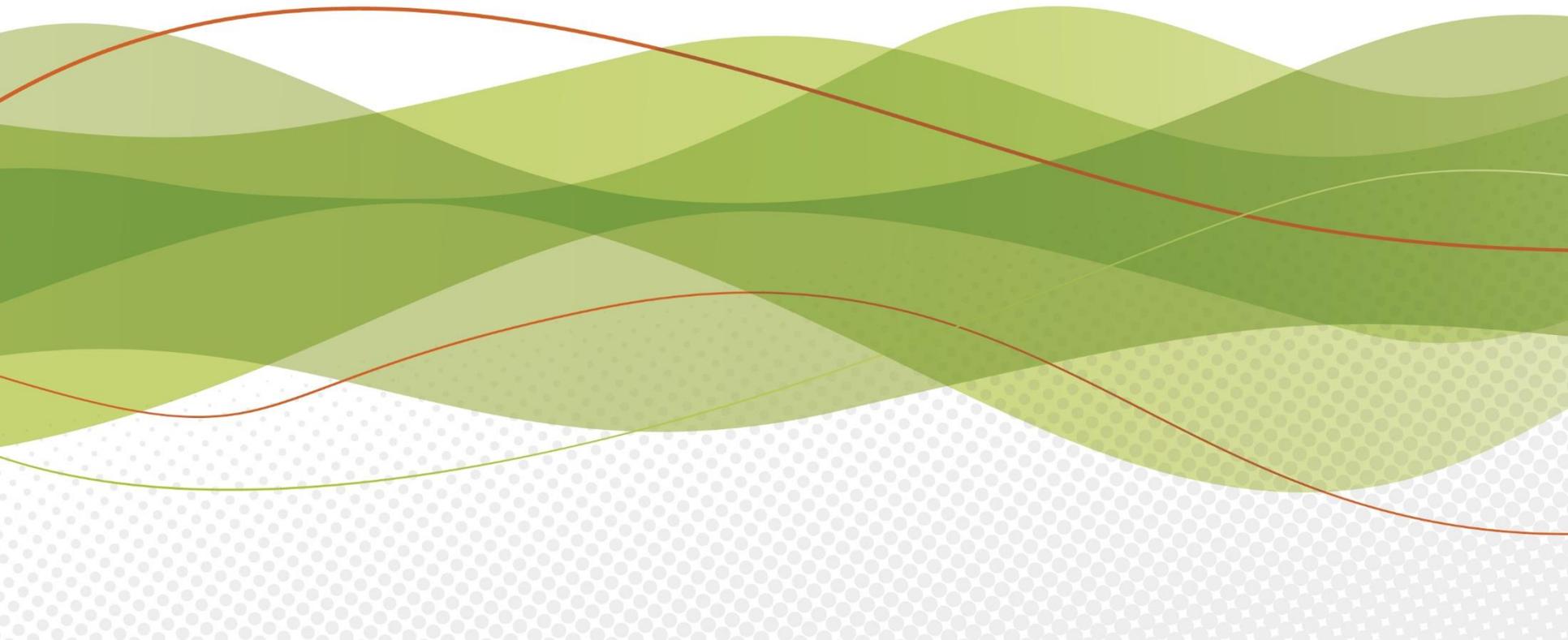




TimberWorks: Resiliency and
Restoration Plan
Community Meeting
October 25, 2016



Agenda

1. Update on Status of Planning Process
2. Review What We've Learned
3. Discussion Proposed Solutions
4. Prioritization - *Small Groups*
5. Next Steps

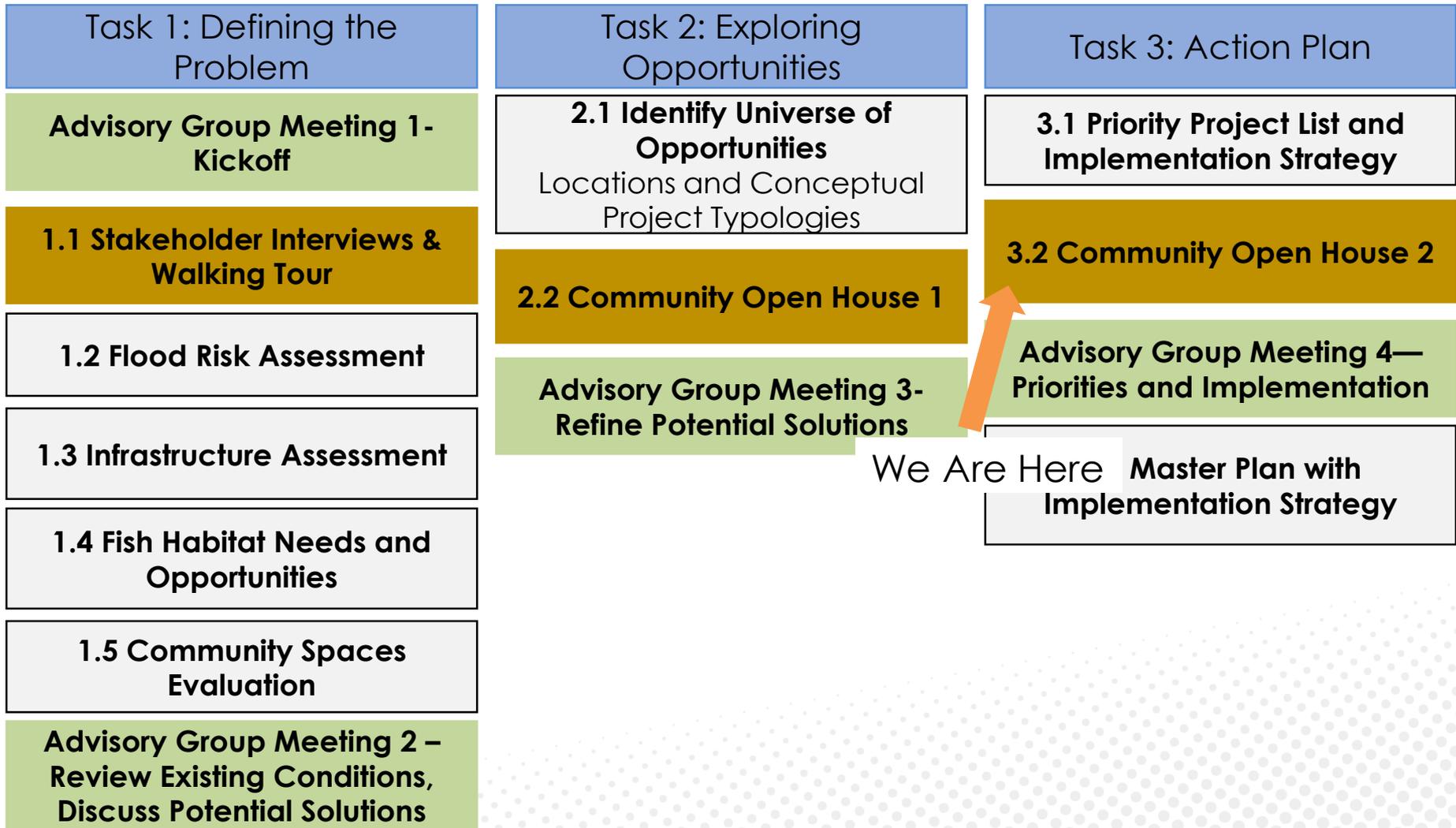


TimberWorks Plan

- **Purpose:** Reduce floods, improve fish habitat, improve community spaces, stimulate economy
- **Outcomes:**
 - Comprehensive, broadly supported approach
 - Prioritized set of projects
 - Funding and implementation strategy



Work Plan



Walking Tours – March 30

Key Themes

- Extent and frequency of flooding impacts and property owner responses
- Opportunities to use publically owned lands
- Interest in combining open space, habitat, and flood protection



Community Meeting – April 28

Key Themes

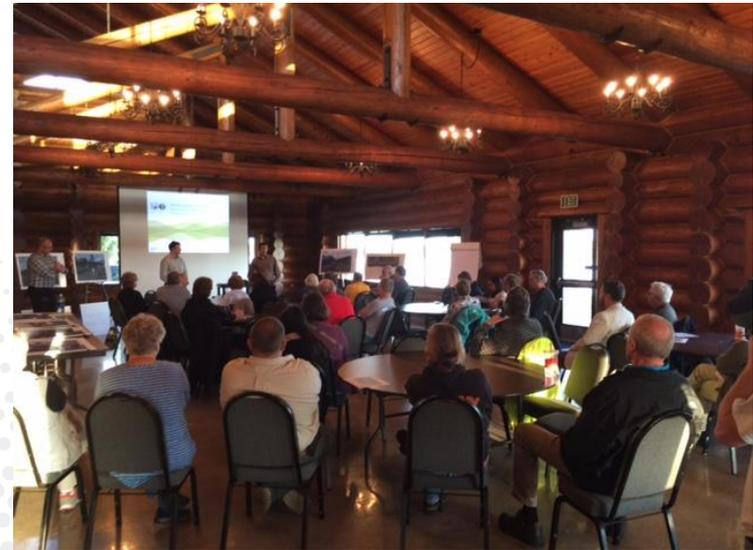
- High Level of Support, Including Willingness to Pay
- Sense of Urgency
- Interest in Community and Economic Benefits



Update on Northshore Levee Community Meetings – Sept 19 and 20

Key Themes

- Primary Concern is Localized Flooding
- High Level of Support, Including Willingness to Pay
- Riverfront Property Owners
 - Desire for protection from potential flooding
 - Concern about potential impacts of levee
 - Many riverfront property owners don't carry flood insurance

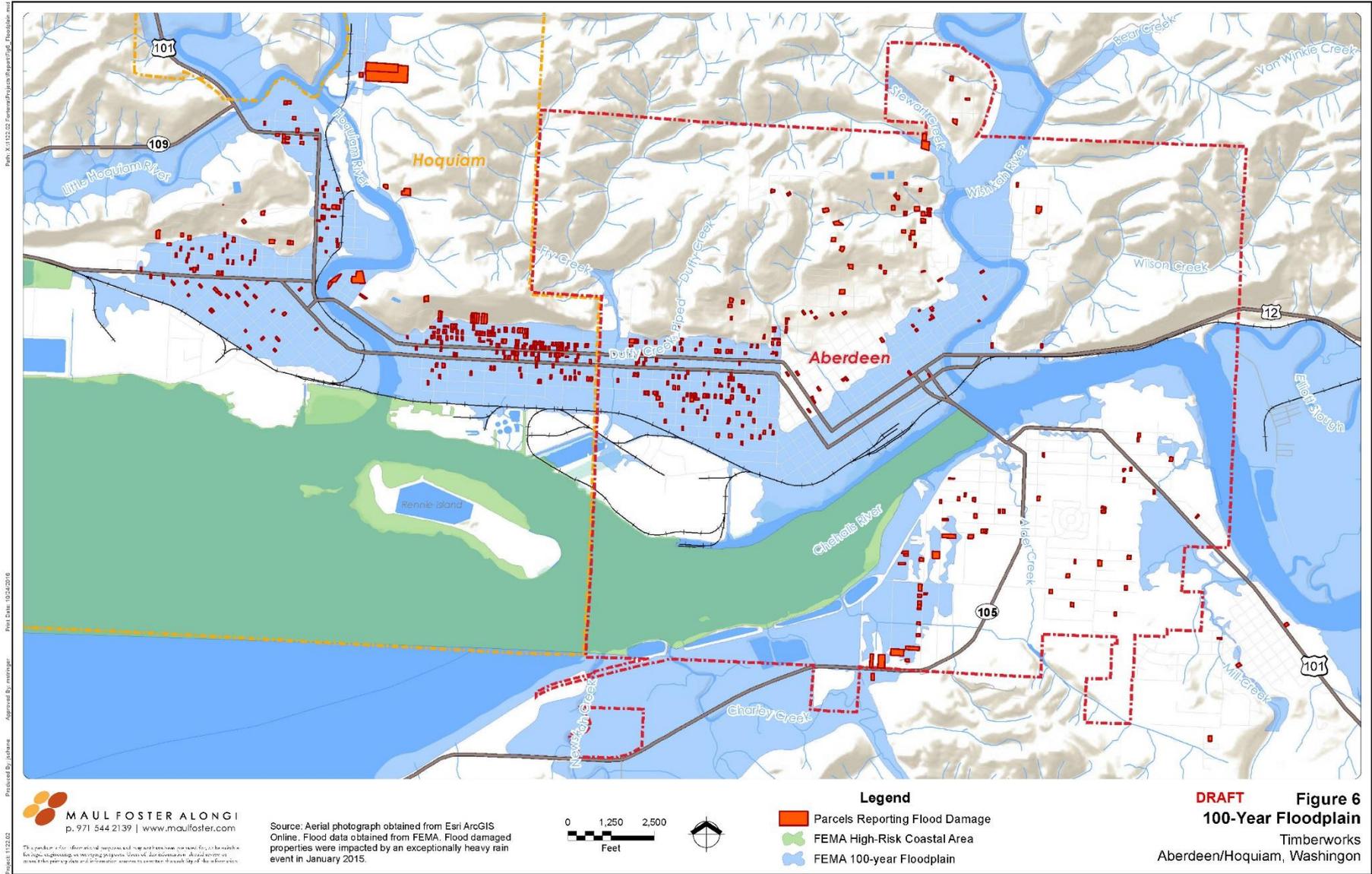


Drivers of Flooding

- **Coastal:** Extreme high tides, low pressure, and wind driven
 - December 2015
- **Local:** Intense rain events, topography, high groundwater, stormwater system capacity
 - January 2015; combined with high tides



Drivers of Flooding



Proposed Solutions

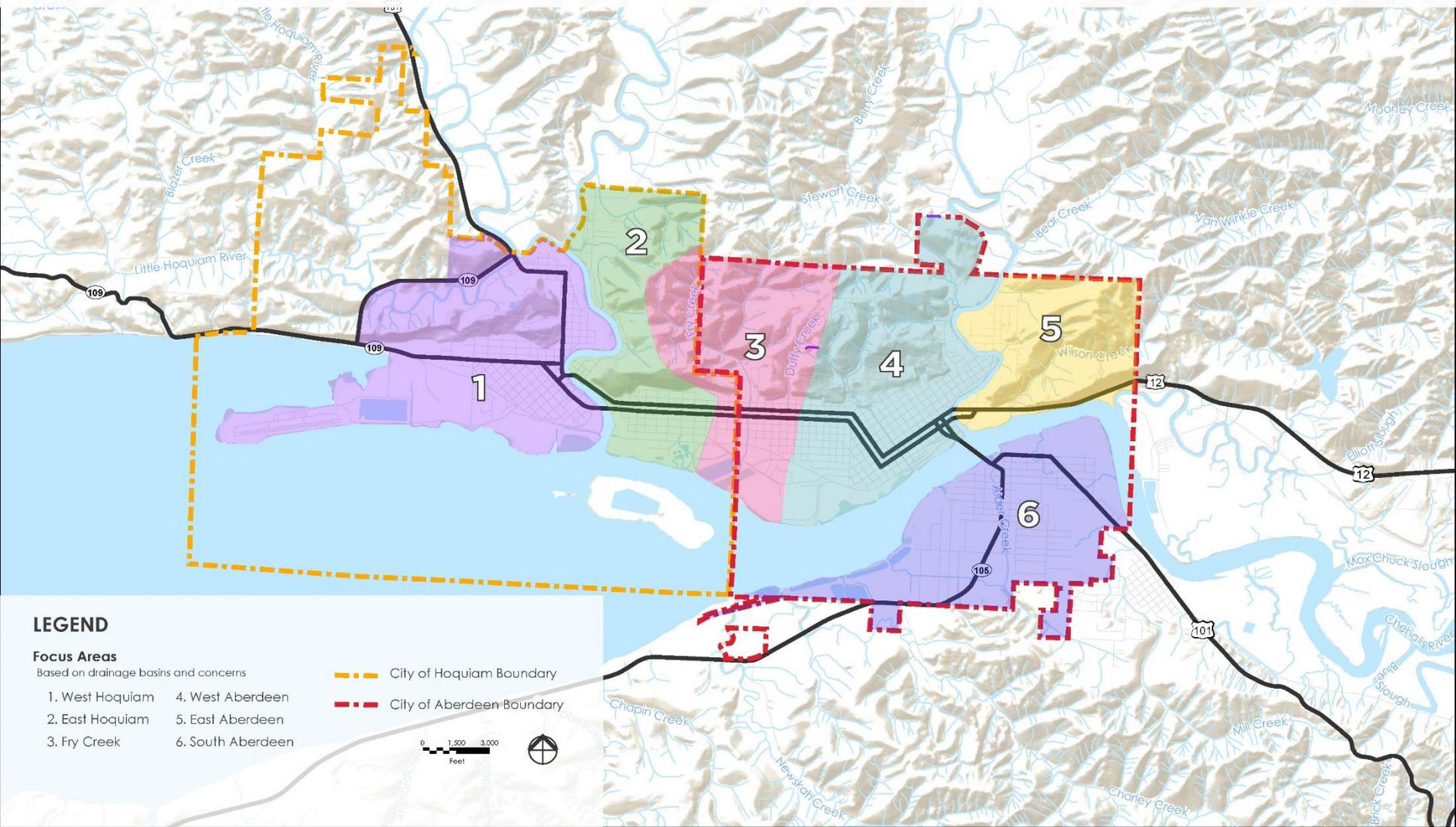
- **Protect Forested Areas in Upper Watershed**
- **Create Storage for Runoff and Flood Waters**
- **Reconnect Creeks to Floodplains**
- **Increase Capacity of Storm Drain System**
- **Expand Levee System**



Potential Project Areas

Focus Areas

Timberworks: Resiliency and Restoration Plan
Cities of Aberdeen and Hoquiam



City-Wide Programs

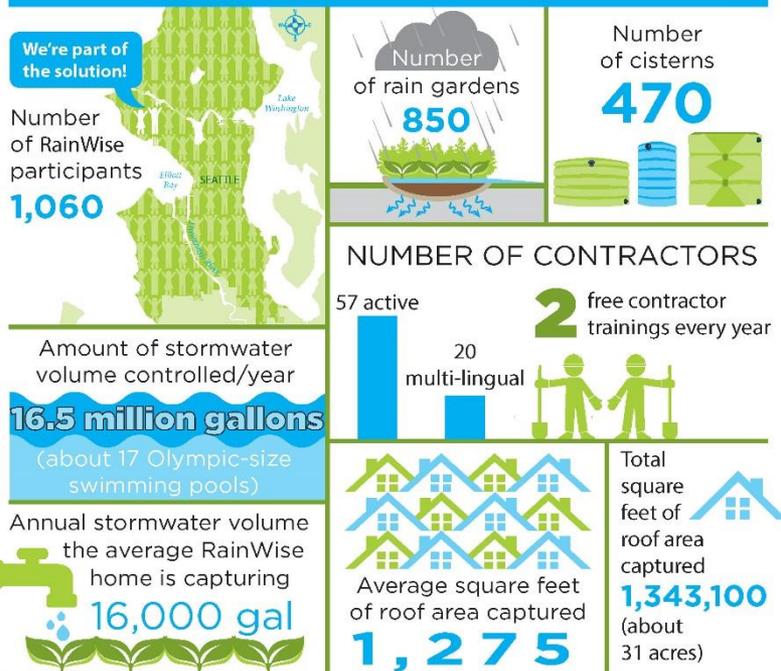
1. Maintenance Program
2. Rainwater Capture and Re-use
3. Urban Forestry Program

BY THE NUMBERS



RainWise

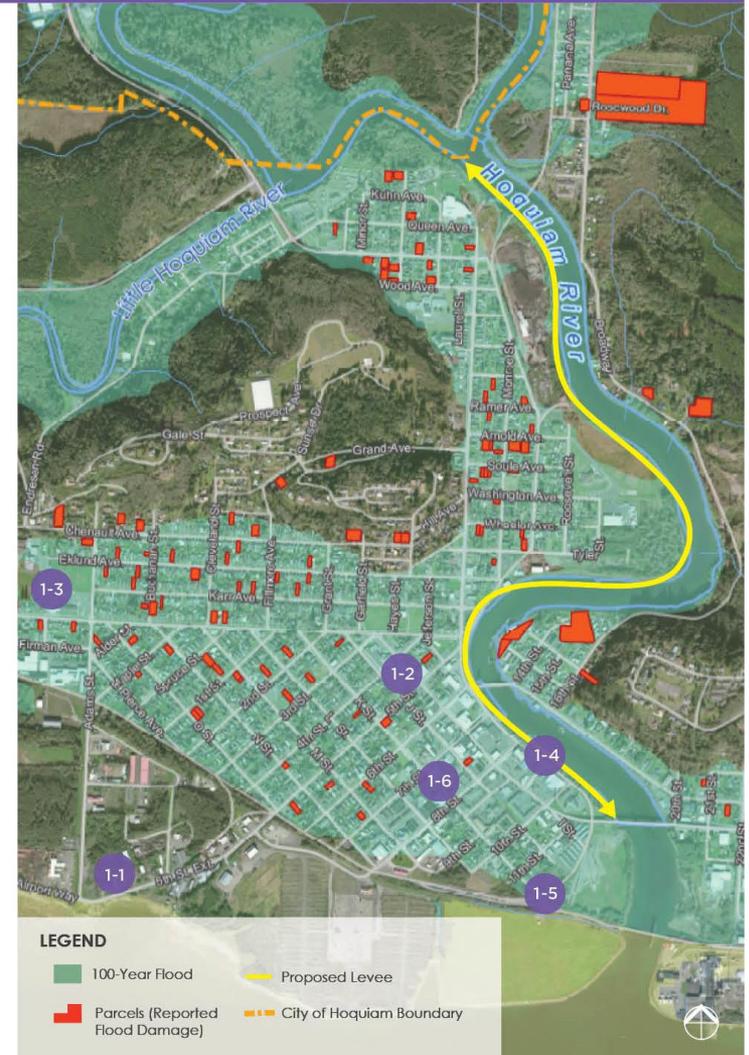
www.rainwise.seattle.gov



Potential Projects

Focus Area 1: West Hoquiam

Project	Cost
1-1 Moon Road Shoreline restoration and floodwall	MED
1-2 Central Elementary Install rain gardens and flood water basin to soak in stormwater runoff	MED
1-3 Emerson Elementary School Install rain gardens to soak in stormwater runoff	MED
1-4 Enhance and Certify Levee	HIGH
1-5 Upgrade Outfall Pumps Priority: K, Ramer, & 10th Street pumps	HIGH
1-6 Upgrade Storm Drain Priority: K Street	HIGH



School Yard Projects

- Storage Basin
 - 3 Feet Deep Excavation
 - Remove portions of Asphalt
 - Connect to Public Storm System to Receive Flood Overflow
 - 1.5-2 acre-feet of Stormwater Storage

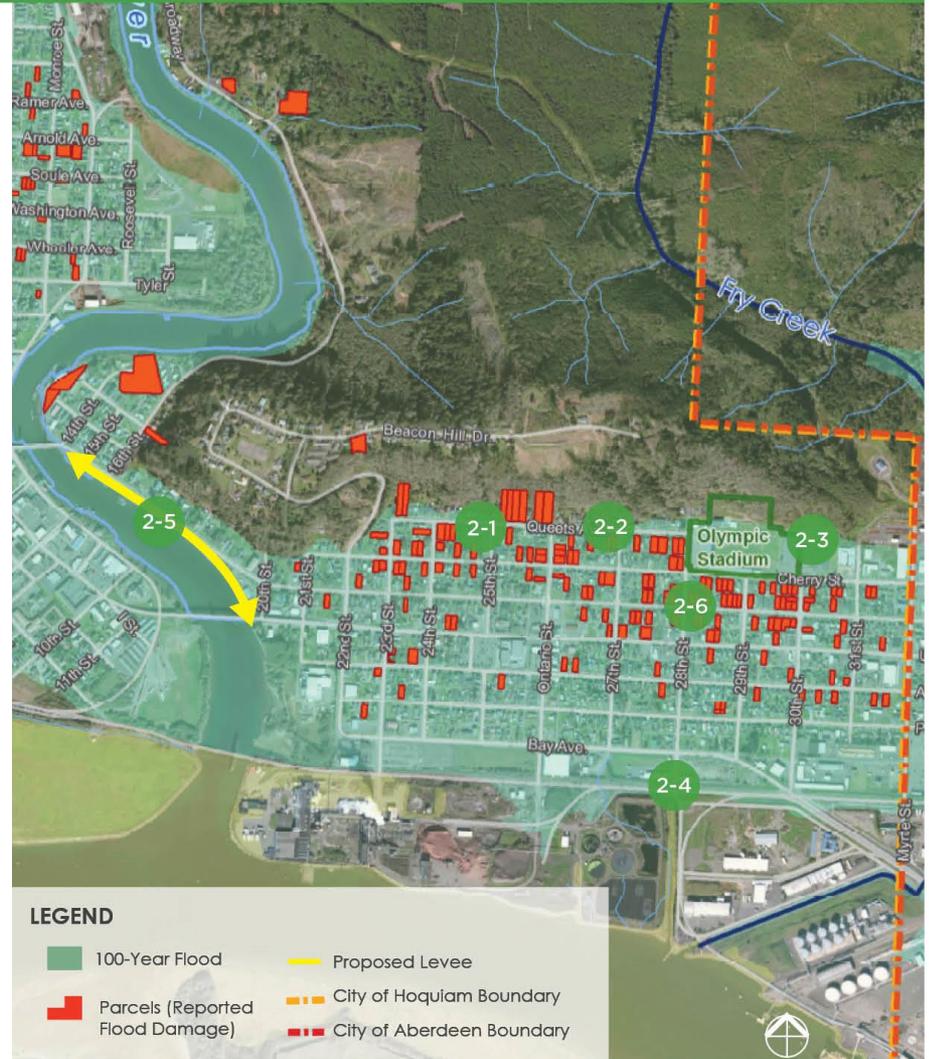


Potential Projects

Focus Area 2: East Hoquiam

Project Cost

- | | |
|---|---|
| <p>2-1 Cherry and Queets
Green streets to store runoff and provide water quality treatment</p> <p>2-2 Property Buy Out
In slide-prone areas along Queets Avenue</p> <p>2-3 Flood Storage Basin
Adjacent to Olympic Stadium</p> <p>2-4 Upgrade Stormwater Pumps
Bay Avenue* - based on 2000 Surface Water Management Plan</p> <p>2-5 North Shore Levee
Along Hoquiam and Chehalis Rivers</p> <p>2-6 Upgrade Storm Drain Capacity</p> | <p>HIGH</p> <p>MED</p> <p>MED</p> <p>HIGH</p> <p>HIGH</p> <p>HIGH</p> |
|---|---|



Green Street Concept



- Pervious Paving
 - 5 foot Wide Strip Along Curb
 - Gravel beneath
- Bioretention Swale
 - Built in Existing Grass Strips Along Roadways
 - Built Between Driveways



Green Street Concept

Reducing flood risk
in the neighborhood...

Queets Ave

The proposed residential floodwater storage design in the right-of ways include a five foot strip of permeable pavers as well as streetside vegetated swales on both sides of Queets Ave and Cherry St.

Cherry Street

Ontario Street

27th Street

28th Street

LEGEND

- Permeable pavers
- Streetside swales



Potential Projects

Focus Area 3: Fry Creek

Project

Cost

3-1

Land Conservation in Upper Watershed

Keep land in forest to reduce runoff

MED

3-2

Fry Creek Enhancement

- Replacing culverts to remove flow restrictions and fish passage barriers
- Increasing capacity of creek to contain and convey high flows
- Creating public recreation features

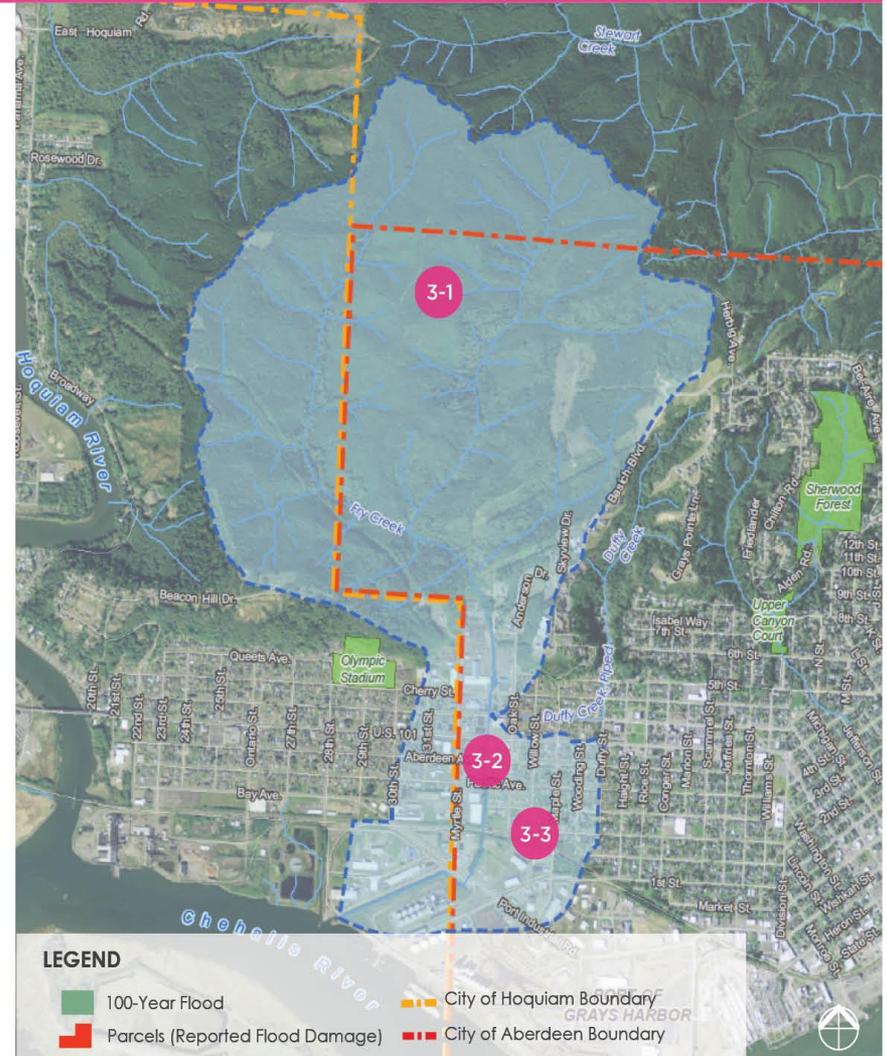
MED

3-3

West End Play Field

Excavate to create a flood control feature on the south end of the park

MED



Fry Creek Enhancement



TIMBERWORKS: RESILIENCY AND RESTORATION PLAN Fry Creek

DRAFT



Fry Creek Enhancement

1

SIMPSON AVE PERSPECTIVE Fry Creek

DRAFT

This proposed restoration of Fry Creek adjacent to Simpson Ave would include a wider creek channel, vegetated floodwater storage areas along the creek's banks, enhanced native vegetation and fish habitat, improved pedestrian access, and a viewing platform for users to enjoy their natural surroundings.

Potential Projects

Focus Area 4: West Aberdeen

Project Cost

- 4-1

Targeted Land Protection
Forested land north of Canyon Court

LOW
- 4-2

Finch Playfield
Flood control park

MED
- 4-3

Franklin Field
Install pumps to increase capacity

MED
- 4-4

Upgrade Outfall Pumps

HIGH
- 4-5

North Shore Levee

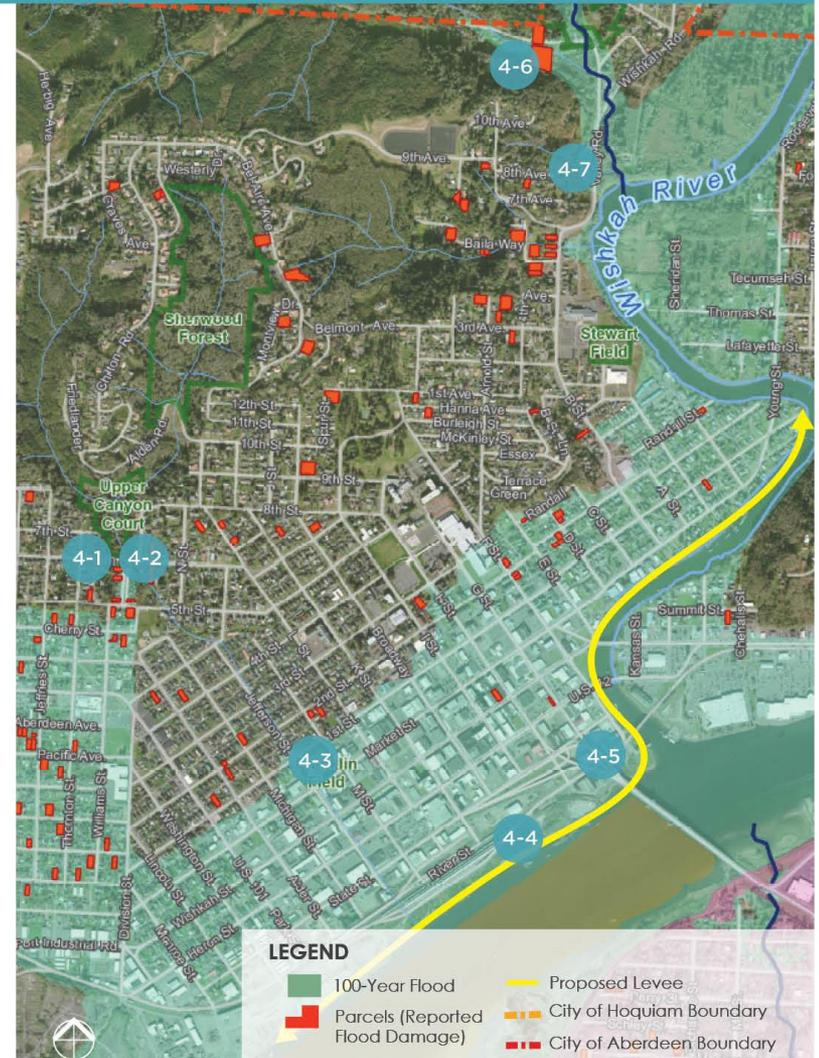
HIGH
- 4-6

Stewart Creek Culvert Replacement
Address fish passage barrier

LOW
- 4-7

Stewart Creek Confluence Floodplain Reconnection
Replace culvert to allow for greater flow connectivity and enhance habitat

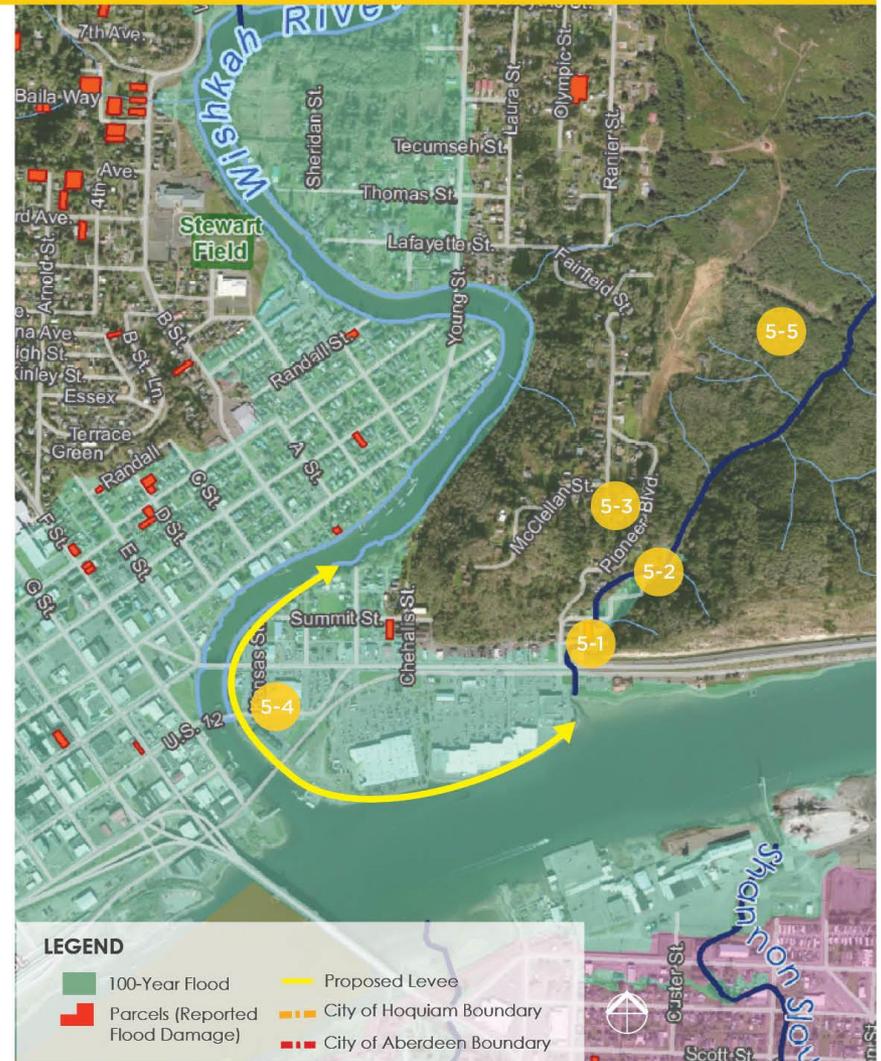
MED



Potential Projects

Focus Area 5: East Aberdeen

Project	Cost
5-1 Wilson Creek Fish Passage Study Evaluate options to address fish passage barriers	LOW
5-2 Floodplain Park / Reconnection Create flood storage capacity and habitat enhancement on City-owned property	MED
5-3 Pioneer Boulevard Stormwater retrofits	MED
5-4 Levee Expansion and Certification	HIGH
5-5 Land Protections in Upper Watershed	MED



Potential Projects

Focus Area 6: South Aberdeen

Project

Cost

6-1

Shannon Slough

Habitat enhancement, water quality treatment, and education and public access opportunities

MED

6-2

Alder Creek Feasibility Study

Evaluate options to improve water quality, reduce flooding, and enhance habitat

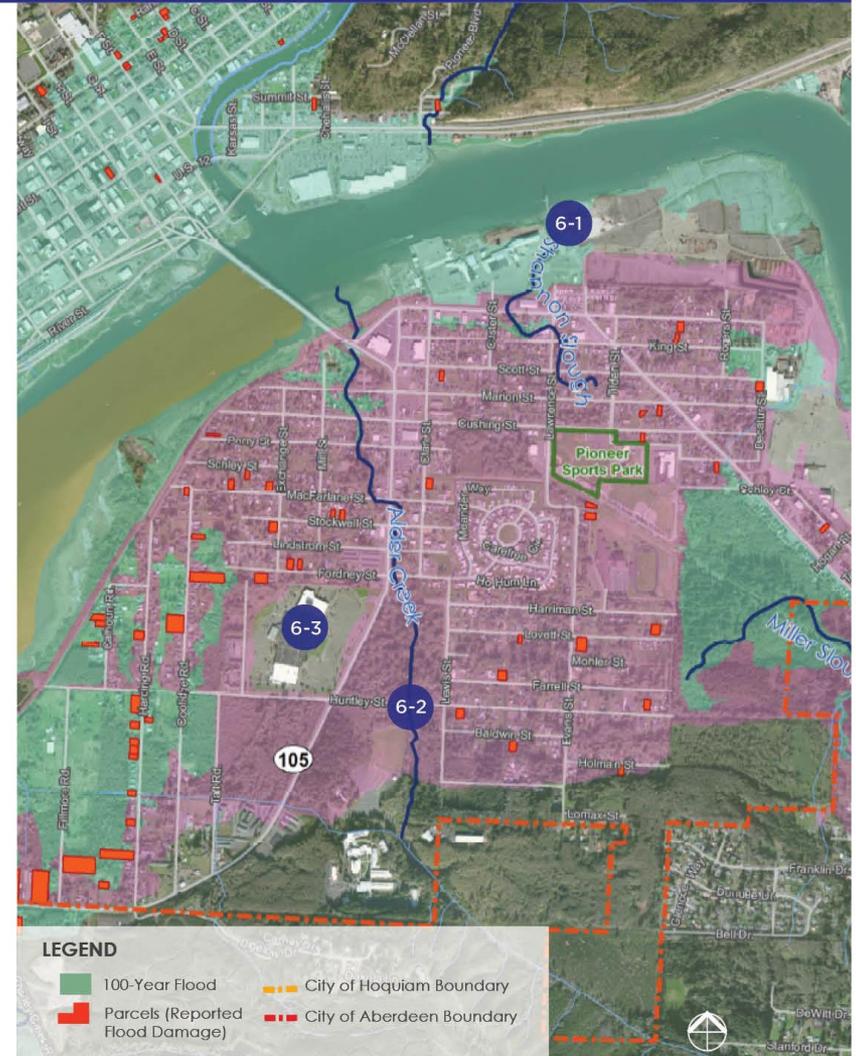
LOW

6-3

Shopping Center

Install rain gardens to soak in stormwater runoff

MED



Prioritization in Small Groups

Manage the Budget

- Move to Table for the Area of Town you are Most Interested In
- As a Group – Select Projects to Fund with a Budget of \$5,000
 - Card for Each Proposed Project
 - Cost Forecast for Each Proposed Project
 - Total Cost of All Projects You Pick Can Be Up to \$5,000
- Report Out on Your Decision



Next Steps

- Prepare Master Plan Report
- City Council Review and Approval
- Implementation of Priority Projects



Thank You

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