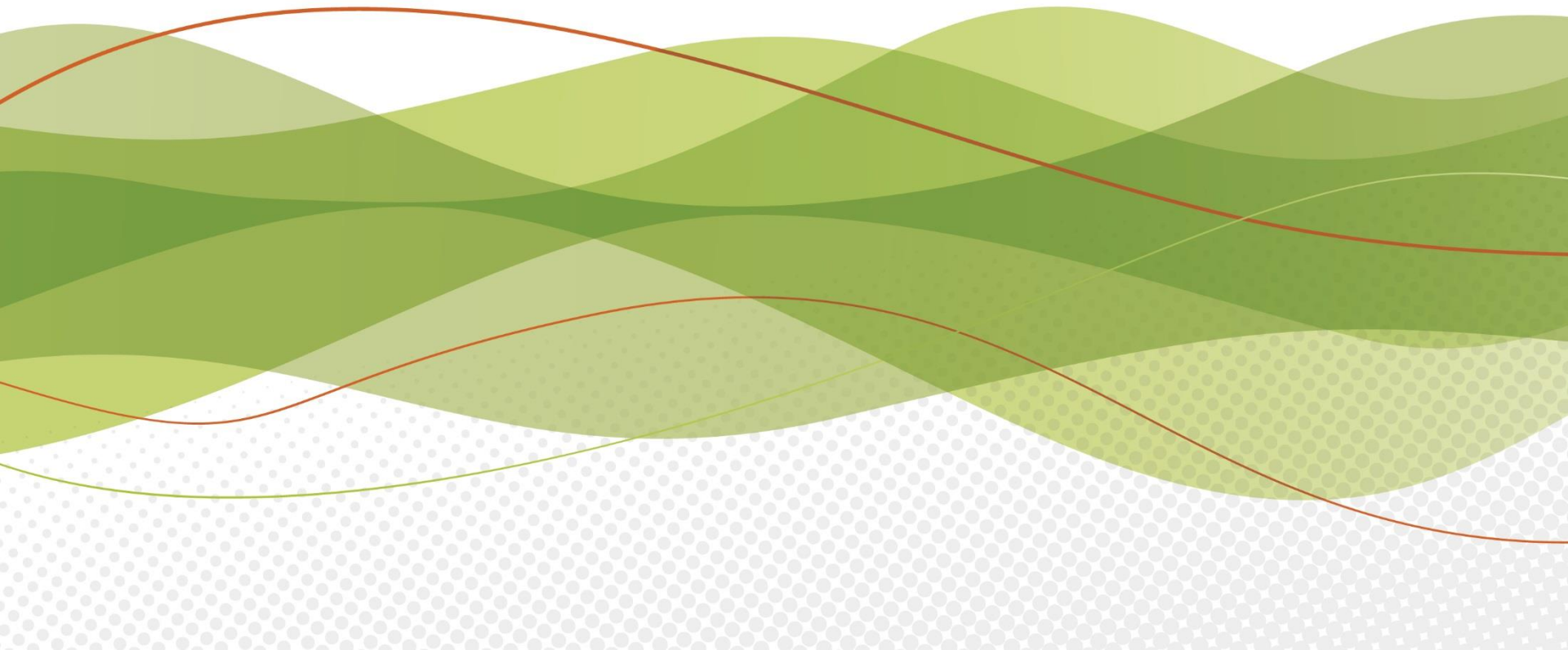




TimberWorks: Resiliency and Restoration Plan

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

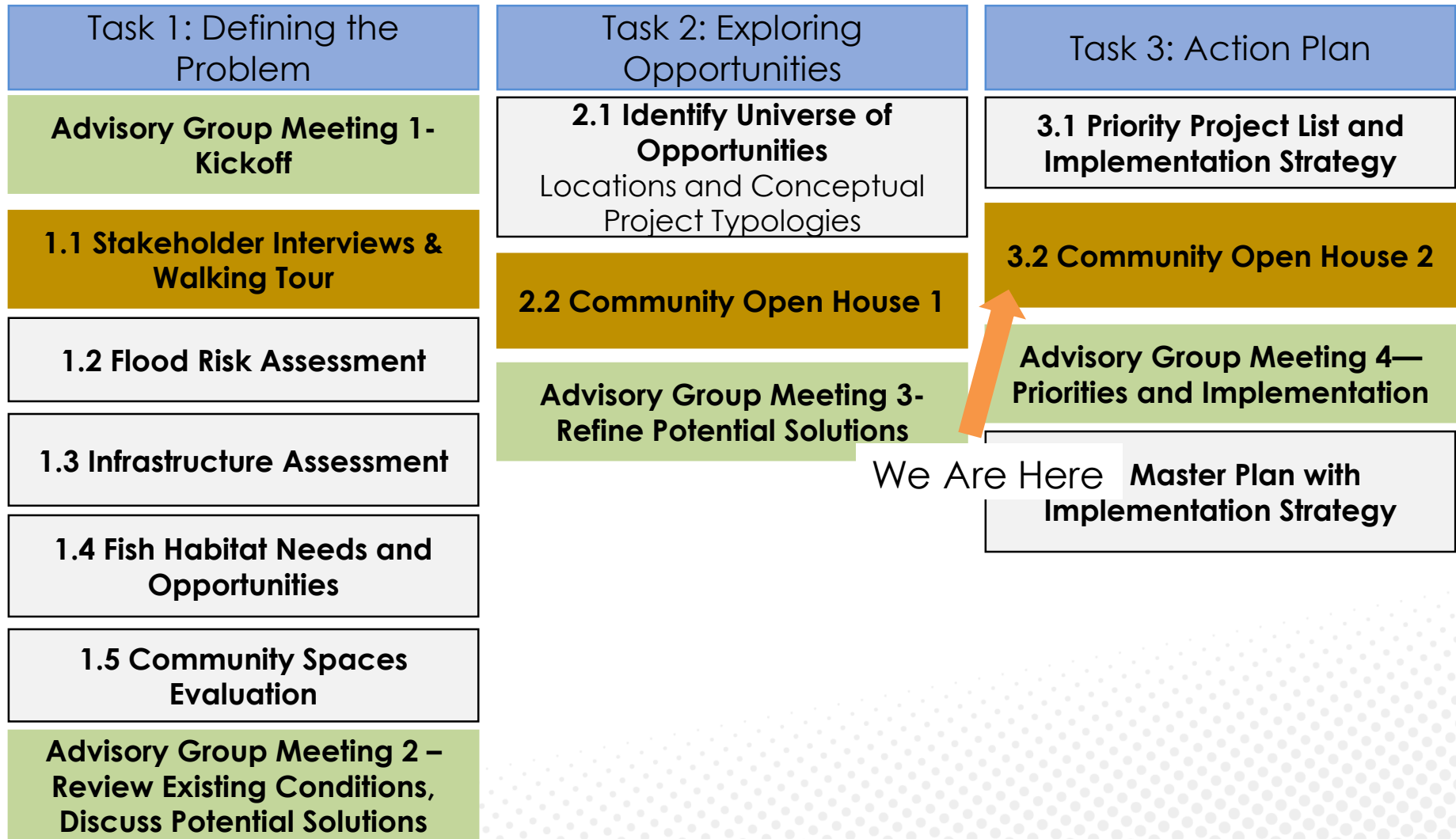


TimberWorks Plan

- **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

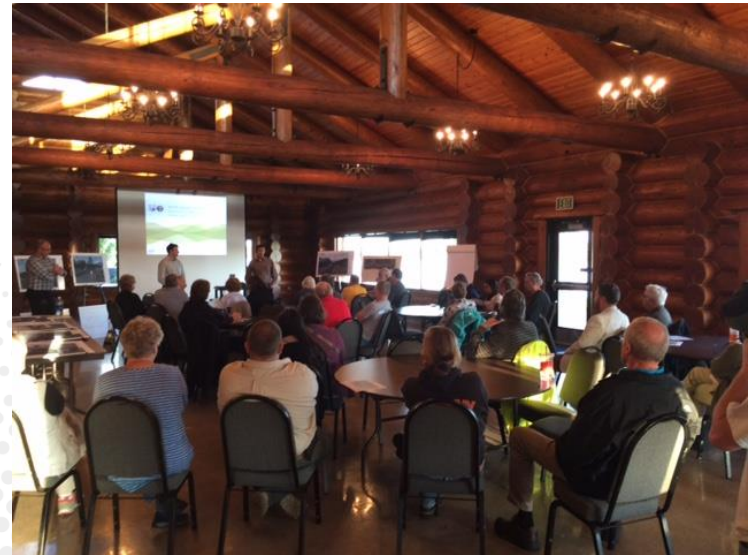
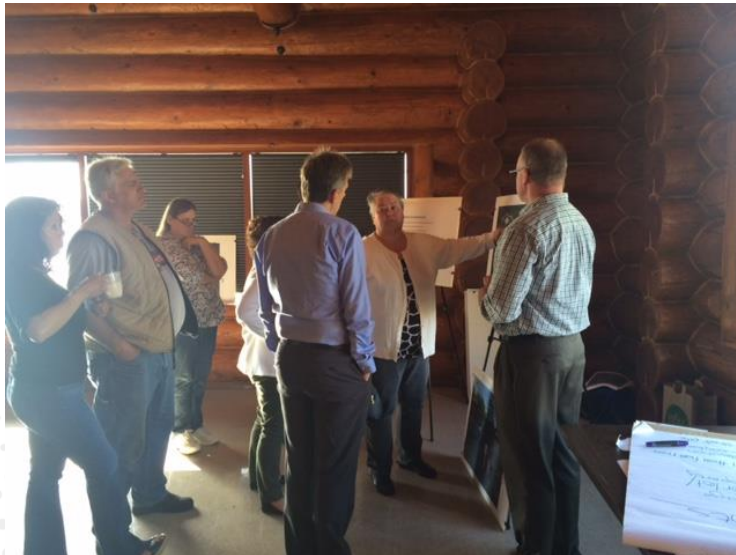
- High Level of Support, Including Willingness to Pay
- Sense of Urgency
- Interest in Community and Economic Benefits



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

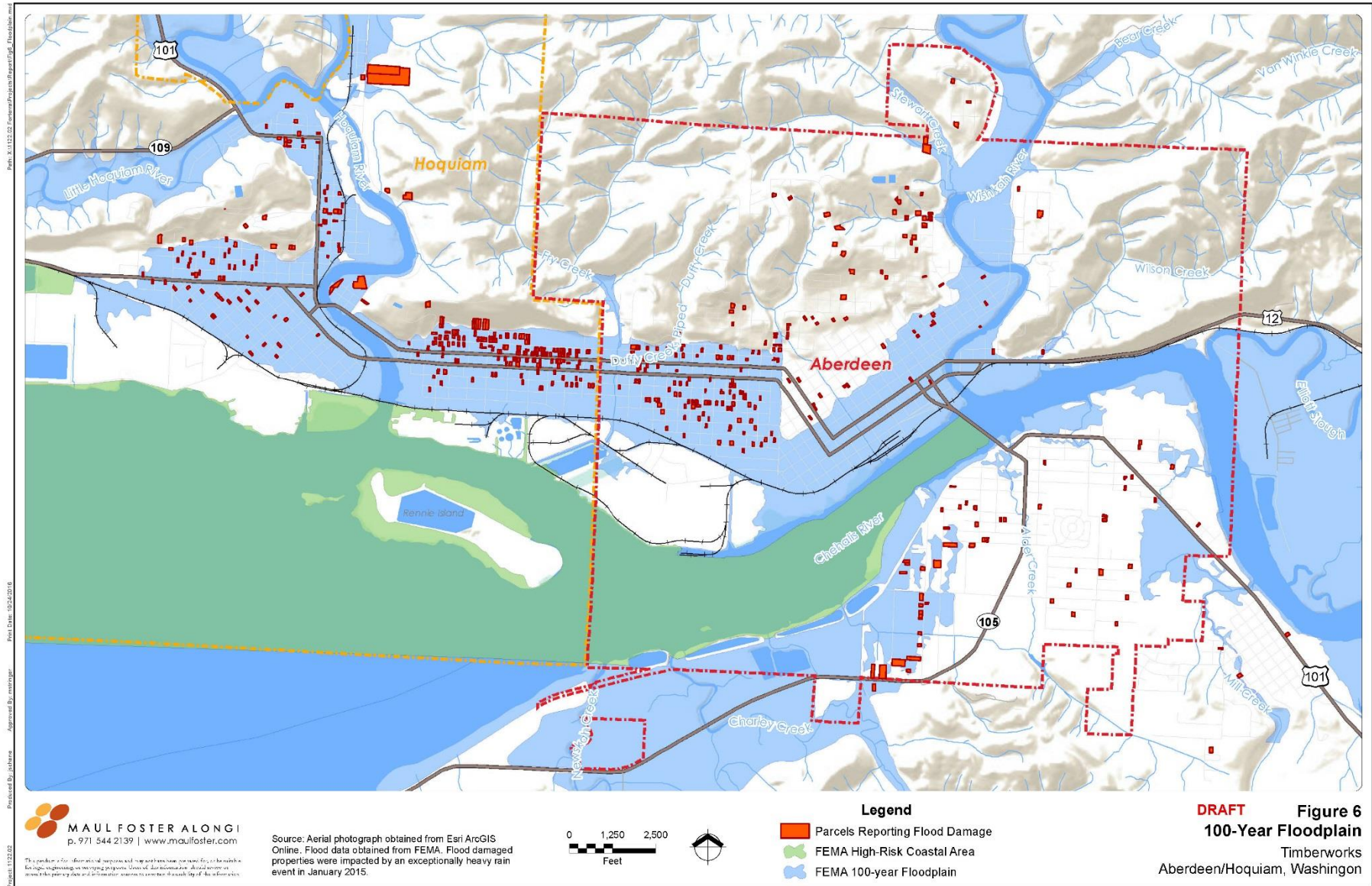


Drivers of Flooding

- **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



המחלקה לבריאות הציבור



Proposed Solutions

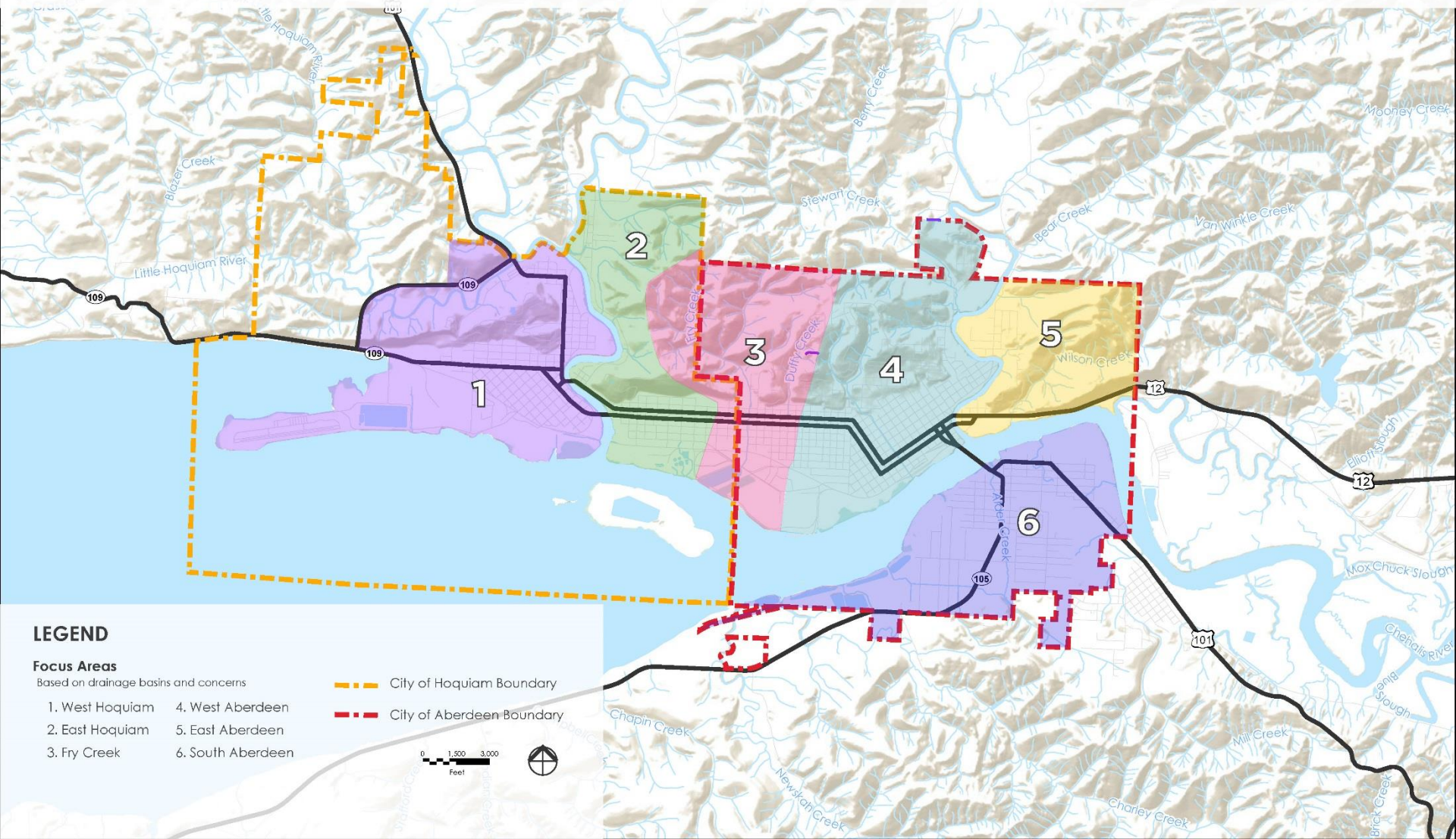
- **Protect Forested Areas in Upper Watershed**
- **Create Storage for Runoff and Flood Waters**
- **Reconnect Creeks to Floodplains**
- **Increase Capacity of Storm Drain System**
- **Expand Levee System**



Potential Project Areas

Focus Areas

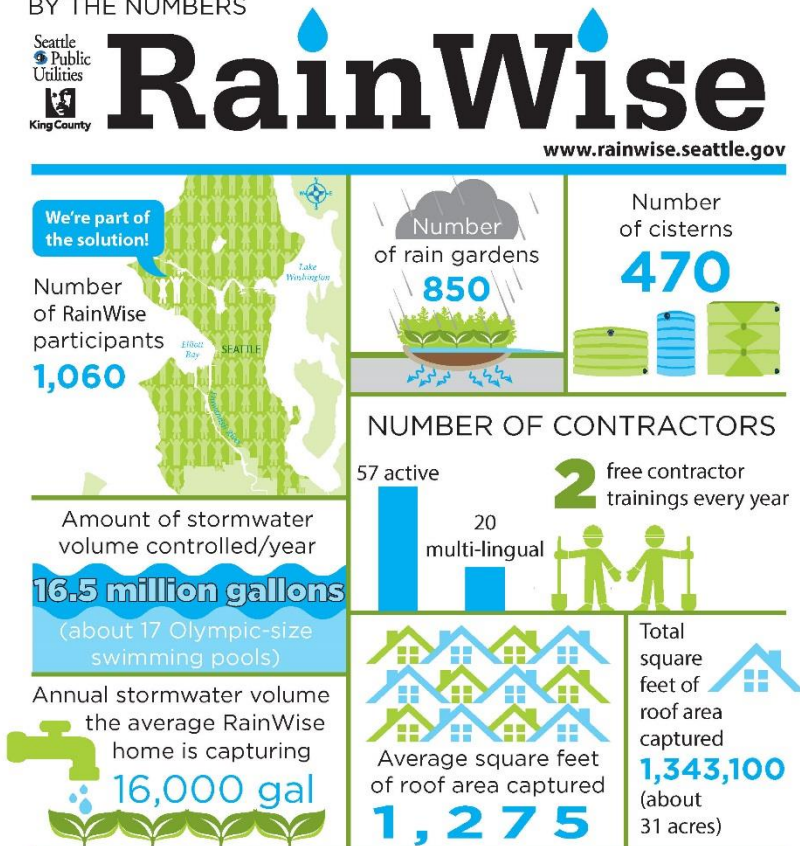
Timberworks: Resiliency and Restoration Plan
Cities of Aberdeen and Hoquiam



City-Wide Programs

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

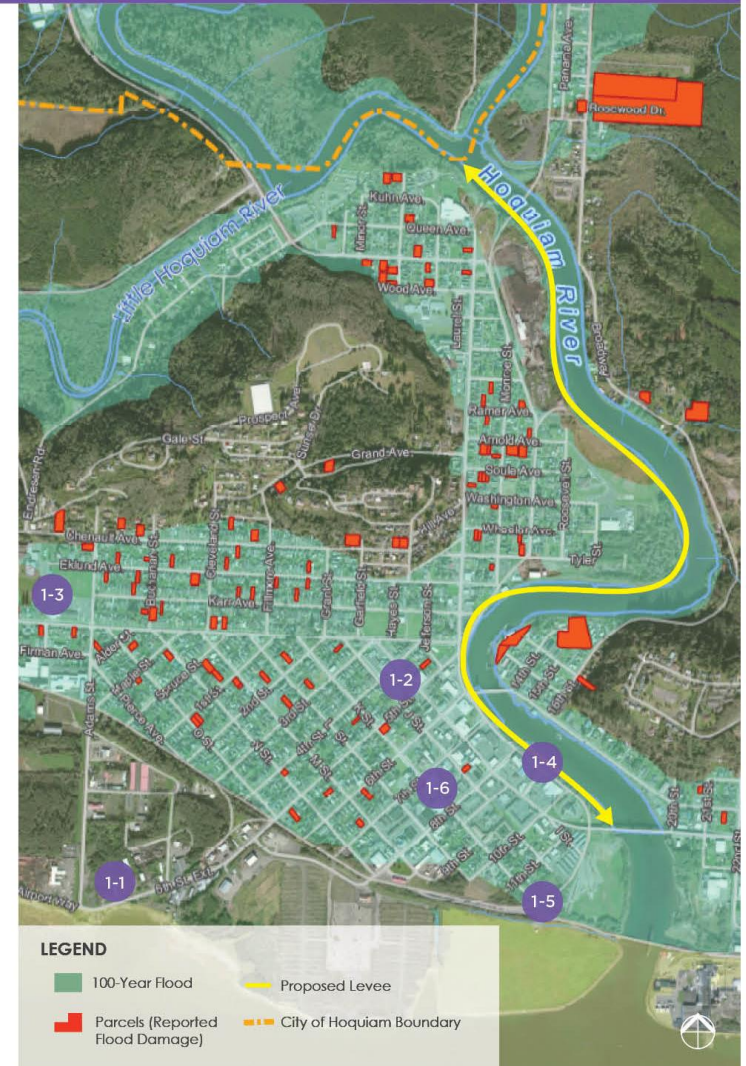
BY THE NUMBERS



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

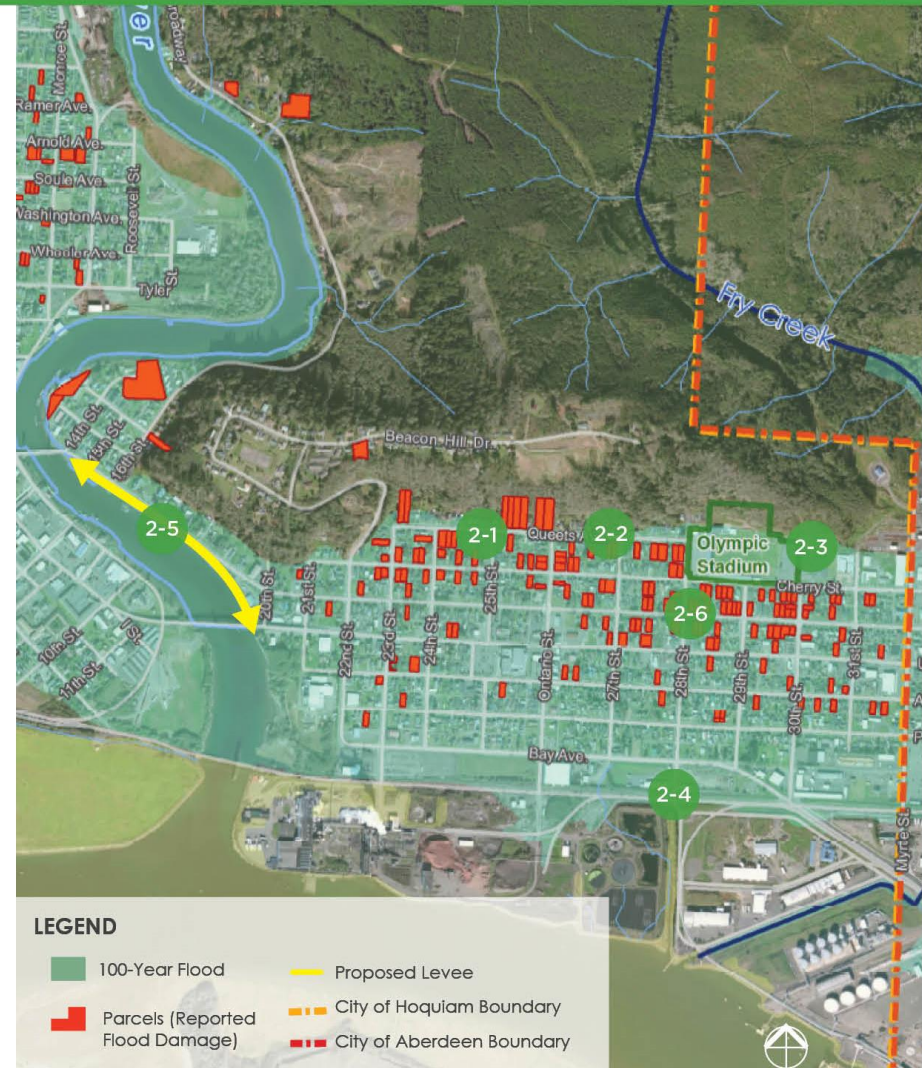
- Storage Basin
 - 3 Feet Deep Excavation
 - Remove portions of Asphalt
 - Connect to Public Storm System to Receive Flood Overflow
 - 1.5-2 acre-feet of Stormwater Storage



Potential Projects

Focus Area 2: East Hoquiam

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



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...

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.



Ontario Street

Queets Ave

Cherry 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

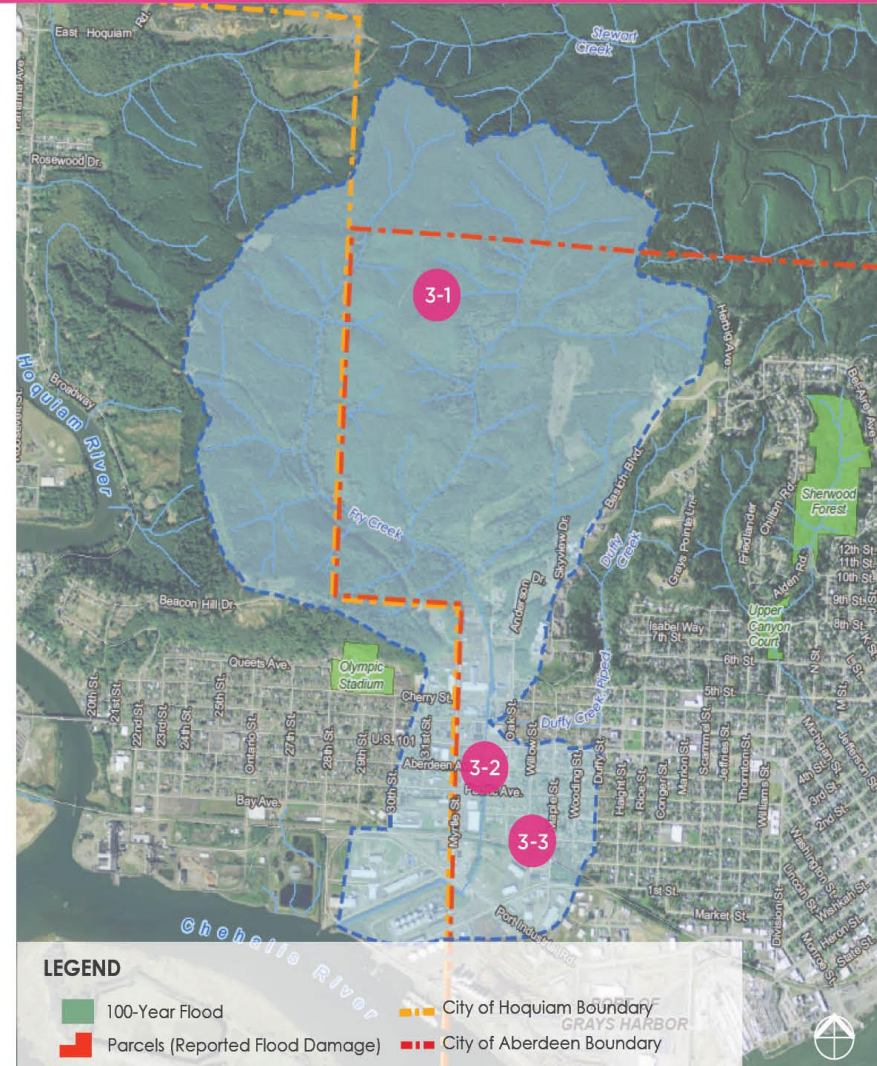
MED

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

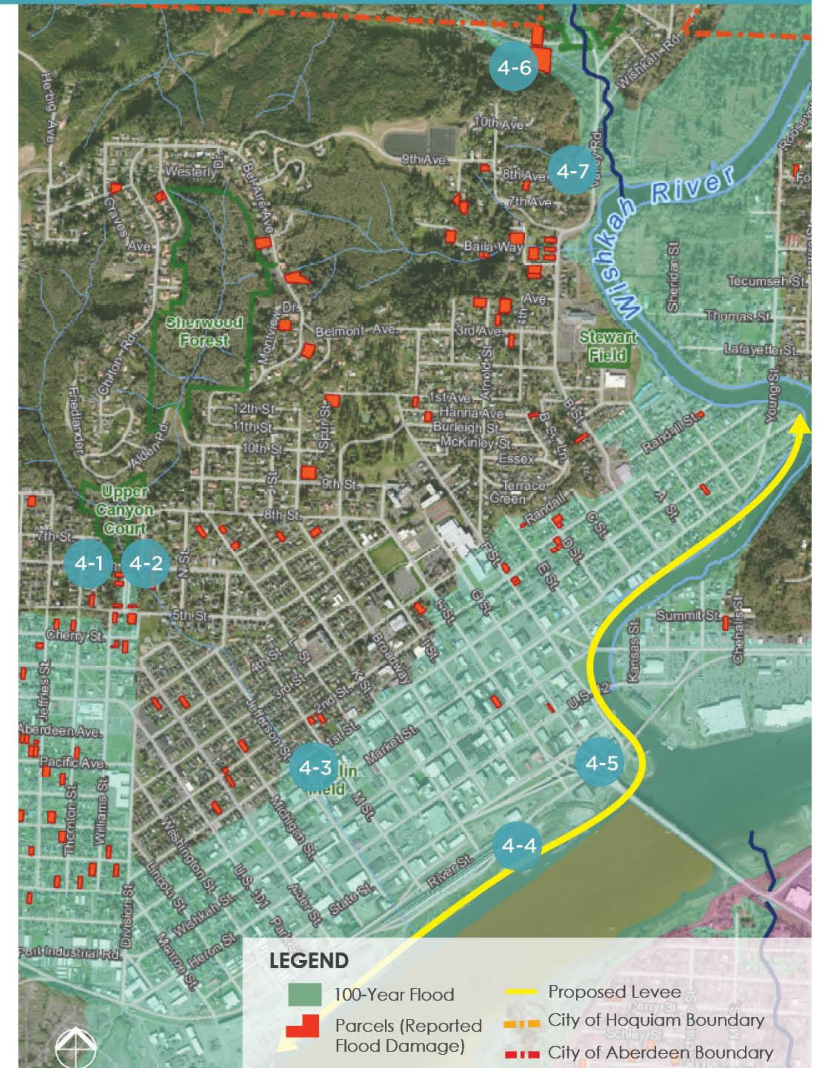
DRAFT

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

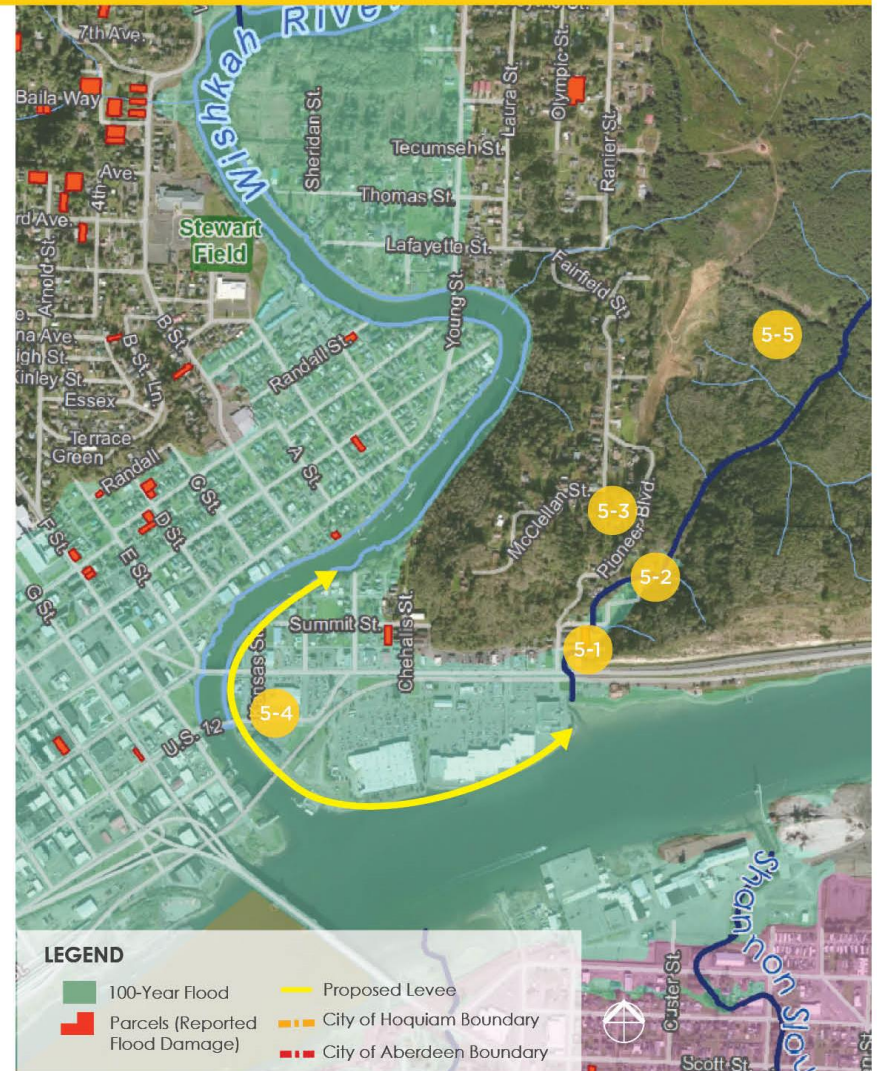
| Project | Cost |
|---|------|
| 4-1 Targeted Land Protection Forested land north of Canyon Court | LOW |
| 4-2 Finch Playfield Flood control park | MED |
| 4-3 Franklin Field Install pumps to increase capacity | MED |
| 4-4 Upgrade Outfall Pumps | HIGH |
| 4-5 North Shore Levee | HIGH |
| 4-6 Stewart 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

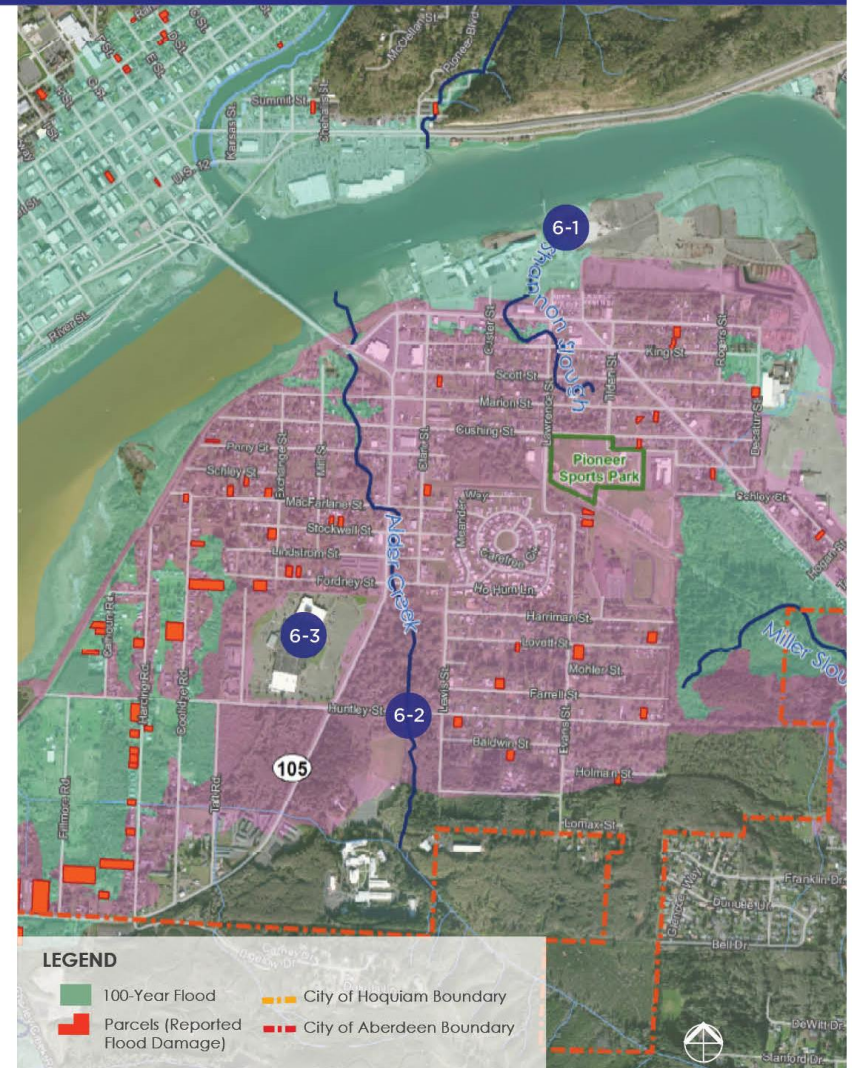
MED

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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