

Valley Creek Stormwater Management Actions

Port Angeles, WA



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FEDERAL WATER POLLUTION CONTROL ACT (AKA - Clean Water Act)

Title I. Declaration of Goals and Policy

Sec. 101 (a) – “The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.

PROVISIONS

Sec. 101(a)(1) – “It is the national goal that the discharge of pollutants into the navigable waters be eliminated...”

Sec. 101(a)(5) – “It is the national policy that areawide treatment management planning processes be developed and implemented to assure adequate control of sources of pollutants in each State”

Sec. 101(a)(7) – “it is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this Act to be met through the control of both point and nonpoint sources of pollution.

Background

Phase I: more than 100,000

Phase II: more than 10,000

Port Angeles







Legend

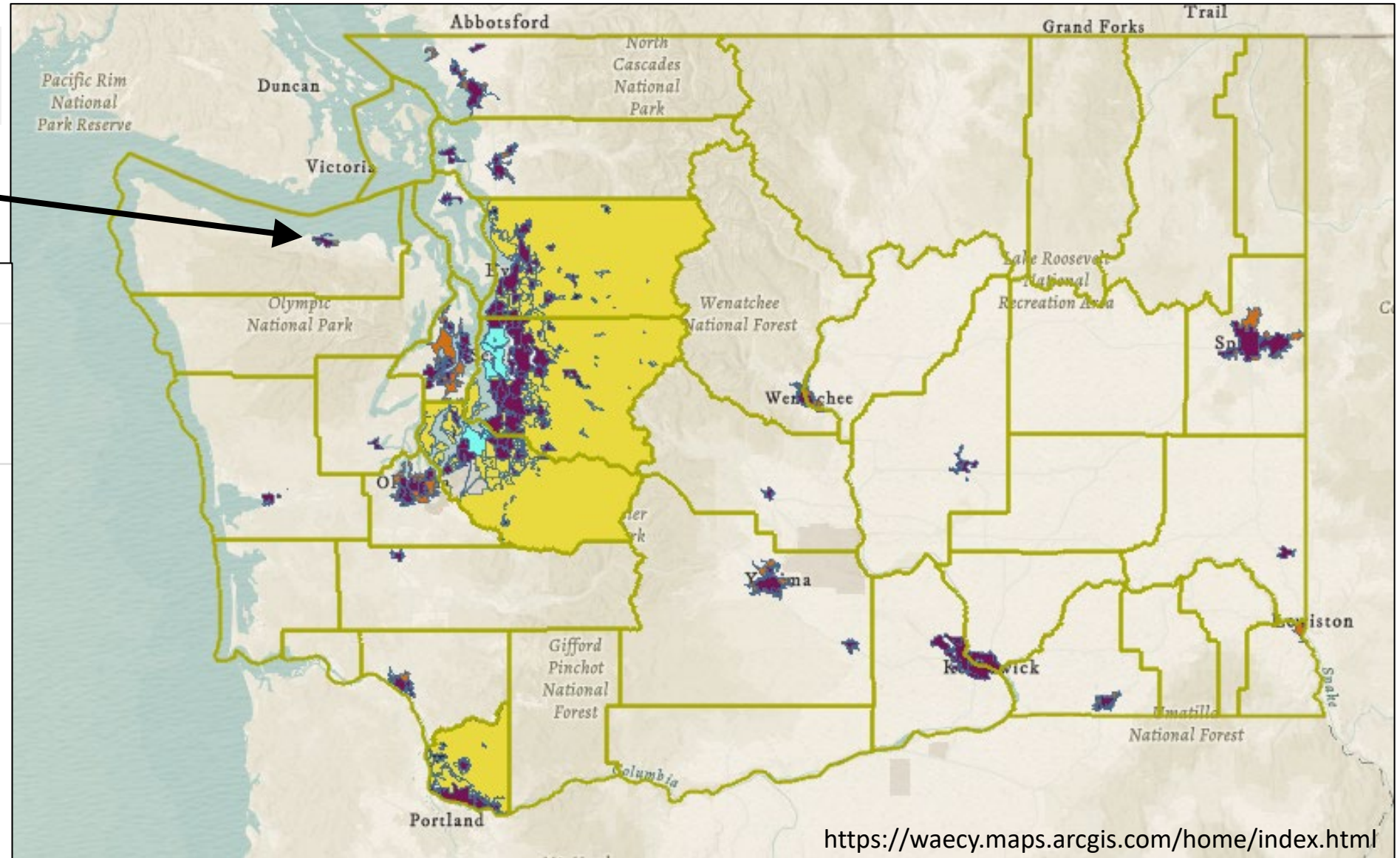
WA County Boundaries



Municipal Stormwater Permit Areas

SYMBOLY

-  phase1, city
-  phase1, county
-  phase2, city
-  phase2, county
-  n/a, city
-  Other



<https://waecy.maps.arcgis.com/home/index.html>

Background

2007 – 2012 Phase II SW Permit

- Stormwater Management Program (SWMP) Plan
- Education and Outreach Program
- Public Involvement & Participation
- Illicit Discharge Detection and Elimination (IDDE)
- Controlling Runoff from New Development, Redevelopment, and Construction Sites
- Pollution Prevention and Operations & Maintenance (O&M) for Municipal Operations



2013 – 2018 Phase II SW Permit

- Controlling Runoff from New Development, Redevelopment, and Construction Sites
 - Thresholds dropped to 7,000 sq ft. land dist. & 2,000 sq. ft. of hard surface.
- O&M
 - Municipal & **Private Facility**
 - Annual inspections of privately owned stormwater treatment and detention facilities



2019 – 2024 Phase II SW Permit

- Stormwater Planning
 - Long-range Planning Reports
 - **SMAP – Phase I, II, & III**
- MS4 Mapping & Documentation
- O&M
 - Updates to Policies & Procedures, Corp Yd SWPPP
- Source Control
 - New regulatory-based, private business inspection program.

** WA Dept. of Ecology is currently drafting the 2025 – 2030 Permit and is accepting public review and comment.

2019-24 Western Washington Phase II Municipal Stormwater Permit

S5.C.1 – Stormwater Planning

A planning program to inform and assist in the development of policies and strategies as water quality management tools to protect receiving waters.

S5.C.1 (d) – Stormwater Management Action Planning (SMAP)

A planning approach that emphasizes protection of designated uses and improvements to receiving water quality and habitat under both existing and anticipated future developed conditions.

SMAP helps to answer these two important questions:

- 1) How can we most strategically address existing stormwater problems?
- 2) How can we meet our future population and density targets while also protecting and improving conditions in receiving waters?

SMAP Planning Effort

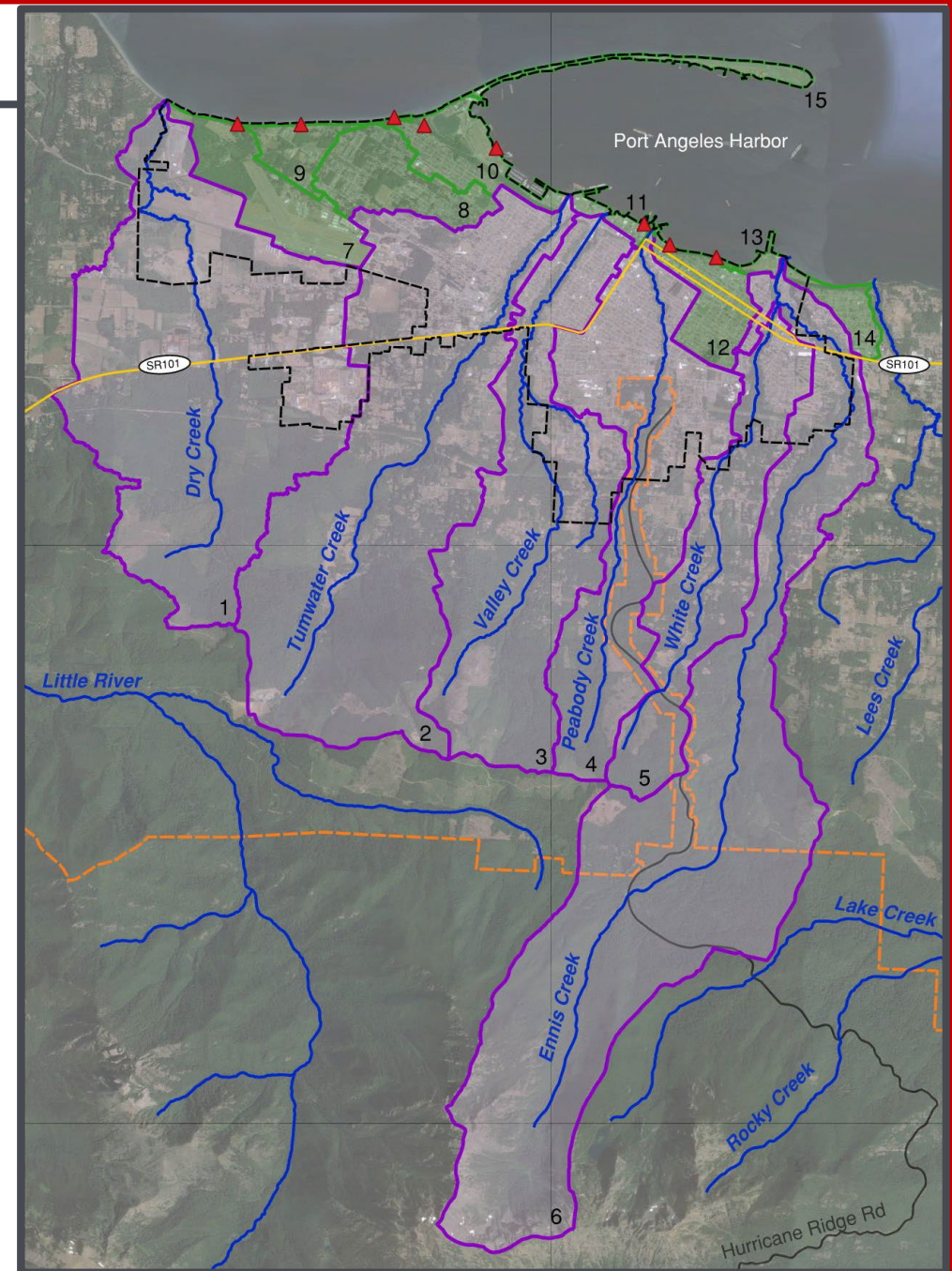
Phase I: Receiving Water Conditions Assessment

Phase II: Receiving Water Prioritization

Phase III: Stormwater Management Action Plan for a Priority Basin

Receiving Water Conditions Assessment

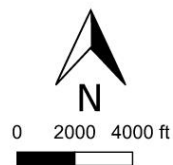
1. Delineation of basins within the City limits
 - a) 15 Distinct Basins were Identified, delineated, and assessed. 6 Purple = freshwater, 9 Green = Saltwater
2. Assessment of receiving waters for their existing conditions, designated use and desired water quality conditions, and potential influence of stormwater management.
3. Develop a watershed inventory



Port Angeles Basin Delineations

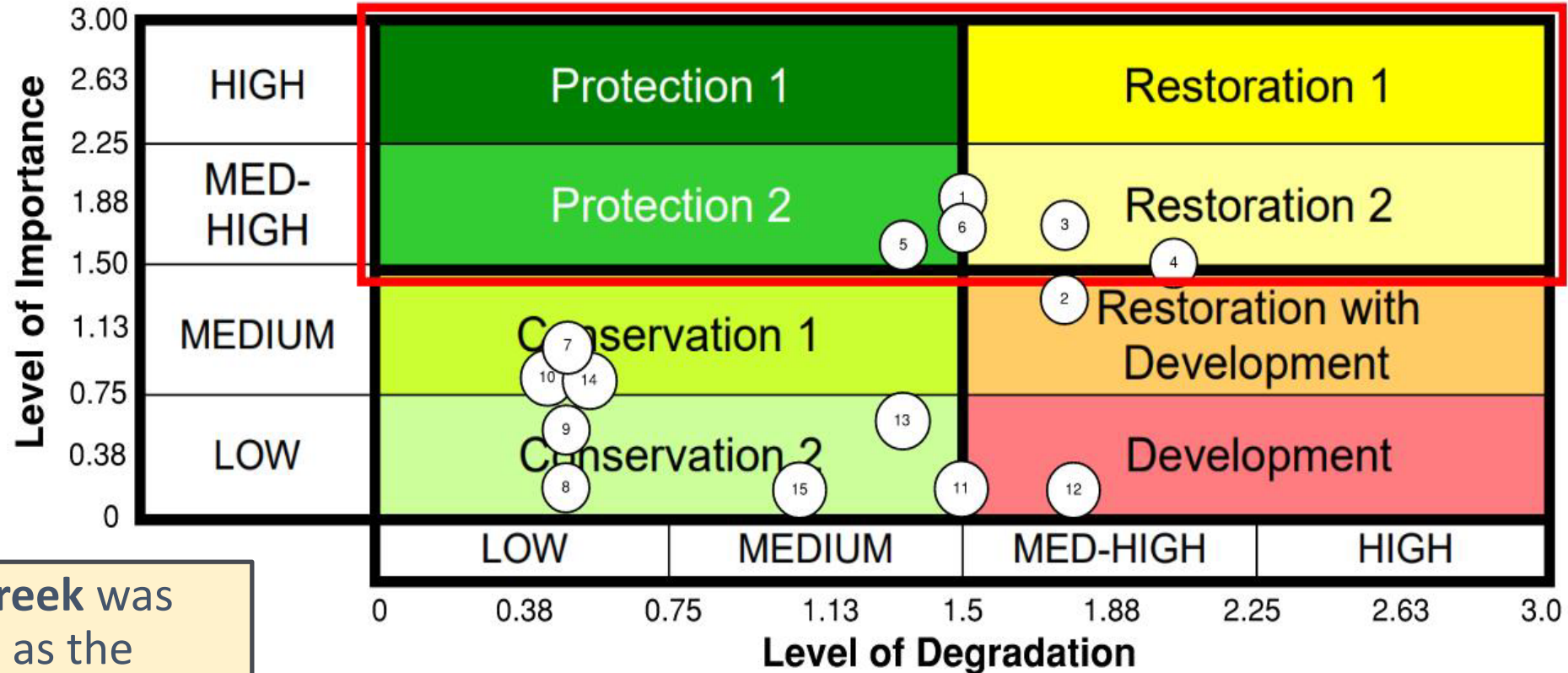
Legend

- | | |
|--------------------------------|--------------------------|
| Freshwater Basin | Waterbody |
| Saltwater Basin | State Route 101 |
| Port Angeles City Boundary | Saltwater Basin Outfalls |
| Olympic National Park Boundary | Basin ID |



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Receiving Water Prioritization



Valley Creek was selected as the high-priority basin for SMAP development

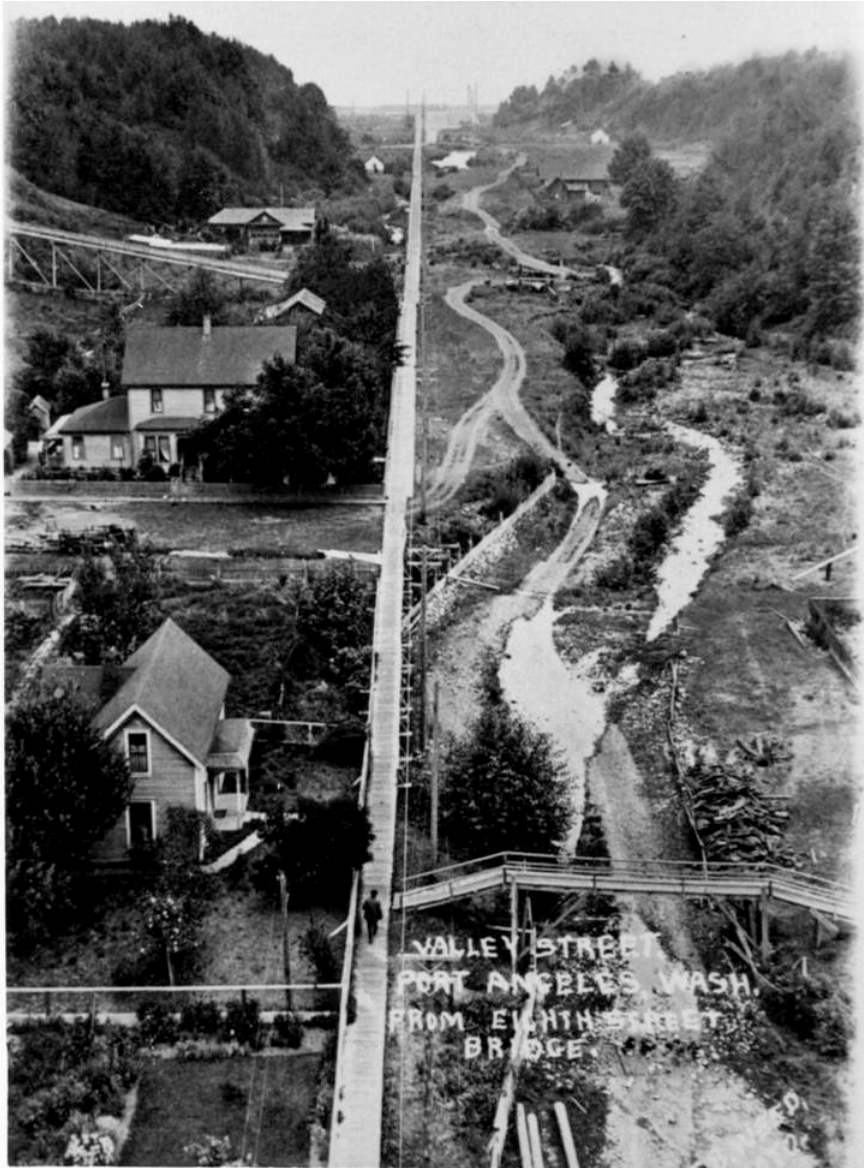
Basin names and numbers

- 1 – Dry Creek
- 2 – Tumwater Creek
- 3 – Valley Creek
- 4 – Peabody Creek

- 5 – White Creek
- 6 – Ennis Creek
- 7 – Ocean 7
- 8 – Ocean 8

- 9 – Ocean 9
- 10 – Ocean 10
- 11 – Ocean 11
- 12 – Ocean 12

- 13 – Ocean 13
- 14 – Ocean 14
- 15 – Ocean 15



Port Angeles' Long History of Investing in Restoring Valley Creek

Investment Groups:

WA Dept. of Fish & Wildlife
The Rotary Club of Port Angeles,
City of Port Angeles,
Port of Port Angeles,
Lower Elwha Klallam Tribe,
Clallam County,
WA Dept. of Nat. Resources,
North Olympic Salmon Coalition,
Daishowa America,
Soroptomists Club,
Peninsula Trails Coalition,
Valley Creek Restoration Committee,

North Olympic Land Trust,
Friends of Valley Creek,
Streamkeepers
Queen of Angeles
Northwest Territories Inc.
Peninsula Bottling Co.

Port Angeles' Long History of Investing in Restoring Valley Creek

- **1997** – Valley Creek Estuary Construction: Multi-jurisdictional effort to create an Estuary by filling in the POPA's unused K-Ply Pond.
- **1998** – Valley Creek Restoration Alternatives; Design Analysis: Assessment of full-reach and development of phased projects.
- **2000** – HWY 101 / Valley Creek Culvert Fish Passage: WDFW Project to install baffles in existing culvert and stabilize the downstream channel
- **2002** – Valley Creek Channel Restoration (VC Restoration Phase II): WDFW Project to improve channel between the Estuary and the culvert outfall
- **2008** – 8th Street Bridge Replacement: Category III Wetland mitigation and improvements within Valley Creek Ravine
- **2008** – Valley Creek Restoration Phase III: WDFW Conceptual Design plan set
- **2011** – Valley Creek Culvert Clearing: COPA CFP Project DR0411; included restoration and improvements at the mouth
- **2011** – Valley Creek Restoration Phase III: Grant Funded Design Work; Report & Plans. Proposed improvements between 2nd & 9th Sts.
- **2019** – Futurewise, GreenLink Port Angeles Phase I: Continued grant funded effort; focused on Valley Creek Daylighting Feasibility Study
- **2022** – Futurewise, GreenLink Port Angeles Phase II: Valley Creek Master Plan; Consolidation and Planning Effort.

Future/Planning

- CFP #**TR0506**: Valley Creek Trail Loop – Unfunded; Construction of a nature trail loop utilizing the Valley and Peabody Creek corridors.
- CFP #**DR0112**: Valley Creek Culvert & Outfall – Unfunded; Replace the lower reach of the culvert between the IWL and the outfall
- CFP #**GG0916**: Valley Creek Restoration Phase III, Const. – Unfunded; Fish passage improvements to culvert and channel between 2nd & 9th Streets
- CFP #**TR0421**: Valley Street Culvert Crossing – Partially Funded; Alternatives analysis - replacement of antiquated culvert/bridge deck at 9th St.

SMAP Phase III – Stormwater Management Actions

Phase III of SMAP consists of the following tasks:

- 1) Desktop screening for identification of stormwater projects, policy and/or code changes, and management actions for the Valley Creek basin
- 2) Evaluation and development of stormwater projects and management actions for the Valley Creek basin
- 3) Review and coordination of existing planning efforts
- 4) Develop recommendations, timeline, and funding sources for Stormwater Management Actions

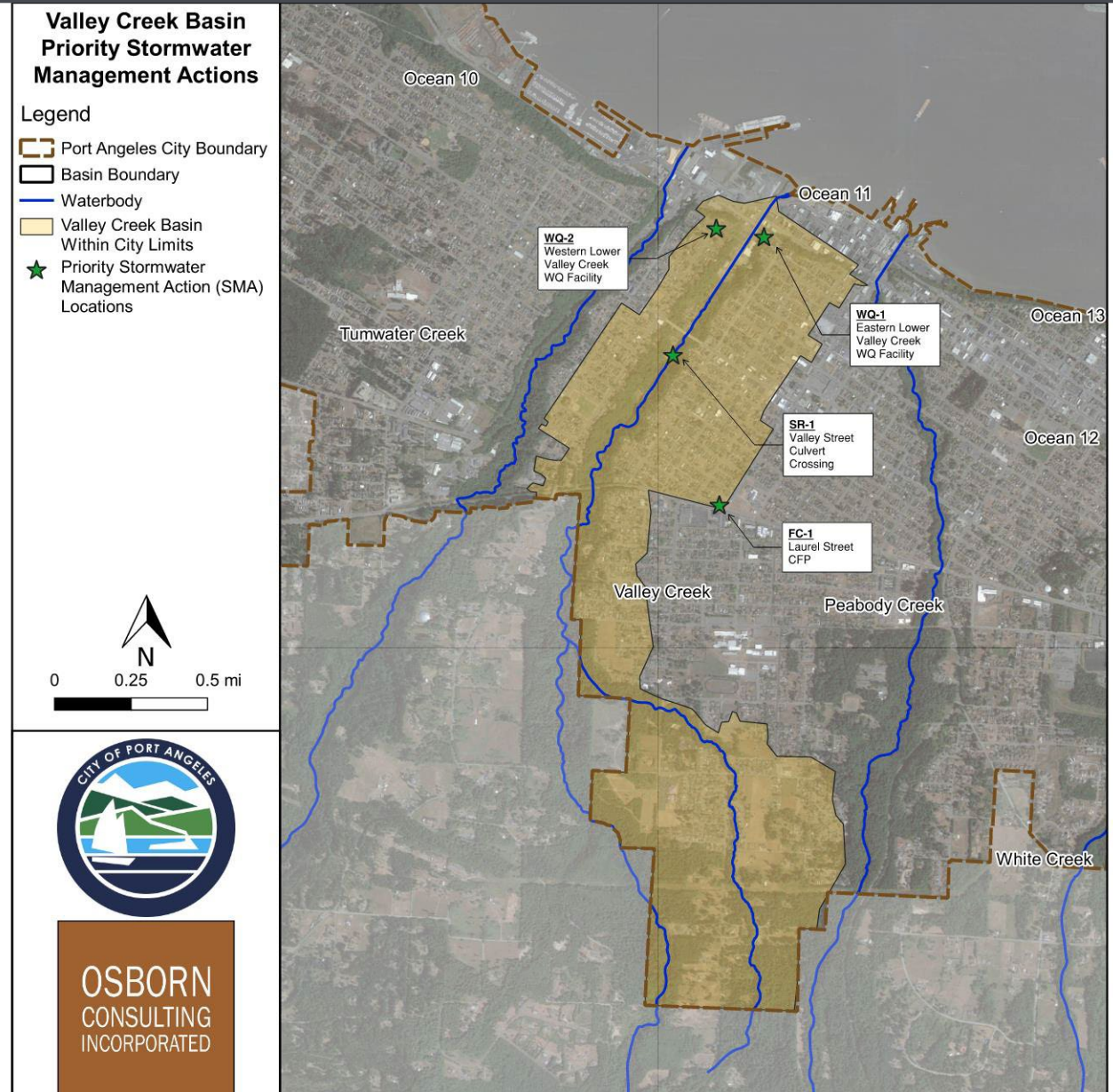
Project Name	Stormwater Opportunity	Selected for SMAP Prioritization
Eastern Lower Valley Creek WQ Facility	Redirect and treat existing SW runoff through regional water quality facility	Yes
Western Lower Valley Creek WQ Facility	Redirect and treat existing SW runoff through regional water quality facility	Yes
Laurel Street CIP	Implement water quality retrofit to existing urban flood reduction project	Yes
Valley Street Culvert Crossing	Remove/replace bridge and reconnect floodplain for habitat restoration, increase riparian buffer, and natural flow control	Yes
Elk Playfield Green Street	Utilize existing wide R/W to showcase stormwater treatment	No
Wilson Park Green Street	Utilize existing wide R/W to showcase stormwater treatment	No
Regional Facility near Moose Lodge Recreational Area	Construct regional facility to intercept stormwater system and treat prior to DS outfall in Valley Creek	No
Valley Creek Culvert and Outfall	Reduce sedimentation and flooding through upsizing of lower reach of culvert	No
Valley Creek Restoration Phase III	Improve fish habitat and passage, biological processes, riparian plant establishment, wetland and floodplain enhancement, and reduction of erosion	No

Table 1. Preliminary List of Stormwater Management Actions

Projects Prioritized for SMAP

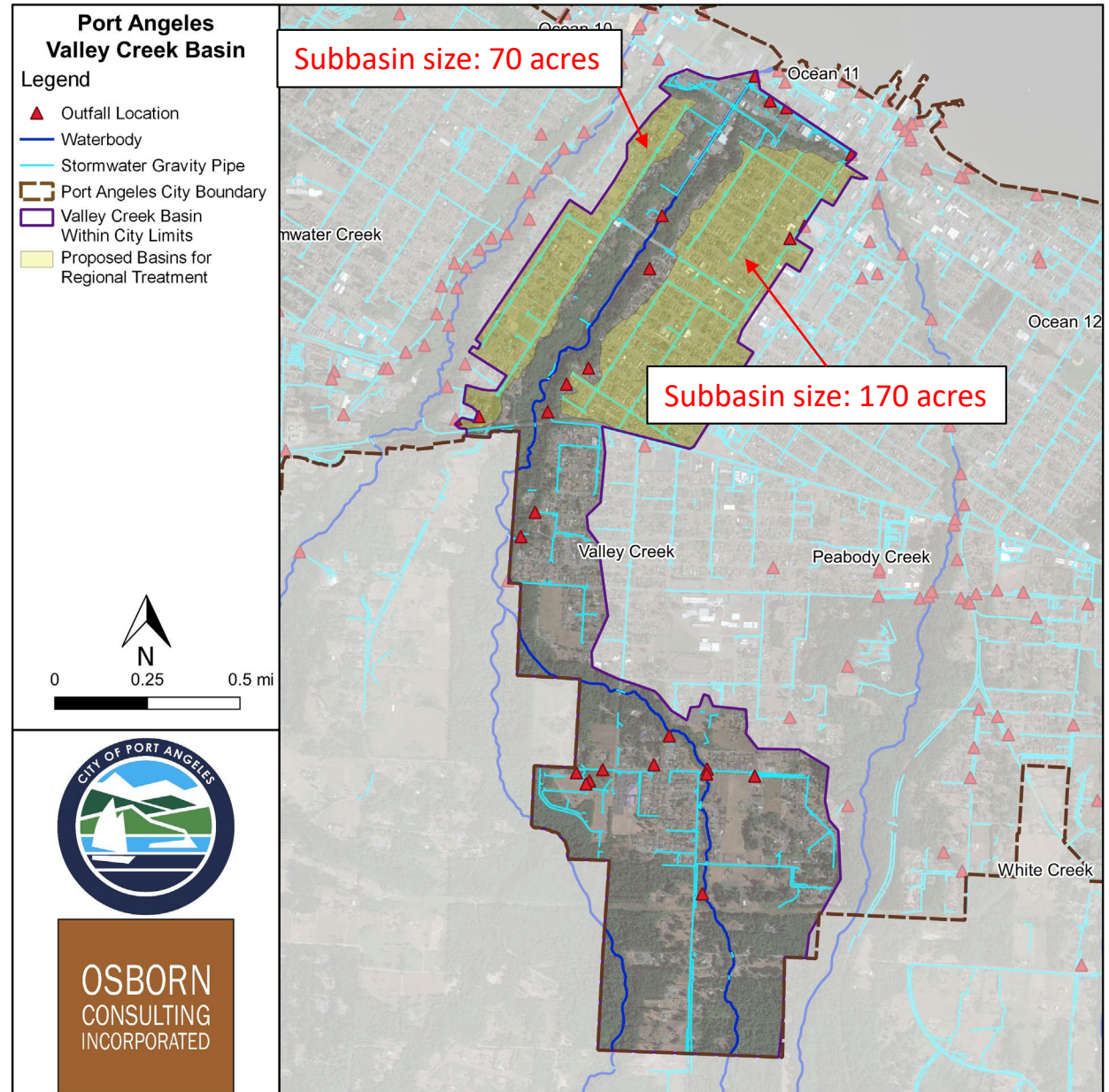
Four high-value stormwater projects were selected and have been prioritized for inclusion in the City’s SMAP, as shown in the following table and figure.

Site ID	Project Name	Location
WQ-1	Eastern Lower Valley Creek WQ Facility	S Pine Street between W 3 rd Street and W 4 th Street
WQ-2	Western Lower Valley Creek WQ Facility	Parcel south of W 2 nd Street between S Valley Street and S Cherry Street
FC-1	Laurel Avenue CIP	Intersections of E Lauridsen Boulevard, S Lincoln Street, and S Laurel Street
SR-1	Valley Street Culvert Crossing	Valley Creek stream crossing just south of W 8 th Street



Valley Creek Regional Stormwater Facilities

The figure to the right shows the two main stormwater subbasins for which **water quality treatment** concepts were developed.



Valley Creek West Regional Facility



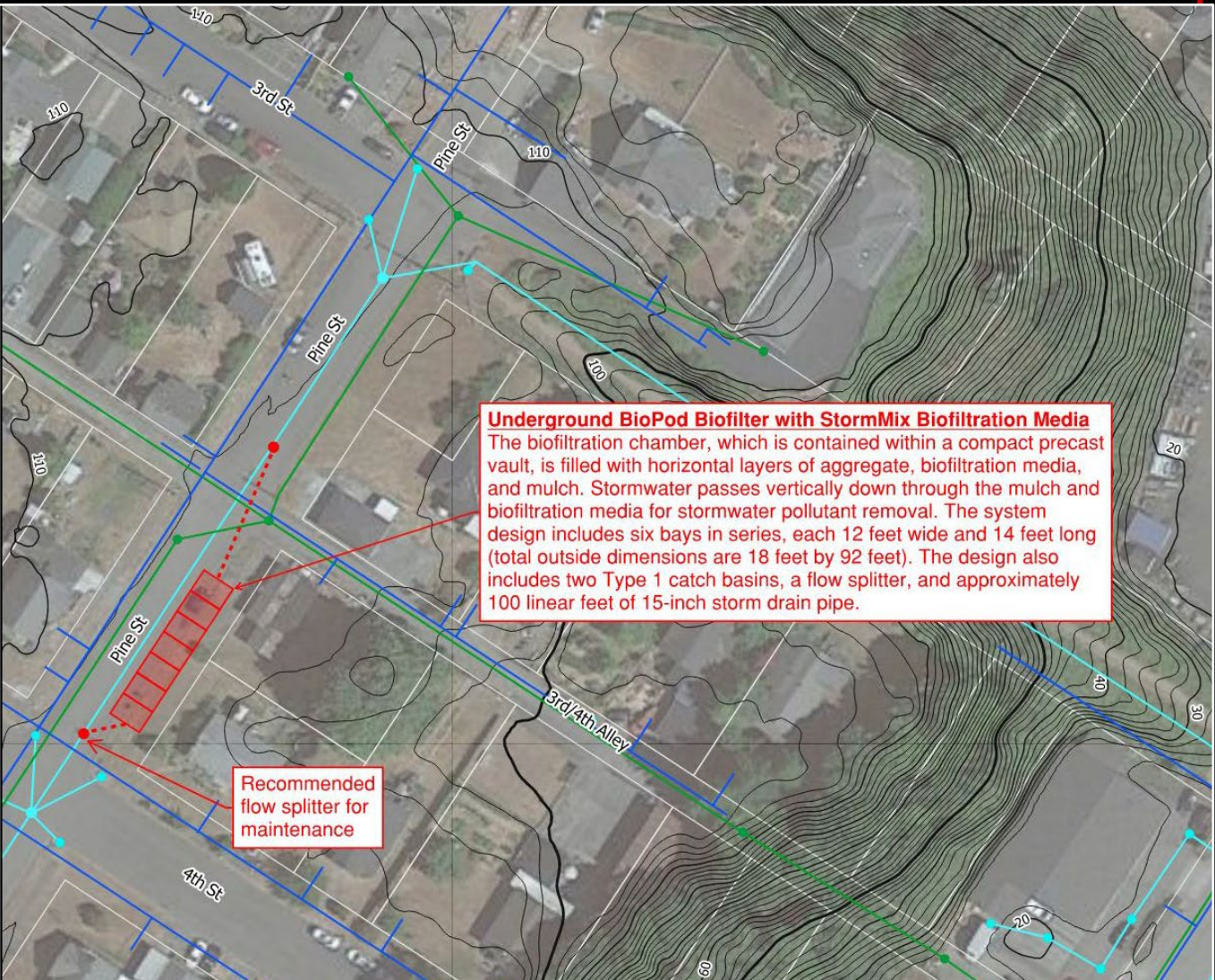
Port Angeles Valley Creek Basin

Legend

- Sewer Gravity Main
- Storm Gravity Main
- Water Line
- Contours 2-ft
- Sewer Manhole
- Storm Catch Basin
- ▭ Parcels
- - - Proposed Pipe
- ▭ Proposed BMP Footprint
- Proposed Catch Basin

0 50 100 ft

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Valley Creek West Regional Facility

Oldcastle BioPod Biofilter System with StormMix Media

Project Goal: Treat approximately 70 acres of polluted runoff prior to discharging into Valley Creek

Advantages:

- Smaller footprint than conventional bioretention systems.
- Less construction time due to small system size.
- Concentrated treatment is accessible and easy to maintain.
- Treatment area is separate from overflow, allowing for condensed footprint.
- Easily fits within right-of-way.
- Maintains existing storm drain alignment.
- No maintenance of plants required.
- Pre-treatment unit not required.

Disadvantages:

- Underground system; no opportunity for stormwater education or aesthetics.
- Requires annual replacement of mulch layer.
- Potential water and sewer conflicts.



BIPOD UNDERGROUND

Below-grade vault with media only, no vegetation.



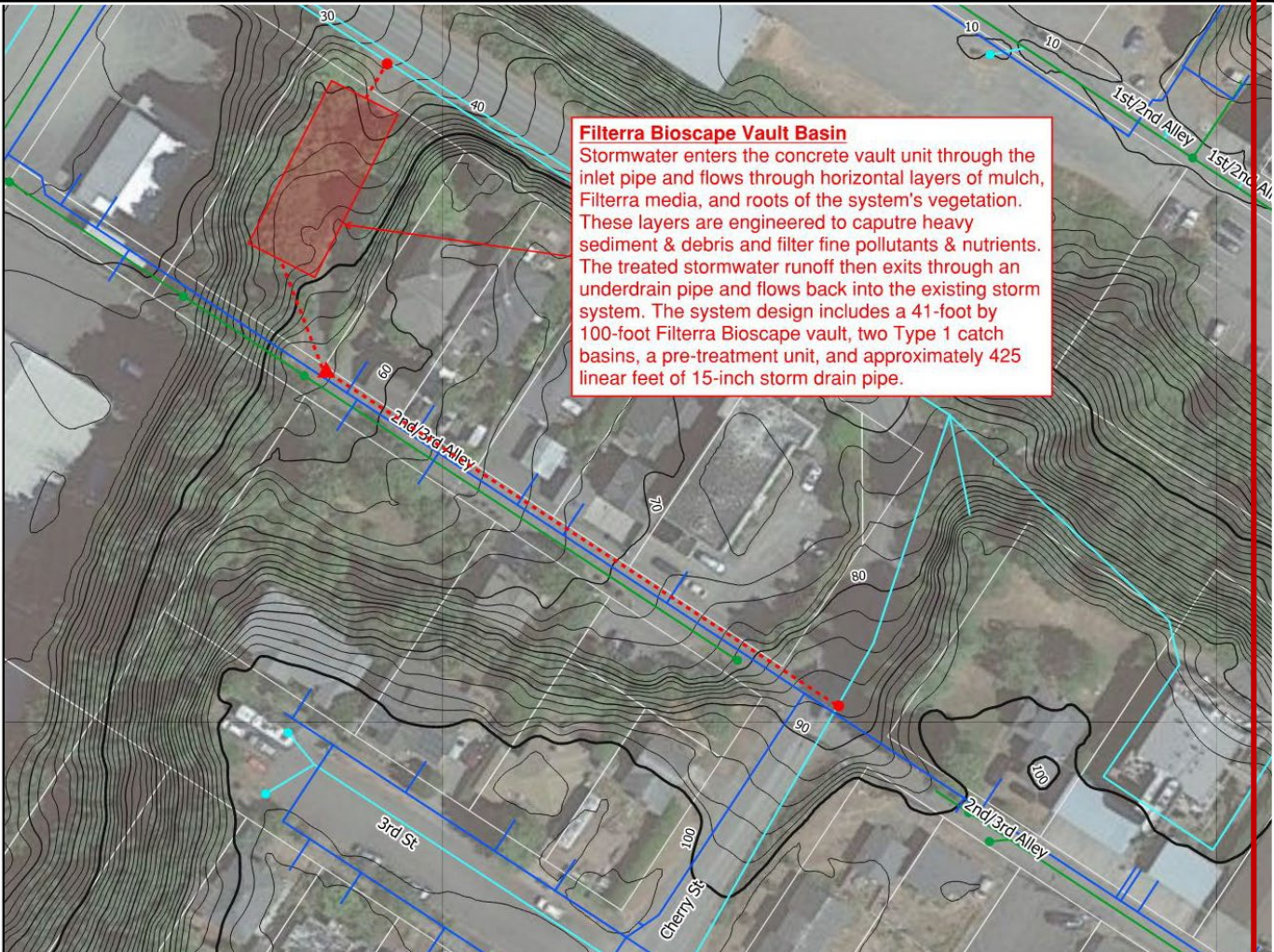
Valley Creek East Regional Facility – Alternative 1



Port Angeles Valley Creek Basin

Legend

- Sewer Gravity Main
- Storm Gravity Main
- Water Line
- Contours 2-ft
- Sewer Manhole
- Storm Catch Basin
- Parcels
- Proposed Pipe
- Proposed BMP Footprint
- Proposed Catch Basin
- ▲ Proposed Pre-treatment Unit



Valley Creek East Regional Facility – Alternative 1

Filterra Bioscape Vault Basin

Project Goal: Treat approximately 170 acres of polluted runoff prior to discharging into Valley Creek and provide stormwater education opportunity

Advantages:

- Could act as a neighborhood park/trail with stormwater education.
- Invert depths not of concern.
- Avoids steep slopes on the parcel.

Disadvantages:

- May require retaining wall support on either end of the parcel
- May require relocation of roadway that runs through City-owned parcel (if roadway is deemed necessary).
- Potentially many water service conflicts; very close to water line.
- Without concrete vault, potential for landslides on steep slopes to the west.
- More maintenance.
- Additional cost for vegetation.
- Might require water service relocation.



Valley Creek East Regional Facility – Alternative 2

Oldcastle BioPod Biofilter System with StormMix Media

Project Goal: Treat approximately 170 acres of polluted runoff prior to discharging into Valley Creek

Advantages:

- Smaller footprint than Filterra Bioscape alternative.
- Concentrated treatment is accessible and easy to maintain.
- No maintenance of plants required.
- Pretreatment unit not required.

Disadvantages:

- Potentially multiple water service conflicts; very close to water line.
- Cannot avoid slopes at south end of plot.
- Underground system; no potential for stormwater education.
- May require relocation of roadway that runs through City-owned parcel.



BIPOD UNDERGROUND

Below-grade vault with media only, no vegetation.



Valley Street Culvert Crossing (Existing CFP)

Capital Facilities Project TR0421 – Restoration in Valley Creek

Project Description: Remove/replace failing bridge across Valley Creek near Valley Street just south of W 8th Street

Justification:

- During seasonal high-water flow, the culvert cannot convey Valley Creek
- Road is undermined and failing and requires annual maintenance
- Sole access road to properties on east side of Valley Creek

Timeline:

- Project currently in Pre-Planning stage
- Design in 2025-2026
- Construction in 2027



Stormwater at Laurel St & US 101 (Existing CFP)

Capital Facilities Project DR0304

Project Description: Design and construct stormwater system improvements to reduce flooding through the intersections of Lincoln, Lauridsen, and Highway 101

Justification:

- Undersized pipes cannot convey stormwater runoff during storm events
- Flooding and ponding occurs on Lauridsen Boulevard
- Project would convey stormwater runoff to Valley Creek, out of flooding area in the adjacent Peabody Creek basin

Timeline:

- Project currently in Planning stage
- Design in 2025
- Construction in 2026



Programmatic Actions

New Programs

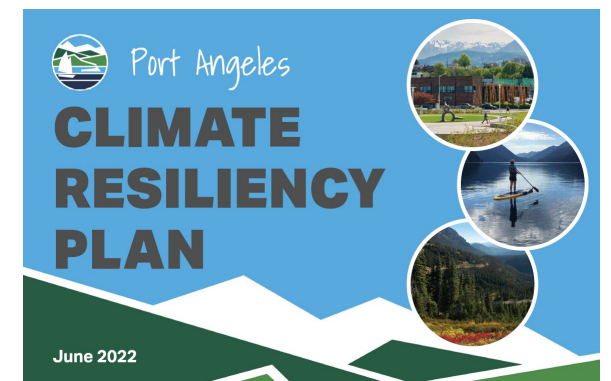
- Source Control Program

Continued implementation of existing plans and codes

- Climate Resiliency Plan
 - Direct implementation of Ecosystem Health and Community Resilience and Wellbeing Goals (EH-2, CRW-1, and BE-1)
- Stormwater Management for Private Development

Other Potential Programs

- Stream Corridor Property/Easement Acquisition Program Formation



We want to hear from you!

The City is soliciting community feedback on proposed Stormwater Management Actions:

- Are there other opportunities that you think should be considered within the Valley Creek basin?
- Do you have any feedback on the current proposed projects/programs?
- **Submit your feedback here:**
 - <https://www.cityofpa.us/1140/Stormwater-Management-Action-Plan>



Project Timeline

What's next?

- Submit your feedback now through 5pm January 16, 2023 at <https://www.cityofpa.us/1140/Stormwater-Management-Action-Plan>
- The SMAP team will consider community feedback in the preparation of the Phase III SMAP.
- City will submit Draft Phase III SMAP to Ecology by March 1, 2023.
- City will submit Final Phase III SMAP to Ecology by March 31, 2023.

