BACK-TO-BASICS SUSTAINABILITY

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City of Port Townsend
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AGENDA

Back to Basics Sustainability – An overview

Water Resources

Stormwater Capital Program

Water Resources Example Project

Traffic

Traffic Example Project

Questions

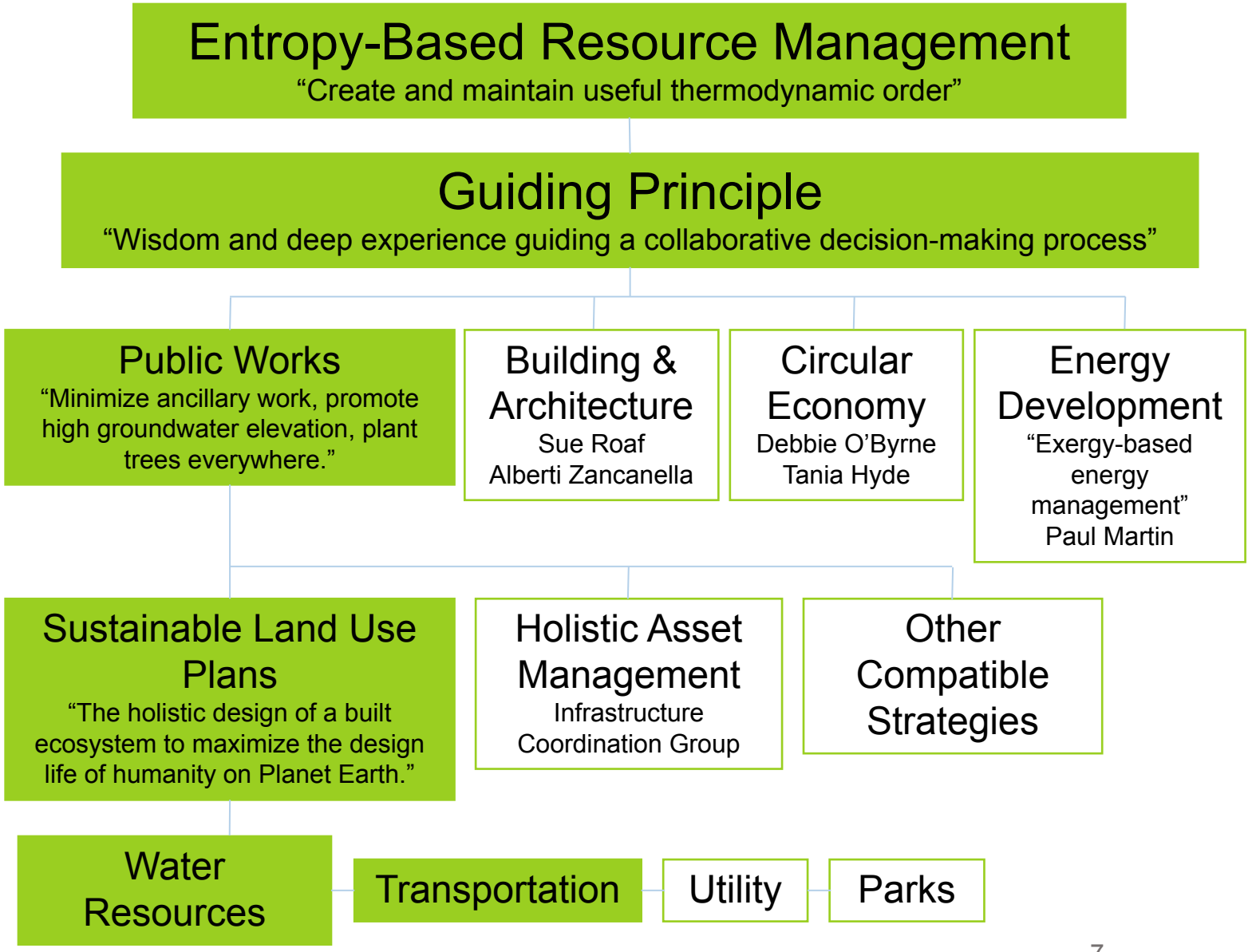

BACK-TO-BASICS
SUSTAINABILITY

JOHN MILNE, PE, CLARK COUNTY PUBLIC WORKS

HTTPS://APOPO.CO.NZ/BACK-TO-BASICS-SUSTAINABILITY-BY-JOHN-MILNE-CLARK-COUNTY-PUBLIC-WORKS-USA/

BACK-TO-BASICS SUSTAINABILITY

WHAT IS IT AND WHY DOES IT MATTER?



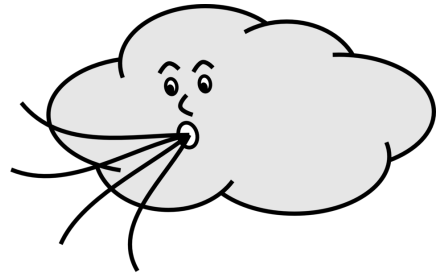
BACK-TO-BASICS SUSTAINABILITY

SIMPLE, RIGHT?

Water

Energy

Air



BACK TO BASICS
SUSTAINABILITY

WATER RESOURCES
DIVISION

WATER RESOURCES DIVISION

“PUMP UP THE GROUNDWATER (THEN PLANT EVERYTHING)”

Keep the groundwater high everywhere

- Maximizes water supplies, wetland areas, & summer stream flows
- Reduces downstream flooding, erosion, & pollution
- Cools summer stream temperatures
- Creates optimal conditions for fish
- Etc.

Stormwater Capital Program (SCP)

Stormwater Capital Program

Primary functions of the SCP

- Planning and building stormwater management facilities
- Removing pollutant sources
- Water quality monitoring
- Public outreach
- Develop and enforce stormwater regs
- Coordinate with other municipalities
- Maintain existing stormwater infrastructure

Clark County Stream Health Report

- Clean Water Division monitors and develops the Stream Health Report
- Clark County made up of 10 watersheds
- Water Quality
  - Temperature, Dissolved Oxygen, & pH
- Biological Health
- Stream Flow
- Land Cover

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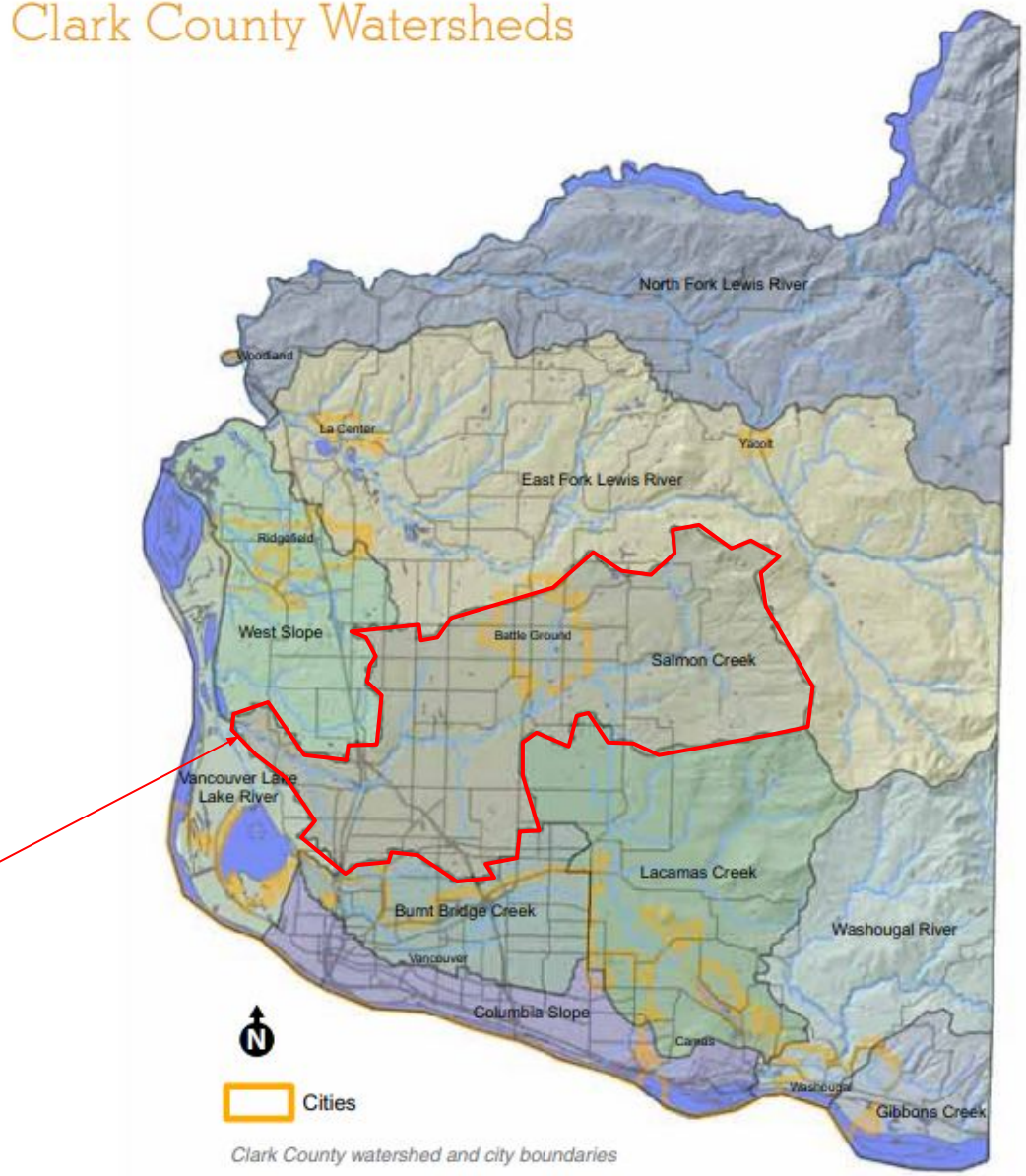
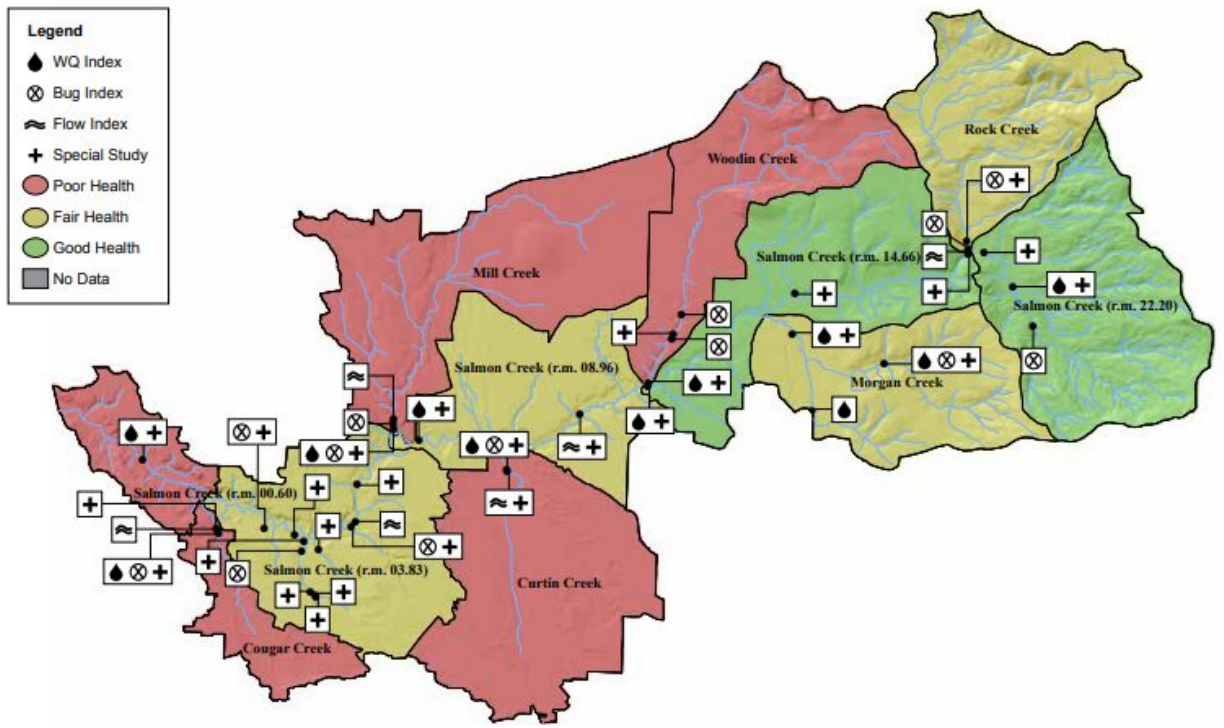
Salmon Creek Watershed



Salmon Creek Watershed: Stream Health

Salmon Creek Stream Health Score Card

Subwatershed	Water Quality	Biological Health	Flow	Subwatershed Rating
Mill Creek	Poor	Fair	Poor	Poor
Cougar Creek	Poor	Poor	Poor	Poor
Salmon Creek (r.m. 03.83)	--	Poor	Good	Fair
Salmon Creek (r.m. 08.96)	Poor	--	Good	Fair
Salmon Creek (r.m. 14.66)	Good	--	Good	Good
Curtin Creek	Poor	Poor	Good	Poor
Woodin Creek	Fair	Poor	--	Poor
Rock Creek	--	Fair	--	Fair
Morgan Creek	Fair	Fair	--	Fair
Salmon Creek (r.m. 22.20)	Good	Fair	Good	Good
Salmon Creek (r.m. 00.60)	Poor	--	--	Poor
Indicator Rating	Fair	Poor	Fair	
Overall Watershed Rating:				**Fair**



Score Summary:

- Ratings range from poor to good
- Poor water quality and biological health ratings are common in areas where development is most prevalent
- This watershed includes some of the most healthy, and least healthy, streams in Clark County
- Local jurisdictions are implementing a state Water Cleanup Plan for bacteria, turbidity, and temperature

Special Study: Salmon Creek Focused Fecal Coliform and Turbidity

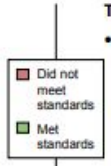
Study Description: 8 sites within the lower Salmon Creek Watershed; October 2007 – September 2008

Report link: www.clark.wa.gov/waterresources/documents

Why is this important? The presence of fecal coliform bacteria indicates the stream has been contaminated with human or animal waste. Turbidity is a measure of cloudiness in water.

Bacteria Results

- No site met the state water quality criteria for bacteria levels.
- Dry season, wet weather had the highest bacteria levels.
- Bacteria levels increased from upstream to downstream.



Turbidity Results

- Thirty-five percent of turbidity measurements were higher than background levels; the higher the turbidity, the more cloudy the water.

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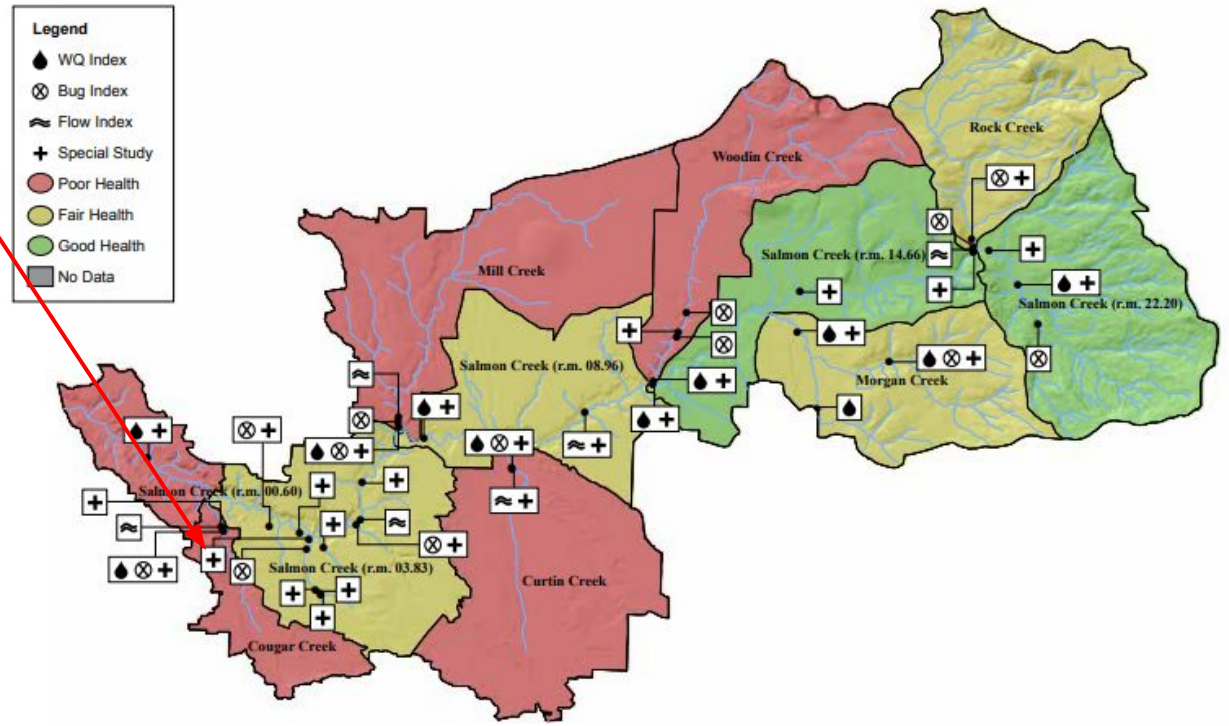

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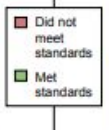

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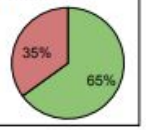
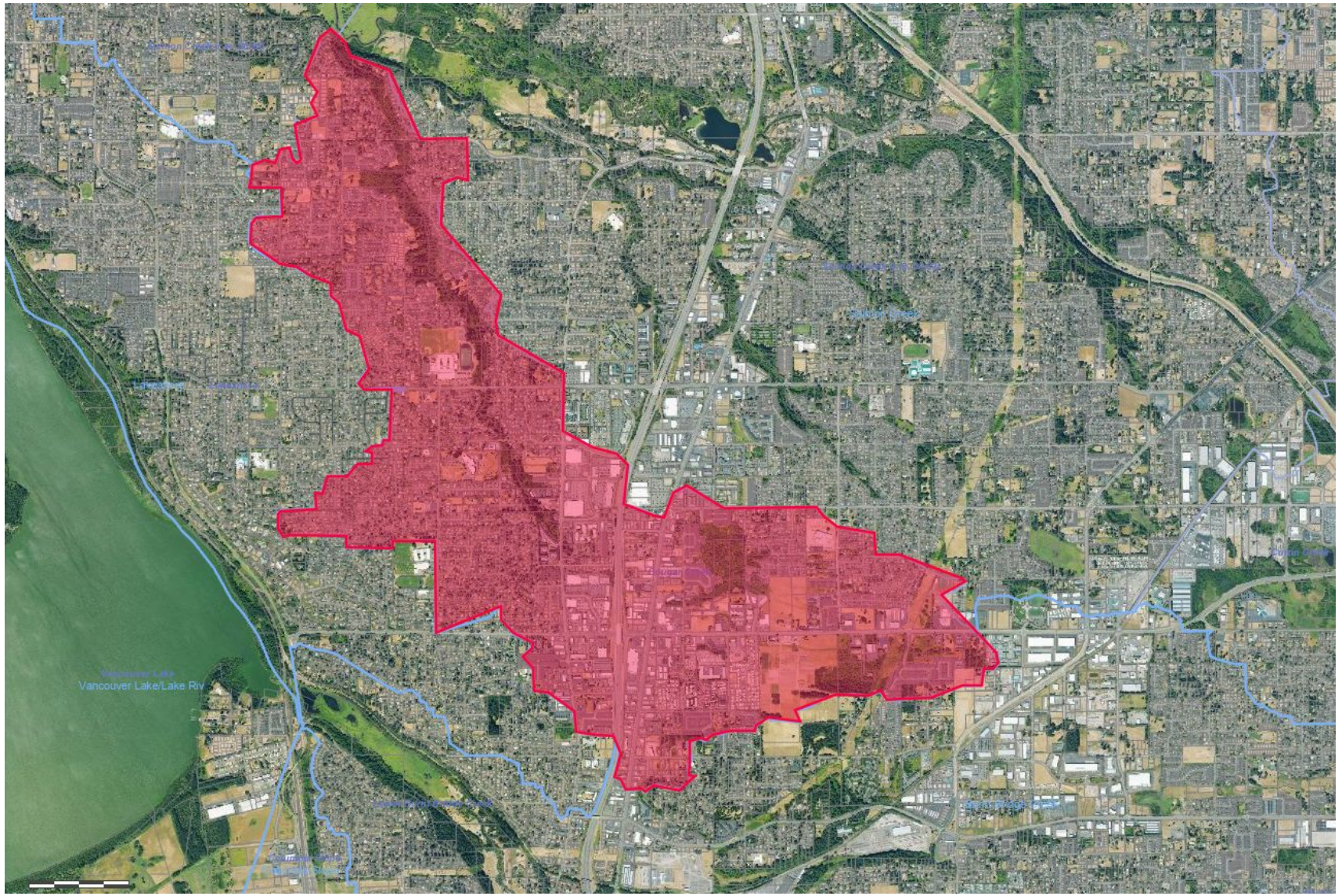


SCP Mapping



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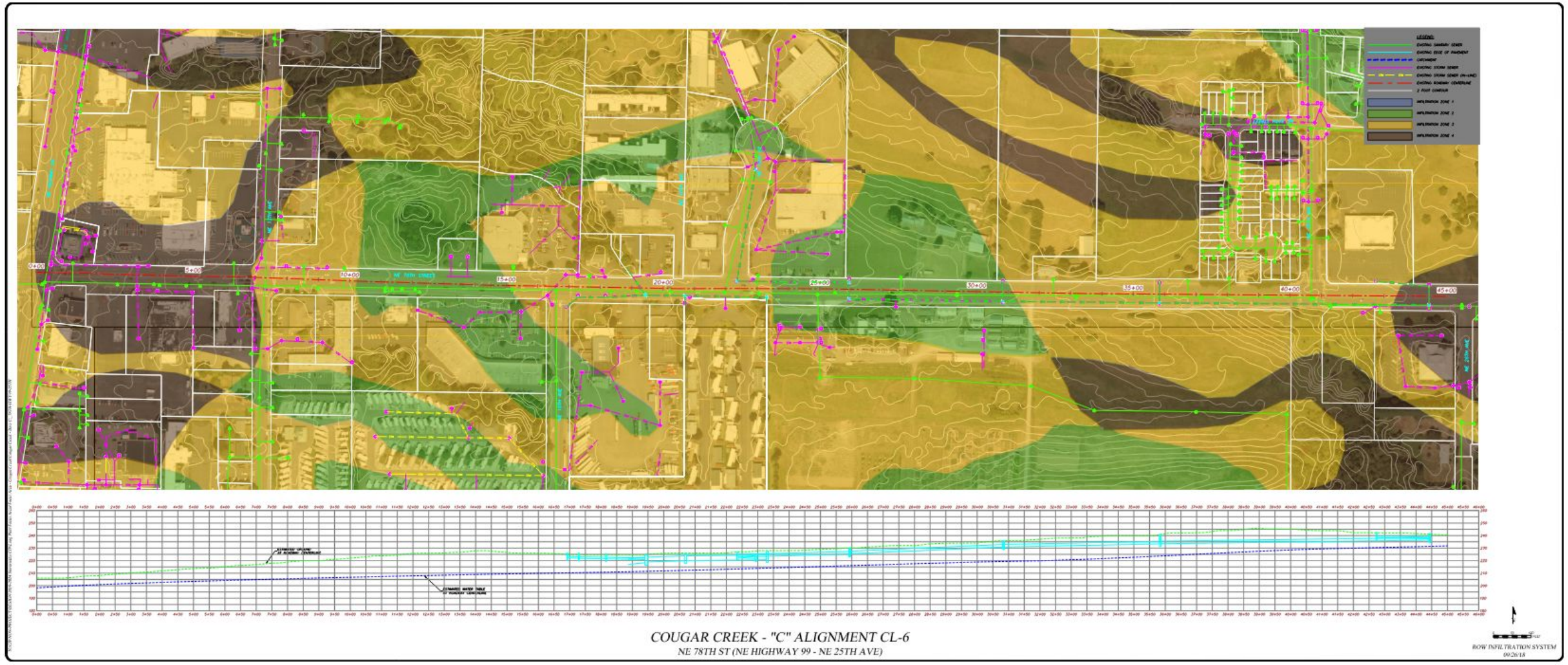
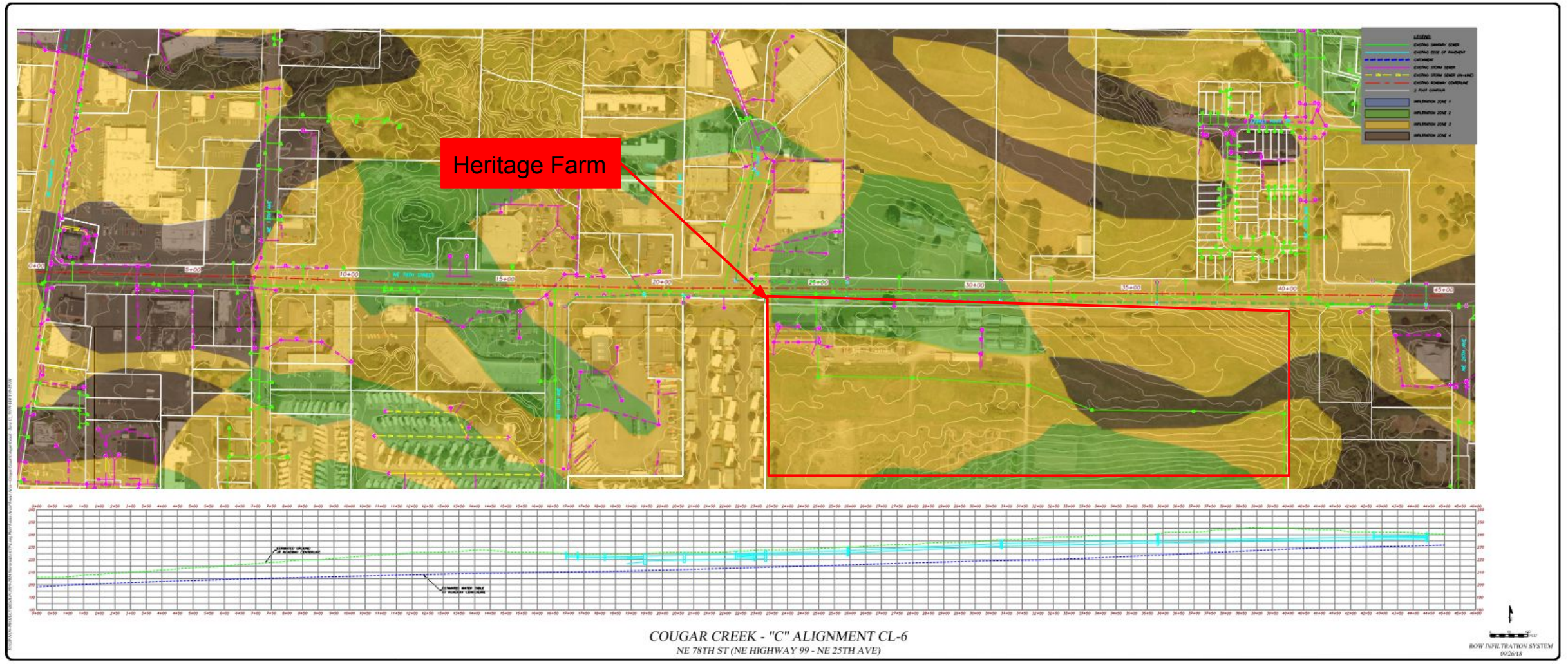

COUGAR CREEK - "C" ALIGNMENT CL-6
NE 78TH ST (NE HIGHWAY 99 - NE 25TH AVE)
ROW INFILTRATION SYSTEM
09/26/18

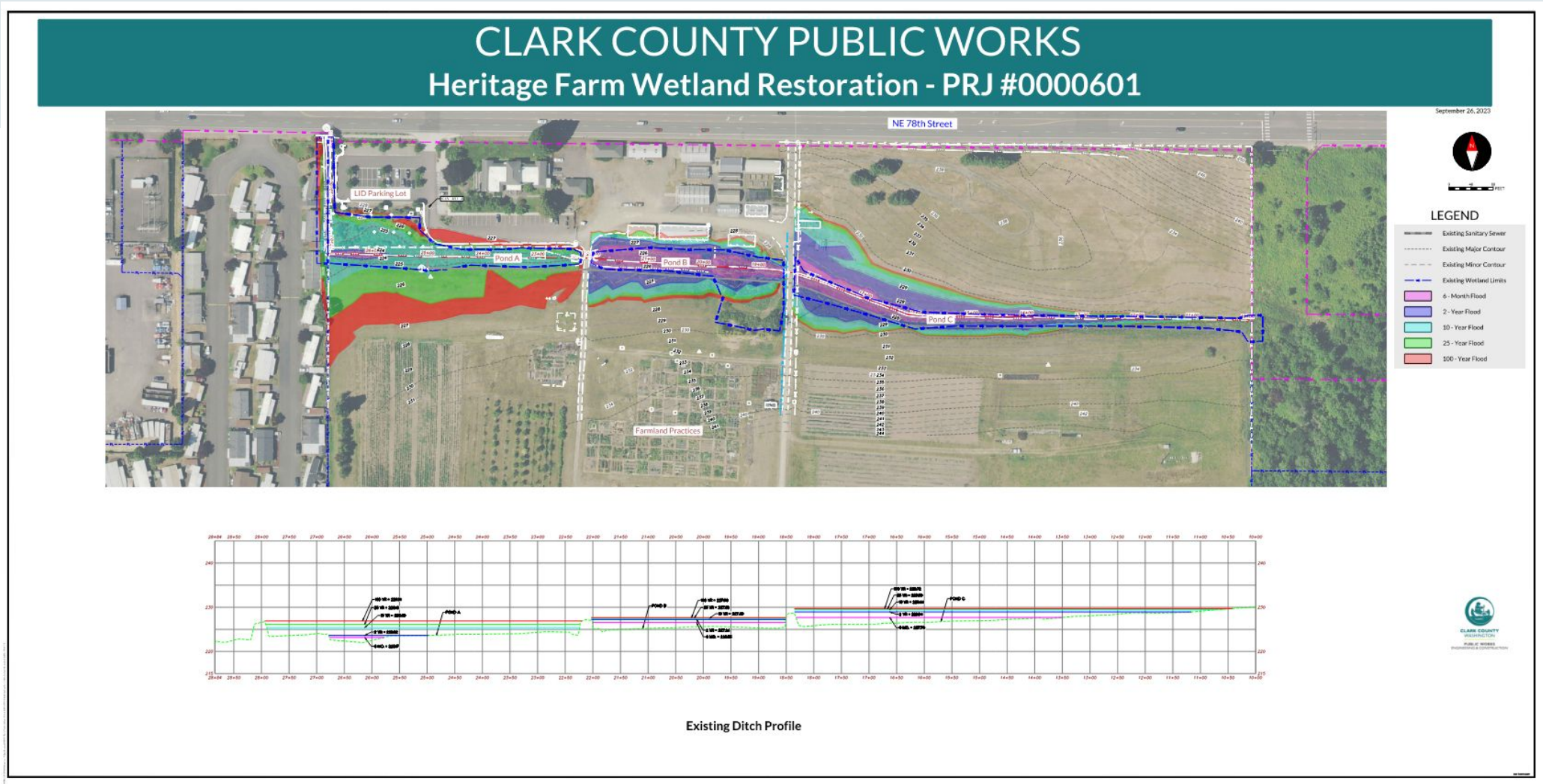
SCP Mapping


Heritage Farm
COUGAR CREEK - "C" ALIGNMENT CL-6
NE 78TH ST (NE HIGHWAY 99 - NE 25TH AVE)
ROW INFILTRATION SYSTEM

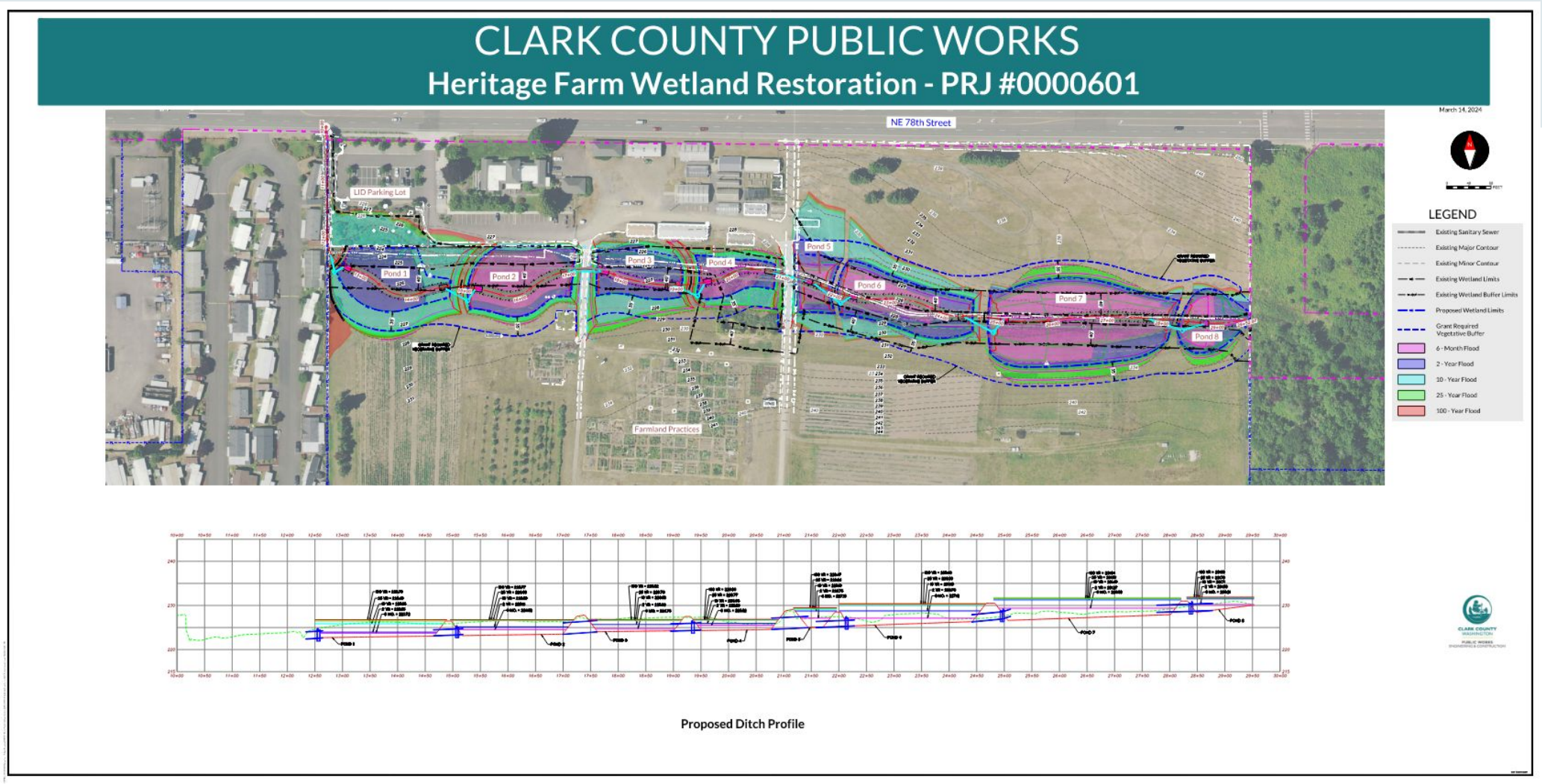
WATER RESOURCES
EXAMPLE PROJECT

HERITAGE FARM
CLARK COUNTY PUBLIC
WORKS

Heritage Farm Existing Conditions



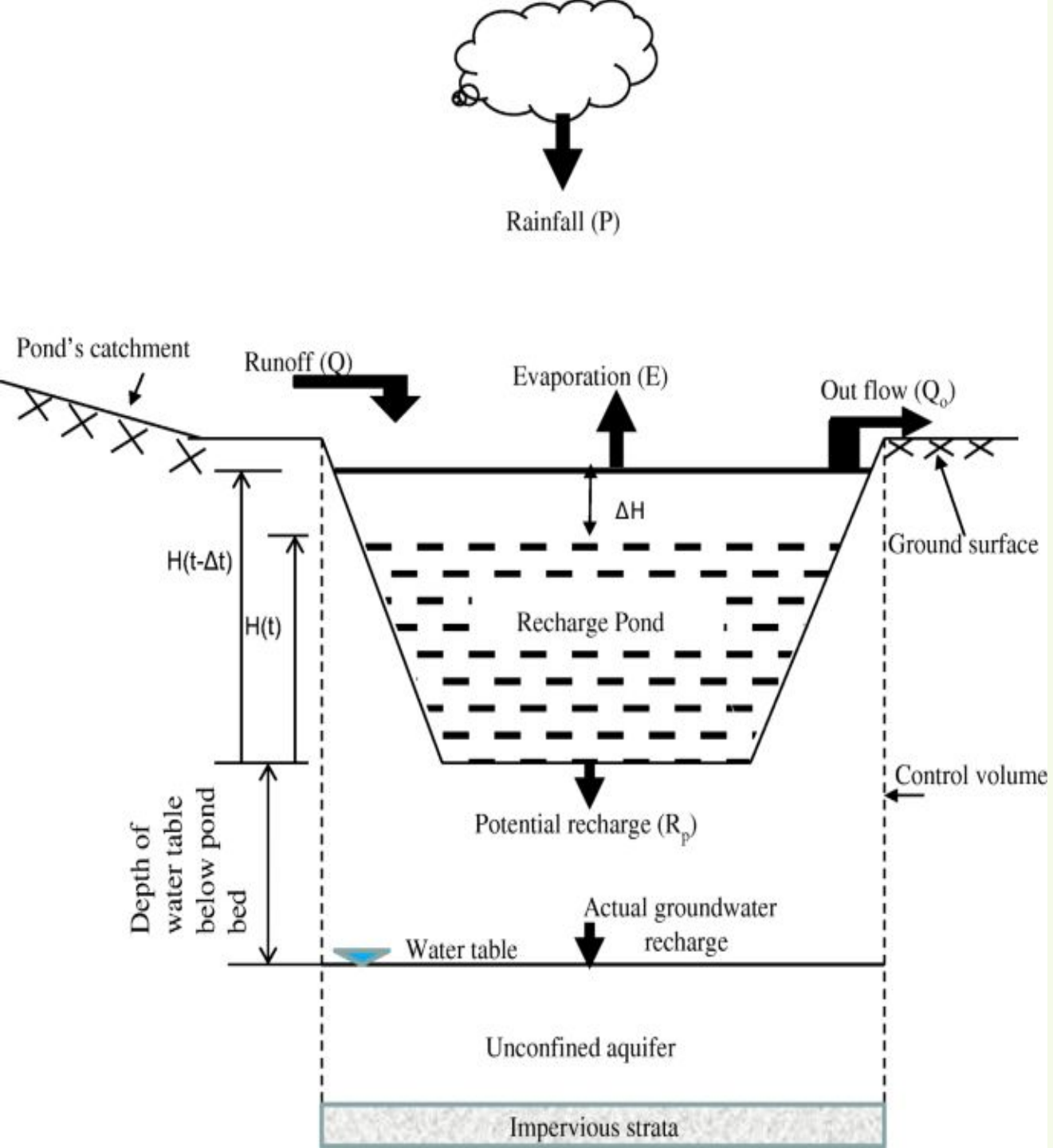
Heritage Farm Proposed Conditions



Heritage Farm

Project Summary

Table 8. Project Summary				
PROJECT BENEFIT		**NO-BUILD**	**BUILD**	**REMARKS**
FLOW CONTROL	Hydrologic Accounting $WFC_{Proposed}/WFC_{New/Redeveloped}$	N/A	23%	Project provides significant potential to reduce downstream flows and stream erosion
	2-year Project Outflow	23.95 cfs	15.35 cfs	
	25-year Project Outflow	50.56 cfs	40.12 cfs	
	100-year Project Outflow	65.25 cfs	59.59 cfs	
WATER QUALITY	Hydrologic Accounting, $WRT_{Proposed}/WRT_{New/Redeveloped}$	N/A	24%	Project provides significant potential to improve downstream water quality
	WQ Residence Time	14 mins.	2.7 hrs.	No-Build = Biofiltration Swale function (Basic Treatment); Build = Stormwater Wetland function (Enhanced Treatment)
GROUNDWATER	Average Annual Recharge	0.14 ac-ft	7.24 ac-ft	Increased recharge generally promotes higher groundwater elevations, which can serve to increased downstream base flows, reduce summer stream temperatures, and reduce summer stream pollutant loads and concentrations
WETLANDS	Total Wetland Area	1.26 ac.	4.01 ac.	
HABITAT		Minimal	Improved	See previous table of wetland attributes
COST EFFECTIVENESS		N/A	$1,072,300/ ac-ft	See previous comments



Back to Basics

"Pump up the groundwater and plant everywhere."

Heritage Farm

Future Projects

SMALL CITY

TRANSPORTATION: “MINIMIZE ANCILLARY (TRANSPORTATION) WORK”

WATER RESOURCES “PUMP UP THE GROUNDWATER (THEN PLANT EVERYTHING)”

“Provide proximal, low effort access to everything that everyone in the community needs”

“Infiltrate clean stormwater runoff everywhere possible without causing problems”

PORT TOWNSEND EXAMPLES

Port Townsend, WA

City of Port Townsend

Port Townsend

Back to Basics Sustainability…

Back to Basics Sustainability…

Practical design in a small city ….

Back to Basics Sustainability…

Practical design in a small city ….

How to make incremental change….

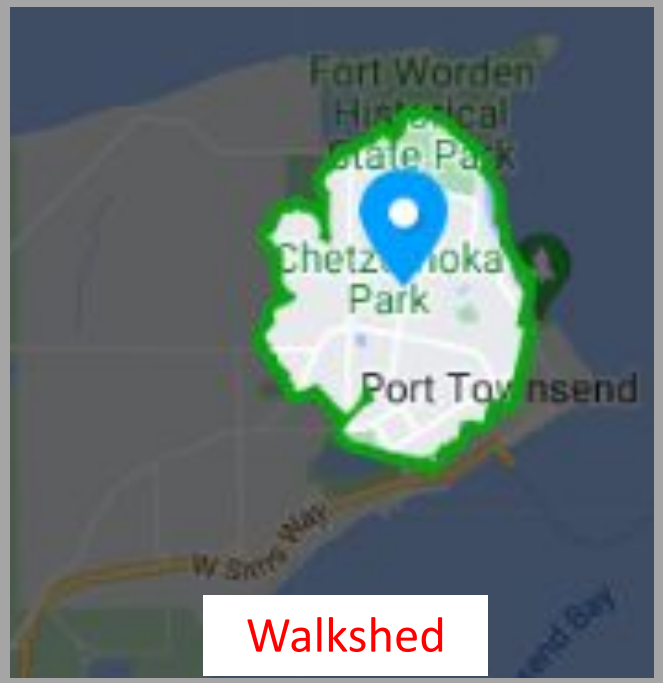
Back to Basics Sustainability…

Practical design in a small city ….

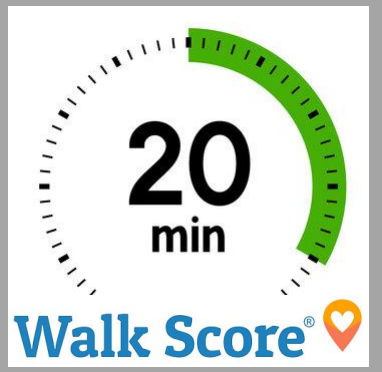
How to make incremental change….

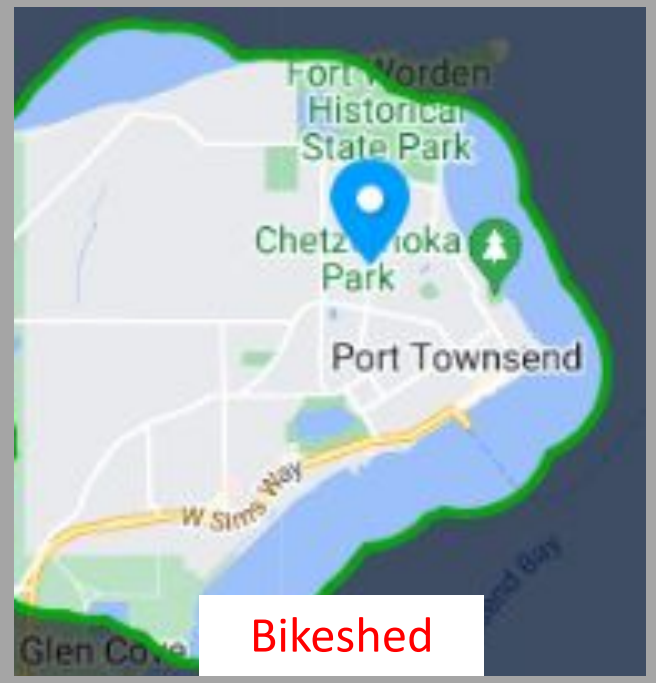
Without stifling development.

Scale and Proximity



Walkshed





Bikeshed

Updated Policy to Improve

Stormwater

Parking

Traffic Calming

Cost of Housing

Urban Tree Canopy

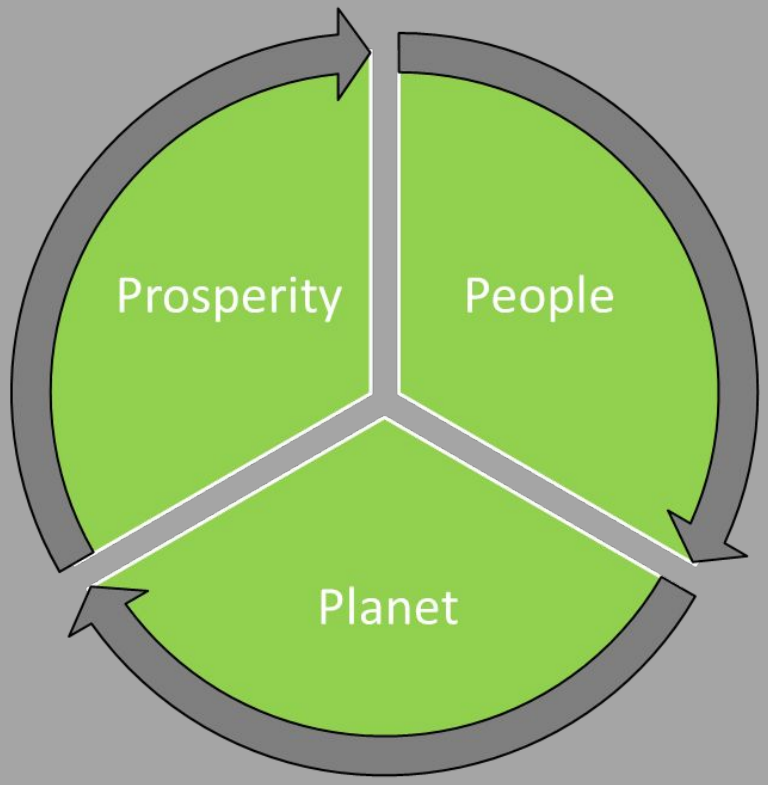
Elimination of Parking Standards

Port Townsend Just Quietly Ditched Its Off-Street Parking Mandates

By Ryan Packer - March 14, 2024

The Urbanist

Inspiration



Sustainability's Triple Bottom Line

Public Investment Process
for a Strong Town

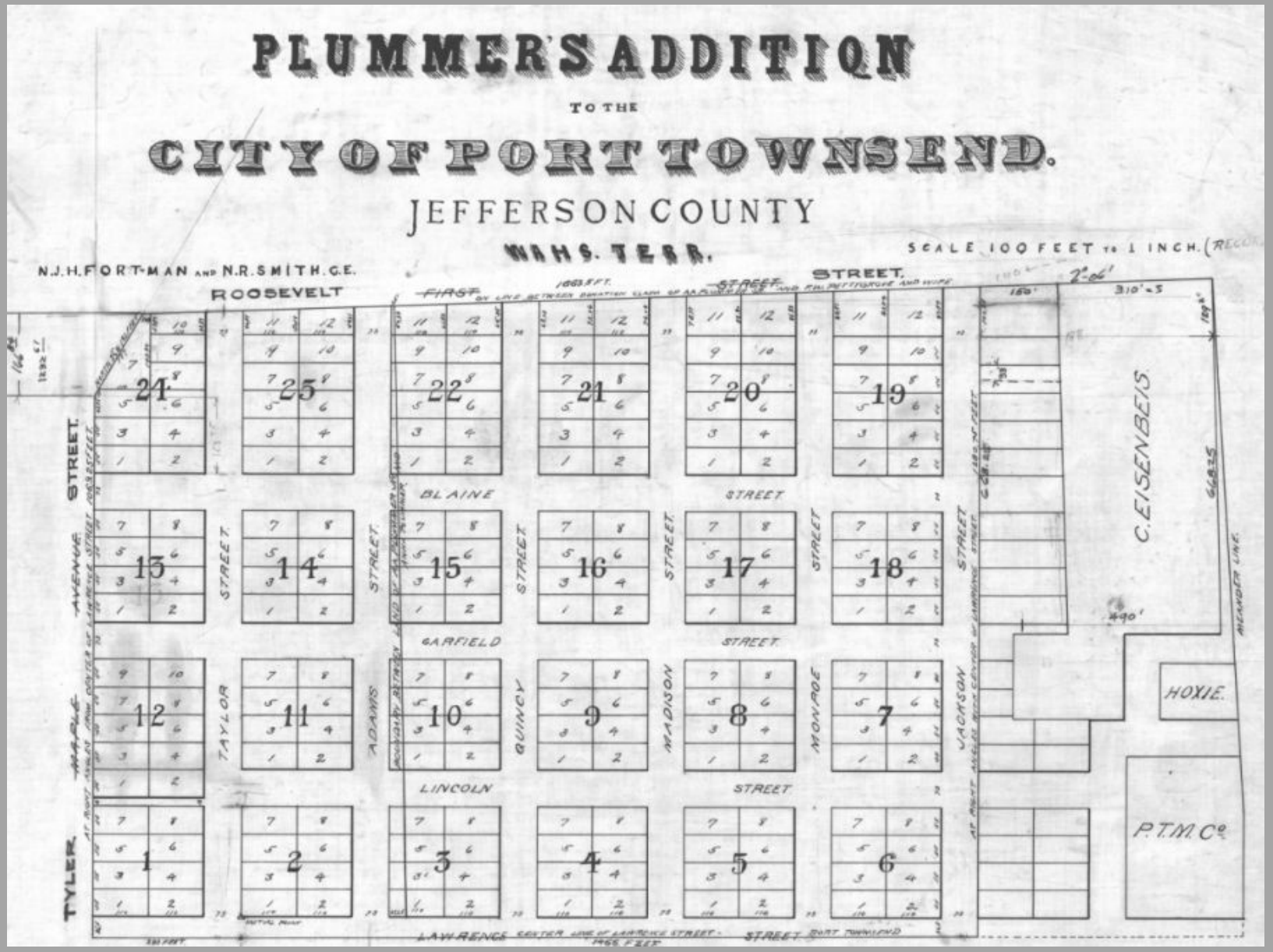
1	Humbly observe where people in the community struggle.
2	Ask the question: What is the next smallest thing we can do right now to address that struggle?
3	Do that thing. Do it right now.
4	Repeat.

STRONG TOWNS

Strongtowns.org

Water Street

Historic and Pre-Platted City



Historic Infrastructure Challenges:

- Aging
- Economic busts, never built

Historic Development Pattern:

- Very few multi-home projects
- Mostly infill (one lot at at time)
- So….. Lack of large capital projects

<u>Historic patterns continue today…</u>


PUBLIC
TRAIL
NO
MOTORIZED
VEHICLES

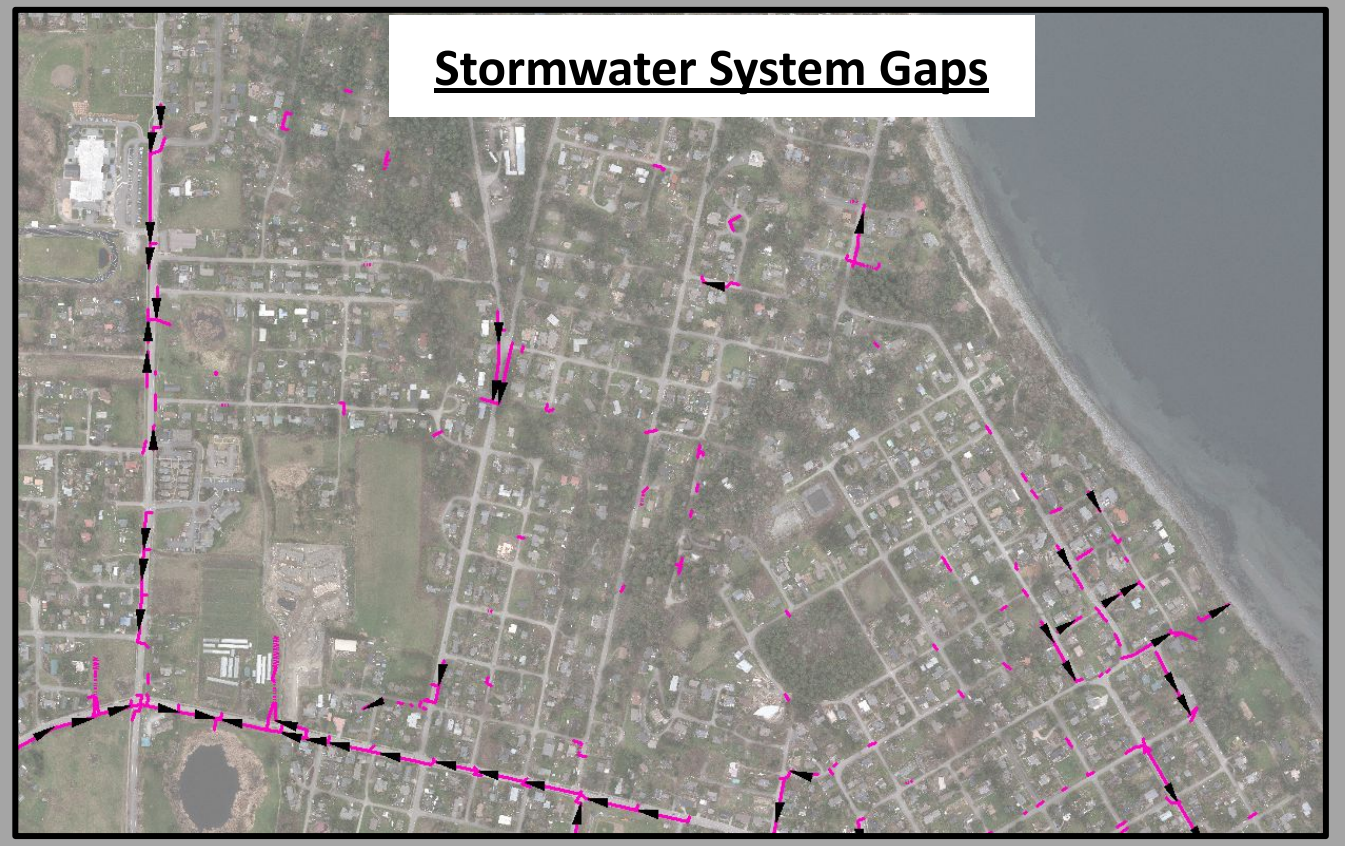

Maple St.
Q St.
Q St.
Q St.
Q St.
Q St.
Q St.
Maple St.
Maple St.
P St.
P St.
P St.
P St.
P St.
Maple St.
Bryan St.
Bryan St.

Trails

Historic and Pre-Platted City

Sidewalk Gaps

Stormwater System Gaps



Common missing elements:

- Sidewalk
- Curbs
- Stormwater

Challenge #1: Lack of Sidewalk

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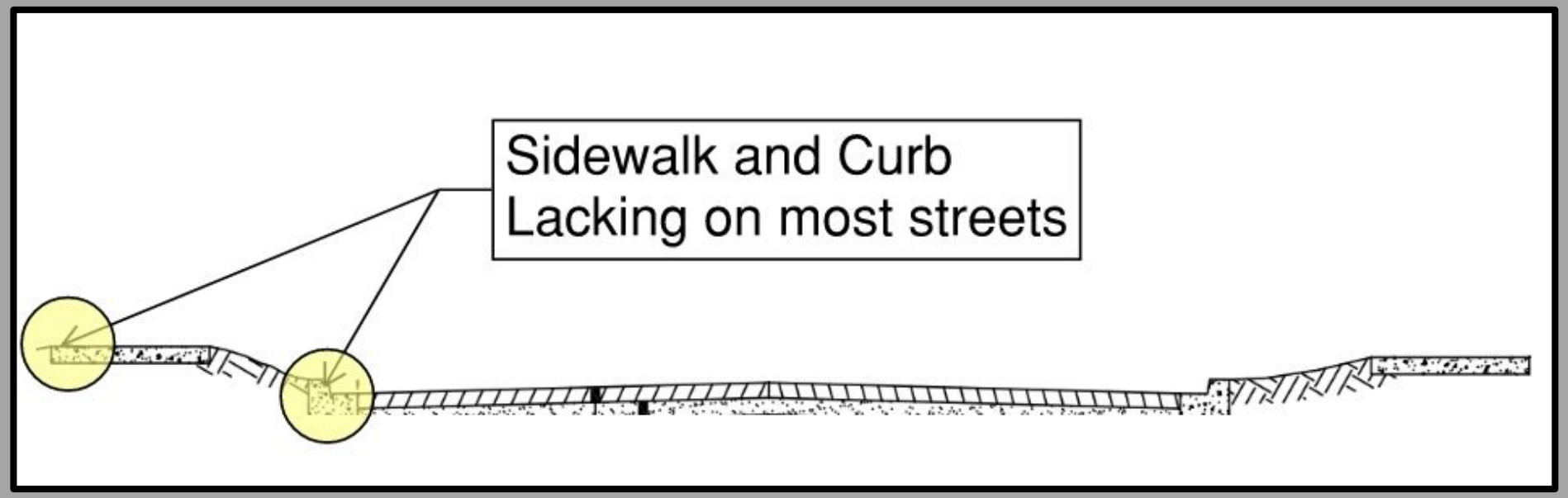
Challenge #1: Lack of Sidewalk

Challenge #2: Parking off Pavement

Challenge #3: Drainage

Required but not enforced…



Local Street Standard Cross Section

Moving forward….
What would you do?

1. Continue not enforcing design standards.

Moving forward….
What would you do?

1. Continue not enforcing design standards.

2. Start enforcing design standards (curb & sidewalk to nowhere).

Moving forward….
What would you do?

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3. Create new standards – practical design.

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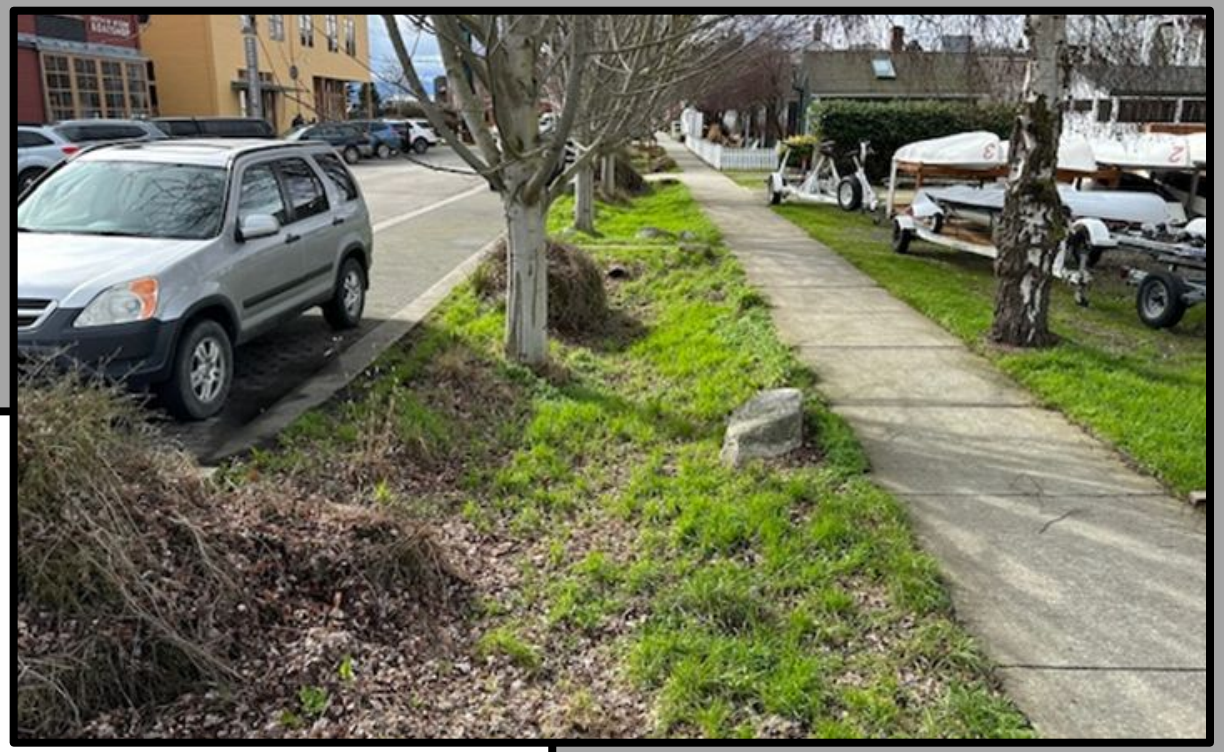
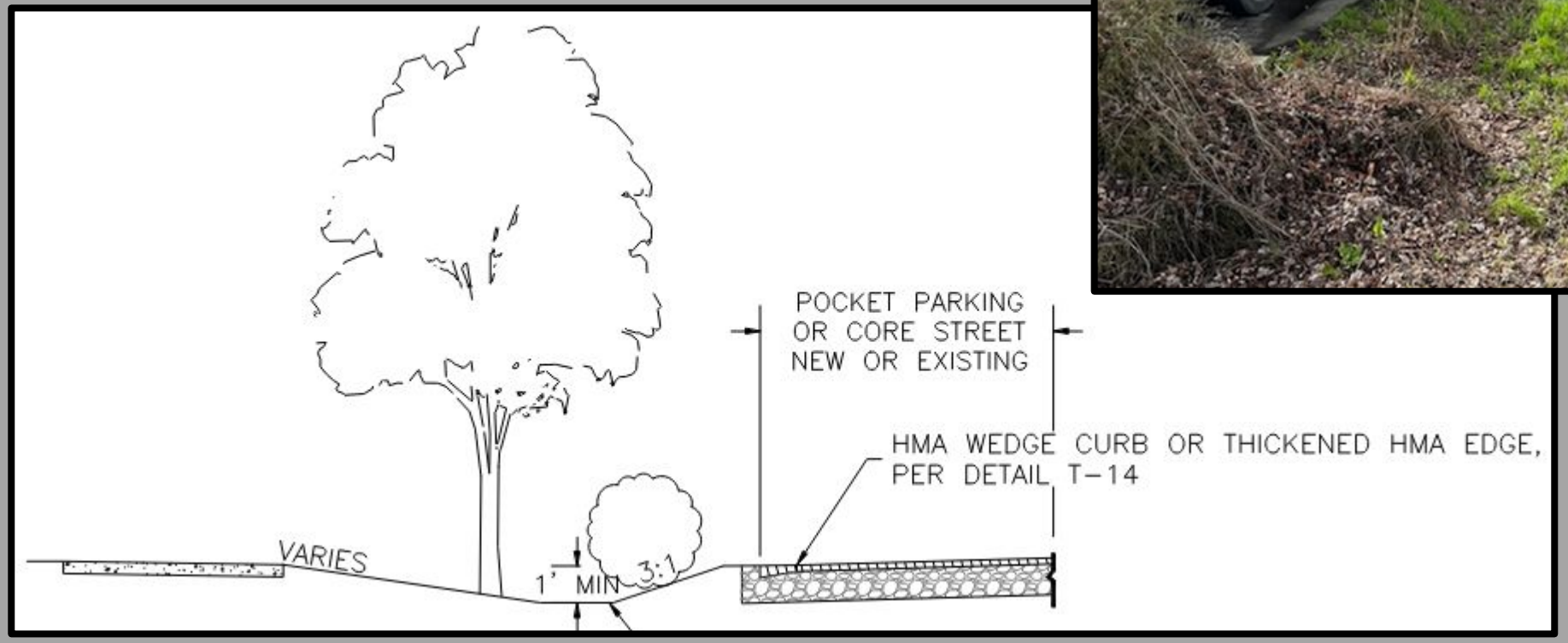
Interim Street Standards





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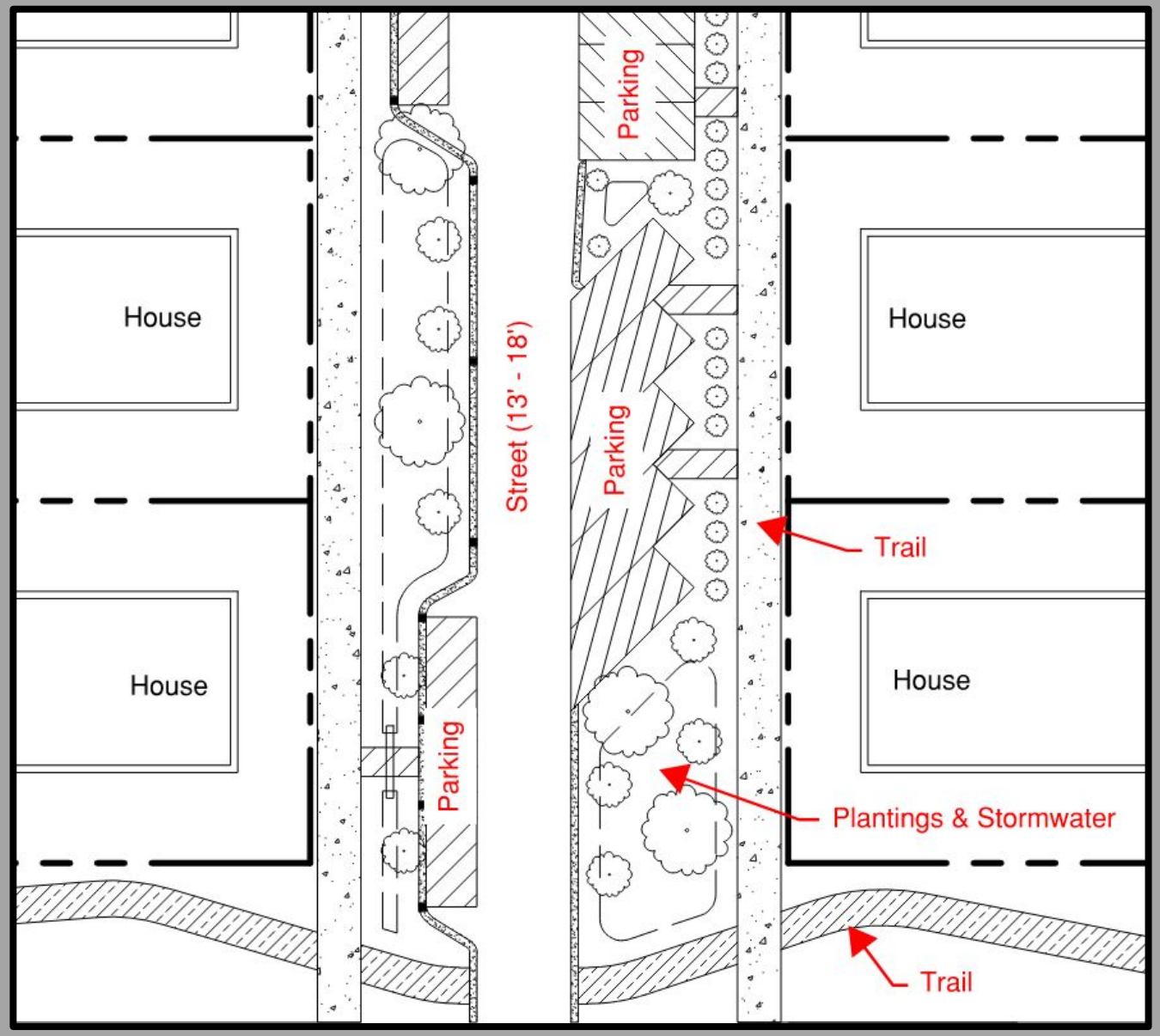


Accommodates and Improves….

Parking Reform

Density

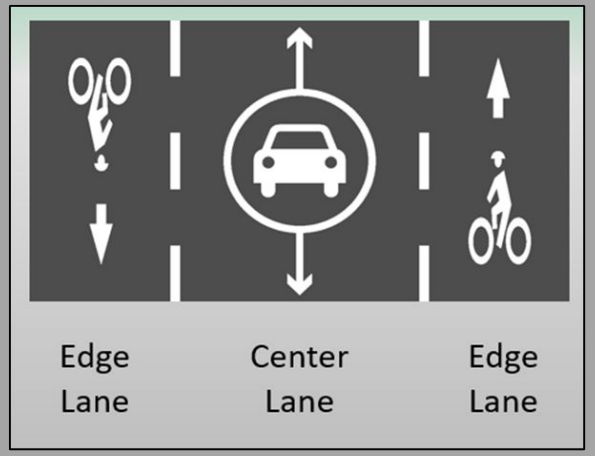
Traffic Calming

Reduce
Construction Costs

Edge Lane Roads (ELRs)

Edge Lane Roads (ELRs)

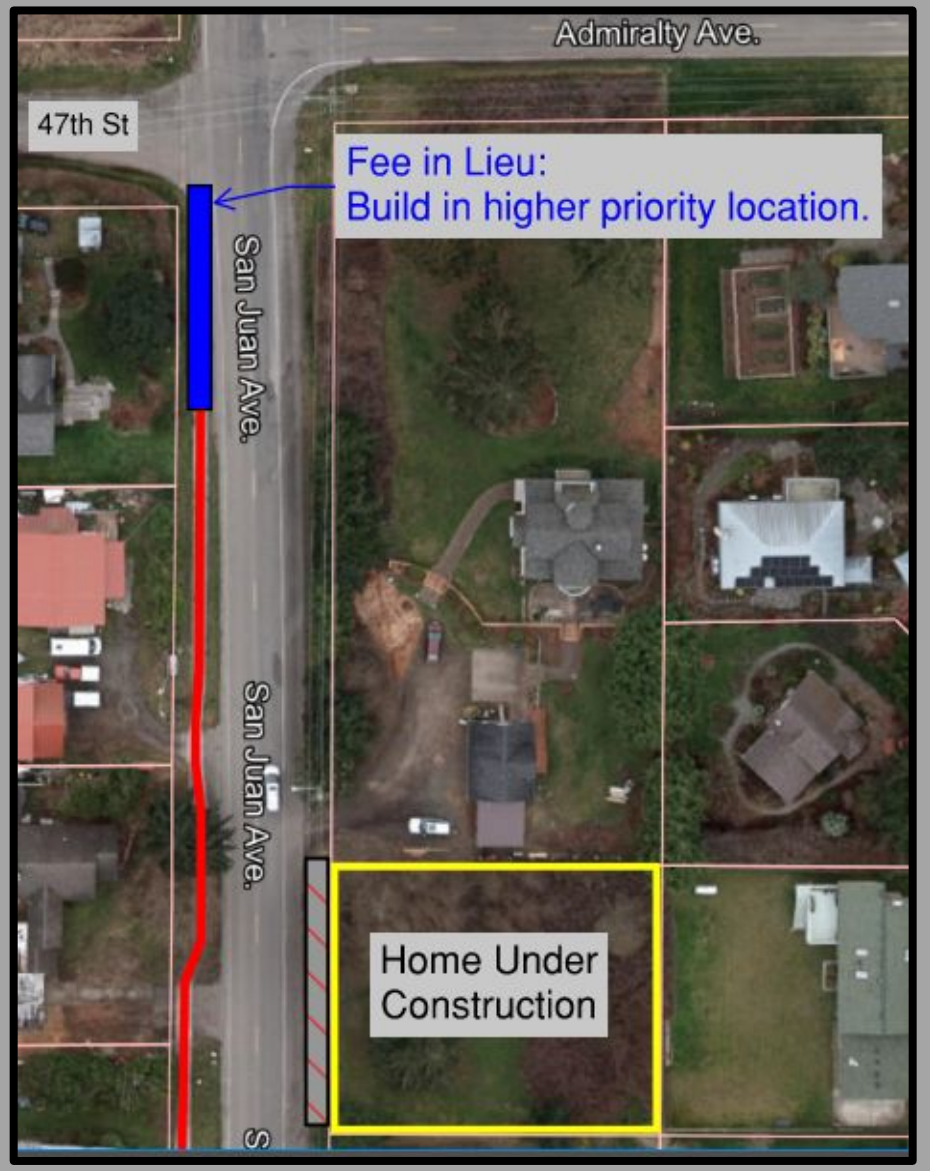
- 2,000 ADT or less
- Sign to 20 mph
- Public Outreach
- Horizontal and vertical curves help



Graphics from ELR Design Guide, on www.advisorybikelanes.com.

Fee in Lieu Sidewalk

Fee in Lieu Sidewalk



ZEV Car Co-Op

zev
CO-OP

Current:

- 2 cars

Future?

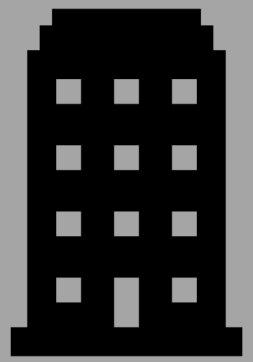
- More cars
- Neighborhood Electric Vehicle (NEVs)
  (<35 mph streets, RCW 46.61.725)
- Electric trucks

Neighborhood Commercial Mixed Use (CI-MU)

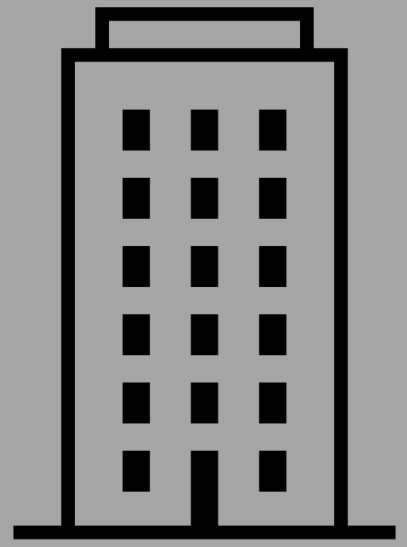
Old

New

40 ft



60 ft



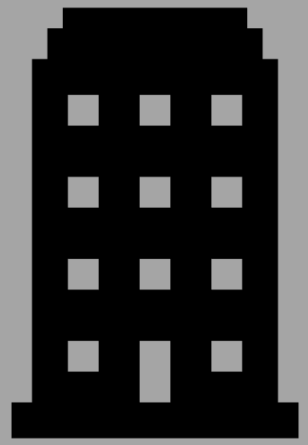
16 units/acre

80 units/acre

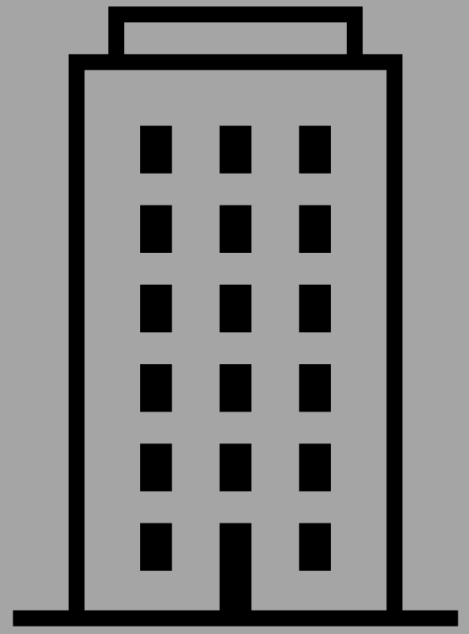
Community Commercial Mixed Use (CII-MU)

Old

New



50 ft



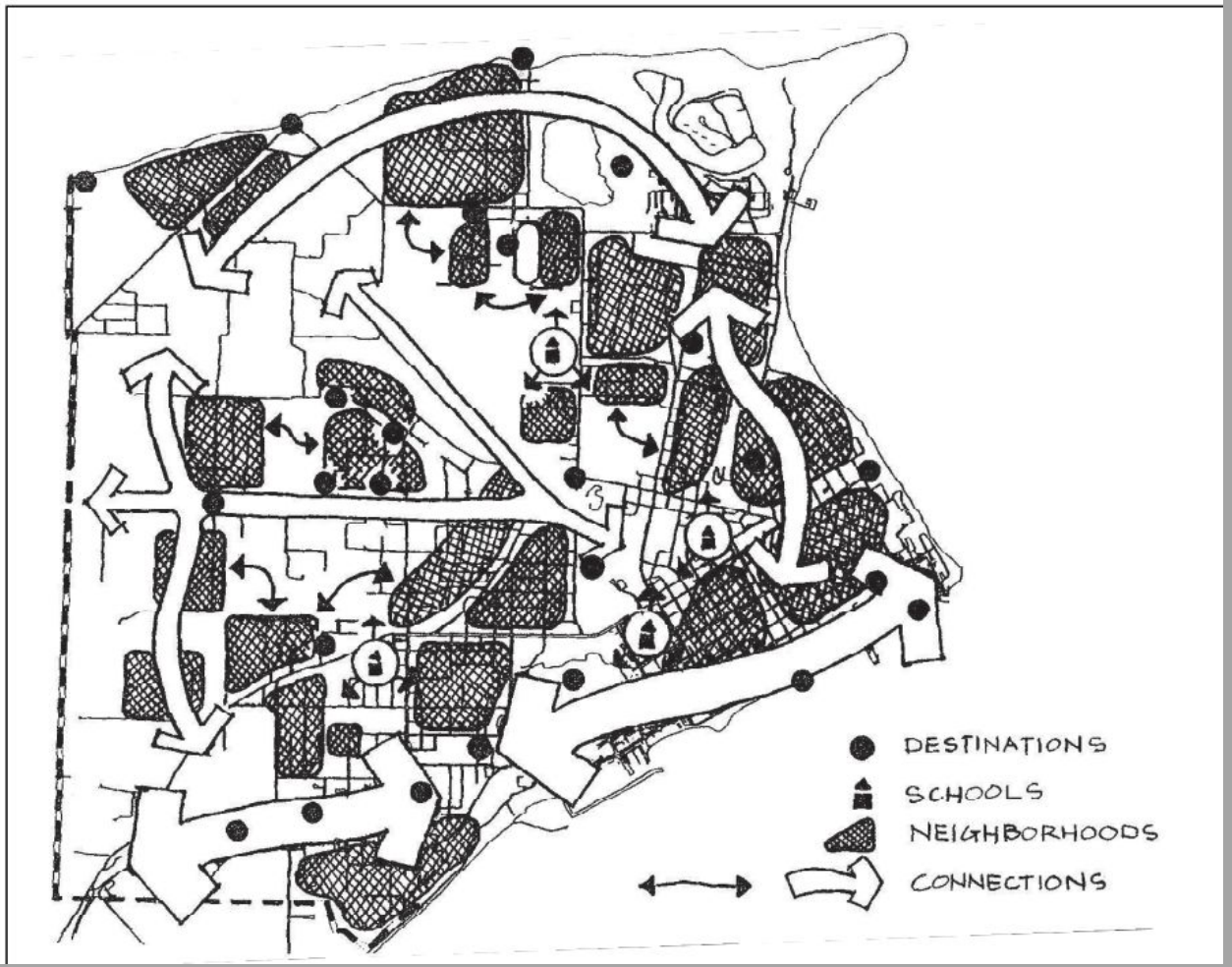
72 ft

24 units/acre

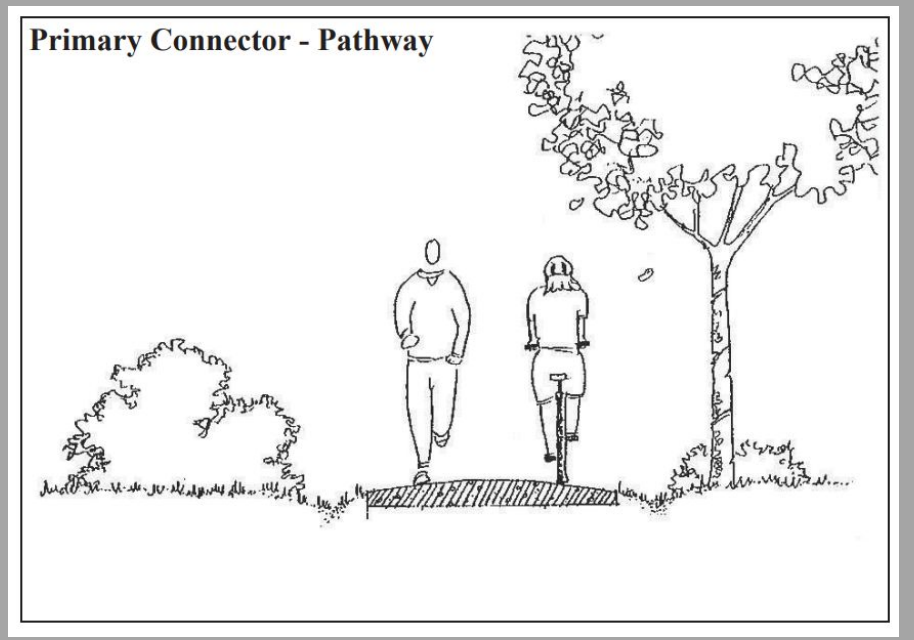
100 units/acre

2024 Comp Plan & Active Transportation Plan

FIGURE 2.2 NETWORK CONCEPT



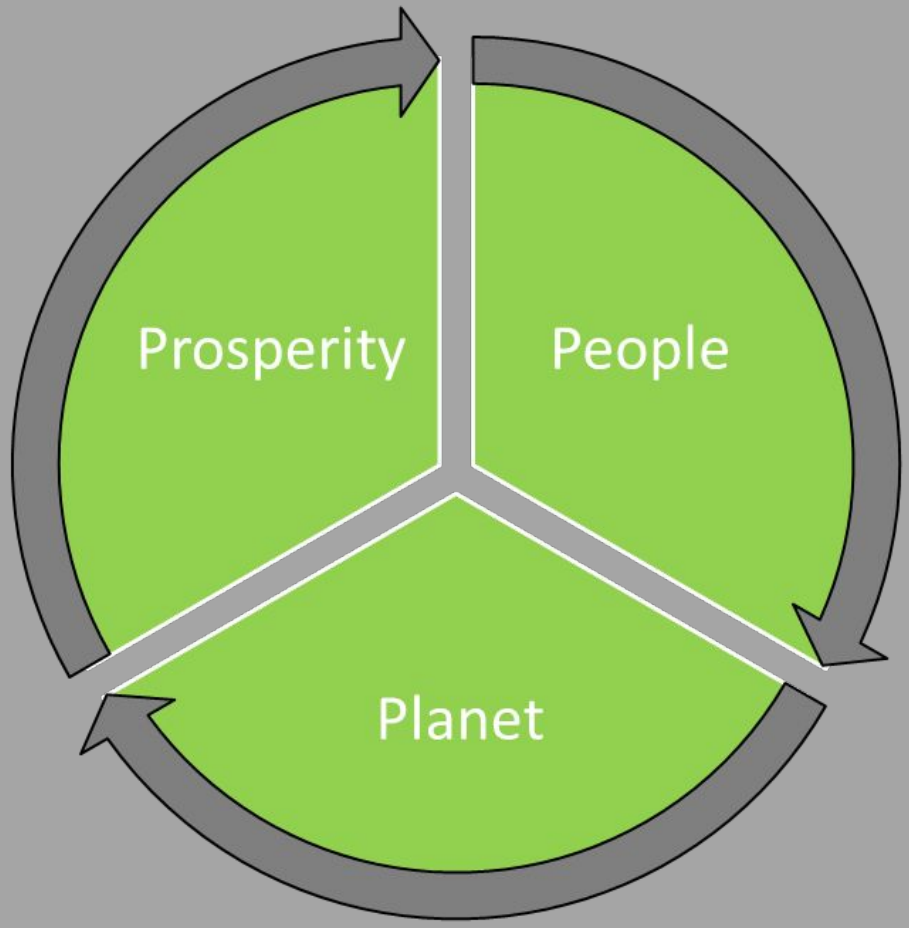
1998 Plan
2024 Update



TBD Transportation Benefit District

- Vote Passed - 0.3% Sales Tax Increase
- $800,000 annual revenue, estimated
- 110 cities in Washington have TBDs
- Smaller streets = less maintenance $

Triple Bottom Line



Sustainability's Triple Bottom Line

THANK YOU