

Donald Ave Water Quality Project Neighborhood Meeting

10/9/2023



Outline

- Project overview
- Where we are in the process
- Design overview
- Questions/comments



Project Overview

- Goal: Improve water quality in Lake Whatcom by removing phosphorus from runoff
- Priority project in City's Lake Whatcom Retrofit Plan
- Existing facility: Old sand filter
- New facility: Phosphorus Optimized Stormwater Treatment (POST) System



Where are we in the process? (tentative dates)

- Grant
 - Application Submitted to Department of Ecology
 - 2021: Awarded. 75% State Funds and 25% Local Funds for both Design and Construction
- Design:
 - 2022: Engineering consultant selected- Pacific Survey and Engineering.
 - 2022: Predesign, site specific data gathered (geotechnical, survey, flow monitoring)
 - 2023, Feb: 30% Design Plans
 - 2023, July: 60% Design Report (submitted to Ecology)
 - 2023, Oct: Neighborhood Meeting
 - 2024, Jan: 90% Plans, Specifications, and Cost Estimate
 - 2024, Jan: Apply for Permits (SEPA, Conditional Use, Shoreline, etc.)
 - 2024, Feb: Final Bid Plans, Specs, and Estimate
- Construction
 - 2024, Apr: Solicit Bids for Construction
 - 2024, June: Construction during summer window
 - 2024, Fall/Winter: Project completion, with planting through winter 2025



Considerations Driving Design

- Maximize phosphorus removal
- Long-term maintenance costs
- Vertically constrained for treatment depth (inlet flows to the lake water level difference is small)
- Maintain existing access to water in right of way



What area is being treated?

Project Location

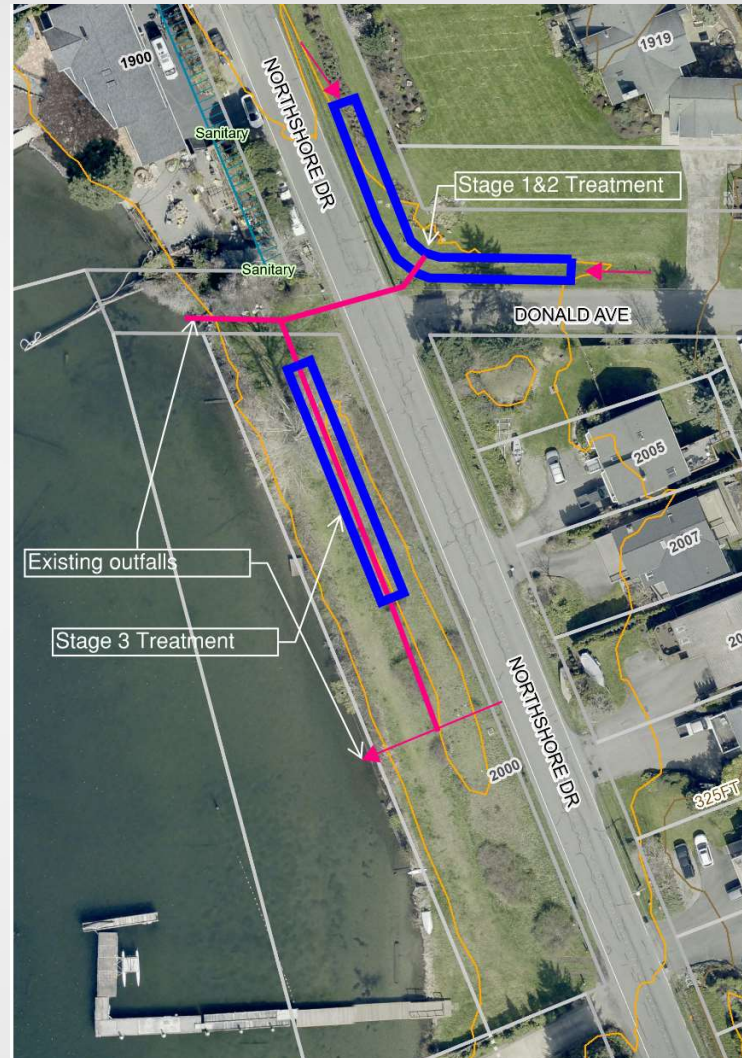
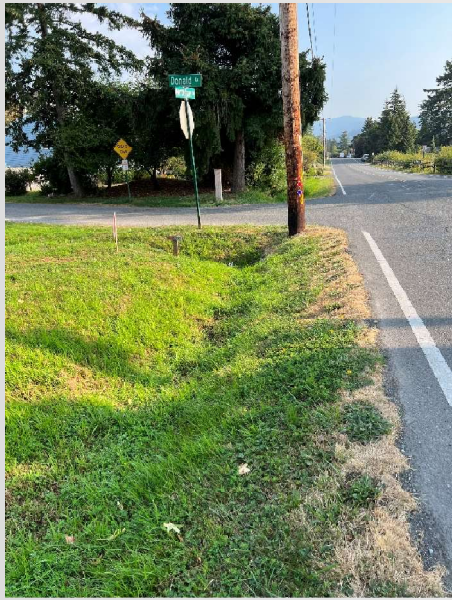


The consultant is currently reviewing the basin area and will revise as needed.

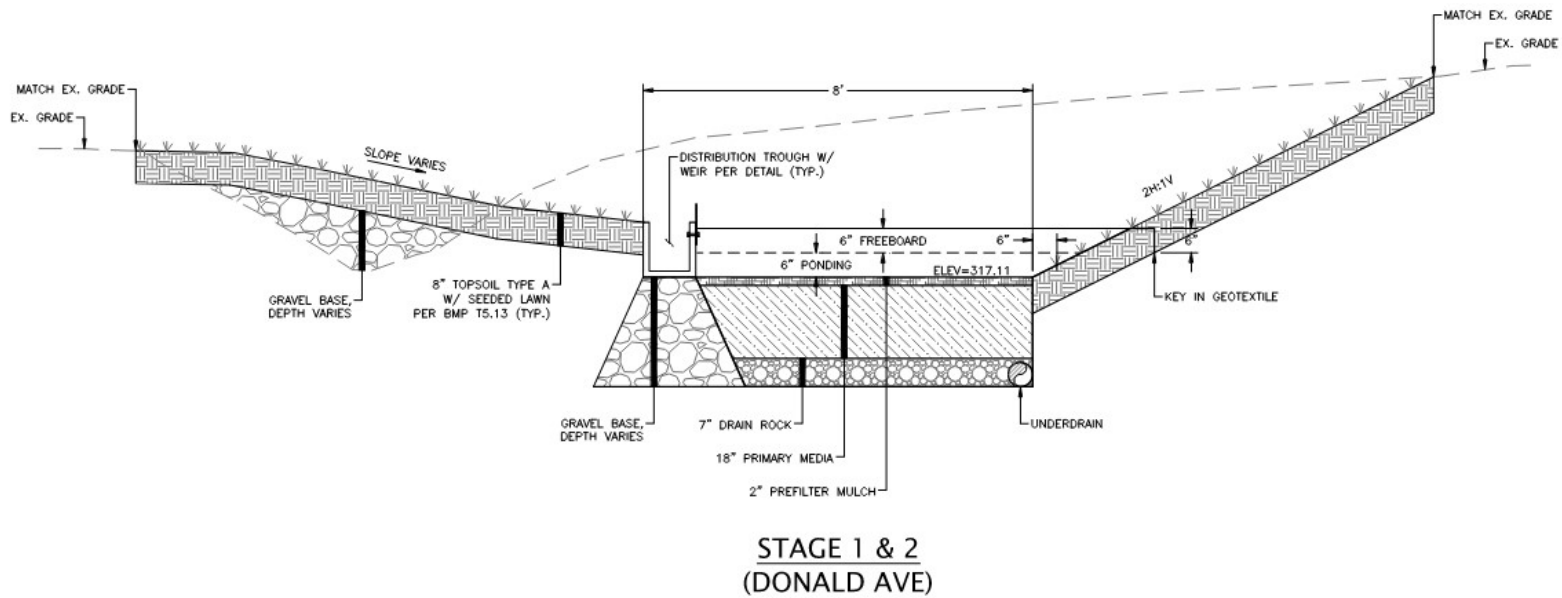
Major Elements of the Project

- Water Quality (WQ) Treatment Stages 1 & 2 in City right of way
- WQ Treatment Stage 3 on the Property
- Some modifications of existing conveyance pipes. Outfalls will not be modified.
- Restoration and landscaping to meet Shoreline requirements.
- Project is considered new development so same rules applied to private development apply here.
- Conditional use permit required as the property is zoned residential.

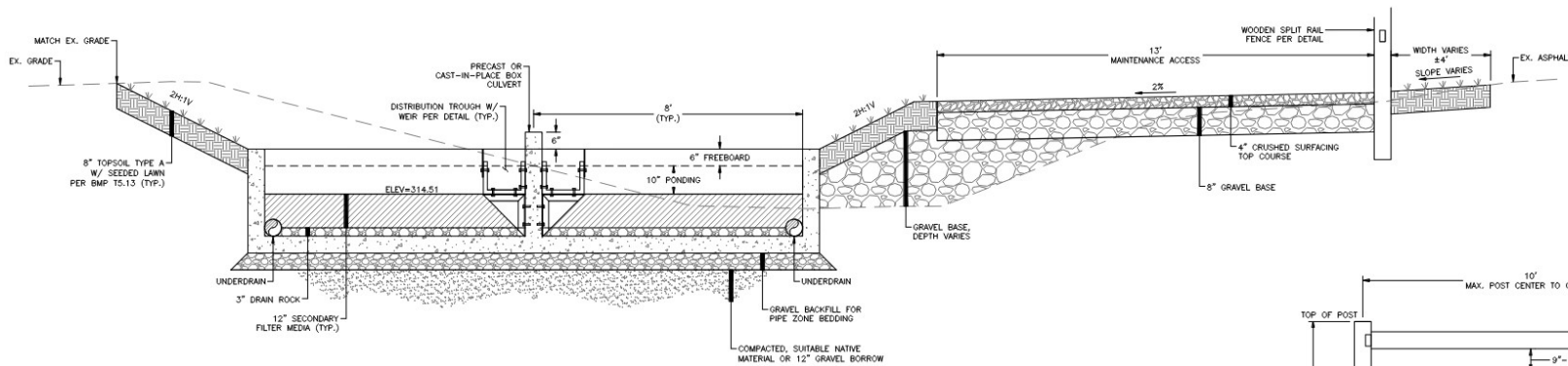
Design Schematic



Stage 1 & 2 Treatment (in right of way)



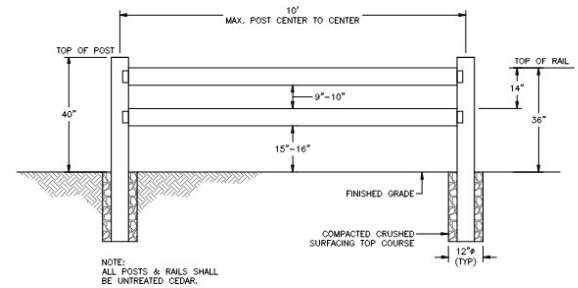
Stage 3 (on property)



STAGE 3
(COB PROPERTY)

POST MEDIA, UNSTACKED CONFIGURATION

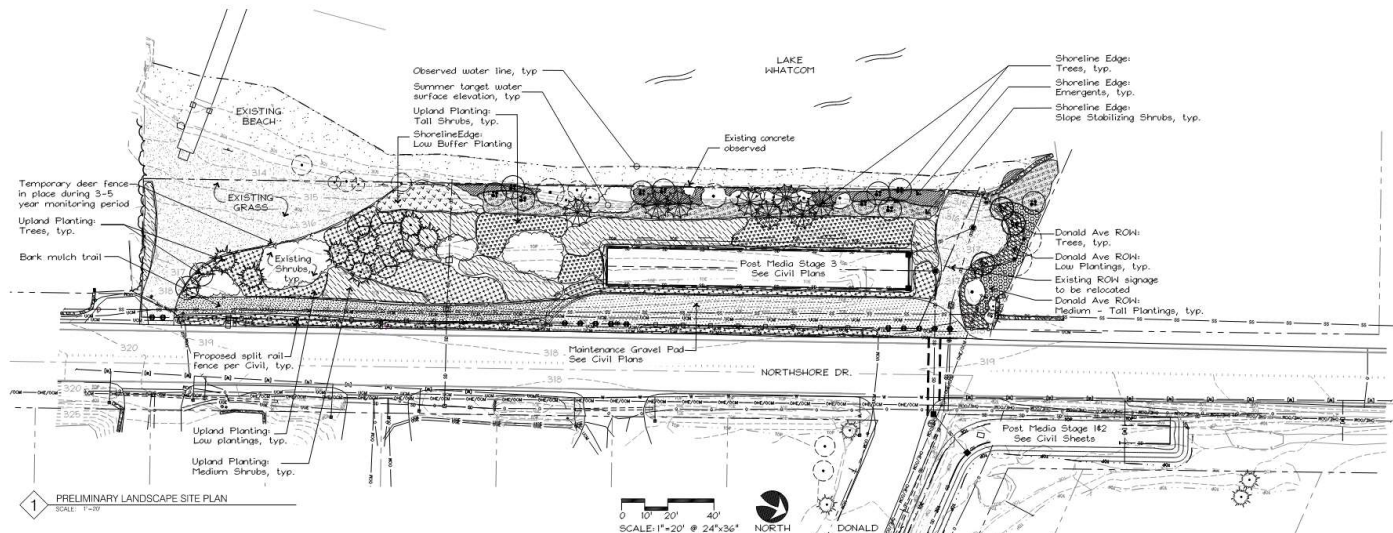
NTS



WOODEN SPLIT RAIL FENCE

NTS

Landscape Plan



1 PRELIMINARY LANDSCAPE SITE PLAN
SCALE: 1"=8'

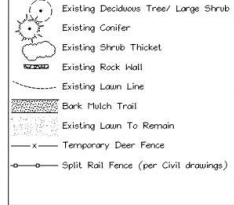
PRELIMINARY UPLAND PLANT LIST

TREES				
Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Betula papyrifera</i>	Paper Birch	12' o.c.	36" HL
	<i>Calocedrus decurrens</i>	Incense Cedar	12' o.c.	36" HL
	<i>Pseudotsuga menziesii</i>	Douglas Fir	12' o.c.	36" HL
	<i>Quercus garryana</i>	Garry Oak	12' o.c.	36" HL
	<i>Rhamnus purshiana</i>	Cascara	12' o.c.	36" HL
TALL SHRUBS				
Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Ceanothus velutinus</i>	Snowbrush	8' o.c.	1 gal.
	<i>Corylus cornuta</i>	Beaked Hazelnut	8' o.c.	B.R.
	<i>Hibiscus discolor</i>	Ocean Spray	8' o.c.	B.R.
	<i>Comelia acuminata</i>	Quo Berry	8' o.c.	B.R.
	<i>Sambucus racemosa</i>	Red Elderberry	8' o.c.	B.R.
	<i>Vaccinium ovatum</i>	Evergreen Huckleberry	8' o.c.	1 gal.
MEDIUM SHRUBS				
Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Rhalephorus sibiricus</i>	Mock Orange	8' o.c.	B.R.
	<i>Ribes sanguineum</i>	Red-flowering Currant	8' o.c.	B.R.
	<i>Rosa nutkana</i>	Nootka Rose	8' o.c.	B.R.
	<i>Rosa prinosarpa</i>	Clustering Wild Rose	8' o.c.	B.R.
	<i>Vaccinium ovatum</i>	Evergreen Huckleberry	8' o.c.	1 gal.
			3,412 sf / Qty 156	
LOW PLANTINGS				
Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Allium cernuum</i>	Taper-tip Onion	5' o.c.	Plugs
	<i>Erigeron glaucus</i>	Showy Fleabane	5' o.c.	Plugs
	<i>Gaillardia spicata</i>	Salal	5' o.c.	1 gal.
	<i>Gimelia nana</i>	Hairy gumplant	5' o.c.	Plugs
	<i>Lupinus polyphyllus</i>	Blue Lupine	5' o.c.	Plugs
	<i>Mahonia nervosa</i>	Low Oregon Grape	5' o.c.	1 gal.
	<i>Mahonia repens</i>	Climbing Oregon Grape	5' o.c.	1 gal.
	<i>Spiraea betulifolia var. lucida</i>	Spiraea Leaf Spirea	5' o.c.	B.R.
	<i>Solidago lepida</i>	Goldenrod	5' o.c.	Plugs
	<i>Symphoricarpos albus</i>	Snow berry	5' o.c.	B.R.

PRELIMINARY SHORELINE EDGE PLANT LIST

TREES				
Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Salix hookeriana</i>	Hookers Willow	8' o.c.	B.R.
	<i>Salix pyramidalis</i>	Geyer Willow	8' o.c.	B.R.
	<i>Salix elaeagnis</i>	Slake Willow	8' o.c.	B.R.
	<i>Thuja plicata</i>	Western Red Cedar	12' o.c.	1 gal.
SLOPE STABILIZING SHRUBS				
Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Cornus amomum</i>	Red-Osier Dogwood	8' o.c.	B.R.
	<i>Rubus spectabilis</i>	Salmonberry	8' o.c.	B.R.
	<i>Spiraea douglasii</i>	Douglas Spirea	8' o.c.	B.R.
			1,447 sf / Qty 25	
LOW BUFFER				
Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Juncus effusus pacificus</i>	Common Rush	5' o.c.	B.R.
	<i>Juncus effusus pacificus</i>	Slender Rush	5' o.c.	B.R.
			570 sf / Qty 25	
EMERGENTS				
Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Carex obnupta</i>	Sough Sedge	5' o.c.	Plugs
	<i>Carex stipata</i>	Sawbeak Sedge	5' o.c.	Plugs
	<i>Juncus ensiformis</i>	Dagger-Leaved Rush	5' o.c.	Plugs
	<i>Juncus tenuis</i>	Slender Rush	5' o.c.	Plugs
			630 sf / Qty 25	

PRELIMINARY PLANTING PLAN LEGEND



PRELIMINARY DONALD AVE ROW PLANT LIST

TREES				
Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Amelanchier alnifolia</i>	Serviceberry	12' o.c.	36" HL
MEDIUM-TALL SHRUBS				
Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Gaillardia spicata</i>	Salal	5' o.c.	1 gal.
	<i>Vaccinium ovatum</i>	Evergreen Huckleberry	5' o.c.	1 gal.
			323 sf / Qty 15	
LOW PLANTINGS				
Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Mahonia nervosa</i>	Low Oregon Grape	5' o.c.	1 gal.
	<i>Polygonatum multiflorum</i>	Western Sword Fern	5' o.c.	4"
			334 sf / Qty 14	



PROJECT: DONALD AVENUE WATER QUALITY RETROFIT
CLIENT: CITY OF BELLINGHAM PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION

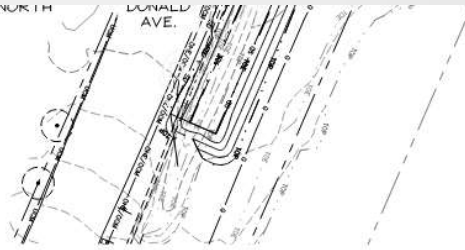
SHEET TITLE: LANDSCAPE SITE PLAN

DATE: 06/20/2023

SHEET NO: L-1

Landscape Plan

SCALE: 1" = 20' @ 24" x 36" NORTH



PRELIMINARY UPLAND PLANT LIST

TREES

Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Betula papyrifera</i>	Paper Birch	12' o.c.	36" ht.
	<i>Calocedrus decurrens</i>	Incense Cedar	12' o.c.	36" ht.
	<i>Pseudotsuga menziesii</i>	Douglas Fir	12' o.c.	36" ht.
	<i>Quercus garryana</i>	Garry Oak	12' o.c.	36" ht.
	<i>Rhamnus purshiana</i>	Cascara	12' o.c.	36" ht.

TALL SHRUBS

1,580 sf / Qty 25

Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Ceanothus velutinus</i>	Snowbrush	8' o.c.	1 gal.
	<i>Corylus cornuta</i>	Beaked Hazelnut	8' o.c.	B.R.
	<i>Holodiscus discolor</i>	Ocean Spray	8' o.c.	B.R.
	<i>Clematis oxysilmaris</i>	Oso Berry	8' o.c.	B.R.
	<i>Sambucus racemosa</i>	Red Elderberry	8' o.c.	B.R.
	<i>Vaccinium ovatum</i>	Evergreen Huckleberry	8' o.c.	1 gal.

MEDIUM SHRUBS

2,300 sf / Qty 36

Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Philadelphus lewisii</i>	Mock Orange	8' o.c.	B.R.
	<i>Ribes sanguineum</i>	Red-flowering Currant	8' o.c.	B.R.
	<i>Rosa nutkana</i>	Nootka Rose	8' o.c.	B.R.
	<i>Rosa pisocarpa</i>	Clustered Wild Rose	8' o.c.	B.R.
	<i>Vaccinium ovatum</i>	Evergreen Huckleberry	8' o.c.	1 gal.

LOW PLANTINGS

3,412 sf / Qty 136

Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Allium cernuum</i>	Taper-tip Onion	5' o.c.	Plugs
	<i>Erigeron glaucus</i>	Showy Fleabane	5' o.c.	Plugs
	<i>Gaultheria shallon</i>	Salal	5' o.c.	1 gal.
	<i>Grindelia hirsutula</i>	Hairy gumplant	5' o.c.	Plugs
	<i>Lupinus polyphyllus</i>	Blue Lupine	5' o.c.	Plugs
	<i>Mahonia nervosa</i>	Low Oregon Grape	5' o.c.	1 gal.
	<i>Mahonia repens</i>	Creeping Oregon Grape	5' o.c.	1 gal.
	<i>Spiraea betulifolia</i> var. <i>lucida</i>	Shiny Leaf Spirea	5' o.c.	B.R.
	<i>Solidago lepidota</i>	Goldenrod	5' o.c.	Plugs
	<i>Symphoricarpos albus</i>	Snowberry	5' o.c.	B.R.

PRELIMINARY SHORELINE EDGE PLANT LIST

TREES

Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Salix hookeriana</i>	Hookers Willow	8' o.c.	B.R.
	<i>Salix geyeriana</i>	Geyer Willow	8' o.c.	B.R.
	<i>Salix sitchensis</i>	Sitka Willow	8' o.c.	B.R.
	<i>Thuja plicata</i>	Western Red Cedar	12' o.c.	1 gal.

SLOPE STABILIZING SHRUBS

1,447 SF / Qty 23

Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Comus senecioea</i>	Red-Osier Dogwood	8' o.c.	B.R.
	<i>Rubus spectabilis</i>	Salmonberry	8' o.c.	B.R.
	<i>Spiraea douglasii</i>	Douglass Spirea	8' o.c.	B.R.

LOW BUFFER

570 sf / Qty 23

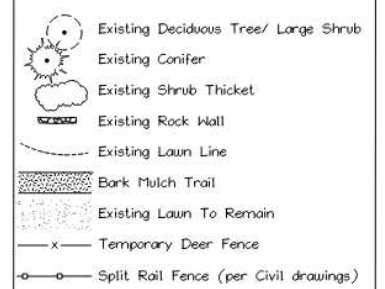
Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Juncus effusus pacificus</i>	Common Rush	5' o.c.	B.R.
	<i>Juncus effusus pacificus</i>	Slender Rush	5' o.c.	B.R.

EMERGENTS

630 sf / Qty 25

Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Carex obnupta</i>	Slough Sedge	5' o.c.	Plugs
	<i>Carex strobata</i>	Sawbeak Sedge	5' o.c.	Plugs
	<i>Juncus ensifolius</i>	Dagger-Leaved Rush	5' o.c.	Plugs
	<i>Juncus tenuis</i>	Slender Rush	5' o.c.	Plugs

PRELIMINARY PLANTING PLAN LEGEND



PRELIMINARY DONALD AVE ROW PLANT LIST

TREES

Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Amelanchier alnifolia</i>	Serviceberry	12' o.c.	36" ht.

MEDIUM-TALL SHRUBS

323 sf / Qty 13

Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Gaultheria shallon</i>	Salal	5' o.c.	1 gal.
	<i>Vaccinium ovatum</i>	Evergreen Huckleberry	5' o.c.	1 gal.

LOW PLANTINGS

334 sf / Qty 14

Quantity	Botanical Name	Common Name	Spacing	Size
	<i>Mahonia nervosa</i>	Low Oregon Grape	5' o.c.	1 gal.
	<i>Polystichum munitum</i>	Western Sword Fern	5' o.c.	4"

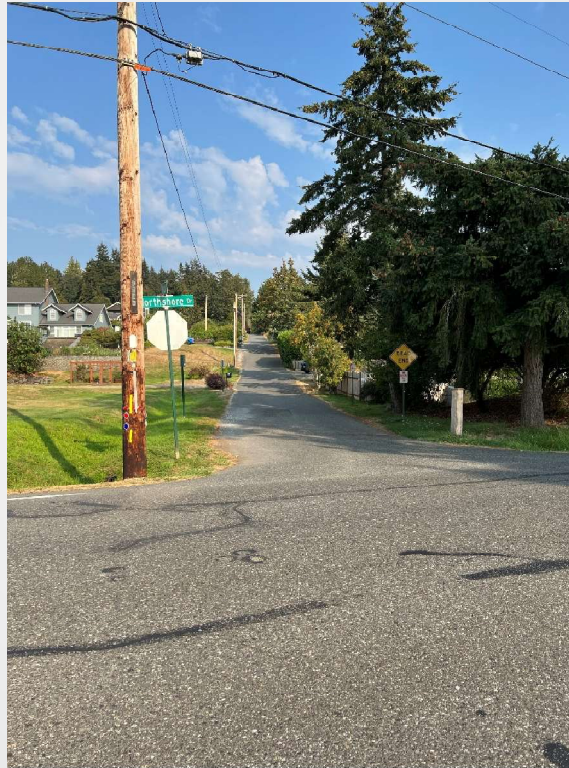
What Comes Next (tentative dates)

- 2024
 - Jan: 90% Plans, Apply for Permits (SEPA, Conditional Use, Shoreline, etc.)
 - Feb: Final Bid Plans, Specs, and Estimate
 - Apr: Solicit Bids for Construction
 - June: Construction during summer window
 - Fall/Winter: Project completion, with planting through the winter

Reference Photos




Existing Facility



Looking up Donald

Resources

- [Indigenous People Day Event](#): Today! Until 8PM @ Wex'liem Community Building or virtually at facebook.com/ChildrenSSP.
- Project Webpage: cob.org/donald-ave
- Sign up for Public Works' Project Updates: cob.org/pw-updates
- Sign up for City News: cob.org/subscribe
- Lake Whatcom Water Levels: cob.org/lw-level



Thank you for being here and
participating in the public process!

Presented by: Jessica J Bennett
Project Engineer, Public Works Department
360.778.7923 jjbennett@cob.org



Follow Up to Questions Heard At Meeting

- Will access be maintained?
 - Yes, access to private dock/beach and public water access at end of right-of-way will be maintained post project. During construction, access may be limited at times for safety.
 - Current walking path through site is currently proposed to be relocated closer to the road to comply with City Shoreline code requirements.
- Are trees planned?
 - Yes, we are required per City Shoreline code to plant at least 30% of the site with native vegetation, including trees.
- Will our access to Donald Ave be maintained during construction? (only one way to access homes)
 - Yes, while delays should be expected during construction, we will maintain access to homes.
- I live in the area and the area shown as draining to the facility looks wrong?
 - The design Engineering Firm (Pacific Surveying & Engineering) is taking another look at the assumed treatment basin and may revise. This may or may not change the design. This will be verified prior to submitting for permits.

Follow Up to Questions Heard At Meeting

- Why is this project needed?
 - The City and County are working to reduce phosphorus levels in Lake Whatcom in response to federal Clean Water Act requirements and the state Total Maximum Daily Load (TMDL) process. In 1998, Lake Whatcom was placed on the state's list of polluted water bodies because it did not meet water quality standards for dissolved oxygen. The WA Department of Ecology concluded that excess phosphorous was the primary cause of declining oxygen levels. Environmental Protection Agency (EPA) approved the mandatory water quality improvement plan (Lake Whatcom TMDL) in 2016.
 - The plan sets the phosphorous reduction target needed to meet water quality standards. This project is an important part of meeting the target. To learn more, see the [project webpage](#), [Lake Whatcom Management Program page](#), [Ecology's TMDL overview page](#), [Ecology's TMDL Water Quality Study Findings](#), and [Ecology's Improvement Report and Implementation Strategy](#).