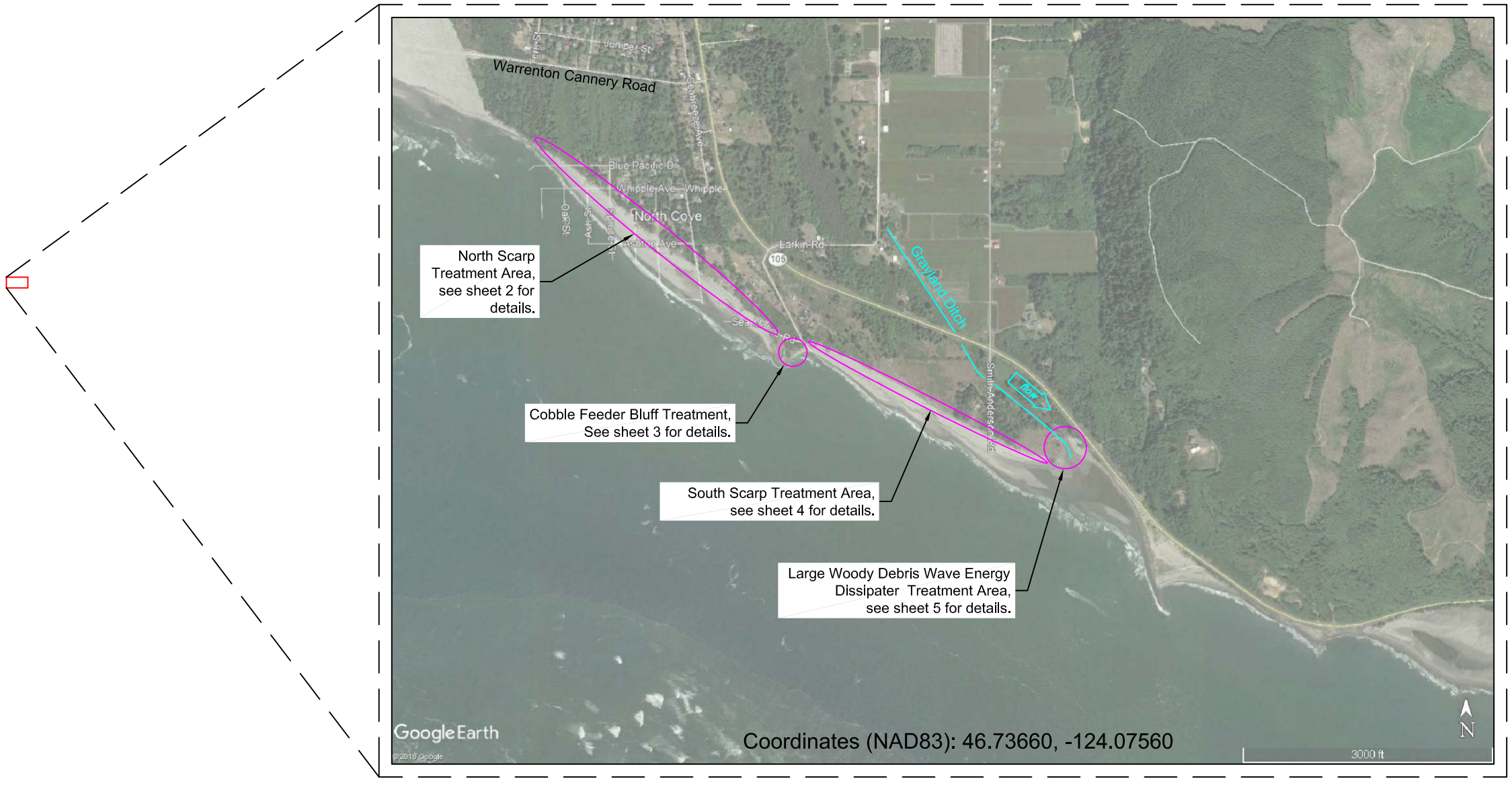
North Cove, Dynamic Cobble Revetment and Hybrid Slope Reinforcement, Conceptual Drawings

Vicinity Map, Not to Scale



Project Description:

This project proposes to reinforce the shoreline area of North Cove, from just south of Warrenton Cannery Road to the mouth of the Grayland Ditch. Shoreline erosion has been an ongoing problem in this area and this project will help protect private properties as well as local and state roads. If nothing is done, erosion will continue until it reaches the state highway which will result in loss of hundreds of acres of valuable properties. This project will attempt to slow the erosion processes until a permanent fix is implemented. Pacific County Drainage District staff are actively searching for funding to start the permanent repair process.

Work will consist of anchoring logs and large woody material along and into the bank at intervals to disrupt the longshore current and help retain sand to prevent further erosion. An excavator and/or backhoe will place these materials as depicted in the conceptual detail drawings. Where the bank is vertical (or near vertical), limited volumes of cobble-sized rock will be placed as a porous dynamic revetment to absorb wave energy and prevent further scour.

Where the banks are lower than the storm surge height, 2-5 feet of debris (beech sand and woody material) will be added to create a berm above the high tide line to reduce overtopping during storm events. All these practices will be done as a regular maintenance completed on an as-needed basis when necessary to prevent erosion. Emphasis will be placed on using local, natural materials and using the minimum volume required to achieve the necessary protection. All work will be done landward of the mean higher high water line (MHHW).

Sheet Index

PACIFIC CONSERVATION DISTRICT
904 W Robert Bush Drive
South Bend, WA 98586
360-875-9424

SCALE:
HOR: 1" = N/A
VER: 1" = N/A

DESIGNER: GG
DRAFTER: GG
DATE: 5/18/18

BY	DATE	REVISIONS

FOR:

Mike Nordin, District Manager
Pacific Conservation District
904 W Robert Bush Drive
South Bend, Washington 98586
Phone: 360.875.6735

North Cove
Conceptual Drawings

JOB NO.

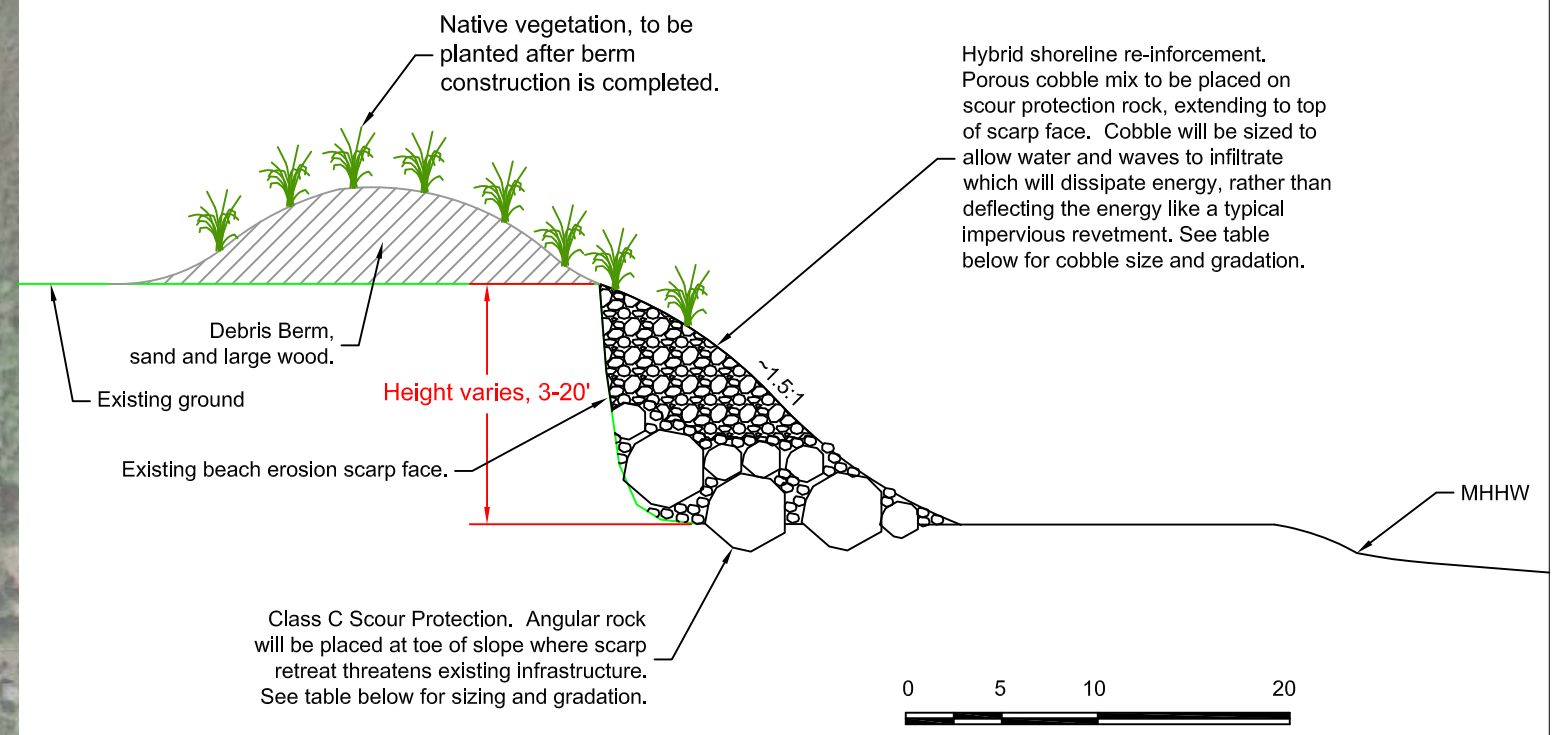
Cover Sheet

SHEET 01 / 05

North Scarp Treatment Area
Plan View, Scale: 1" = 400'

Note: North Scarp Treatment construction sites will be accessed from the ends of Pacific County roads in the project area, providing multiple access, staging and material stockpile locations.

North Scarp Typical Treatment, Section A-A,
Scale: 1" = 10'



Class C Scour Protection	
Approximate Size	**Percent Passing**
42"	100
36"	80-95
28"	50-80
22"	15-50
14"	15 maximum

Class C Scour Protection based on WSDOT Standard Specification 9-13.4(2) Class C Scout Protection to be a clean local basalt quarry rock. The quarry rock will be angular, but will mechanically erode toward a more-rounded aggregate due to wave and tidal actions.

Porous Cobble, Sizes and Grading	
Approximate Size	**Percent Passing**
10"	99-100
8"	70-90
4"	30-60
3/4"	10 maximum

Porous Cobble gradation based on WSDOT Standard Specification 9-03.11(2) Streambed Cobbles, except that Porous Cobble shall be composed of a clean local basalt quarry rock. The quarry rock will be angular, but will mechanically erode toward a more-rounded aggregate due to wave and tidal actions.

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North Cove
Conceptual Drawings

JOB NO.

Conceptual Detail #1
Hybrid slope reinforcement and porous cobble revetment

SHEET
02
05

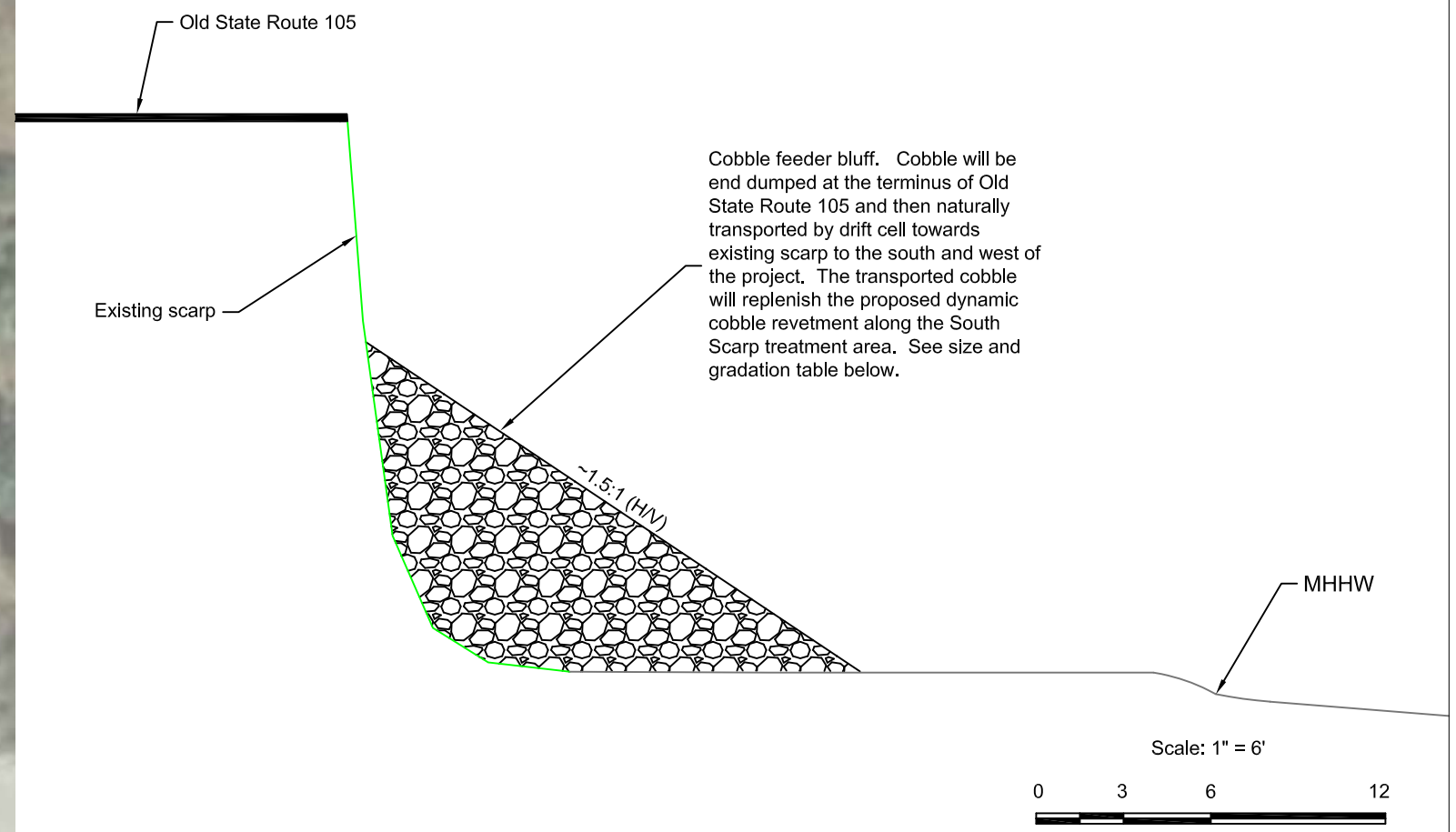
Cobble Feeder Bluff

Plan View, Scale: 1" = 100'

Cobble Feeder Bluff Site.
Cobble to be end-dumped at the end of Old State Route 105 annually, or as needed. Cobble will be naturally transported by drift cell towards scarp, replenishing the dynamic cobble revetment. See detail this page.

Cobble Feeder Bluff, Section B-B

Typical Section, Scale: 1" = 6'



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SCALE:
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Mike Nordin, District Manager
Pacific Conservation District
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North Cove
Conceptual Drawings

JOB NO.

Conceptual Detail #2
Cobble Feeder Bluff Site

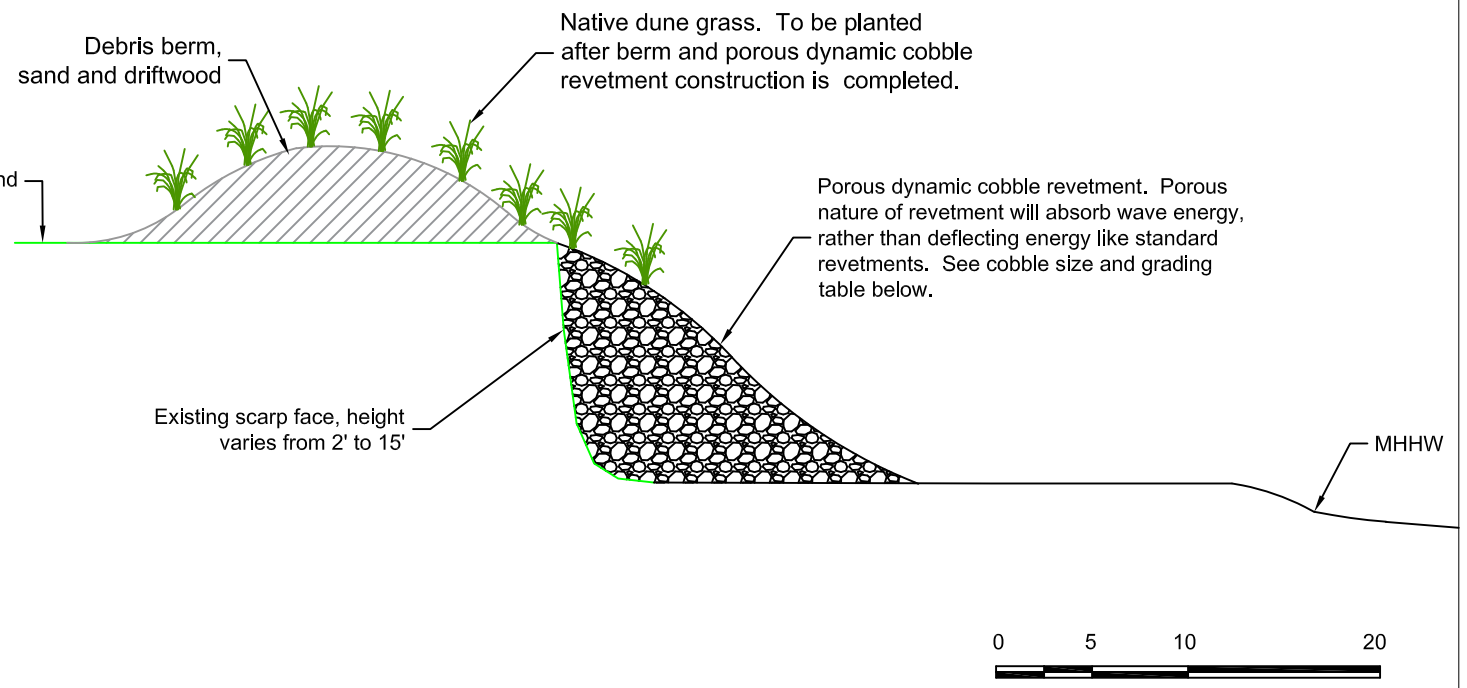
SHEET
03
05

South Scarp Treatment Area, Plan View

Scale: 1" = 400'

South Scarp Typical Treatment, Section C-C

Scale: 1" = 10'



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North Cove
Conceptual Drawings

JOB NO.

Conceptual Detail #3
Porous Dynamic Cobble Revetment

SHEET
04
05