



North Willapa Shoreline Protection Demonstration Project

Nov 18, 2020

WECAN Update Meeting

Pacific County, WA



Scope of Work Summary – Demonstration Project

June 2018-March 2020

Site Investigations

Archeological
Topographic/Bathymetric
Geotechnical Summary

Concept Development and Alternatives Assessment

Engineering Analysis
Lifetime Cost

Permit Applications

JARPA
Pre-application
meetings
Public Meeting

Constructability Assessment

Staging areas
Contractor outreach

Plans, Specifications, Cost Estimate

Documents for Bid

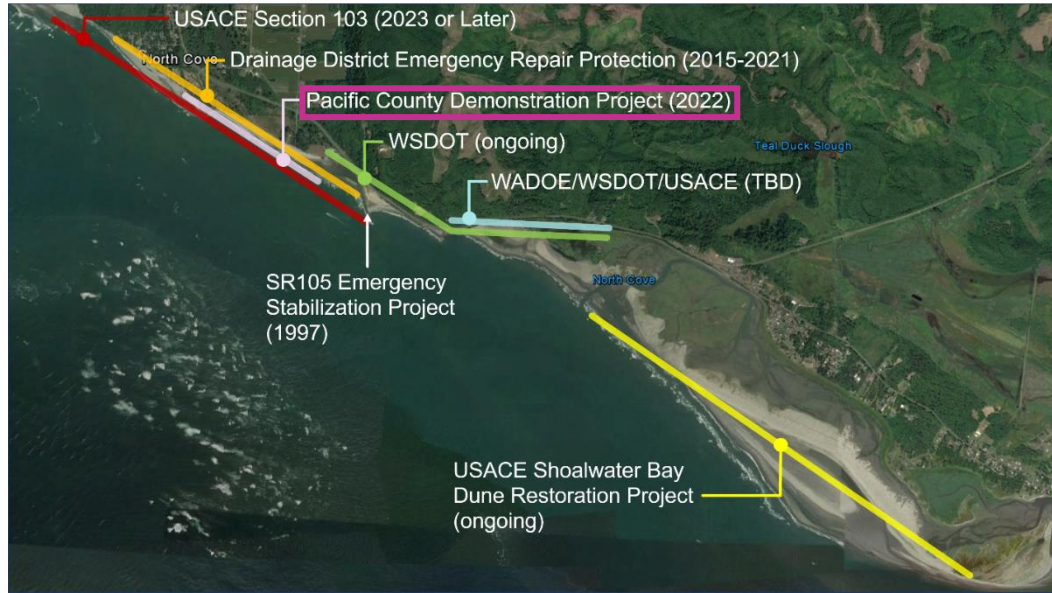
Adaptive Management and Master Plan Report

Submittal: March, 2020

Project Team

- Prime Engineering Company – Mott MacDonald
 - Grette and Associates; Shannon and Wilson; Lead to Results, LLC
- Technical Committee
 - WA Department of Ecology; WA Department of Transportation; US Army Corps of Engineers; Grayland Drainage District; Pacific County Conservation District
- Steering Committee
 - WA Department of Ecology; WA Department of Transportation, US Army Corps of Engineers; Pacific County Conservation District; North Cove Community; WA Department of Fish and Wildlife; Pacific County Administration; Port of Willapa Harbor; Shoalwater Bay Tribe; Pacific County Conservation District; WA Department of Parks

Project Location



Entity	USACE Section 103	Drainage District	Pacific County	Shoalwater + USACE	WSDOT	WSDOT+WDOE + USACE
Project Name	<i>North Cove Shoreline Protection Project</i>	<i>North Cove Emergency Shoreline Protection</i>	<i>Willapa North Shoreline Protection Demonstration Project</i>	<i>Shoalwater Bay Shoreline Erosion Project</i>	<i>WSDOT SR 105 North Cove Beach Erosion Protection</i>	<i>Graveyard Spit Restoration and Resilience</i>
Feasibility Study	2020-2021	N/A	2018-2019	2009	N/A	2018 (USACE)
Design	2021-2022	On-going	2019	2009	Pre-2017	2020
Construction	2023	2015-2021	2021	On-Going	2017	TBD
Maintenance	2023+	2019-2021	2021+	On-Going	On-going	TBD

Permit Applications

Biological Assessment:

- ESA: May affect, but is not likely to adversely affect Listed Species and Critical Habitat

JARPA

- Mitigation not likely to be required based on pre-consultation with agencies
- Requesting 10-year maintenance permit
- Work Window: July 16 – Feb 15

PROPOSED PROJECT RESOURCES SHORELINE
DYNAMIC MLLW
APPROXIMATE OHW
APPROXIMATE OHW
TEMP. STAGING AREA
PROPOSED DYNAMIC REVETMENT
TEMP. STAGING AREA
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LEGEND
--- MHHW (EL +8.92)
--- MLLW (EL 0.00)
--- APPROXIMATE OHW
--- TEMP. STAGING AREA
--- PROPOSED DYNAMIC REVETMENT

NOTES
1. AERIAL PHOTOGRAPH FROM GOOGLE EARTH, AUGUST 2016.
2. SURVEY ELEVATIONS, JUNE 2018.
3. HORIZONTAL DATUM: NADES WASHINGTON STATE PLANES, SOUTH ZONE, US FT.
4. VERTICAL DATUM: MLLW
5. BEACH CONDITIONS MAY DIFFER BETWEEN AERIAL AND SURVEY DATE DATES.
6. SEE TABLE ON SHEET 2 FOR ADJACENT PROPERTY OWNERS. ALL CHANGES BASED ON PRE-CONSTRUCTION SURVEY. AREA MAY INCREASE OR DECREASE SLIGHTLY.
7. FOOTPRINT AND LOCATION OF NEW DYNAMIC REVETMENT WILL CHANGE BASED ON PRE-CONSTRUCTION SURVEY. AREA MAY INCREASE OR DECREASE SLIGHTLY.
8. PROPOSED NEW DYNAMIC REVETMENT IS AN ENGINEERED LONG-TERM SOFT-SHORE STABILIZATION SYSTEM DESIGNED TO STABILIZE THE SHORELINE IN EXTREME STORM CONDITIONS. VOLUME IS APPROXIMATELY 17.5 CYLCP.

SITE PLAN PROPOSED
SCALE IN FEET

WASHINGTON STATE
Joint Aquatic Resources Permit
Application (JARPA) Form^{1,2}
USE BLACK OR BLUE INK TO ENTER ANSWERS IN THE WHITE SPACES BELOW.

AGENCY USE ONLY
Date received: _____
Agency reference #: _____
Tax Parcel #(s): _____

Part 1—Project Identification

1. Project Name (A name for your project that you create. Examples: Smith's Dock or Seabrook Lane Development) [\[help\]](#)
North Willapa Bay Shoreline Protection Demonstration Project

Part 2—Applicant
The person and/or organization responsible for the project. [\[help\]](#)

2a. Name (Last, First, Middle)
Kathy Spoor

2b. Organization (if applicable)
Pacific County

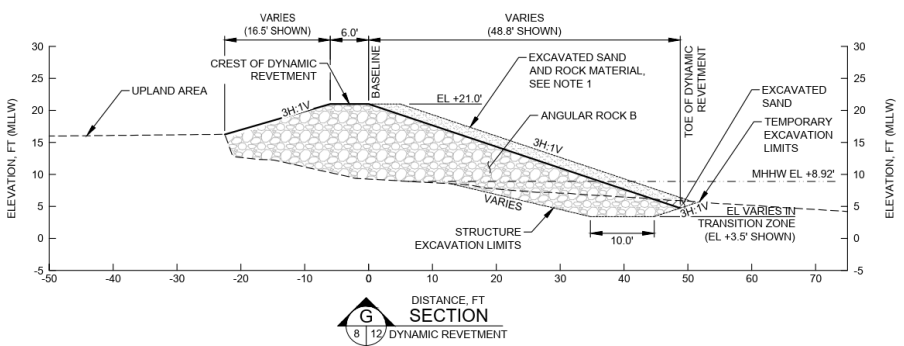
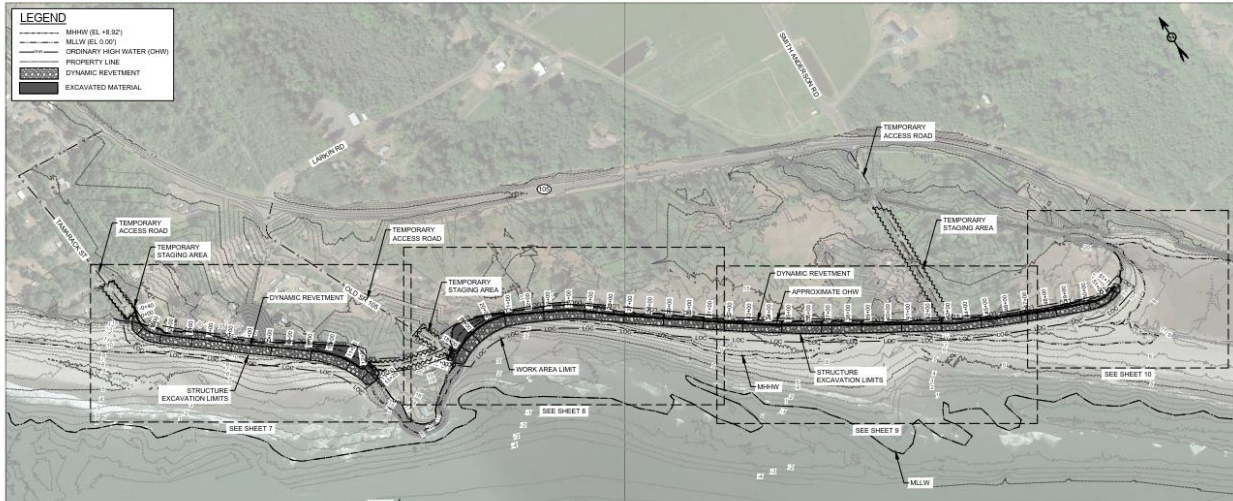
2c. Mailing Address (Street or PO Box)
1216 W. Robert Bush Drive

2d. City, State, Zip
South Bend, WA, 98586

2e. Phone (1) 2f. Phone (2) 2g. Fax 2h. E-mail
360-875-9334 _____ _____ Kspoor@co.pacific.wa.us

Additional forms may be required for the following permits:
• If your project may qualify for Department of the Army authorization through a Regional General Permit (RGP), contact the U.S. Army Corps of Engineers for application information (205) 764-3465.
• Not all cities and counties accept the JARPA for their local Shoreline permits. If you need a Shoreline permit, contact the appropriate city or county government to make sure they accept the JARPA.

Plans, Specifications, Cost Estimates



**FOR BID
NOT FOR CONSTRUCTION**

Author	Engineer	A. Foster	Title	Willapa Bay Dynamic Revetment Demonstration Project
Designer	Coordinator			
Checker	Appraiser	S. Phillips		
Draftsman	Reviewer	Security		

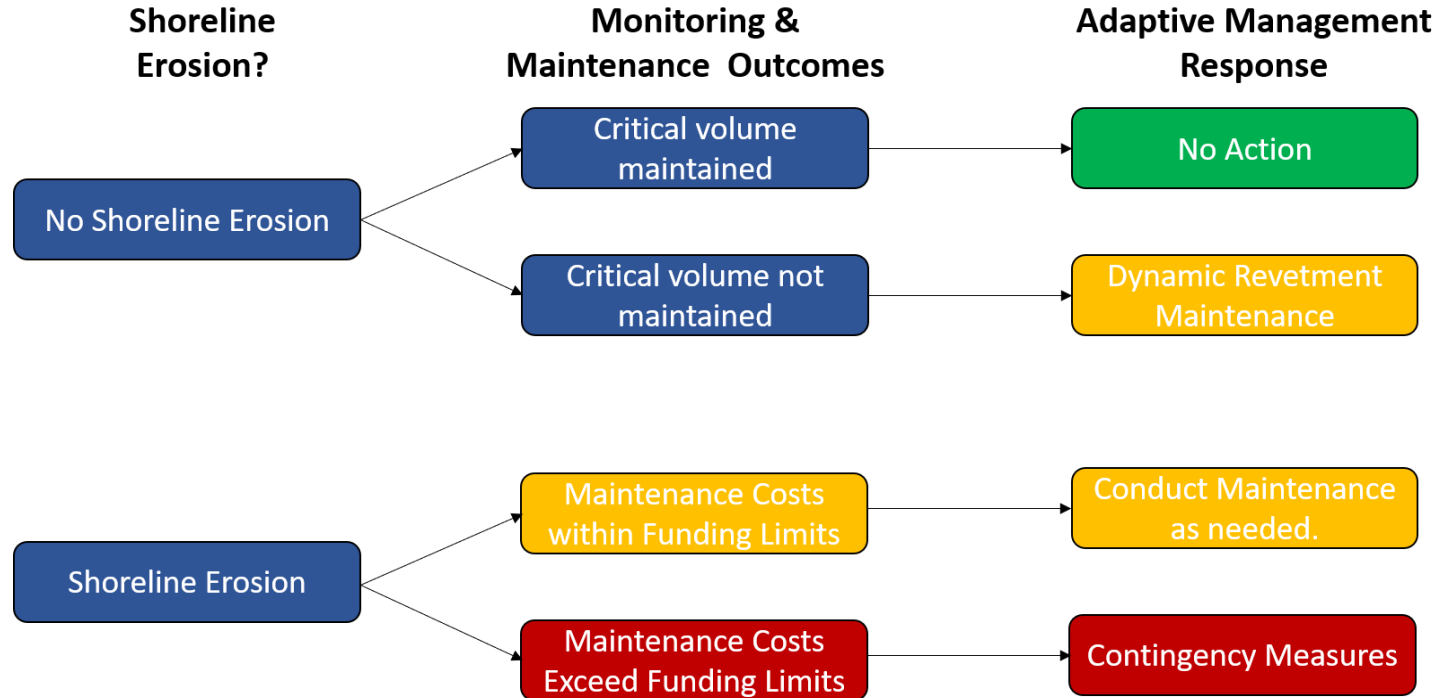
Proposed Site Plan

Technical Specifications

- Site Preparation and Access
- Pavement Repair
- Traffic Control
- Surveys
- Excavation
- Rock Size (12" minus)
- Rock Type (2 types of angular rock)
- Erosion Control and Water Pollution Control

Note: Plans/Specifications incorporate information learned during implementation of Drainage District erosion protection measures.

Adaptive Management Plan – Demonstration Project



Though not anticipated, if the monitoring and maintenance programs indicate the cost to maintain the dynamic revetment exceeds planned funding levels then contingency measures (actions) would be initiated. Contingency actions should be defined based on conditions present at the time of assessment. Potential contingency actions could include installation of a groin at the southern end of the project area, additional dynamic revetment material, or other shorelife protection concepts.

Cost Estimate - Program

10-Year Monitoring and Adaptive Management Plan

2-types of Dynamic Angular Rock

Construction Engineering

Table 3 - Planning Cost Estimate Required for Construction

Item	Description	Quantity	Unit	Unit Price	Cost
1	Mobilization & Demobilization	1	LS	\$760,000	\$760,000
2	Temporary Traffic Control	1	LS	\$10,000	\$10,000
3	Erosion Control and Water Pollution Control	1	LS	\$20,000	\$20,000
4	Construction Surveying	1	LS	\$35,000	\$35,000
5	Site Preparation & Construction Access	1	LS	\$30,000	\$30,000
6	Removal of Structures and Obstructions	1	LS	\$20,000	\$20,000
7	Structure Excavation	38,000	CY	\$15	\$570,000
8	Angular Rock A	77,000	TON	\$45	\$3,465,000
9	Angular Rock B	62,000	TON	\$55	\$3,410,000
10	Access Road Restoration	8,000	SF	\$6.50	\$52,000
11	Trimming and Clean-up	1	LS	\$10,000	\$10,000
Subtotal Cost					\$8,382,000
Pacific County Sales Tax (8.1%)					\$678,942
Total Construction Cost:					\$9,060,942
10-year Monitoring Program					\$900,000
10-yr Adaptive Management Program					\$5,000,000
Engineering Services During Bidding and Construction:					\$300,000
Inflation Contingency (Assuming Construction in 2023)					\$1,905,542
Recommended Project Budget:					\$17,166,542

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... Next steps



Thank you

