

Dredging Details Owners Meeting September 2026

Jim Freeman 26 September, 2026

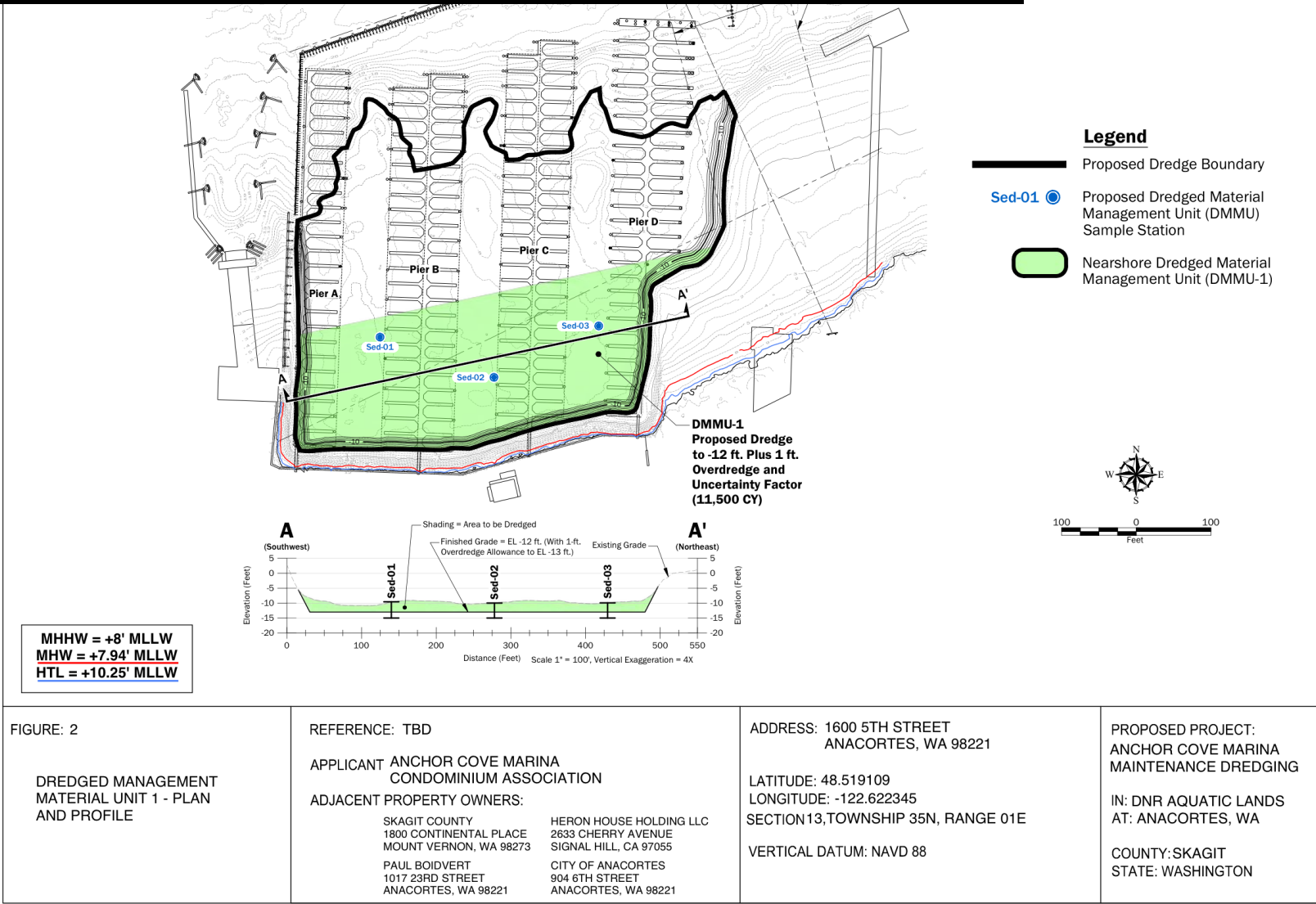
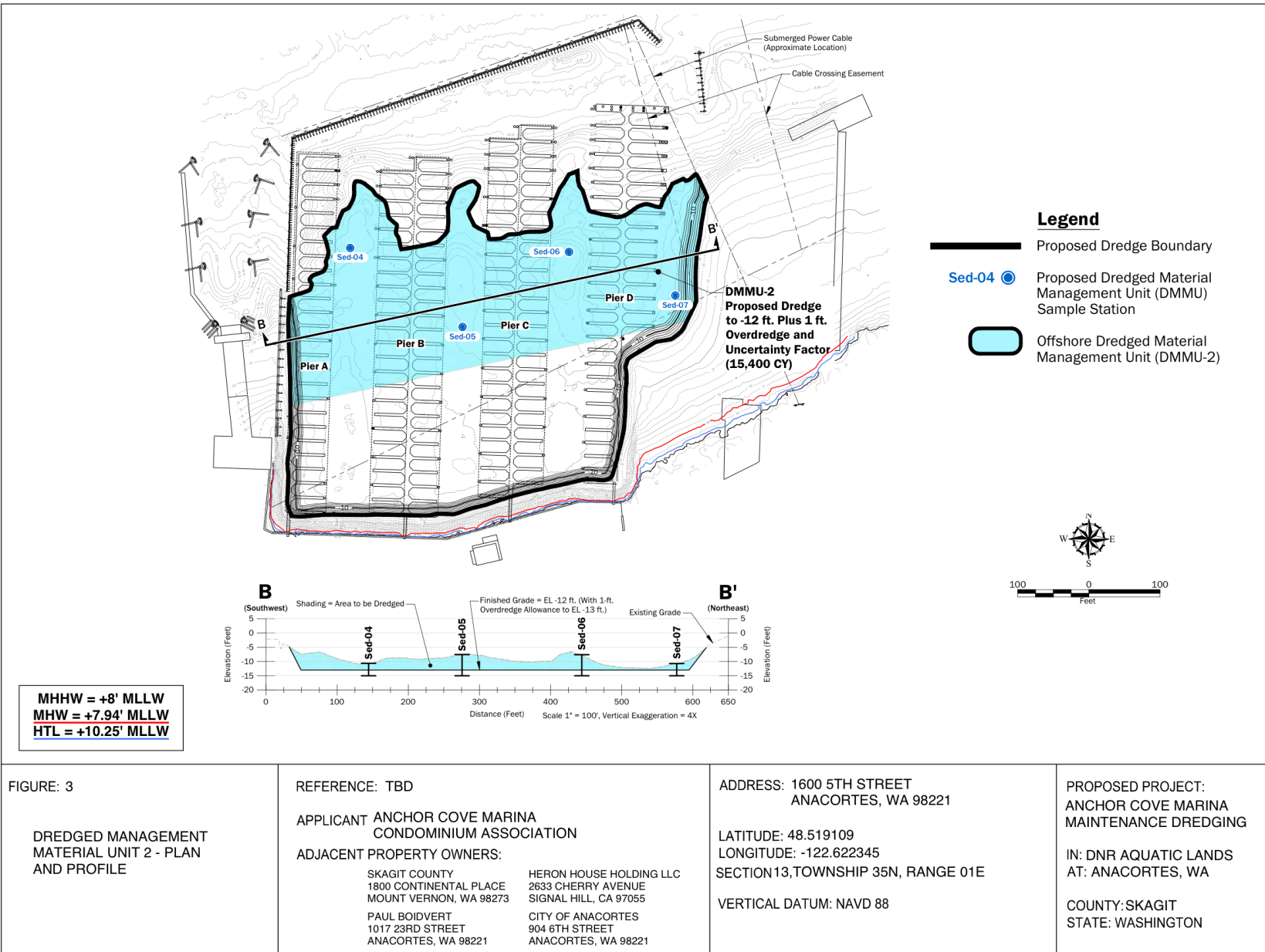
Dredge Methods

How We Got Here

- Multi-Month Delay for Open Water Disposal by Tribe
- Lost Local Contractor Options for Lack of Permit
- Duwamish Services willing to work with us without a permit but bigger deployment costs for barge. Tried to share with Twin Bridges Marina - may still have an opportunity for next phases.
- Explored Beach Nourishment and Dewatering On-Site Options
- Explored Suction Cutterhead Method associated with Beach Nourishment and Dewatering on Site (note Dewatering and hauling to local dump became a huge issue for finding trucks and a dump nearby to take fill)
- Likely next phases will be Suction Cutterhead to deal with under docks better and a much larger dump barge to open water.
- There are a lot of details required to pump into barge, properly dewater and monitor water quality
- Current mechanical plan is very accurate and much quicker since we have open water with dock removed

Actual Dredge Plan Steps

- Permits
- 51 Page Plan Covering Permit requirements
- Pre-Dredge Meeting Early October for Agencies to Comment or Modify Plan



RE: Anchor Cove Marina Maintenance Dredging- S-004 Dredging Work Plan

Thanks Stewart,

I'll circulate this updated version to the group along with an agenda for the pre-dredge meeting. Here's what I have for the agenda so far:

- Introductions
- Project Schedule
- Dredging and Disposal Plan
- BMPs and Permit Conditions
- Monitoring Requirement
- Reporting Requirements
- Questions and Discussion

Let me know if there is anything else we should include in the agenda.

Forrest Carpenter | Project Manager | Fisheries Biologist

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	Anchor Cove Marina Maintenance Dredging			
	Permit-Required Submittal Summary			
	Permit	Action	Paragraph/Section Ref.	Responsible
	USACE DAP	Provide Copy of Permit to Contractor	Special Condition A	Anchor Cove
		Notification Summary Sheet	Special Condition C	Anchor Cove
		DQM Certification	Special Condition D	Duwamish Services
		DQM DPIP Plan	Special Condition D	Duwamish Services
		DQM Notifications	Special Condition E	Anchor Cove
		Start of Dredging Notification	Special Condition H	Anchor Cove
		VTs Notification	Special Condition I	Duwamish Services
		Post-Dredge Survey	Special Condition K	Duwamish Services
		Post-Dredge/Disposal Report	Special Condition L	Duwamish Services
		DMMO Sediment Characterization	Special Condition O	Anchor Cove
	Section 401 WQC	WQC Order Understanding Statement	General Condition 6	Duwamish Services
		Provide Copy of Final Federal Permit	General Condition 10	Anchor Cove
		Agency Notifications	Notification Requirement 1	Anchor Cove
		Water Quality Monitoring Results	WQM Requirement 7	Duwamish Services
		Dredging & Disposal Work Plan	Construction Condition 29	Duwamish Services
		Pre-Dredge Meeting	Construction Condition 29	Duwamish Services
		Verification of Aquatic Resource Credit Purchase	Mitigation Condition 3	Anchor Cove
		Spill Prevention & Containment Plan	Emergency Measure 1	Duwamish Services
	Hydraulic Project Approval	Agency Notification	Provision 3	Anchor Cove
		Post-Dredge Report	Provision 5	Duwamish Services
	Floodplain Development Permit	Building & Planning Final Inspections	Required Inspections	Anchor Cove
		Post-Dredge Hydrographic Survey	Condition Bullet #4	Duwamish Services
		Creosote Disposal Tonnage Receipts	Condition Bullet #6	Anchor Cove
		GPS Location of Broken Timber Piles	Condition Bullet #8	Anchor Cove
		Written Documentation Project Completed Per Permit Requirements	Condition Bullet #9	Anchor Cove
	Shoreline Exemption	GPS Location of Broken Timber Piles	Fact Condition 10	Ancor Cove
		Post-Dredge Hydrographic Survey	Approval Condition 8	Duwamish Services
		Creosote Disposal Tonnage Receipts	Approval Condition 13	Anchor Cove
		PSP Purchase Agreement	Approval Condition 13	Anchor Cove
		Written Documentation Project Completed Per Permit Requirements	Aproval Condition 15	Anchor Cove
	SSNP Requirements	Marine Mammal Monitoring Plan		Anchor Cove
		Creosote Disposal Tonnage Receipts		Anchor Cove
	Biological Assessment	DMMO Pre-Dredge Conference	Section 2.5.1 BMP #1	Duwamish Services
		Spill Prevention, Control & Countermeasures Plan	Section 2.5.1 BMP #4	Duwamish Services
	Duwamish Services Contract	Project Schedule	Section 6	Duwamish Services
		Schedule of Values	Section 7.3	Duwamish Services
		Applications for Payment	Section 7.4	Duwamish Services
		Conditional Waiver & Release	Section 7.10	Duwamish Services
		Certificate of Insurance	Section 11	Duwamish Services
		Pre- & Post- Hydrographic Surveys	Attachment A- 1.6	Duwamish Services
	Pending:			
	Aquatic Lease Permit			

Dredge Plan for Pre-Dredge Mtg

9 October 2026

Some Highlights



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Dredging Work Plan

Anchor Cove Marina Maintenance Dredging



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1.0 Introduction

This Dredging Work Plan (Work Plan) has been developed specifically for the Anchor Cove Marina Maintenance Dredging Project to provide a synopsis of Duwamish Services LLC’s planned approach and anticipated means and methods to successfully execute dredging and materials placement operations.

1.1 Scope of Work Summary

The purpose of the Anchor Cove Marina Maintenance Dredging Project is to perform maintenance dredging to deepen the harbor fairways and boat slips surrounding the existing “Pier D” which has become shallow due to continued sediment influx over the years. Dredging within the fairways will be completed to a design elevation of -12’ MLLW while under dock dredging will occur to a design elevation of -10’ MLLW. All dredging will have a 1’ overdredge tolerance. In total, approximately 6,500 cubic yards (CY) of dredge material is planned to be removed via mechanical dredging means and methods and disposed of at the Rosario Strait open water disposal site.

To facilitate site access and under-dock dredging, Anchor Cove will temporarily remove Pier D and its associated pile. The pier and associated pile will be re-installed by others following completion of dredging operations.

Duwamish Services will comply with the requirements and conditions of the Contract, Project Specifications, and all project permits throughout the execution of all work associated with this project.

2.0 Schedule

Duwamish Services plans to work a 7-day per week (Monday-Sunday), 12-hour per day schedule throughout the execution of this project.

Work is anticipated to start on approximately November 2nd, 2026. Overall, dredging is anticipated to take approximately 2 weeks to fully complete, inclusive of open-water sediment disposal operations. Dredging must be fully complete no later than February 15, 2027, which marks the closure of the allowable in-water work window.

A copy of Duwamish Services’ proposed project schedule has been included within Attachment A of this plan. The project schedule will be kept up to date throughout the execution of the project, with regular updates provided to Anchor Cove.

3.2 Equipment

Mechanical dredging and capping materials placement on this project will be accomplished via the use of a barge-mounted Hitachi 870 excavator with an environmental clamshell bucket.

A summary of all equipment planned for use throughout project execution has been provided below:

- Hitachi ZX870 Excavator
- 5 CY Cable Arm Level-Cut Environmental Clamshell Bucket
- 40' x 100' Flexi Float Construction Barge
- "Orion 2001" Dump Scow (43' x 198') (3,500 Ton Capacity)
- 16' Work Skiff

4.0 Positioning & Monitoring

4.1 Horizontal & Vertical Control

Horizontal and vertical machine control for dredging operations will be provided via an RTK GPS system which will feed corrections to the computer system installed within the Hitachi 870 excavator. Prior to the start of project work, a continually operating base station will be temporarily established near the project site, referenced back to known control points.



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The Hitachi 870 dredging excavator will be equipped with GPS equipment, a computer with Hypack DREDGEPAK software, and inclinometer sensors to allow for real time and continuous monitoring of the depth and position of the clamshell bucket. The excavator will receive horizontal and vertical positioning data corrections from the continuously operating uplands base station via RTK GPS. The operator will be able to determine, in real time, the position of the clamshell bucket relative to the design dredging grades.

Regular quality control checks of machine control accuracy will be performed throughout project execution to ensure accurate machine control. The location of the clamshell bucket will be compared against a known point to verify; if at any time RTK GPS is lost, or machine control is determined to not be accurate, dredging operations will stop until GPS and accuracy issues have been corrected.

4.2 Dredging Quality Management (DQM)

Special Condition D of the U.S. Army Corps of Engineers (USACE) Department of the Army Permit (DAP) requires that a Dredging Quality Management (DQM) system must be implemented during the execution of dredging operations to monitor the status of the dump scow at all times.

Duwamish Services will equip the “Orion 2001” dump scow with an active DQM system and will obtain DQM System Certification for the vessel prior to the start of project work. In addition, a Dredge Plant Instrumentation Plan (DPIP) will be developed which will outline the exact specifications, hardware configuration and instrumentation which will be used to monitor and log dredging activities. The DQM system will collect data on the following parameters and transmit the data in real time to the USACE DQM Database:

- Scow Name
- Date and Time
- Load Number
- Hull Status (Open/Closed)
- Horizontal Positioning
- Speed
- Heading
- Draft
- Displacement

Duwamish Services will ensure that the DQM system is fully operational throughout dredging operations and that project data is submitted to the DQM center.