

Seawall and Citizen's Dock Project Status

Project Tasks funded with CA Coastal Conservancy Grant

- All project contracts awarded
- Initial Designs - complete - Moffatt & Nichol
- Public meetings - complete – CSS and Moffatt & Nichol
- NEPA and CEQA studies underway - Moffatt & Nichol
 - Status: environmental documentation under review by state/federal agencies
- Revised 30% engineering package - due 2/28/2025 – M&N
- Receive final CEQA Initial Study / Negative Declaration and NEPA Environmental Assessment (IS/EA) for Seawall and Citizens’ Dock – due May 31, 2025 – M&N
- Submit to MARAD the NEPA Environmental Assessment (IS/EA) for Seawall and Citizens’ Dock for their review and approval – Harbor District

Project Tasks funded with MARAD PIDP 2022 – Seawall Construction

Awarded Funds: \$7,366,565

Match Requirement (Remaining): \$1,570,489

Current Status: Grant cannot be spent until NEPA Environmental Study is complete

Timeline: Project Start Date: January 2023. Project End Date: January 2028

Key 2025 tasks

- Finalize and enter into PIDP 2022 and PIDP 2024 Grant Contracts with MARAD
- Start drawing down funds.
- Prepare, Release RFPs for Seawall final design, permitting and construction
- Finalize seawall design – (grant funded)
- Finalize construction estimates – (grant funded)
- Determine final scope of project – (grant funded)
- Hold public meetings to get input on final design and scope– (grant funded)
- Apply for project amendments if needed – (grant funded)
- Apply for construction permits – (grant funded)

Key 2026 tasks

- Construct New Seawall – (grant funded)

Port Infrastructure Development Grant (PIDP) 2024 – Citizens’ Dock

Use of Funds: 1) Construction of Citizens Dock – phase 1

Grant Amount Awarded: \$8,000,000

Match Requirement: \$2,000,000

Current Status: Grant cannot be spent until NEPA Environmental Study is complete.

Timeline: Project Start Date: November 2024. Project End Date: November 2029

Key 2025 tasks

- Finalize and enter into PIDP 2022 and PIDP 2024 Grant Contracts with MARAD
- Start drawing down funds.
- Prepare, Release RFPs for Citizens' Dock final design, permitting and construction
- Finalize Citizens Dock design – (grant funded)
- Finalize construction estimates – (grant funded)
- Determine final scope of project – (grant funded)
- Hold public meetings to get input on final design and scope– (grant funded)
- Apply for project amendments if needed – (grant funded)
- Apply for construction permits – (grant funded)

Key 2026 – 2027 tasks

- Construct Citizens' Dock – phase 1 – (grant funded)

M&N Active/Ongoing Projects

- › Seawall and Citizens Dock Replacement NEPA/CEQA
 - › Status: environmental documentation under review by state/federal agencies
 - › Next steps: Revised 30% engineering package due by 2/28/2025

- › South Beach Restroom Permitting
 - › Status: Permits secured
 - › Next step: Revise previous bids and advertise

- › Beneficial Reuse of Dredge Material
 - › Pilot project defined
 - › Next step: meeting with US Army Corps of Engineers to present pilot project

- › Outer Basin Vertical Breakwater
 - › Work-in-progress with alternatives analysis
 - › Next step: share alternatives analysis with CCHD by 2/28/2025

AGREEMENT NUMBER 22-154	AM. NO.
TAXPAYERS FEDERAL EMPLOYER IDENTIFICATION NO. 94-6003247	

THIS AGREEMENT is entered into this 31st day of May, 2023 in the State of California, by and between:

AGENCY State Coastal Conservancy	and
GRANTEE'S NAME Crescent City Harbor District	

I. SCOPE OF AGREEMENT

Pursuant to Chapter 3 of Division 21 of the California Public Resources Code, the State Coastal Conservancy (“the Conservancy”) hereby grants to the Crescent City Harbor District (“the grantee”) a sum not to exceed \$927,000 (nine hundred twenty-seven thousand dollars) (“funds”), subject to this agreement.

(Continued on the following pages)

The provisions on the following pages constitute a part of this agreement. This agreement has been executed by the parties as shown below.

STATE OF CALIFORNIA	GRANTEE
AGENCY State Coastal Conservancy	GRANTEE (If other than an individual, state whether a corporation, partnership, etc.) Crescent City Harbor District
BY (Authorized Signature) <i>Amy Hutzel</i>	BY (Authorized Signature) <i>Tim Petrick</i>
PRINTED NAME AND TITLE OF PERSON SIGNING Amy Hutzel, Executive Officer	PRINTED NAME AND TITLE OF PERSON SIGNING Timothy Petrick, CEO/Harbormaster
ADDRESS & PHONE NUMBER 1515 Clay Street, 10 th Floor Oakland, CA 94612 Phone: (510) 286-1015	ADDRESS & PHONE NUMBER 101 Citizens Dock Road Crescent City, CA 95531 Phone: (707) 232-4746

AMOUNT ENCUMBERED BY THIS DOCUMENT \$927,000.00	PROGRAM/CATEGORY Climate Ready	FUND TITLE/PROP NO. Greenhouse Gas Reduction Fund		
PRIOR AMOUNT ENCUMBERED FOR THIS AGREEMENT \$0	FUND ITEM 3760-101-3228	CHAPTER 43/22	STATUTE 2022	FISCAL YEAR 22/23
TOTAL AMOUNT ENCUMBERED TO DATE \$927,000.00	PROJECT NAME Citizens' Dock Planning			
<i>I hereby certify upon my own personal knowledge that budgeted funds are available for the period and purpose of the expenditure stated above.</i>				
NAME AND SIGNATURE OF ACCOUNTING OFFICER <i>Jamil Mahmood</i>		DATE 5/31/2023		

I certify that this agreement is exempt from Department of General Services' approval.

Erlinda Corpuz

Erlinda Corpuz
Procurement and
Contracts Manager

Coastal Conservancy Grant Budget

#	Project Task	Grant Request	Other Fund Sources	Total Cost	Grant Balance (10/1/24)	Match Balance (10/1/24)
1a	Project Management and Administration	\$ 65,000	\$ 20,000	\$ 85,000		
1b	Indirect Costs	\$ 27,000	\$ -	\$ -		
2	Community Engagement	\$ 50,000	\$ 20,000	\$ 70,000		
3	Complete Design Drawings and Specifications	\$ 425,000	\$ 25,000	\$ 450,000	\$ 129,513	\$ 21,000
4	Complete CEQA environmental review and permit preparation	\$ 350,000	\$ 170,000	\$ 520,000	\$ 202,749	
5	Contingency	\$ 10,000	\$ 2,000	\$ 12,000	\$ 10,000	\$ 2,000
	TOTAL	\$ 927,000	\$ 237,000	\$ 1,164,000	\$ 342,261.74	\$ 23,000.00

Request for Proposal:
Crescent City Harbor District



DESIGN AND EA/EIS FOR SEAWALL AND CITIZEN'S DOCK

AUGUST 14, 2023



SECTION 3 PRICING

We propose to perform the scope of work described in Section 4 at a fee of \$548,047. The following summary of fees, broken down by tasks, represents our cost proposal. We also propose to have a \$50,000 contingency budget to be able to address additional scope items beyond our assumptions or unanticipated scope changes. Examples of these additional scope items can include exploration of additional alternatives for the seawall/dock to address OSW industry needs, extended regulatory review times, and additional meetings with project stakeholders.

We strive to provide a complete team, scope, and fee commensurate with the Harbor District's needs as expressed in the RFP, and other information conveyed on the project to our team. We remain open, however, to recalibrate our scope and fee to ensure alignment with Harbor District needs and available budget.

We will not exceed the maximum \$548,047 without Harbor District authorization for the current scope as detailed in the table below. We can initiate this scope of work immediately following your notice to proceed.

Proposed Fee		
Task	Task Description	Labor Cost
1	Project Management	\$27,600
2	Public Involvement and Interagency Coordination	\$12,120
3	Purpose and Need Statement	\$3,560
4	Create an Initial Design and Alternatives of a New Seawall	\$107,780
5	Construction Plan for New Seawall	\$30,647
6	Initial Design, with Alternatives, of a New Citizens' Dock	\$119,921
7	Construction Plan for the New Dock	\$38,912
8	Identify EA/EIS Project Scope and Boundaries	\$10,830
9	Determine the Level of Analysis Required	\$2,500
10	Data Collection and Analysis of the Potential Environmental Impacts	\$122,907
11	Prepare a Draft EIS or EA	\$20,700
12	Prepare a Draft ND or EIR	\$20,700
13	Prepare Section 4(f) and Section 106 Evaluation	\$9,300
14	Public and Agency Review of Draft EIS or EA	\$9,170
15	Prepare Final EA/EIS Document	\$11,400
	TOTAL	\$548,047

WES WHITE
President

HARRY ADAMS
Secretary

GERHARD WEBER
Commissioner

RICK SHEPHERD
Commissioner

BRIAN STONE
Commissioner

Crescent City Harbor District

Phone (707) 464-6174 Fax (707) 465-3535
101 Citizen's Dock Road
Crescent City, California 95531
www.ccharbor.com

TIM PETRICK
CEO/Harbormaster

AGREEMENT FOR PROFESSIONAL SERVICES
BETWEEN THE CRESCENT DISTRICT HARBOR
DISTRICT
AND
MOFFATT & NICHOL

Exhibit A- Scope of Services:

The consultant shall conduct the following tasks:

1. Project Management.
2. Public Involvement and Interagency Coordination.
3. Prepare Purpose and Need Statement.
4. Create an initial design, with alternatives, of a new Seawall.
5. Determine the construction plan for the new Seawall.
6. Create an initial design, with alternatives, of a new Citizens' Dock
7. Determine the construction plan for the new Dock.
8. Identify the EA/EIS study's project's scope and boundaries
9. Determine the level of analysis required.
10. Data Collection and analysis of the potential environmental impacts of the project, including any direct, indirect, and cumulative effects.
11. Prepare a draft environmental impact statement (EIS) or environmental assessment (EA) that analyzes the potential impacts of the proposed action and alternatives.
12. Addendum Effective 7/7/23:
 - Prepare a draft Notice of Determination (ND) and/or an Environmental Impact Report (EIR)
13. Prepare Section 4(f) Evaluation and Section 106 Evaluation
14. Conduct public and agency review of the draft EIS or EA
15. Prepare final EA/EIS Document

Design and EIS Task and Budget

Task	Task Description	Labor Cost
1	Project Management	\$27,600
2	Public Involvement and Interagency Coordination	\$12,120
3	Purpose and Need Statement	\$3,560
4	Create an Initial Design and Alternatives of a New	\$107,780
5	Construction Plan for New Seawall	\$30,647
6	Initial Design, with Alternatives, of a New	\$119,921
7	Construction Plan for the New Dock	\$38,912
8	Identify EA/EIS Project Scope and Boundaries	\$10,830
9	Determine the Level of Analysis Required	\$2,500
10	Data Collection and Analysis of the Potential Environmental Impacts	\$122,907
11	Prepare a Draft EIS or EA	\$20,700
12	Prepare a Draft ND or EIR	\$20,700
13	Prepare Section 4(f) and Section 106 Evaluation	\$9,300
14	Public and Agency Review of Draft EIS or EA	\$9,170
15	Prepare Final EA/EIS Document	\$11,400
	TOTAL	\$548,047



600 University Street, Suite 610
Seattle, WA 98101

(206) 622-0222
www.moffattnichol.com

May 30, 2024

Tim Petrick, CEO/Harbormaster
Crescent City Harbor District
101 Citizen's Dock Road
Crescent City, CA 95531

Subject: Schedule Revision to the Design and EA/EIS for Seawall and Citizen's Dock Project

Dear Mr. Petrick:

We are requesting an extension to our originally proposed schedule for the project. The work was originally planned according to the attached schedule. Moffatt & Nichol's start date was November 8, 2023. Duration of work was planned to span 8 months. Due to the changes in our initial assumptions, the design process will take longer as explained below.

When the project was originally scoped, we planned on using existing subsurface data for developing preliminary geotechnical design values. We understood that this data included rock cores and we had assumed that we could use these cores to estimate the strength of the underlying mudstone/sandstone formation in the area. However, on review of the borings, all rock cores were noted as "no recovery" indicating that although the cores were completed, no sample was recovered. This can occur when rock is so soft that the drilling action destroys the sample before it can be recovered.

With this data, or lack of data, the team must assume that the rock is relatively soft resulting in a design with a deep embedment of foundation elements. However, there is also anecdotal data from the construction of the marina that the drilling was difficult and that many drill bits were damaged. These known challenges have increased the estimated cost of the drilling. And as a result of both these uncertainties, the foundations are becoming both large (due to the potential for weak rock) and expensive (due to the potential for hard zones).

The design team needs a better understanding of the strength and composition of the bedrock in order to provide an accurate preliminary design, a more accurate cost estimate, and ultimately determine which designs and methods of construction will be most cost effective so that the design can be advanced.

Revised Schedule

Task Number	Task Title	Deliverable	AE Start Date	Originally Planned Completion Date	Revised Completion Date
1	Project Management and Administration	Report	11/8/2023	6/30/2024	5/31/2025
2	Community Engagement	Meeting notes, Community supported design	11/8/2023	6/30/2024	5/31/2025
3	Complete EA/EIS/EIR Level of Design Drawings and Specifications	Technical studies, Completed set of Design Drawings and Budget	11/8/2023	2/28/2024	12/31/2024
4	Complete EA/EIS/EIR environmental review	Technical studies, Draft and final EA/EIS/EIR document, Notice of Determination. Completed EA/EIS/EIR process.	11/8/2023	4/30/2024	5/31/2025
	Overall Project		11/8/2023		5/31/2025

Sincerely,
 MOFFATT & NICHOL



Robert V. Sloop, PE
 Vice President, Project Director

Attachment 1: "Exhibit C" Activity schedule fromk our Contract
 Attachment 2: Draft - California Coastal Conservancy Request for extension CD



‘Exhibit C’ – Activity Schedule

Task	Task Description	Month 1			Month 2			Month 3			Month 4			Month 5			Month 6			Month 7			Month 8										
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
0	Notice to Proceed (NTP)	X																															
1	Project Management	0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0	
	Project Management Plan			X																													
2	Public Involvement and Interagency Coordination								0								0									0							
	Public Involvement Plan DRAFT			X																													
3	Purpose and Need Statement			X																													
4	Create an Initial Design and Alternatives of New Seawall																																
	15% Design (BOD, Alternatives, Type Selection)								X																								
	30% Design															X																	
5	Construction Plan for New Seawall									X																							
6	Initial Design, with Alternatives, of a New Citizen's Dock																																
	15% Design (BOD, Alternatives, Type Selection)															X																	
	30% Design																															X	
7	Construction Plan for the New Dock																	X															
8	Identify EA/EIS Project Scope and Boundaries																																
	Existing Environmental Conditions DRAFT								X																								
9	Determine the Level of Analysis Required			X																													
10	Data Collection and Analysis of the Potential Environmental Impacts																																
11	Prepare a Draft EIS or EA																								X								
12	Prepare Draft ND or EIR																								X								
13	Prepare Section 4(f) and Section 106 Evaluation																								X								
14	Public and Agency Review of Draft EIS or EA																																
15	Prepare Final EA/EIS Document																															X	



600 University Street, Suite 610
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P: (206) 622-0222
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May 17, 2024

Tim Petrick
Harbormaster
Crescent City Harbor District

Subject: Proposal for Geotechnical Field Investigation and Additional Design for Seawall

Dear Tim:

Moffatt & Nichol (M&N) has developed this scope of work and fee estimate to conduct geotechnical field investigation and refine the 30% design of the seawall incorporating the field data and realistic characterization of existing rock.

Background:

When the project was originally scoped, our team planned on using existing subsurface data for developing preliminary geotechnical design values and conducting geotechnical field investigation after completion of CEQA-NEPA. We understood that the existing subsurface data included rock cores and we were relying on this information to estimate the strength of the underlying mudstone/sandstone formation in the area. However, upon detailed review of the borings, all rock cores were noted as "no recovery" indicating that although the cores were completed, no sample was recovered. This can occur when rock is so soft that the drilling action destroys the sample before it can be recovered.

With this deficiency in data, the design team must assume that the rock is relatively soft resulting in a design with a deep embedment of foundation elements. However, there is also anecdotal data from the construction of the marina that the drilling was difficult and that many drill bits were damaged. These known challenges have increased the estimated cost of the drilling. As a result of both these uncertainties, the foundations are becoming both large (due to the potential for weak rock) and expensive (due to the potential for hard zones).

The design team needs a better understanding of the strength and composition of the bedrock to provide an accurate preliminary design, a more accurate cost estimate, and ultimately determine which designs and methods of construction will be most cost effective so that the design can be advanced.

Scope of Work:

Task 1 – Phase II Geotechnical Design Scope

This task includes geotechnical field investigation analysis and analysis as described in detail in Appendix A, providing the following services.

- Execute a site-specific subsurface exploration plan that will consist of three borings, two behind the existing seawall and one on the dock.
- Revise analysis and recommendations for seawall and Citizens Dock based on the new Geotech borings.

Task 1 Assumptions:

- See Appendix A.

Task 1 Deliverables:

- Phase II Geotechnical Design Report in Final and Draft format providing input for structural design.

Task 2 – Additional Engineering Design Support for Seawall

- M&N will conduct structural engineering analysis and design by refining the previously developed 30% design of the seawall to incorporate site-specific geotechnical subsurface data and geotechnical engineering recommendations for the preferred alternative.

Task 2 Assumptions:

- Only the preferred alternative will be advanced further.

Task 2 Deliverables:

- Revised 30% Design Package (Plans, BOD, and Cost Estimate).

Fee Schedule:

Fee will be based on a fixed fee value of \$160,000. Payment will be invoiced monthly based on percentage completion of work.

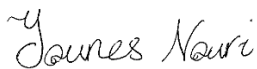
Task	Description	Fee (USD)	
1	Phase II Geotechnical Design Scope	\$120,000	Fixed
2	Additional Engineering Design Support for Seawall	\$40,000	Fixed
Total Fee (USD) for Tasks 1 through 2*		\$160,000	

*Reimbursables to be invoiced at cost in addition to the approved budget.

We look forward to continued support of CCHD with the implementation of the Seawall – Citizens Dock Design. Please do not hesitate to contact me should have any questions.

Sincerely,

MOFFATT & NICHOL



Younes Nouri, PE, PHD
Project Manager



Robert V. Sloop, PE
Principal-In-Charge

Appendix A

May 9, 2024

Moffatt & Nichol
600 University Street, Suite 610
Seattle, Washington 98101

Attention: Younes Nouri, PhD, PE

Subject: Re-scoped Phase II Geotechnical Engineering Services
Seawall and Citizens' Dock
Crescent City, California
File No. 25422-002-00

Introduction

GeoEngineers, Inc. (GeoEngineers) is pleased to present this revised scope to provide geotechnical engineering services for the 60 percent design of the proposed Seawall and Citizens' Dock project in Crescent City, California. This is an amendment to the original proposal. The revised scope is to reflect our current understanding of the project and potential changes in the design approach.

We anticipate completing the revised Phase II scope under the Moffatt & Nichol Subconsultant Agreement for project number 231132, which became effective the October 23, 2023.

Need for Site-specific Field Investigation

When the project was originally scoped, GeoEngineers planned to use existing subsurface data for developing preliminary geotechnical design values. We understood that this data included rock cores and we had assumed that we could use these cores to estimate the strength of the underlying mudstone/sandstone formation in the area. However, on review of the borings, all rock cores were noted as "no recovery" indicating that although the cores were completed, no sample was recovered. This can occur when rock is so soft that the drilling action destroys the sample before it can be recovered.

With this data, or lack of data, the team must assume that the rock is relatively soft resulting in a design with a deep embedment of foundation elements. However we understand, there is also anecdotal data from the construction of the marina that the drilling was difficult and that many drill bits were damaged. These known challenges have increased the estimated cost of the drilling. Due to both these uncertainties, the foundation design is evolving.

The purpose of the proposed field explorations is to better understand the strength and composition of the bedrock to provide an accurate preliminary design. This will allow for a more accurate cost estimate, and ultimately determine which designs and methods of construction will be most cost effective so that an appropriate design can be advanced.

Phase II – Revised Final Design Geotechnical Scope

The purpose of our Phase II Geotechnical Scope is to refine and advance our preliminary Phase I recommendations as required. Our scope of work will include the following tasks:

1. Evaluate feasible ground improvement options, provide a discussion of advantages and disadvantages of feasible options, and provide a 15 percent design level cost estimate for up to two feasible and most effective options.
2. Execute a site-specific subsurface exploration plan that will consist of three borings, two behind the existing seawall and one on the dock, as shown in Figure 1. We propose to extend one of the seawall borings and the dock boring, i.e., Borings 2 and 3, to weathered bedrock or 30 feet into the bedrock, whichever is deeper. We anticipate the two borings might extend about 70 feet below the ground surface or the dock. The other seawall boring, Boring 1, will be drilled to about 40 feet deep or to the top of rock surface whichever is shallower. The actual boring locations are subject to restrictions on site. The indicated location of Boring 3 is for illustration. The actual location will depend on coordination with the client and structural engineer (Moffatt & Nichol) to determine a safe and convenient location. If boring from the pier is not feasible, an alternative could be drilling offshore from a barge with a moon pool. However, mobilizing a barge, drilling from a barge, and coordination of overwater work can be significantly more expensive, on the order of an additional \$60,000 to \$100,000. The coordination required can also have significant impacts to schedule. It is also more challenging due to wave and tide action and can therefore result in poor rock core recovery. If drilling from the pier is not feasible, we recommend discussing other options for obtaining appropriate subsurface information.



Figure 1. Preliminary Proposed Boring Locations

3. We propose to complete laboratory tests including up to four sieve tests and two Atterberg limit tests from soil samples collected above the bedrock. We propose to complete four to six unconfined compression tests if sufficient and appropriate rock samples can be collected.
4. Revise analysis and recommendations as part of Phase I to be consistent with the final design. We included fees for a single design option. The analyses will include:
 - Global stability analysis of the most critical, final bulkhead design under static, seismic, and post-liquefaction cases.
 - Empirical lateral spread analysis if the soils behind the bulkhead wall are liquefiable.
 - Provide geotechnical inputs and recommendations for analysis and design of sheetpile bulkhead walls. We will provide lateral earth pressure diagrams, including active and passive pressures, for static, seismic, and post-liquefaction cases.
 - Provide recommendations for anchor piles or anchor walls for the bulkhead wall. We will provide estimated axial pile resistances for static, seismic, and post-liquefaction cases. We will provide recommended LPILE parameters for lateral pile analysis.
 - Perform a preliminary pile drivability analysis for the bulkhead wall to determine if piles can be safely driven or if drilling and socketing into the siltstone is required.
 - Provide preliminary ground improvement design, including extent of the ground improved area, area replacement ratio, estimated construction cost, and construction recommendations.
 - Provide recommendations for dock-supporting piles. We will provide estimated axial pile resistances for static, seismic, and post-liquefaction cases. We will provide recommended LPILE parameters for lateral pile analysis.
 - Perform a preliminary pile drivability analysis for the piles supporting the dock to determine if piles can be safely driven or if drilling and socketing into the siltstone is required.
5. Present our conclusions and recommendations, including construction recommendations, in a draft design report.
6. Provide a final report after addressing one round of consolidated review comments.
7. Attend up to two design coordination meetings following publication of our final report.

PHASE II ASSUMPTIONS

- We have budgeted for three subsurface explorations to about 40 to 70 feet below ground surface completed over 4 days. Both soil explorations and rock coring are expected. Drilling waste (soil cuttings and drilling fluid) is assumed to be drummed and disposed of at an owner's facility.
- We have assumed that the owner can coordinate site access, locate utilities prior to mobilization to the site, provide necessary drilling permits, and coordinate the drum staging, if needed, and drilling waste disposal.
- We assume no contaminated soils will be encountered during subsurface explorations.
- We anticipate the final seawall design may be different from the 30-percent design. There could be iterations during the design. The fee estimate for Phase II presented in this proposal will cover a single design option. We have assumed GeoEngineers will be involved in analyzing only the final design option.
- We have assumed that we will only provide a final geotechnical report. No other interim deliverables are required.

Estimated Fee

The fee for our services will be determined on a time-and-expense basis using the current standard schedule of charges which is attached as part of this proposal. We estimate the fee for our services will be **\$120,000**. The estimated fee can be broken down into the following:

GEOTECHNICAL ENGINEERING SERVICES	GEOENGINEERS	SUBCONTRACTOR	ESTIMATED FEE (\$)
Task 1 - Field Investigation	\$26,000	\$55,400	
1a Two borings near seawall	--	\$28,800	-
1b One boring over water	--	\$15,100	-
1c Stage drums and manage drill cuttings	--	\$11,500	-
Task 1 Subtotal			\$81,400
Task 2 - Laboratory Tests	\$1,600	--	\$1,600
Task 3 - Geotechnical Analyses	\$19,800	--	\$19,800
Task 4 - Report and Meetings	\$17,200	--	\$17,200
TOTAL FEE ESTIMATE	\$64,600	\$55,400	\$120,000

This budget is more than the original anticipated budget of \$80,000 which assumed a total of \$55,000 for drilling and \$25,000 for analysis. This increase is due primarily to two changes. One is that the field investigation includes rock coring whereas the original proposal assumed only soil drilling for characterization of fill and overburden. Rock coring takes significantly longer for both the driller and the field staff and is more expensive on a per foot basis. Additionally, review of the previous logs indicate that poor recovery of the rock could be due to attempting to advance the explorations too quickly. We have budgeted for a slower drilling rate. The second change in the scope is the inclusion of ground improvement. The revised scope includes a 60 percent level design of a preferred ground improvement method.

We will not proceed with Phase II services without receiving your express authorization. We will not exceed this fee without a change in scope. We will not proceed with a change in scope without first discussing with you the need for a scope change and receiving your express authorization.

Terms and Schedule

We anticipate our services will be completed in accordance with the terms negotiated between Moffatt & Nichol and GeoEngineers which became effective the October 23, 2023. This proposal will be attached to, and form a part of, that agreement.

We anticipate delivering geotechnical inputs for the final design (Phase II Scope) 4 to 6 weeks after completion of the field investigation. We will require a signed agreement prior to providing any formal deliverables. We can provide preliminary design information as it is developed if deemed to be helpful.

There are no intended third-party beneficiaries arising from the services described in this proposal and no party other than the party executing this proposal shall have the right to legally rely on the product of our services without prior written permission of GeoEngineers.

This proposal is valid for a period of 60 days commencing from the first date listed above and subject to renegotiation by GeoEngineers, Inc., after the expiration date.

We appreciate the opportunity to continue working with you on this project. Please contact us if you have any questions concerning this proposal.

Sincerely,
GeoEngineers, Inc.



Lyle J. Stone, PE, GE
Associate Geotechnical Engineer

FL:LJS:leh

Attachments:

Schedule of Charges – Standard 2024

One electronic copy submitted

The parties hereto have made, executed and agreed to this Agreement as of the day and year first above written. By signature below, Client accepts the scope of services and all terms described herein. In addition, Client's signature shall constitute as authorization to proceed on the date listed below Client's printed/typed name unless such authorization has been otherwise provided in writing.

Moffatt & Nichol	* SIGNATURE
ORGANIZATION	TYPED OR PRINTED NAME
DATE	*Individual with contracting authority.

Proprietary Notice: The contents of this document are proprietary to GeoEngineers, Inc. and are intended solely for use by our clients and their design teams to evaluate GeoEngineers' capabilities and understanding of project requirements as they relate to performing the services proposed for a specific project. Copies of this document or its contents may not be disclosed to any other parties without the written consent of GeoEngineers.

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Schedule of Charges - 2024

COMPENSATION

Our compensation will be determined on the basis of time and expenses in accordance with the following schedule unless a lump sum amount is so indicated in the proposal or services agreement. Current rates are:

PROFESSIONAL STAFF		
Staff 1 Scientist	\$	146/hour
Staff 1 Engineer	\$	154/hour
Staff 2 Scientist	\$	167/hour
Staff 2 Engineer	\$	175/hour
Staff 3 Scientist	\$	191/hour
Staff 3 Engineer	\$	198/hour
Project Scientist 1	\$	220/hour
Project Engineer 1	\$	228/hour
Project Scientist 2	\$	228/hour
Project Engineer 2	\$	234/hour
Senior Engineer/Scientist 1	\$	255/hour
Senior Engineer/Scientist 2	\$	279/hour
Associate	\$	292/hour
Principal	\$	320/hour
Senior Principal	\$	340/hour
TECHNICAL SUPPORT STAFF		
Administrator 1	\$	103/hour
Administrator 2	\$	119/hour
Administrator 3	\$	136/hour
CAD Technician	\$	132/hour
CAD Designer	\$	155/hour
Senior CAD Designer	\$	180/hour
GIS Analyst	\$	165/hour
Senior GIS Analyst	\$	180/hour
GIS Coordinator	\$	200/hour
*Technician	\$	114/hour
*Senior Technician	\$	136/hour
*Lead Technician	\$	146/hour
Geotechnical Construction Specialist	\$	191/hour
Environmental Database Manager	\$	226/hour
Health and Safety Specialist	\$	146/hour
Health and Safety Manager	\$	200/hour

*Hours in excess of 8 hours in a day or 40 hours in a week will be charged at one and one-quarter times the hourly rates listed above.

Contracted professional and technical services will be charged at the applicable hourly rates listed above. Staff time spent providing expert services in disputes, mediation, arbitration and litigation will be billed at one and one-half times the above rates. Time spent in either local or inter-city travel, when travel is in the interest of this contract, will be charged in accordance with the foregoing schedule. A surcharge may be applied to night and weekend work. See proposal for details.

Rates for data storage and web-based access will be provided on a project-specific basis.

Associated Project Costs (APC)

Associated Project Costs (APC) equal to six percent (6%) of professional fees will be assessed. This fee allows GeoEngineers to invest in the necessary infrastructure to ensure we provide our clients with the latest technological and data security standards. The investments include maintaining and advancing technical tools and platforms across all aspects of our business, and strengthening our defenses against cyber threats to ensure data remains secure. These costs are not included in our hourly rates or direct expenses.

EQUIPMENT		
Air Quality Equipment, per Day	\$	210.00
Air Sparging Field Test, per Day	\$	110.00
Air/Vapor Monitoring Equipment (PID, 5-Gas Meter), per Day	\$	110.00
Asbestos Sample Kit, Each	\$	30.00
Blastmate, per Day	\$	120.00
D&M Sampler, per Day	\$	150.00
DO (Dissolved Oxygen) Kit, Each	\$	25.00
Dynamic Cone Penetrometer, per Day	\$	45.00
E-Tape (Electric Tape), per Day	\$	35.00
Electric Density Gauge, per Day	\$	110.00
Electric Density Gauge, per Week	\$	430.00
Electric Density Gauge, per Month	\$	1,400.00
Environmental Exploration Equipment, per Day	\$	225.00
Field Data Acquisition Equipment (Field Tablet), per Day	\$	55.00
Field Tablet, per Week	\$	200.00
Field Tablet, per Month	\$	750.00
Field Tablet with Cellular, per Day	\$	75.00
Field Tablet with Cellular, per Week	\$	300.00
Field Tablet with Cellular, per Month	\$	1,000.00
Field Gear / Reconnaissance, per Day	\$	55.00
Gas Detection Meters, per Day	\$	105.00
Generator, per Day	\$	110.00
Groundwater Pressure Transducer w/ Datalogger, per Day	\$	55.00
Groundwater Pressure Transducer w/ Datalogger, per Week	\$	220.00
Hand Auger, per Day	\$	100.00
Inclinometer Probe, per Day, 1 Day minimum	\$	210.00
Interface Probe, per Day	\$	65.00
Iron Test Kit, Each	\$	25.00
Laser Level, per Day	\$	60.00
Low Flow Groundwater Sampling Equipment, per Day	\$	235.00
Multiparameter Water Quality Meter, per Day	\$	85.00
Nuclear Density Gage, per Hour, 1/2 Day minimum	\$	15.00
Peristaltic Pump, per Day	\$	50.00
pH Probe,/Meter per Day	\$	20.00
PID, FID or OVA, per Day	\$	130.00
Rock/Slope Fall Protection/Rigging Equipment, per Day	\$	700.00
Saximeter, per Day	\$	60.00
Scuba Diving Gear, per Day/per Diver	\$	700.00
Shallow Soil Exploration Equipment, per Day	\$	60.00
Soil Field Screening Equipment, per Day	\$	20.00
Soil Sample Kit, Each	\$	20.00
Steam Flow Meter, per Day	\$	20.00
Strain Gauge Readout Equipment, per Day	\$	50.00
Surface Water Flow Meter, per Day, 1/2 day minimum	\$	50.00
Surface Water Quality Monitoring Equipment, per Day	\$	50.00
Turbidity Meter, per Day	\$	50.00
Vehicle usage, per Mile, or \$30/half-day, whichever is greater	\$	0.65

Specialized and miscellaneous field equipment not listed above will be quoted on a project-specific basis.

OTHER SERVICES, SUPPLIES AND SPECIAL TAXES

Charges for services, equipment, supplies and facilities not furnished in accordance with the above schedule, and any unusual items of expense not customarily incurred in our normal operations, are charged at cost plus 15 percent. This includes shipping charges, subsistence, transportation, printing and reproduction, miscellaneous supplies and rentals, surveying services, drilling equipment, construction equipment, watercraft, aircraft, and special insurance which may be required. Taxes required by local jurisdictions for projects in specific geographic areas will be charged to projects at direct cost.

Per diem may be charged in lieu of subsistence and lodging.

Routinely used field supplies stocked in-house by GeoEngineers, at current rates, list available upon request.

In-house testing for geotechnical soil characteristics at current rates, list available upon request.

All rates are subject to change upon notification.

PIDP 2022 Award Letter for Seawall Construction

From: Bohnet, David (MARAD) <david.bohnet@dot.gov>

Sent: Monday, November 14, 2022 7:47 AM

To: Tim Petrick <tpetrick@ccharbor.com>

Cc: Lebo, Stephen (MARAD) <stephen.lebo@dot.gov>; Mastro, Steven (MARAD) <steven.mastro@dot.gov>; Marte, Jaime (MARAD) <jaime.marte@dot.gov>; Donovan, Gemma (MARAD) <gemma.donovan@dot.gov>

Subject: PIDP 2022 - Crescent City Harbor District - Congratulations

Good morning,

Congratulations on your \$7,366,566 Port Infrastructure Development Program (PIDP) FY 2022 grant award. The Maritime Administration (MARAD), as the lead oversight agency (OA) on this project, has worked very hard to increase US DOT support for port infrastructure development and looks forward to working with you.

MARAD would like to initiate communications regarding the “next steps” needed to advance your project. We have created a welcome letter with pertinent information about what you should know about the next steps needed to complete the process.

Our Program Office will be setting up TEAMS calls to review the Federal requirements and next steps towards finalizing the grant agreement. There are several concurrent tasks that must be completed prior to the execution of the agreement. Each of these tasks will be spearheaded by a corresponding MARAD team member. These tasks include the successful negotiation and finalization of the grant agreement; the completion of a National Environmental Policy Act (NEPA) review; the completion of a National Historic Preservation Act (NHPA) Section 106 consultation; and the completion of an Engineering Risk Register after a full evaluation of the project.

Your project has been assigned to a Senior Grant Specialist, Stephen Lebo, who will oversee these processes and be your point of contact from this moment until the grant execution. Stephen will be reaching out to you very soon invite you to participate in a TEAMS call to review the next steps in greater detail.

Have a wonderful day, and again, congratulations,

David Bohnet

Grants Management Supervisor
Office of Port Infrastructure Development
1200 New Jersey Ave, SE
W21-226
Washington, DC 20590
202-366-0586
David.bohnet@dot.gov

Seawall Construction Project Schedule - Estimated

#	ACTIVITY	START MONTH	DURATION (MONTHS)	END MONTH
1	Meet with DOT, and other Federal, State and Local Agencies and community stakeholders at the start of the process to get input on potential repair/replacement projects, ensuring project process meets all applicable Federal requirements and meets any and all Federal transportation requirements.	1	2	2
2	Hold public involvement meetings, which will continue throughout the project.	1	30	32
3	Complete final technical and engineering design of the seawall project.	2	2	3
4	Finalize project costs. Review costs with DOT.	4	1	4
5	Complete NEPA process.	4	3	6
6	Secure all state and local approvals and construction permits.	6	4	9
7	Prepare final construction bid packages.	9	2	10
8	Release the construction bid package and advertise project and bid construction availability.	11	2	32
9	Receive bid responses. Review bid responses for inclusion of all required submission documents and requirements. Review bid responses with DOT and key stakeholders to ensure they comply with applicable Federal requirements.	13	1	13
10	Review past performance of bid responders, meet with responders to answer technical questions, bid items, etc.	13	1	13
11	CCHD holds public meeting and Award bids.	14	1	14
12	Finalize and sign all project partnership and implementation agreements.	15	2	16
13	Hold pre-construction meetings and job construction meetings every two weeks and as needed during the project.	17		32
14	Construction Oversight	17		32
15	Construct a new seawall which will withstand 50-year tsunami event tidal surges and other climate related natural hazards. Ensure all materials meet domestic preference requirements.	18	6	23
16	Demolition of the existing seawall.			
17	Demolition of the existing hoist which is atop the current seawall.			
18	Remove the asphalt/cement parking layer of the land behind the seawall.			
19	Refill that area to replace the dirt, rocks, and fill that have washed out of it.	24	4	27
20	Apply new asphalt to that area and seal the asphalt.			
21	Redesign the truck parking and seafood packing area to increase the number of trucks the area can hold.	26	2	27
22	Install EV infrastructure to power the cold storage trailers eliminating truck idling which is the current situation.	26	2	27
23	Install two new hoists to improve movement of goods in the port.	28	1	28
24	Perform Construction Project Close-Out Phase activities.	28	3	30
25	Perform PIDP Construction Grant Closeout activities.	30	3	32

Project Schedule from Grant Award Draft Contract	Schedule Date
Planned Design and Permitting Substantial Completion Date	8/31/2025
Planned Permitting Substantial Completion Date	8/31/2025
Planned Start Construction Date	9/1/2025
Planned Grant Administration Substantial Completion Date	9/1/2026
Planned Construction Substantial Completion Date	9/1/2026

Seawall Construction Project Grant Award Budget

#	ACTIVITY	UNIT COST	CCHD Match Share \$	CCHD Match Share %	PIDP Share \$	PIDP Share %	Other Federal Share \$	Other Federal Share %
1	Meet with DOT, and other Federal, State and Local Agencies and community stakeholders at the start of the process to get input on potential repair/replacement projects, ensuring project process meets all applicable Federal requirements and meets any and all Federal transportation requirements.	\$ 2,500.00	\$ 2,500.00	100		0	\$ -	0
2	Hold public involvement meetings, which will continue throughout the project.	\$ 5,000.00	\$ 5,000.00	100	\$ -	0	\$ -	0
3	Complete final technical and engineering design of the seawall project.	\$ 350,000.00	\$ 120,000.00	34	\$ 230,000.00	66	\$ -	0
4	Finalize project costs. Review costs with DOT.	\$ 10,000.00	\$ 10,000.00	100	\$ -	0	\$ -	0
5	Complete NEPA process.	\$ 125,000.00	\$ 125,000.00	100	\$ -	0	\$ -	0
6	Secure all state and local approvals and construction permits.	\$ 125,000.00	\$ 25,000.00	20	\$ 100,000.00	80	\$ -	0
7	Prepare final construction bid packages.	\$ 25,000.00	\$ 5,000.00	20	\$ 20,000.00	80	\$ -	0
8	Release the construction bid package and advertise project and bid construction availability.	\$ 5,000.00	\$ 5,000.00	100	\$ -	0	\$ -	0
9	Receive bid responses. Review bid responses for inclusion of all required submission documents and requirements. Review bid responses with DOT and key stakeholders to ensure they comply with applicable Federal requirements.	\$ 5,000.00	\$ 5,000.00	100	\$ -	0	\$ -	0
10	Review past performance of bid responders, meet with responders to answer technical questions, bid items, etc.	\$ 1,500.00	\$ 1,500.00	100	\$ -	0	\$ -	0
11	CCHD holds public meeting and Award bids.	\$ -	\$ -	100	\$ -	0	\$ -	0
12	Finalize and sign all project partnerships and project implementation agreements.	\$ 1,500.00	\$ 1,500.00	100	\$ -	0	\$ -	0
13	Hold pre-construction meetings and job construction meetings every two weeks and as needed during the project.	\$ 5,000.00	\$ 5,000.00	100	\$ -	0	\$ -	0
14	Construction Oversight	\$ 189,000.00	\$ 37,800.00	20	\$ 151,200.00	80	\$ -	0
15	Construct a new seawall which will withstand 50-year tsunami event tidal surges and other climate related natural hazards. Ensure all materials meet domestic preference requirements. (see breakout below)	\$ 3,849,402.00	\$ 619,880.40	17	\$ 3,229,521.60	83	\$ -	0
16	Demolition of the existing seawall.	\$ 195,000.00	\$ 39,000.00	20	\$ 156,000.00	80	\$ -	0
17	Demolition of the existing rusted hoist which is atop the current seawall.	\$ 65,000.00	\$ 13,000.00	20	\$ 52,000.00	80	\$ -	0
18	Remove the asphalt/cement parking layer of the land behind the seawall.	\$ 2,500,000.00	\$ 500,000.00	20	\$ 2,000,000.00	80	\$ -	0
19	Refill that area to replace the dirt, rocks, and fill that have washed out of it.						\$ -	0
20	Apply new asphalt to that area and seal the asphalt.						\$ -	0
21	Redesign the truck parking and seafood packing area to increase the number of trucks the area can hold.	\$ 65,000.00	\$ 13,000.00	20	\$ 52,000.00	80	\$ -	0
22	Install EV infrastructure to power the cold storage trailers eliminating truck idling which is the current situation.	\$ 148,000.00	\$ 29,600.00	20	\$ 118,400.00	80	\$ -	0
23	Install two new hoists to improve movement of goods in the port.	\$ 280,000.00	\$ 56,000.00	20	\$ 224,000.00	80	\$ -	0
24	Perform Construction Project Close-Out Phase activities.	\$ 35,000.00	\$ 7,000.00	20	\$ 28,000.00	80	\$ -	0
25	Perform PIDP Construction Grant Closeout activities.	\$ 20,000.00	\$ 4,000.00	20	\$ 16,000.00	80	\$ -	0
	Subtotal	\$ 8,006,902.00	\$ 1,629,780.40	20	\$ 6,377,121.60	80	\$ -	0
	Contingency - 15%	\$ 1,201,305.00	\$ 240,261.00	20	\$ 961,044.00	80	\$ -	0
	TOTAL	\$ 9,208,207.00	\$ 1,841,641.40	20	\$ 7,366,565.60	80	\$ -	0

FINAL DELIVERABLE

Produced For Crescent City Harbor District

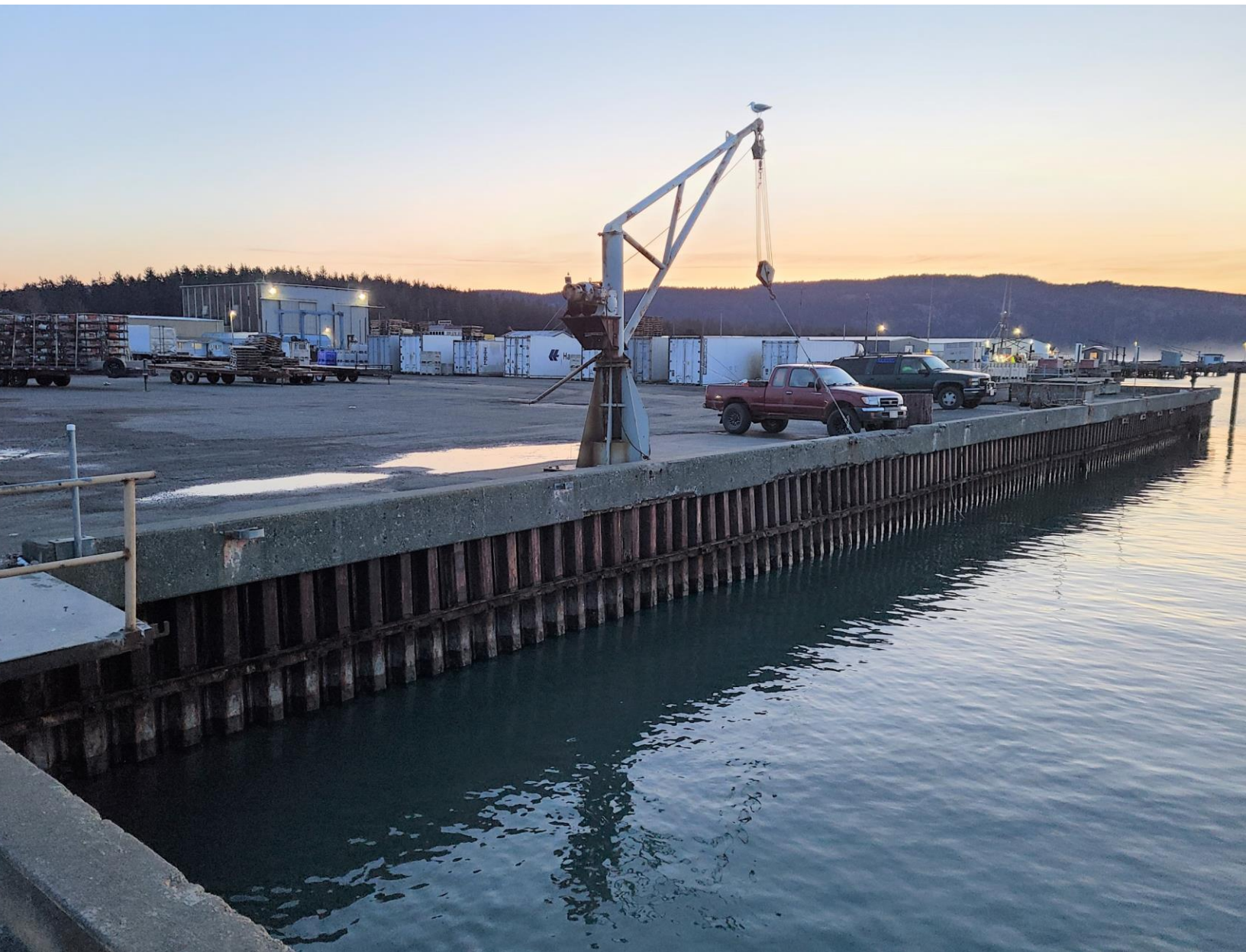
04/17/2023



moffatt & nichol

SEAWALL CONDITION ASSESSMENT REPORT

Crescent City, CA



Executive Summary

The Crescent City Harbor District (Harbor District) retained the services of Moffatt & Nichol (M&N) to perform a condition assessment of the Harbor District Seawall. The services under this agreement included an above-water condition assessment of the 1940's steel sheet pile bulkhead seawall adjacent to the Citizens Dock. The field observations were evaluated to ascertain an overall condition assessment rating according to ASCE Manuals and Reports on Engineering Practice Number 130, "Waterfront Facilities Inspection and Assessment", 2015 Edition (ASCE 130), recommend next steps and provide an opinion on remaining service life.

The steel sheet pile bulkhead was rated as "**Critical**"¹. The bulkhead is beyond its design life and has very advanced deterioration from corrosion, significantly affecting the load-bearing capacity of the sheet piles, walers, and tie-rods. Local failures are obvious due to the significant deterioration in sheet piles, walers, and tie-rod hardware. Global failure of the bulkhead due to bulging and hinging of the sheet piles above large corrosion holes near the mudline was observed.

Repair of the bulkhead is not possible or recommended based on the number of large corrosion holes, significant section loss and global failure. Recommendations of this condition assessment are as follows:

- Immediately restrict all pedestrian, vehicle, and equipment access at least 20 feet from the face of the bulkhead with fencing and signage to protect public safety. This recommendation was communicated to the Harbor District immediately after the condition assessment was conducted, and M&N understands that this has been implemented.
- Replace the bulkhead as soon as possible.

¹ ASCE Manuals and Reports on Engineering Practice Number 130, "Waterfront Facilities Inspection and Assessment", 2015 Edition, Table 2-14 Condition Assessment Ratings (provided in Appendix C)



southeast to STA 2+00 (see Photo 2) before turning northeast in a north-south orientation to STA 3+02 (see Photo 3).



Photo 1. 1940's Bulkhead (STA 0+00 to 1+00)

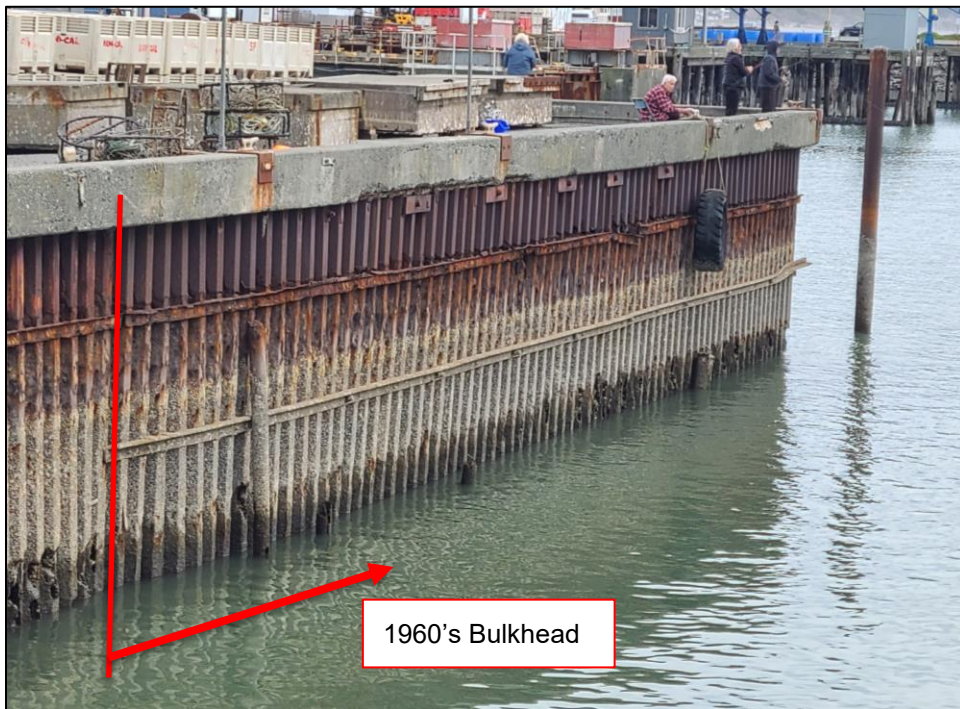


Photo 2. 1960's Bulkhead (STA 1+00 to 2+00)



Photo 12. Concrete Pad Adjacent to the Bulkhead, Looking South

3. Facility Condition Assessment Methodology

The above-water inspection methodology was based on ASCE 130 which provides guidance on inspection types and specific structure considerations depending on objectives, frequency of inspection, and the level of damage.

M&N conducted the above-water inspection from the bulkhead as well as a small work skiff on February 16, 2023. The inspection was conducted during a negative tide for visual access to the full height of the bulkhead. A Level I effort inspection was conducted for all visible elements of the bulkhead, as defined in Section 3.1.3 of ASCE 130. Elements assessed as part of the condition assessment effort were assigned an element level damage rating, with damages defined as minor, moderate, major, or severe. Appendix C provides portions of ASCE 130 for reference. Following completion of the field work, element level damage ratings in combination with visual observations were used to assign an overall facility condition assessment rating, defined as good, satisfactory, fair, poor, serious, or critical in accordance with Table 2-14 of ASCE 130.

3.1. Inspection Limitations & Exclusions

The inspection and assessment excluded the Citizens Dock abutment, riprap slopes adjacent to the bulkhead, mudline survey, jib crane, and gangway access platforms. Buried elements, including the tie-rods and deadman anchors, except where exposed due to sinkholes, are also excluded. All observations were non-destructive in nature and did not involve testing or removal of marine growth.

4. Condition Assessment Findings

Field observations are summarized for each bulkhead element type below. Field observation notes are provided in Appendix D, and photographs representing typical defects and existing conditions are provided in Appendix A.



4.1. Steel Sheet Pile Bulkhead

4.1.1. Steel Sheet Piles

The steel sheet piles have major and severe levels of corrosion, section loss, and holes throughout. The sheets from STA 0+00 to 1+00 have the most significant amount of corrosion near the mean lower low water (MLLW) level and also appear to have buckled above the corrosion holes. Large voids in the backfill were observed from STA 0+00 to 1+00.

4.1.1.1. Mudline Measurements

Mudline elevations were measured from the top of bulkhead cap, see Figure 3. Measurements were taken intermittently along the length of the bulkhead and extrapolated between measurements.

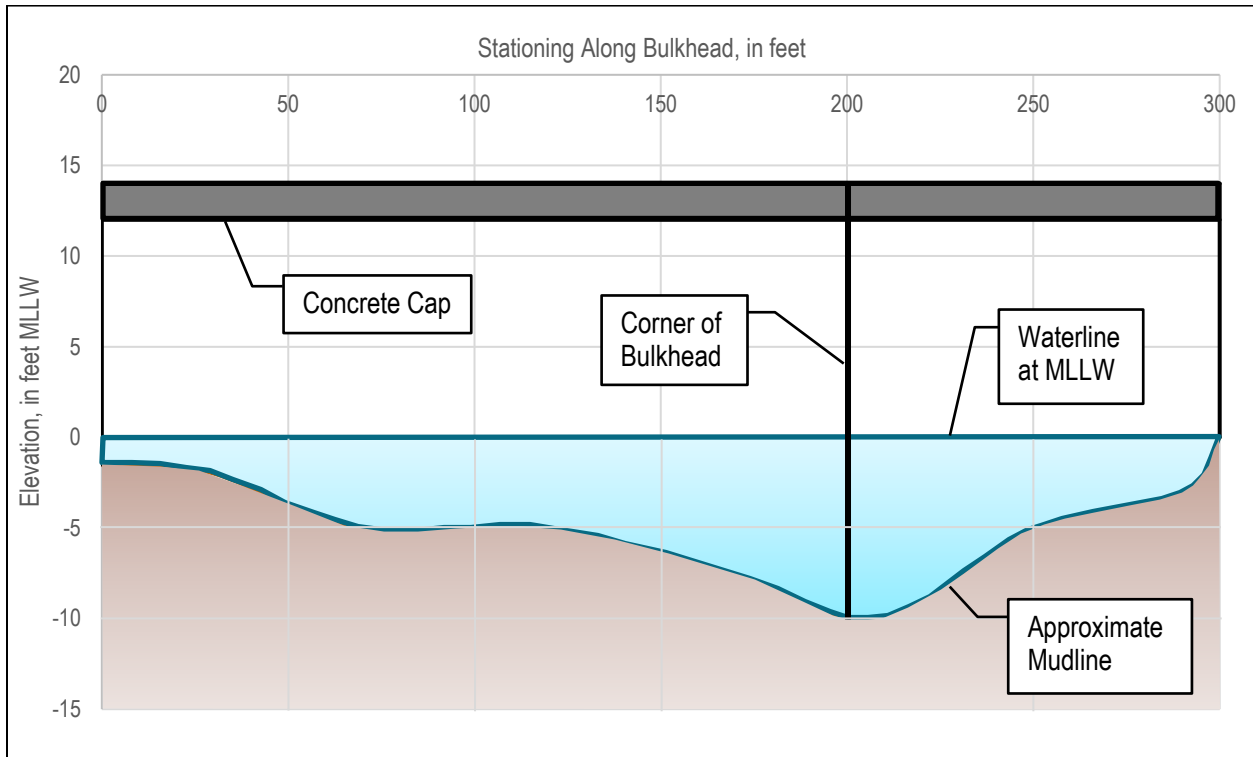


Figure 3. Approximate Mudline Elevations in feet referenced to MLLW

4.1.2. Walers and Hardware

The upper waler has major to severe levels of corrosion and section loss throughout its length. The waler has up to 100% section loss at several locations. The tie-rod hardware has severe corrosion and up to 100% section loss.

The lower waler has minor corrosion and section loss throughout its length. At STA 2+00 the lower waler is disconnected from the bulkhead.

4.1.3. Fender Piles

The steel fender piles have severe section loss, are disconnected from the attachment hardware, and many are only stub piles exposed at low tide.



4.2. Concrete Cap

The concrete cap has moderate to severe damage, including open corrosion spalls with exposed and corroding reinforcement. Vertical and shear cracks were observed at multiple locations.

4.2.1. Mooring Cleats

Several of the mooring cleats have severe damage with broken horns.

4.3. Yard Adjacent to the Bulkhead

Moderate to severe sinkholes/subsidence of up to 18 inches deep were observed along the length of the bulkhead. The severe sinkholes have exposed the backside of the steel sheet piles and cap tie-rods. The concrete pad adjacent to the bulkhead appears to have subsided approximately 4 inches.

5. Overall Facility Condition Assessment Rating

An overall Condition Assessment Rating (CAR) is assigned to the bulkhead. The CAR is based on the findings of visual observations. The condition assessment scale includes the following six categories: Good, Satisfactory, Fair, Poor, Serious, and Critical. The six CARs and descriptions defined in Appendix C.

The steel sheet pile bulkhead is rated as “**Critical.**” Very advanced deterioration from corrosion has significantly affected the load-bearing capacity of the sheet piles, walers, and anchor rods. Local failures are obvious due to the significant deterioration in sheet piles at walers and the tie-rod hardware. Global failure of the 1940’s bulkhead due to bulging and hinging of the sheet piles above corrosion holes near the mudline was observed. Loading restrictions and public access recommendations are provided in Section 6.

6. Recommendations

The bulkhead is well beyond its design life and has very advanced corrosion resulting in localized and global failures. Fill material continues to wash out through the holes in the sheets resulting in subsidence and sinkholes behind the bulkhead. The 1940’s sheet pile bulkhead appears to have buckled just above the corrosion holes. Repair of the bulkhead is not practical or recommended based on the large corrosion holes and significant amount of section loss throughout the bulkhead.

Recommended actions include:

- Immediately restrict all pedestrian, vehicle, and equipment access to at least 20 feet from the face of the bulkhead with fencing and signage.
- Remove and replace the bulkhead as soon as possible.

7. References

- Sheet Pile Bulkhead Investigation. Moffatt & Nichol, December 1997
 - Provided in Appendix B
- ASCE Manuals and Reports on Engineering Practice Number 130, "Waterfront Facilities Inspection and Assessment", 2015 Edition
 - Portions provided in Appendix C
- USS Steel Sheet Piling Design Manual, 1984



SHEET PILE BULKHEAD INVESTIGATION
Crescent City Harbor District
Crescent City, California

Prepared By:

MOFFATT & NICHOL ENGINEERS
3000 Citrus Circle, Suite 230
Walnut Creek, California
M&N File No. 4099

Date Of Site Investigation:
11 December 1997

Investigating Staff:
Brad Porter, P.E.

Cc: PIDPGrants <PIDPGrants@dot.gov>

Subject: PIDP 2024 – Crescent City Harbor District – Congratulations

Greetings,

Congratulations on your \$8,000,000 Port Infrastructure Development Program (PIDP) FY 2024 grant award which MARAD awarded for the following scope of work:

++++++

“The project will rebuild the existing dock structure to better withstand operational and weather hazards, widen the docks to allow a greater number of trucks through, and install hoists to load/unload cargo more efficiently.”

++++++

The Maritime Administration (MARAD), as the lead oversight agency (OA) on this project, has worked very hard to increase US DOT support for port infrastructure development and looks forward to working with you.

MARAD would like to initiate communications regarding the “next steps” needed to advance your project. We have created the attached welcome letter with pertinent information about what you should know, and next steps needed to complete the process.

Our Program Office will soon be setting up two TEAMS calls to review the Federal requirements and next steps towards finalizing the grant agreement. Both will cover the same material and most likely be scheduled in the afternoon (EST) to accommodate as many customers and schedules as possible. These will cover ~80% of pre-award requirements applicable to all grants. Both these calls will be followed up with communications regarding the individual teams (such as Environmental & Engineering) who will be supporting your project during the pre-obligation phase of the award. They will review your specific project in more detail at that time.

There are several concurrent tasks that must be completed prior to the execution of the agreement. Each of these tasks will be spearheaded by a corresponding MARAD team member. These tasks include the successful negotiation and finalization of the grant agreement; the completion of a National Environmental Policy Act (NEPA) review; the completion of a National Historic Preservation Act (NHPA) Section 106 consultation; Title VI assessment and the completion of an Engineering Risk Register after a full evaluation of the project.

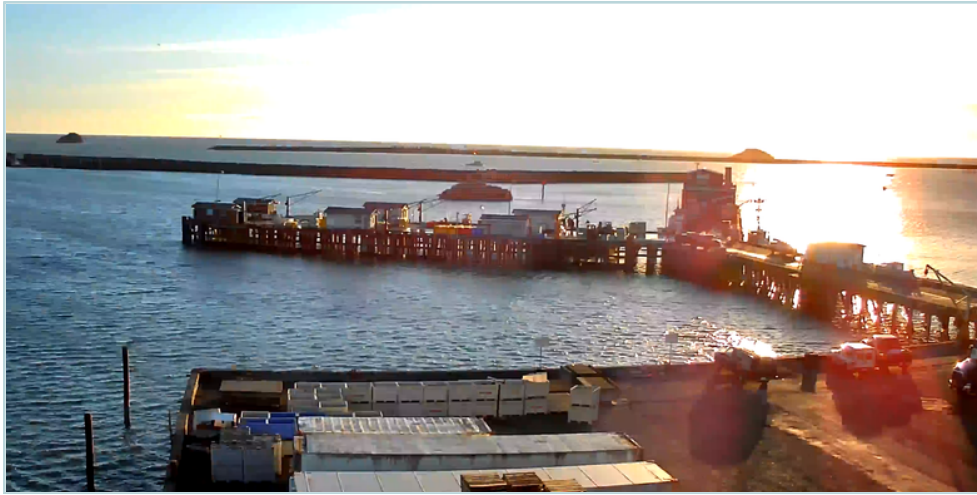
Your project will soon be assigned a Grant Management Specialist (GMS) who will serve as your primary point of contact and liaison with the various MARAD departments that will support grant agreement development.

Have a wonderful day, and again, congratulations,

David Bohnet

Division Chief, Grant Management
Office of Port Infrastructure Development
1200 New Jersey Ave, SE
W21-226
Washington, DC 20590
202-366-0586
David.bohnet@dot.gov

Citizens dock images from Grant Application



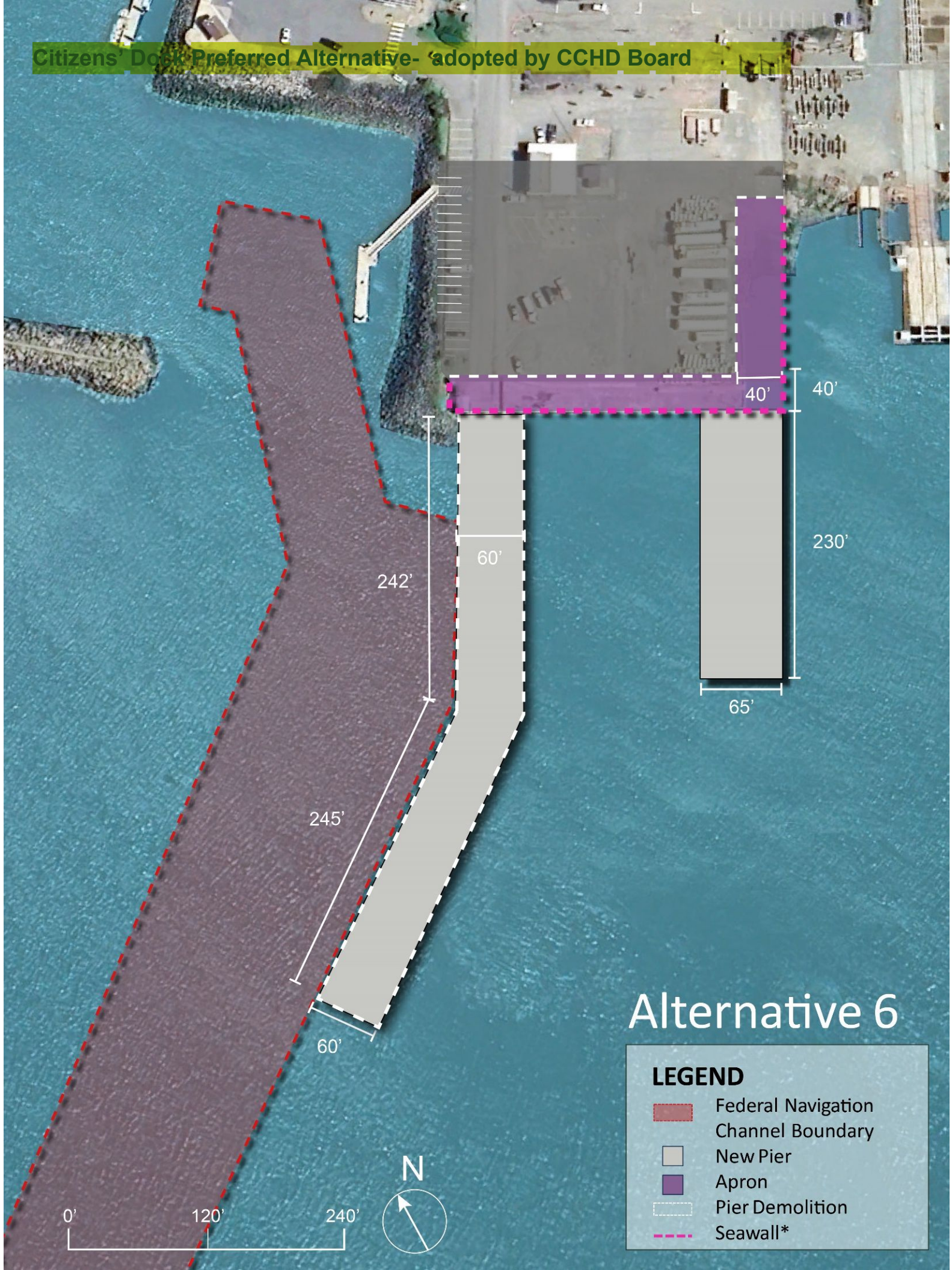
Citizens' Dock Construction Project Schedule

#	ACTIVITY	START MONTH	DURATION (MONTHS)	END MONTH
1	Meet with MARAD, and other Federal, State and Local Agencies and community stakeholders at the start of the process to get input on potential repair/replacement project, ensuring project process meets all applicable Federal requirements and meets any and all Federal transportation requirements.	1	2	2
2	Hold public involvement meetings, which will continue throughout the project.	1	30	32
3	Sign Contract with MARAD	2	1	2
4	Prepare final construction bid packages.	2	2	4
5	Release the construction bid package and advertise project and bid construction availability.	4	2	5
6	Receive bid responses. Review bid responses for inclusion of all required submission documents and requirements. Review bid responses with DOT and key stakeholders to ensure they comply with applicable Federal requirements.	5	2	6
7	CCHD holds public meeting; Award bid; sign contract	6	1	6
8	Finalize technical and engineering design of the project.	7	3	9
9	Finalize project costs. Review costs with MARAD.	9	1	10
10	Secure all state and local approvals and construction permits.	10	4	14
11	Construct a new dock which will withstand 50-year tsunami event tidal surges and other climate related natural hazards. Ensure all materials meet domestic preference requirements.	15	12	26
12	Hold pre-construction meetings and job construction meetings every two weeks and as needed during the project.	15	12	26
13	Install electrical, sewer, water and mechanical infrastructure to serve businesses on the dock.	24	2	26
14	Install new hoists to improve movement of goods in the port.	26	1	27
15	Perform Construction Project Close-Out Phase activities.	27	3	30
16	Perform PIDP Construction Grant Closeout activities.	27	3	30

Milestone	Schedule Date
Planned Design and Permitting Substantial Completion Date	6/1/2025
Planned Permitting Substantial Completion Date	11/1/2025
Planned Start Construction Date	12/1/2025
Planned Construction Substantial Completion Date	12/31/2026
Planned Grant Administration Substantial Completion Date	3/30/2027






Citizens' Dock Construction Project Budget

#	ACTIVITY	UNIT COST	CCHD Match Share \$	CCHD Match Share %	PIDP Share \$	PIDP Share %	Other Federal Share \$	Other Federal Share %
1	Meet with MARAD, and other Federal, State and Local Agencies and community stakeholders at the start of the process to get input on potential repair/replacement project, ensuring project process meets all applicable Federal requirements and meets any and all Federal transportation requirements.	\$ 2,500.00	\$ 500.00	20	\$ 2,000.00	0	\$ -	0
2	Hold public involvement meetings, which will continue throughout the project.	\$ 5,000.00	\$ 1,000.00	20	\$ 4,000.00	0	\$ -	0
3	Sign Contract with MARAD	\$ -	\$ -	0	\$ -	0	\$ -	0
4	Prepare final construction bid packages.	\$ 5,000.00	\$ 1,000.00	20	\$ 4,000.00	0	\$ -	0
5	Release the construction bid package and advertise project and bid construction availability.	\$ 5,000.00	\$ 1,000.00	20	\$ 4,000.00	0	\$ -	0
6	Receive bid responses. Review bid responses for inclusion of all required submission documents and requirements. Review bid responses with DOT and key stakeholders to ensure they comply with applicable Federal requirements.	\$ 5,000.00	\$ 1,000.00	20	\$ 4,000.00	0	\$ -	0
7	CCHD holds public meeting; Award bid; sign contract	\$ 5,000.00	\$ 1,000.00	20	\$ 4,000.00	0	\$ -	0
8	Finalize technical and engineering design of the project.	\$ 25,000.00	\$ 5,000.00	20	\$ 20,000.00	80	\$ -	0
9	Finalize project costs. Review costs with MARAD.	\$ 25,000.00	\$ 5,000.00	20	\$ 20,000.00	80	\$ -	0
10	Secure all state and local approvals and construction permits.	\$ 125,000.00	\$ 25,000.00	20	\$ 100,000.00	80	\$ -	0
11	Construct a new dock which will withstand 50-year tsunami event tidal surges and other climate related natural hazards. Ensure all materials meet domestic preference requirements.	\$ 7,372,500.00	\$ 1,474,500.00	20	\$ 5,898,000.00	80	\$ -	0
12	Hold pre-construction meetings and job construction meetings every two weeks and as needed during the project.	\$ 125,000.00	\$ 25,000.00	20	\$ 100,000.00	80	\$ -	0
13	Install electrical, sewer, water and mechanical infrastructure to serve businesses on the dock.	\$ 750,000.00	\$ 150,000.00	20	\$ 600,000.00	80	\$ -	0
14	Install new hoists to improve movement of goods in the port.	\$ 1,500,000.00	\$ 300,000.00	20	\$ 1,200,000.00	80	\$ -	0
15	Perform Construction Project Close-Out Phase activities.	\$ 25,000.00	\$ 5,000.00	20	\$ 20,000.00	80	\$ -	0
16	Perform PIDP Construction Grant Closeout activities.	\$ 25,000.00	\$ 5,000.00	20	\$ 20,000.00	80	\$ -	0
TOTAL		\$ 10,000,000.00	\$ 2,000,000.00	20	\$ 8,000,000.00	80	\$ -	0



Alternative 6

LEGEND

-  Federal Navigation Channel Boundary
-  New Pier
-  Apron
-  Pier Demolition
-  Seawall*

Functional Criteria for Rebuilding Citizens Dock & Seawall

Main concerns / must have's:

- Maintaining operation during re-building of seawall and Citizens Dock
- Flexibility to support multiple industries / generate additional revenue
- Improving public access

Nice to have's:

- Improving commercial fishing:
 - having a public hoist (owned/maintained by District) preferably with a min capacity of 2 to 4 ton. Additionally
 - Making the pier 10 ft wider to have more space for semi-trucks to pass each other (Add line striping)
- Additional power plugs for bait/fish freezers
- Additional LED lighting on the citizens dock
- Short-term haul out
- Keeping fuel and ice building separate for the new Citizens Dock

Positives (current operation/configuration):

- Quality of ice
- Access to fuel (expanded operating hours / very accommodating)
- Good amount of workable space for staging
- Safe entrance

Room for improvement (w.r.t. current operation/configuration):

- Harbor District managing ice
- Harbor District managing fuel

California Coastal Conservancy Grant Funding Requirements

- Resilience and adaptability to expected SLR, 100-year floods and 50-year tsunami.
- Explore the feasibility of including habitat features.
- The dock will include an ADA accessible pedestrian walkway, seating, lighting, informational signage, and educational and community opportunities. The new public access will connect to the coastal trail.
- Include a wide variety of voices in the design visioning so that fishing, tourism, local residential use, conservation, historic considerations, education, and other elements are all part of these conversations considered in the final design.

Selection Criteria for Alternative Analysis (1 of 2)*

Risk of Disruption to Commercial Fishing During Construction

Commercial fishing relies on having year-round access to a minimum berth space with functional hoists/ice house/fuel station. The demand for these facilities peaks during the start of the crab season (Nov-Jan). Longer construction schedule can also be a high risk. Construction activities limit access to the existing pier (less berthing space)

- Highest risk of disruption: the existing pier is demolished first before construction of a new pier starts.
- Lowest risk of disruption: a new pier with functional hoists/ice house/fuel station has been constructed before the existing pier is demolished.

Supporting Multiple Uses/Industries

Crescent City may be able to support other industries during off-season for commercial fishing and generate other revenue sources by having a multi-purpose dock. Having a wide/open upland area and having multiple piers provides the flexibility to support multiple uses/industries.

- Highest Flexibility: multiple piers with largest open upland area.
- Lowest Flexibility: single pier with smallest open upland area.

Construction Cost

Construction cost is approximately proportional to footprint of the new citizens dock.

- Highest Construction cost: new pier with highest footprint (square feet) for a given berth space in addition to expanding the landside by 40'.
- Lowest construction cost: new pier and seawall with same exact footprint or smallest footprint (square feet) for a given berth space.

Construction Risk

There are known challenges about pile driving in crescent city. More pile driving can trigger more risk. And in general, shorter construction schedule means lower risk.

- Highest Construction Risk: assuming a fast pace for construction and longer construction period.
- Lowest construction Risk: assuming a conservative pace for the construction.

Flexibility to Allow Potential Expansion in Future

Crescent City may be able to support other industries during off-season for commercial fishing and generate other revenue sources by having a multi-purpose dock. Having a wide/open upland area and having multiple piers provides the flexibility to support multiple uses/industries.

- Highest Flexibility: multiple piers with largest open upland area.
- Lowest Flexibility: single pier with smallest open upland area.

*General Note: All alternatives were developed to

- A) provide an optimized harbor operation involving a balance of areas devoted to upland staging and circulation, pier operating area and berthing space, and vessel maneuvering
- B) provide flexibility to accommodate both current commercial fishing industry needs and potential expansion for new opportunities that may arise

Selection Criteria for Alternative Analysis (2 of 2)*

Maintenance Dredging Needs

The existing federal navigation channel (FNC) runs along the trestle and west side of the west wharf. US Army Corps of Engineers performs regular monitoring and maintenance of existing federal navigation channel to the authorized dredge depth. Aligning the new pier in a way to maximize use of FNC will reduce the dredge burden on Harbor District.

- Highest Need for dredging: a new pier that does not run along the existing federal navigation channel.
- Lowest need for dredging: a new pier that runs along the existing federal navigation channel.

Environmental Mitigation Cost

Increasing overwater coverage of the new (pile supported) pier compared to the existing pier in addition to permanent fill of benthic habitat for expansion of upland area will likely require environmental mitigation. Mitigation needs to be identified and included in CEQA (The California Environmental Quality Act).

- Highest Environmental Mitigation Cost: a new pier with largest footprint and 40' of seaward expansion for the upland areas by permanent fill of benthic habitat.
- Lowest Environmental Mitigation Cost: a new pier and seawall with same exact footprint as that of existing (no upland expansion).

Improve Fishing Operation

Wider (than 65-ft) pier will provide a better circulation/truck passing space for the commercial fishing operation. Multiple entry points to the pier will eliminate the need for trucks for backing up to the pier.

- Highest Improvement: a new wider pier and multiple entries to the pier
- Lowest Improvement: a new pier with same width as existing and one entry point to the pier.

Minimizing Downtime (Sheltering from Southerly Wind Waves)

Locally-generated waves (wind waves) from south can result in excessive vessel motions and downtime for berthing especially for vessels berthing beam seas (the **vessel** is broadside to oncoming waves).

- Highest Improvement: Orienting the new pier such that vessels are head seas (waves are running directly against the course of the ship)
Lowest Improvement: a new pier with same alignment as existing requiring beam seas berthing for some vessels

Improving public access to Citizens Dock

During peak of commercial crab season, it is not safe for public to access the dock given frequent passing of trucks, forklifts, and operation of hoists.

- Highest Improvement: having multiple and wider piers with largest open upland area will allow dedicating a space for public access
- Lowest Improvement: a new pier with single entry to the pier.

*General Note: All alternatives were developed to

- A) provide an optimized harbor operation involving a balance of areas devoted to upland staging and circulation, pier operating area and berthing space, and vessel maneuvering
- B) provide flexibility to accommodate both current commercial fishing industry needs and potential expansion for new opportunities that may arise