

Proposal

Crescent City Harbor District
August 18th, 2026



moffatt & nichol

Request for Consultant to Provide Construction Design Services for Seawall and Citizens' Dock



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Attn: Kristina Hanks
Crescent City Harbor District
101 Citizens' Dock Rd.
Crescent City, CA 95531

Reference: Request for Consultant to Provide Construction Design Services for the Seawall and Citizens' Dock

Dear Kristina,

The Crescent City Harbor District (District) is a local treasure—a key component to the area's quality of life, a regional attraction for seaside recreation, and an important economic driver for the entire Del Norte County. The District has received two U.S. Department of Transportation Maritime Administration (MARAD) Port Infrastructure Development Program grants that will fund construction of the new Seawall and Citizens' Dock Pier 1 Project. The District has issued a Request for Proposals from Consultants to provide Construction Design Services for this project.

In response, Moffatt & Nichol (M&N) is pleased to offer a design team familiar with the District's existing infrastructure and demonstrated ability to work with the District's staff on upgrades to the harbor infrastructure. Our team previously collaborated on the preparation of the initial design documents and permit applications for the new Seawall and Pier 1 Project. We have the necessary experience and resources to deliver the requested construction design services—bringing the project to successful completion.

The preferred structural concepts are well established from the prior design phase. The key challenge now is advancing final design, permitting, contractor procurement, and long-lead material procurement on a schedule that positions the District to begin construction in the 2027 work window. Because M&N developed the 30% design and is supporting the ongoing permit applications, our team can move directly into final design while maintaining continuity with the assumptions and commitments already established with the regulatory agencies.

Key Benefits of the M&N Team are:

Seawall and Pier Construction Design Expertise - M&N's nationally recognized seawall and pier construction design experience and knowledge will be available to the District. In addition, our team has a proven record working with the District and is a known entity in the local community.

Project Management Continuity - Proposed Project Manager Younes Nouri, has worked with the District since 2021, beginning with harbor master planning and condition assessment work and continuing through the Citizens' Dock and Seawall replacement project. His familiarity with the District's priorities, existing infrastructure, and the decisions that shaped the current project provides continuity into final design and allows the team to move quickly without a lengthy project familiarization period.

At the Forefront of Pier and Wharf Design Practice - M&N's Omar Jaradat chairs the ASCE/COPRI committee developing the Design Standards for Piers and Wharves (ASCE 80) and serves on the ASCE/COPRI 61 Seismic Design of Piers and Wharves Committee. His work is helping shape the next generation of industry standards for the analysis and design of marine structures, including seismic performance. This gives the District access to technical leadership at the forefront of evolving pier and wharf design practice as the Citizens' Dock advances through final design.

MARAD Funding Experience - M&N has completed numerous port projects employing MARAD grant funds. We understand the environmental and design concerns and construction award requirements attending grant-funded projects.

Proven Delivery Under Constrained Construction Windows - Our team has recent experience delivering schedule-driven marine infrastructure projects including Treasure Island Ferry Terminal, and Port of Ilwaco Marina Structure Resilience Project. Our experience also includes the Trinidad Pier Replacement, where M&N used a fast-track approach to complete design and permit approval in four months and support completion of the in-water work within the available construction window.

The District is an important client to M&N and we are committed to the successful delivery of this vital project. If additional information is needed, as I am the person authorized to represent our firm in this matter, please contact me by my phone number or email address with questions. I look forward to hearing from you.

Sincerely,



Younes Nouri, PhD, PE
Project Manager
(410) 905-5119
ynouri@moffattnichol.com

Section 2 → Qualifications

About Our Firm

M&N has been providing marine and coastal engineering services in California for local, state, federal, and private clients for over 81 years. Founded in 1945 to provide design engineering services to the growing U.S. commercial waterfront, we proudly serve Northern California through offices in Walnut Creek and Oakland. Ranked #1 in Marine and Port Facilities by Engineering News-Record for five consecutive years. M&N's marine structural engineers design and rehabilitate the full spectrum of marine infrastructure — including docks, piers, wharves, bulkheads, mooring and berthing structures, fender systems, and floating platforms. Our Northern California based professionals provide multidisciplinary, full-service marine and waterfront infrastructure expertise and have successfully delivered the following projects in the region:

- › Crescent City Harbor District - Citizens' Dock and Seawall Replacement – alternatives development, initial design, and environmental document and permitting support
- › Crescent City Harbor District - Citizens' Dock Inspection
- › Crescent City Harbor District - Inner Boat Basin Vertical Breakwater Design
- › San Mateo County Harbor District - Johnson Pier Rehabilitation
- › Cher-Ae Heights Indian Community of the Trinidad Rancheria - Trinidad Pier Reconstruction
- › Chevron - Eureka Marine Oil Terminal Seismic Retrofit
- › Humboldt Bay Harbor District - Redwood Marine Multipurpose Terminal Replacement Project
- › Humboldt Bay Harbor District - Redwood Marine Heavy Lift Terminal and Baywide Master Plan

Through these projects and extensive expertise, we offer a comprehensive project view that reflects the relationship between the local setting and each project component's unique needs. This expertise combined with our direct project experience developing the initial design documents provides the District with a cost effective and streamlined delivery approach.

The M&N Team

M&N has assembled a team with the marine structures experience, commercial fishing pier expertise, and resources to meet the District's needs for 60% and 100% construction-ready design drawings for the Seawall and Citizens' Dock Project. The firm has supported project delivery in the Harbor for more than 25 years, including the prior phase design development and environmental documentation and permitting support services for the Citizens' Dock and Seawall Replacement. This team has also worked together to deliver similar marine infrastructure and waterfront facilities projects in the Northern California and Pacific coast



Moffatt & Nichol by the numbers

Year Founded
1945

Type of Organization
Corporation



60

Offices Worldwide

Local Office

2185 N California
Boulevard, Suite 500
Walnut Creek, CA
94596



1,300+

Employees



25+ years
supporting
the District

environment. Our team includes staff with local knowledge and direct project experience; success delivering MARAD grant funded projects within budget and schedule requirements; and extensive construction ready design document development experience.

Timely project initiation, reporting, and completion are critical to project success, especially for MARAD funded projects. To streamline the delivery of the construction ready design drawings we have staffed this project with personnel experienced in confirming design intent and alignment with permit requirements and delivering final design, permit-ready, and contractor-biddable construction documents. This team's knowledge and experience will enable the team to apply the correct amount of resources to develop contractor-friendly and time-sensitive construction documents that will allow for successful compliance with the District grant, permitting, and construction requirements.

Setting The Standard

M&N has the largest group of marine structural and coastal engineers in the private sector in the U.S. Our expert staff not only know industry design standards and regulations but helped write them, including the ASCE/COPRI Minimum Design Standards for Piers and Wharves—Ancillary Components and Other Loading Considerations. M&N's Omar Jaradat chairs the ASCE/COPRI 80 Design Standards for Piers and Wharves Committee and serves on the ASCE 61 Seismic Design of Piers and Wharves Committee. Our permitting and environmental specialists are well versed in applicable local and federal laws and regulations, with decades of experience developing industry leading processes in navigating projects through those intricacies.

The following is brief description of the qualifications of our Geotechnical subconsultant supporting the construction design submittal development. If additional specialty service needs arise, M&N has a trusted bench of subconsultants on hand to address any need for this type and phase of project.

Subconsultant



GeoEngineers is an employee-owned earth science and engineering

firm with 20 offices nationwide, including an office in San Diego, California. For more than 40 years, GeoEngineers has been a trusted partner and advocate to local cities, counties, states, and public agencies across the West Coast. Their core services include geotechnical engineering, engineering geology, performance-based design, environmental remediation, construction design services, and natural resource sciences. Their geotechnical engineering services span geotechnical evaluations, field engineering services, earthwork design services, earth retention systems, foundations and structures, and seismic design and vibrations. GeoEngineers has completed thousands of port projects locally, regionally, and internationally. They have significant experience addressing challenging soil and groundwater conditions, seismic evaluations including liquefaction, shoreline and slope stability, and habitat restoration and mitigation. GeoEngineers' knowledge of similar conditions and regulations comes from our recent experience working on the Port of Ilwaco Marina Structure Replacement and British Petroleum (BP) Harbor Island Distribution Terminal Bulkhead Replacement – both in partnership with M&N. We are also managing ongoing work to provide dredge spoils management services to the District. From planning through design, permitting, and implementation, we use practical methods to achieve results that are technically sound, environmentally conscious, and economically sensible.

A Specialized Team with Direct Project Experience

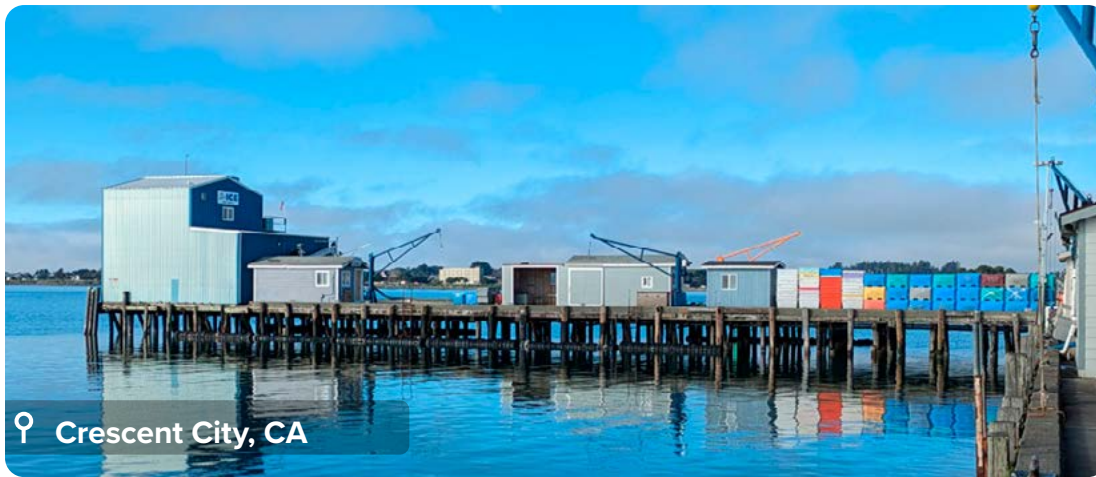
M&N has assembled a team of professionals who have a combination of specialty expertise, local knowledge, and relationships with MARAD, SCC, and local regulatory agency staff. Our proposed staff knows and understands the coastal processes on the west coast of the U.S. based on more than 81 years of experience. We are familiar with the unique conditions at Crescent City Harbor, having completed the condition assessment of the dock and seawall, conceptual design alternatives development, and the 30% design of the preferred alternative.

Section 3 →

Relevant Project Experience

The following projects represent relevant project experience within the last five years. These projects had similar scope of service requirements, as well as similarities in infrastructure use and the need to withstand the same coastal environment hazards seen in the Crescent City Harbor. Delivering these projects required M&N to meet applicable federal laws and regulations applicable to this project.

We have provided additional projects outside of the five-year period to illustrate our ability to deliver projects that were successfully constructed and have withstood the test of time and coastal hazards typically faced on the Northern California coast.



Client/Owner:
Crescent City Harbor
District

Date Start:
2023

Date Completed:
2026 (Permitting
support - Ongoing)

📍 Crescent City, CA

CITIZENS' DOCK, SEAWALL REPLACEMENT, AND PERMITTING

Through grant funding, the District has the unique opportunity to develop and implement a plan for a 'vision for tomorrow', the replacement of the Seawall and Citizens' Dock are among the first critical steps in this journey. The dock and seawall are each more than 50 years old, degraded and require replacement pursuant to recommendations of the most recent condition assessment completed by M&N in 2023. M&N has been contracted to provide various professional services for the project including engineering and initial design for the replacement structures. The new seawall and Citizens' Dock will be resilient and adaptable to expected sea level rise during the dock's 50+ year lifespan, 100-year floods and 50-year tsunami events. The M&N team have developed five conceptual design alternatives.

The M&N team along with the District have presented these alternatives to the public in various meetings to gain consensus on design and needs. The preferred design alternative was further developed to 30% design level and used to initiate the environmental documentation and permitting process. M&N has coordinated with and submitted permit applications to the California Coastal Commission, U.S. Army Corps of Engineers, and Regional Water Quality Control Board and is currently supporting follow-up efforts with these agencies.



Client: Power Engineering Construction Co.

Owner: Lennar Corporation

Date Start:
2019

Date Completed:
2022

📍 San Francisco Bay, CA

TREASURE ISLAND FERRY TERMINAL

M&N provided engineering services for the planning, permitting, design and construction assistance for the new ferry terminal that serves the redevelopment of the former Navy base in San Francisco Bay. The ferry service will provide public transportation on and off the island to San Francisco and is an alternative mode to the Bay Bridge. M&N provided early planning for the project that included studies of anticipated ridership demand, alternatives for various ferry vessels, ferry schedule and development of environment forces (winds, waves, currents and sea level rise) to be used in the permitting and design of the project. M&N provided input for the Environmental Impact Report (EIR) for the project and obtained the regulatory permits required from the US Army Corps, Regional Water Quality Control Board and Bay Conservation and Development Commission. After EIR and permit approvals. M&N worked with Power Engineering Construction to provide Design/Build services to Treasure Island Community Development (developer) and Treasure Island Development Agency (City of SF agency). Services include final design drawings and calculations for the ferry pier, docking float,

900-foot-long concrete breakwater to protect from incoming ocean swell, shore protection elements, which included coastal wave analysis, surf run up, storm drain outfalls, and development of sea level rise strategy and implementation. The design had to provide for up to 10 feet of lateral shore movement during the design earthquake in this highly active seismic area. M&N worked with the contractor during construction to ensure that the ferry terminal was constructed in accordance with the design intent and to resolve questions that arose during construction.



Client/Owner: Port of Ilwaco

Owner: Lennar Corporation

Date Start:
2022

Date Completed:
2024

📍 Ilwaco, WA

PORT MARINA STRUCTURE RESILIENCE PROJECT

The Port of Ilwaco is located on the southwest coast of Washington near the mouth of the Columbia River and is a key hub for commercial fishing, seafood processing, and recreation activities that benefit the regional economy.

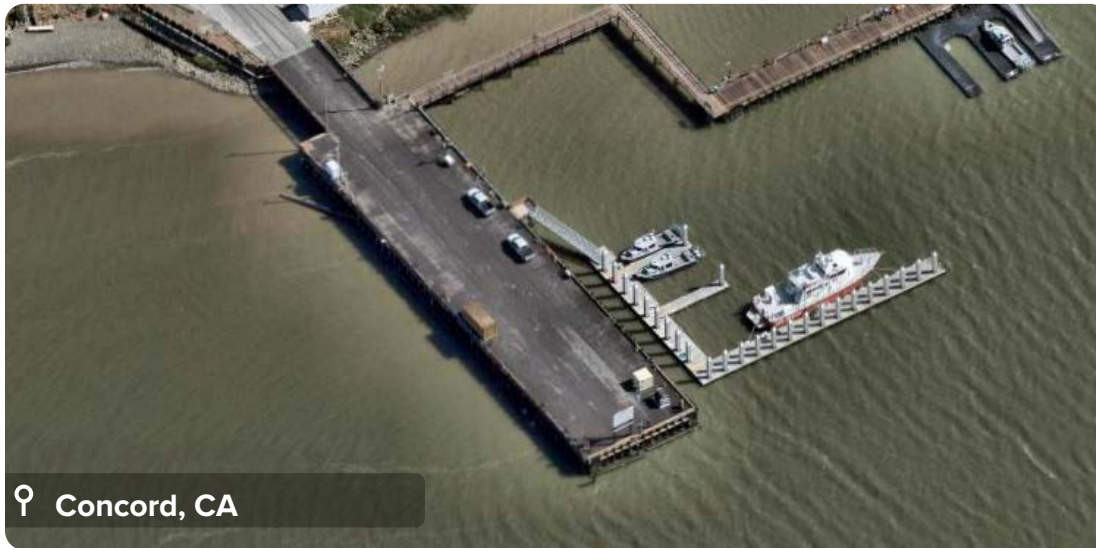
M&N provided Maritime Administration (MARAD) Port Infrastructure Development Program (PIDP) grant management support, permitting services, National Environmental Policy Act (NEPA) and Washington State Environmental Policy Act (SEPA) services, and design engineering for a bulkhead replacement, regrading, slope stabilization, and raising the adjacent top-of-slope to support future sea level rise resilience projects.

The marina's creosote-treated timber east wharf bulkhead is deteriorating and subject to high tide flooding. It is also vulnerable to increased flooding events with future sea level rise. M&N designed a replacement bulkhead, as well as regrading for the adjacent wharf drive. The design also includes removing a derelict timber revetment at the head of the slip adjacent to the east bulkhead, slope stabilization replacement, and increased top of slope elevation.

The project is funded by MARAD PIDP grant funds. M&N also provided grant management support to the port and associated NEPA environmental assessment services based on MARAD requirements. M&N assisted the Port of Ilwaco with MARAD coordination, including the schedule, engineering risk register, public notice, and various other supporting services. M&N worked closely with the Port of Ilwaco and MARAD to meet the associated grant requirements.

M&N helped the port identify required compensatory mitigation for project impacts in consultation with regulatory agencies; developing federal, state, and local permit applications; agency consultation; and associated environmental studies. This support included consulting with:

- › U.S. Army Corps of Engineer (Section 10/404)
- › City of Ilwaco (SEPA, shoreline, critical areas)
- › National Marine Fisheries Service/National Oceanic and Atmospheric Administration
- › U.S. Fish and Wildlife Service
- › Washington Department of Ecology (Section 401 Water Quality, Shorelines)
- › Washington Department of Fish and Wildlife
- › Washington Department of Archaeology and Historical Preservation (Section 106 review)
- › Tribal consultation



Client: U.S. Army
Corps of Engineers,
Sacramento District

Owner: Military Ocean
Terminal Concord

Date Start:
2018

Date Completed:
2023

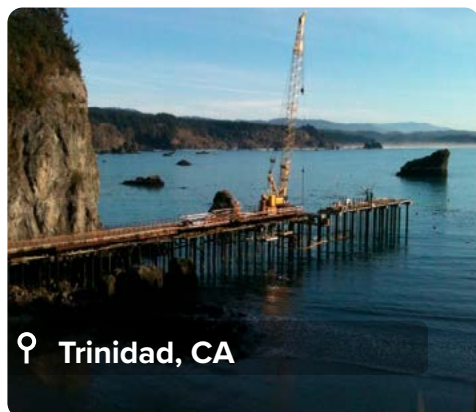
BOAT RAMP REPAIR, BARGE PIER REPAIR, AND NEW SMALL CRAFT BERTHING FACILITY DESIGN

Military Ocean Terminal Concord (MOTCO) has acquired a fire boat and several patrol boats for waterfront protection and has been berthing them in temporary facilities. The fire boat is currently berthed against a floating barge secured to the existing barge pier, which does not meet safe berthing standards. The patrol boats occupy berths in the floating dock system secured to the small boat dock; however, only two patrol boats can be accommodated while the remaining two are dry-stored. Additionally, the existing boat launch ramp has deteriorated and is no longer usable. Without a readily accessible boat ramp, MOTCO uses a public launch ramp several miles away. Operational limitations at the substandard boat ramp and berthing facilities have limited the ability to rapidly deploy the patrol boats. A new small craft berthing facility has been constructed to provide modern berthing facilities for the fire boat and four patrol boats. Also, a new ramp is proposed to be constructed at the tug harbor site, located west of the existing barge pier and away from the mission piers.

The existing barge pier has minor to moderate deterioration throughout the structure and advanced deterioration in some localized areas. There may also be some areas of deterioration internal to the timber piles that are not readily detectable. The barge pier has been repaired to extend its useful life and support waterside security and firefighting requirements since the renovated barge pier provides access to and utility connections for the new small craft berthing facility.

The M&N project team developed the concept design and construction documents for the new small craft berthing facility and the barge pier repair. The project team also organized the planning charrette and prepared the concept design and DD1391 for military construction funding of the new boat ramp.

Relevant Project Experience



Trinidad, CA

Trinidad Pier Reconstruction

Client/Owner: Trinity Valley Consulting Engineers, Inc.

M&N provided analysis, design, and construction support to the Cher-Ae Heights Indian Community of the Trinidad Rancheria for the replacement of the 500-foot-long Trinidad Pier. Due to a compressed schedule M&N performed phased fast-track design in close coordination with the Rancheria, construction contractor, and permitting agencies to allow the project to be designed, permitted, and constructed within a six-month schedule. When difficult driving conditions were encountered M&N engineers were onsite to develop practical solutions with the contractor and geotechnical engineer to ensure the adequacy of the piles in a manner that could be achieved and tested. During pile driving, the design and permit approval of the post-tensioned concrete cap and precast decking system proceeded, allowing construction to continue and the in-water work to be completed within the work window. Design and permit approval was completed in four months. Project completed in 2011.

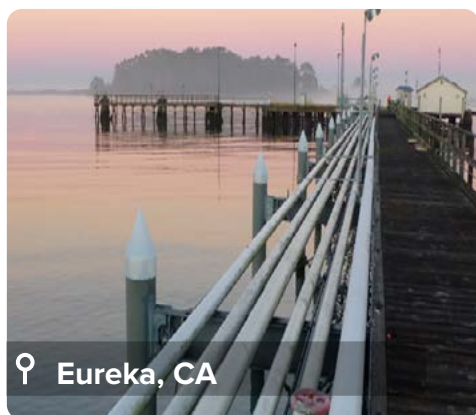


Half Moon Bay, CA

Johnson Pier Rehabilitation

Client/Owner: San Mateo County Harbor District

M&N performed a condition survey of Johnson Pier, constructed in 1962, and developed repair recommendations to arrest further deterioration. The pier assessment included an above- and below-water condition survey and detailed condition report. The report addressed deficiencies identified in the condition survey and outlined recommendations for repair of damage due to expansive corrosion of steel in the pier deck area, pile caps, and piles. Several alternatives were developed to correct and improve deck strength for truck loading, improvements to causative conditions, and damage repairs. M&N prepared plans, specifications, and estimates for the rehabilitation project. The repair work included design for repair of the concrete, specification of various specialized concrete repair products, and the development of design details. Project completed in 2007.



Eureka, CA

Chevron Eureka Marine Oil Terminal Services

Client/Owner: Chevron Products Company

A refined geotechnical and structural/seismic analysis of the Eureka Marine Terminal determined that the level of damage resulting from a Marine Oil Terminal Engineering & Maintenance Standards (MOTEMS) Level 2 seismic event would result in irreparable damage to the wharf. M&N developed a new seismic retrofit design which satisfies MOTEMS and underpins the existing piping. The design was constructed between 2016 and 2017, with M&N providing construction support services.

M&N's Experience with Piers and Wharves California

The figure below represents M&N's experience with design, inspection, and rehabilitation of piers and wharves.



Section 4 → Project Organization

Younes Nouri will serve as the project manager, bringing nearly 20 years of experience managing projects that require close coordination with various engineering and environmental disciplines. He will manage the day-to-day tasks, assign technical staff, coordinate with the project team members, and supervise all project activities. His recent leadership on the District projects gives him unique insight into the requirements and opportunities at the site and allow the team to have a headstart on the design.

The project director responsible for oversight for this contract is Matt Trowbridge, PE. Matt has specialized expertise in waterfront, marine facility, and port

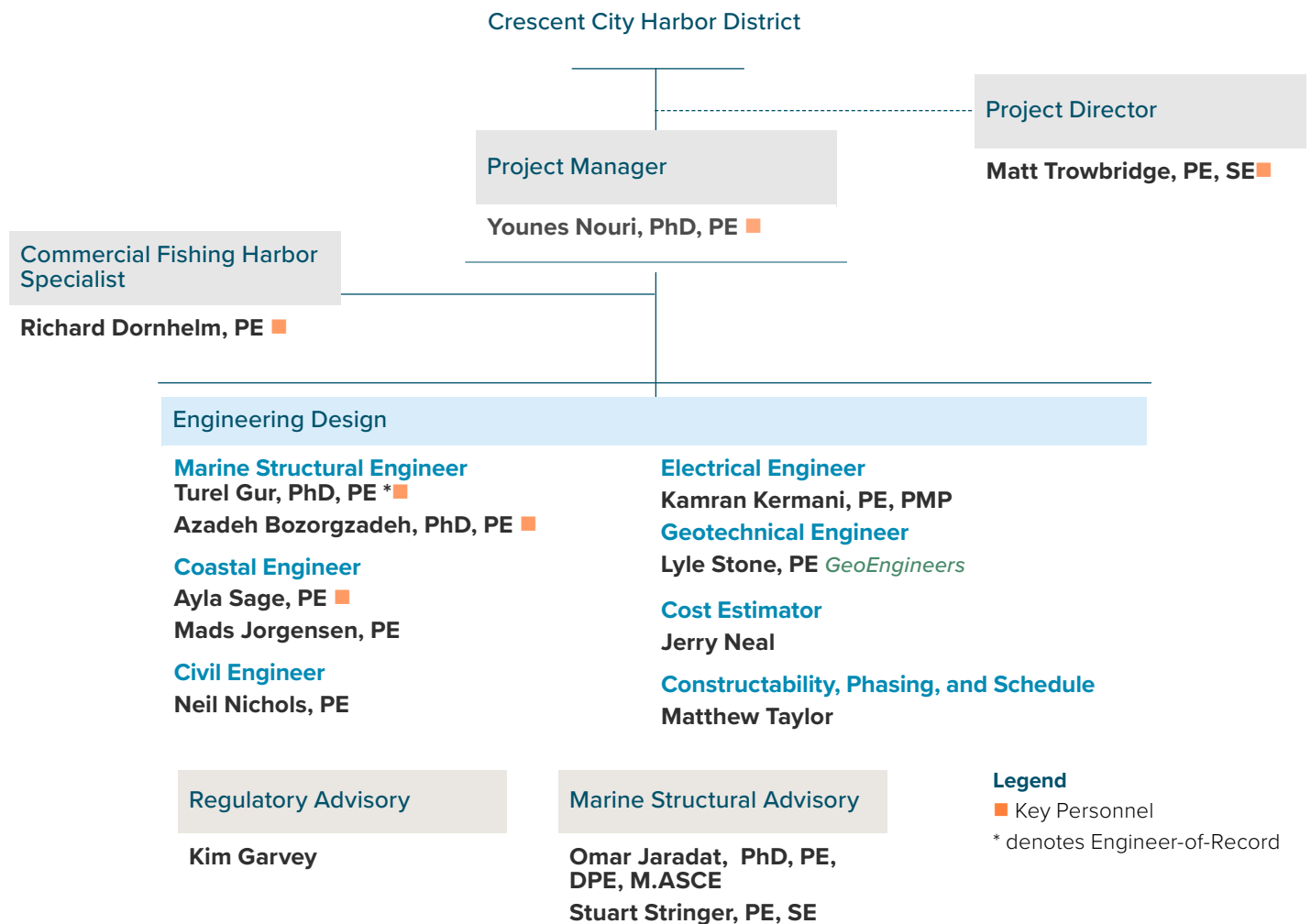
engineering design and construction throughout Northern California on multidiscipline teams.

Richard Dornhelm will provide technical advisory as well as review for the District's infrastructure improvements while working closely with Younes Nouri, the M&N project manager.

Turel Gur and Azadeh Bozorgzadeh will be the key marine structural engineers responsible for design, calculations, bid documents and approval for construction drawings. Additionally, Turel will be the Engineer-of-Record responsible for reviewing and preparing construction drawings.

Below is our staff organizational chart and page 14 will highlight our staff qualifications.

Project Team Organization





Younes Nouri

PHD, PE

Project Manager | Moffatt & Nichol

Younes Nouri as project manager has a proven track record of managing multidisciplinary waterfront projects. He offers experience collaborating closely with clients in transforming their visions into tangible results. Younes brings in-depth knowledge of his clients' desires for improvement and existing challenges by building on ongoing projects. He brings extensive experience working with small to mid-size ports and harbors.

Education:

PhD, Coastal Engineering,
2013

MASc, Coastal
Engineering, 2008

BS, Civil Engineering,
2003

Registrations:

Professional Engineer:
CA, Civil, C83037, 2014

- › Crescent City Harbor District, Citizens' Dock Seawall Replacement, Crescent City, CA.
- › Sunnyside Beach Park Seawall Repair/Replacement, Town of Steilacoom, WA.
- › Humboldt Bay Harbor, Offshore Wind (OSW) Marina Terminal Redevelopment, Humboldt Harbor, CA.
- › Portland Harbor, RM 11 Remedial Design, Portland, OR.
- › City of Seldovia, Jakolof Bay Floating Dock Replacement Metocean Study, Seldovia, AK.
- › City of Tacoma, Tacoma Tideflats Subarea Plan and EIS, Tacoma, WA.



Matt Trowbridge

PE, SE

Project Director | Moffatt & Nichol

Matt Trowbridge has 18 years of experience leading multidisciplinary teams in the inspection, design, and construction of marine infrastructure projects. Matt regularly delivers projects at operating terminals where unique design and construction solutions are required to minimize impacts. As a seasoned project director, he is a strong communicator, experienced at listening and understanding client and stakeholder needs and managing the project to address those goals. Matt spent years as a structural inspector and underwater engineer-diver and is experienced in evaluating the condition of marine structures. He is experienced in scoping and managing field data programs to obtain survey data, including bathymetric, topographic, and geophysical, as well as geotechnical and environmental field investigations.

Education:

MCE, Civil Engineering
with Structural
Engineering Emphasis,
Tampa, 2010

BS, Civil Engineering,
2008

Registrations:

Professional Engineer:
CA, Structural, S6197,
2014

CA, Civil, C78789, 2011

- › Crescent City Harbor District, Citizens' Dock Seawall Replacement, Crescent City, CA.
- › POSF, Pier 47 Repairs, San Francisco, CA.
- › POSF, Pier 27 Container Vessel Allision Inspection and Repairs, San Francisco, CA.
- › POSF, Pier 45 West Apron Repairs, San Francisco, CA.
- › POSF, Pier 35 Bollard Investigation and Replacement, San Francisco, CA.
- › City of Manhattan Beach, Pier Rehabilitation Condition Assessment, Repair Design, and Construction Support, Manhattan Beach, CA.



Kim Garvey

Regulatory Advisory | Moffatt & Nichol

Since joining Moffatt & Nichol in 2003, Kimberly Garvey has obtained over 60 regulatory permits on a variety of coastal projects. Her permitting and environmental review experience includes determination of permitting requirements and schedules, coordination with regulatory agencies, permit applications, permit follow-up, development of project descriptions and construction methods for environmental review (CEQA and NEPA) documents, coastal impact analyses, and compensatory mitigation plans. The projects have involved the U.S. Army Corps of Engineers, State and Regional Water Boards, California Coastal Commission, California State Lands Commission, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, NOAA National Marine Fisheries, U.S. EPA, U.S. Coast Guard, and County and City agencies.

Education:

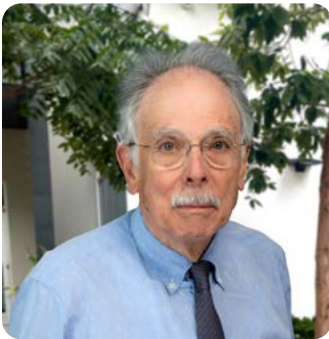
MS, Aeronautical and Astronautical Engineering, Purdue University, Indiana, 1989

BS, Mechanical Engineering, University of California, Santa Barbara, 1984

Affiliations

President, California Chapter of American Shore and Beach Preservation Association

- › Crescent City Harbor District, Citizens' Dock Seawall Replacement, Crescent City, CA.
- › California State Parks, San Onofre State Beach, San Onofre CA.
- › City of Los Angeles, San Pedro Waterfront Improvements, Los Angeles, CA.
- › City of Newport Beach, Marina Park Harbor Development, Newport Beach, CA.
- › City of Manhattan Beach, Pier Handrails Replacement, Manhattan Beach, CA.
- › City of Newport Beach, Central Avenue Public Pier, Newport Beach, CA.
- › Dana Point Harbor, Center Dock/Cove Pier ADA Access, Dana Point, CA.



Richard Dornhelm

PE

Commercial Fishing Harbor Specialist | Moffatt & Nichol

Richard Dornhelm's coastal engineering experience has broad applications for waterfront and marine planning and design projects. He has helped prepare numerous coastal engineering reports covering subjects such as mathematical modeling of harbor oscillations; circulation and water quality in marinas; hydraulic behavior of bays and estuaries; planning for shore protection; analysis of mooring and wave forces; and analysis of tsunami, storm surge and wave flooding for various coastal facilities. He also performed site selection studies for various types of coastal facilities, including marine terminals and small craft harbors.

- › Crescent City Harbor District, Citizens' Dock Seawall Replacement, Crescent City, CA.
- › City of San Francisco, Ocean Beach Climate Adaptation Project, San Francisco, CA.
- › Military Ocean Terminal Pier 2 Replacement, DD1391 Preparation, Concord, CA.
- › California Department of Boating and Waterways (DBAW), Colusa Boat Launch Facility, Colusa, CA.
- › San Francisco Airport (SFO) Shoreline Protection, San Francisco, CA.
- › Port of San Francisco, Pier 40 Revitalization and Retrofit, San Francisco, CA.

Education:

ME, Coastal Engineering, University of California, Berkeley, 1969

MS, Sanitary Engineering, Cornell University, New York, 1966

BS, Civil Engineering, Cooper Union, New York 1965

Registrations:

Professional Engineer: CA, Civil, C23812, 1974



Azadeh Bozorgzadeh

PHD, PE

Marine Structural Engineer | Moffatt & Nichol

Azadeh Bozorgzadeh joined M&N in 2007 shortly after completing her PhD dissertation, which focused on seismic response and capacity of transportation structures. Her academic studies included extensive finite-element modeling of structural systems and soil-structure interaction ranging from simple models to highly-detailed models using programs such as EDP, SAP, SPI, and analysis tools such as CWALLSSI and LPILE. Since joining Moffatt & Nichol, Azadeh has applied her expertise to marine and transportation structures throughout the US and various overseas locations.

Education:

PhD, Structural Engineering, University of California, San Diego, 2007

MS, Civil Engineering, University of Arizona, 2001

BE, Civil Engineering, Sharif University of Technology, Iran, 2000

Registrations:

Professional Engineer: California, Civil, C75033, 2011

- › Crescent City Harbor District, Citizens' Dock Seawall Replacement, Crescent City, CA.
- › Cher-Ae Heights Indian Community of the Trinidad Rancheria, Trinidad Pier Reconstruction, Trinidad, CA.
- › Golden Gate Ferry Terminals Project, San Francisco Bay, CA.
- › Golden Gate Bridge Highway & Transportation District, Sausalito Ferry Terminal Guide Pile Repair, San Francisco, CA.
- › WETA, Downtown San Francisco Ferry Terminal Project, San Francisco, CA.



Turel Gur

PHD, PE

Marine Structural Engineer | Moffatt & Nichol

Turel Gur is a civil engineer with more than 22 years of professional experience in analysis, design, and retrofit of structures resisting extreme loads. He has an extensive background in the analysis and assessment of onshore, coastal and offshore structures. He has performed many integrity assessment projects for piers, wharfs, marine terminals and other coastal structures, refinery structures, oil tanks, pump stations, water treatment plants, liquid storage tanks, underground pipelines, offshore oil and gas platforms, offshore wind turbines and dams to evaluate their susceptibility to extreme conditions such as earthquakes, hurricanes, and blast. In many of these projects, he served as a project manager and/or a technical lead.

- › Power Engineering Construction, Treasure Island Ferry Terminal Design Build Engineering Services, San Francisco, CA.
- › Oakland Athletics, Howard Terminal Wharf Analyses, Oakland, CA.
- › Valero Refining Co., AMPORTS Petroleum Coke Dock Post-Fire Emergency Repairs, Benicia, CA.
- › Golden Gate National Parks Conservancy, Alcatraz Wharf Condition Assessment & Repair Alternatives, San Francisco, CA.
- › Port of Oakland, Oakland Airport Perimeter Dike Analyses, Oakland, CA

Education:

PhD, Civil Engineering, Purdue University, Indiana, 2004

MSc, Civil Engineering, Middle East Technical University, Turkey, 1999

BSc, Civil Engineering, Middle East Technical University, Turkey, 1996

Registrations:

Professional Engineer: CA, Civil, C71853, 2007



Ayla Sage

PE

Coastal Engineer | Moffatt & Nichol

Ayla Sage is a coastal engineer with experience assisting with preliminary design plans, field data collection, data management and analytics with a variety of software, and preparation of professional reports on findings and conclusions. Ayla was involved in civil engineering research at the University of Miami, where she worked to develop a hybrid coral reef breakwater system. Through her research experience, Ayla gained proficiency in coastal instrumentation and field data collection techniques, data post-processing strategies, and field study design.

Education:

MS, Tropical Marine Ecosystem Management, University of Miami, 2021
BS, Biological Engineering, University of Florida, 2020

Registrations:

Professional Engineer: CA, Civil, C99413, 2026

Affiliations

American Society of Civil Engineers

- › City of Newport Beach, Seawall Repair, Newport Beach, CA.
- › Port of Ilwaco, Marina Structure Replacement, Ilwaco, WA.
- › Humboldt Bay Harbor, Redwood Marine Multipurpose Terminal Replacement, Samoa, CA.
- › City of San Diego, San Diego Bay Pipeline Replacement Sea Level Rise Vulnerability Report, San Diego, CA.
- › County of Los Angeles Department of Beaches and Harbors, MDR Pinniped Dock, Marina Del Ray, CA.



Mads Jorgensen

PE

Coastal Engineer | Moffatt & Nichol

Mads Jorgensen has been a key staff member on the development of the field of coastal and marine engineering, with coastal engineering analyses, vessel navigation, and vessel collision protection as a special field of expertise. He is very orientated towards computer models and the use of IT solutions for engineering applications. He has substantial experience in data analysis, preparation of study reports, hydrodynamic and hydraulic modeling, and design of navigation structures, hydraulic structures, scour protection, and shore protection structures.

Education:

MSc, Civil Engineering, Danish Technical University, 1995

Registrations:

Professional Engineer: California, Civil, #66369, 2004

Affiliations

American Shore and Beach Preservation Association

- › East Bay Regional Park District, Big Break Regional Shoreline Restoration and Public Access Planning Project, Oakley, CA.
- › City of Millbrae, Near Shore Outfall Restoration, Millbrae, CA.
- › San Mateo Harbor County District, Pillar Point Harbor Sea Level Rise (SLR) Vulnerability Assessment, Half Moon Bay, CA.
- › City of Vancouver, Stanley Park Seawall Repairs, British Columbia.
- › BC Hydro, Dock Assessments, Lillooet, Shalalth, Lake Seton, British Columbia.



Neil Nichols

PE

Civil Engineer | Moffatt & Nichol

Neil Nichols has been involved in the design and construction of coastal, civil, and transportation engineering projects for 30 years. His engineering experience includes design of shoreline improvements, urban waterfront facilities, storm drain outfalls, wetland restoration, flood control, and transportation facilities. He has also provided construction support for civil, coastal, and transportation projects.

Neil has managed projects from all phases of design, including initial planning, conceptual design, type-selection, preliminary design, final construction documents, and on-site construction support. As part of his responsibilities, he manages staff and subconsultants in the preparation of construction drawings, specifications, and cost estimates.

Education:

BS, Civil Engineering,
California State
Polytechnic University,
Pomona, 1993

BA, Management
Engineering, Claremont
McKenna College, 1993

Registrations:

Professional Engineer:
CA, Civil, C56807, 1997

- › San Mateo Harbor County District, Pillar Point Johnson Pier Expansion and Dock Replacement, Half Moon Bay, CA.
- › San Mateo Harbor County District, Pillar Point Launch Ramp, Boat Rinse, and Americans with Disabilities Act (ADA) Restroom, Half Moon Bay, CA.
- › San Mateo Harbor County District, Pillar Point Fishing Pier Rehabilitation, Half Moon Bay, CA.
- › Fort Baker for the National Park Service, Fort Baker Seawall and Launch Ramp Improvements, Sausalito, CA.
- › California Department of Water Resources, Loafer Point Boat Launch Ramp Facility, Lake Oroville, CA.



Kamran Kermani

PE, PMP

Electrical Engineer | Moffatt & Nichol

Kamran Kermani is an electrical engineer with over 20 years of experience in electrical and control system engineering, substation automation design, SCADA systems, industrial automation, PLC programming, and HMI design. He has extensive experience with different types of instruments including temperature, level (radar, servo) and pressure transmitters and gauges, flow meters, analyzers and control valves as well as in reading, understanding, and creating a construction package: P&ID, single-line three-line drawings, schematics, panel elevation drawings, cable and conduit layouts and schedules, wiring and connection diagrams, and installation details, and specifications.

- › San Mateo County Harbor District, Pillar Point Harbor Launch Ramp, El Granada, CA.
- › County of Los Angeles Department of Public Works, Marina del Rey Safety Dock Replacement, Marina del Rey, CA.
- › San Mateo County Harbor District, Johnson Pier Improvement, El Granada, CA.
- › Ventura Port District, Ventura Harbor Fishing Pier, Ventura, CA.

Education:

MSc, Electrical
Engineering, Tehran
Polytechnic University-
Amirkabir, 2003

BSc, Electrical
Engineering, Semnan
University, 2000

Registrations:

Professional Engineer:
California, PE, #E19908,
2011

Certifications:

PMI, PMP #2646393,
2019

**Education:**

MS, Civil Engineering,
Michigan Technological
University

BS, Civil Engineering,
California Polytechnic
State University

Registrations:

Professional Engineer:
CA, #C72065

Geotechnical Engineer:
California, GE3066

**Lyle Stone**

PE, GE

Geotechnical Engineer | GeoEngineers

Lyle Stone has 21 years of geotechnical engineering and consultation experience with a focus on waterfront and municipal projects. He has project management experience with all phases of geotechnical design in support of waterfront, flood control, and development projects for Ports and municipalities. He has provided design services for marine projects to include pile and shaft foundations; bulkhead structures including soldier piles, structural earth walls, and conventional retaining walls; marine slope stabilization; pavement design for concrete and asphalt sections as well as non-conventional methods such as soil-cement and reinforced subgrade sections; seismic analysis for piers and bulkheads; and construction support services.

- › Crescent City Harbor District, Seawall and Citizens Dock, Crescent City, CA.
- › City of San Diego, Ocean Beach Pier Replacement; San Diego, CA
- › U.S. Naval Station San Diego, Pier 8; San Diego, CA.
- › U.S. Naval Station San Diego, Pier 12; San Diego, CA.
- › Mortenson/Manson Joint Venture, Elliott Bay Seawall; Seattle, WA.
- › City of Des Moines, Redondo Boardwalk Replacement; Des Moines, WA.

**Education:**

MBA, Strategic
Management, California
State University, East Bay,
2001

BS, Civil Engineering,
South Dakota School of
Mines, 1976

Jerry Neal

PE

Cost Estimator | Moffatt & Nichol

Jerry Neal is a senior civil engineer with 49 years of experience on major heavy civil construction and engineering projects—both domestic and international. Prior to joining M&N, Jerry was employed by large national/international civil and marine construction companies where he served in the capacities of project engineer, project manager, and chief estimator. Jerry has participated in or managed numerous projects involving port dredging, dams and levees, airports, power plants, and mine construction.

- › Rolluda Architects, San Francisco Marina Remediation and Improvements, San Francisco, CA.
- › Lennar Communities, Treasure Island Redevelopment, San Francisco, CA.
- › Sonoma County Regional Parks. Hudeman Slough Boat Launch Facility, Sonoma County, CA.
- › Port of Seattle, Terminal 5 Berth Modernization Design, Seattle, WA.

**Education:**

BS, Science Ocean Engineering, University of Rhode Island, 2012

Matthew Taylor

Constructability, Phasing, and Schedule | Moffatt & Nichol

Matthew Taylor has extensive experience as a project manager and cost estimator, working on projects ranging from large-scale shipping channel and port improvement projects valued at billions of dollars, to marina and shoreline developments, to inland reservoir dredging and small-scale lake and estuary restoration projects. Before joining M&N, Matthew worked as a project engineer and estimator for one of America's leading heavy civil marine contractors. He has led engineering teams through several major coastal projects for California's largest port authority, including the Middle Harbor Terminal Redevelopment project, as well as numerous port, lake, beach, channel, and berth dredging and construction projects.

- › Crescent City Harbor District, Citizens' Dock Seawall Replacement, Crescent City, CA.
- › Washington State Department of Enterprise Services, Capitola Wharf Repair/Widening, Olympia, WA.
- › California Department of Parks and Recreation, San Simeon Pier Rehabilitation, San Simeon, CA.
- › San Mateo County Harbor District, Johnson Pier Improvements, El Granada, CA.
- › Port of Long Beach, Pier G South Slip Fill, Long Beach, CA.

Section 5 → Project Approach

The District plans to replace the existing Citizens Dock and the adjacent seawall. M&N previously identified several replacement options and developed them to 15% design level. Then, the alternative selected by the District, shown in Attachment A, was further developed to 30% level and a cost estimate was prepared for its construction. As illustrated in the figure, the project has three main parts:

- › Replacement of the seawall
- › Installation of new Pier 1
- › Demolition of the existing Citizen's Dock and installation of a new Pier 2

The District plans to construct the project in two phases as illustrated below. The first phase of the project is composed of two main steps:

› Seawall replacement:

- The seawall concept in the 30% drawings has two main features: (1) the new combi-wall with the tie-back/anchor system and (2) the deep soil mixing (DSM) to stabilize the ground behind the existing seawall. The installation of new combi-wall terminates at the south side of the existing dock. The entry point for the Citizens Dock will remain intact so that the Dock remains operational during this phase of the construction.
- The work related to the basic utilities (electricity, water, deck drainage) will include provision of utility hook-up locations for Pier 1 and the Pier 1 tenants.

› Pier 1 construction:

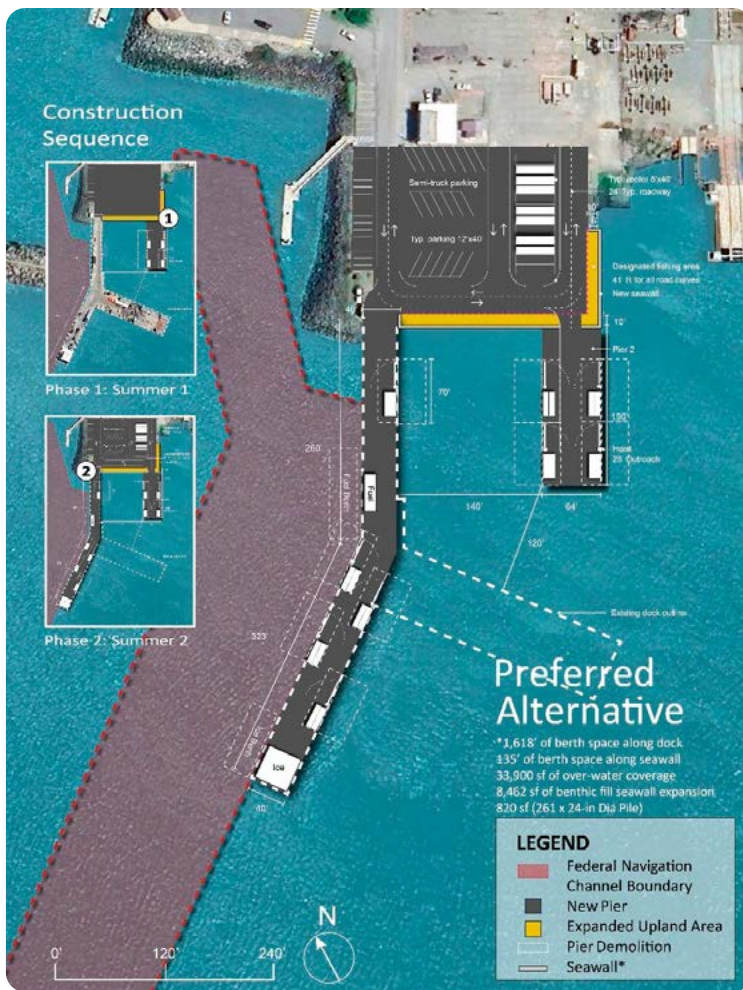
- The new pier is a concrete deck structure supported on steel piles. The final drawings will include all the structural details for the new pier.
- The drawings will also include the utilities (electricity, water, deck drainage) for the new pier as well as the locations and anchorage details of the non-structural above deck components (such as storage buildings, jib cranes, etc.).

The demolition of the existing Citizen's Dock and installation of a new Pier 2 will be performed in the second phase. The District plans to begin the construction work in Phase 1 during the 2027 Construction Season (i.e., July 1 through October 15, 2027) and complete in February 2028.

The proposed work plan here is for the development of 60% and 100% submittals for the two structures in Phase 1, namely the new Seawall and Pier 1. The 60% design submittals will include structural systems, geometry, materials, and primary design loads to confirm design intent, identify permit requirements, and provide substantive comments prior to the commitment of final engineering resources. The 100% final design submittals will be ready for direct submission to all permitting agencies and for competitive public bidding for construction.

The final design and construction of Pier 2 will be completed later, and therefore, not included in this proposal.

Our schedule is built backward from the 2027 construction window. Completing final design is only the first step; the District must also have sufficient time for permitting, contractor procurement, long-lead material procurement and coating, and mobilization before in-water construction begins. This work plan aims to bring the current design concepts presented in the 30% drawings to completion for both structures in parallel in about 4 months by mobilizing two design teams. Assuming NTP in early October, M&N will target the 100% design submittal by late December 2026, followed by the District review and issuance of the final stamped construction documents in January 2027. To be able accommodate this accelerated schedule, we will rely on the information that is readily available in the existing design documentation from the previous phase as well as the NEPA and CEQA documents unless changes are needed to address the recent comments from the permit agencies. We will coordinate closely with the permit application team, also underway by M&N.



Phase 1 - 60% Design Phase

1.1 – Kickoff and Site Visit

We will setup an in-person kickoff meeting at Crescent City with the District team to review the design objectives and the project schedule, and revise them as needed to meet the requirements of the District, permit agencies and the other stakeholders. This will include a walkdown at the project site to review and discuss some of the key details of the seawall and Pier 1 concepts (such as construction boundary, the required utilities for the new pier and the seawall and their connections to existing utilities, site drainage, vehicular access and laydown/staging area during the construction, etc.) and how they will be implemented.

In addition to the kickoff meeting, we propose the meeting schedule below during the development of the design submittals:

- › Bi-weekly online meetings (typically 30 minutes) with the District team for the progress updates and coordination.

- › Design review workshop for the 60% design documents (2-4 hours)
- › Design review workshop for the 100% design documents (2-4 hours)

1.2 – Design Basis Memoranda

M&N previously prepared a combined design basis report for the Seawall and Pier 1. The design criteria provided in this document for each structure will be compiled in separate documents. The design criteria will be updated according to the latest comments from the permit agencies. The new design basis reports will particularly include the following information.

- › Mean Higher High Water (MHHW) and Mean Lower Low Water (MLLW) elevations per NOAA tidal datum
- › Design wave height and wave period
- › Design vessel berthing loads, mooring line forces, and fendering criteria
- › Seismic design parameters
- › Tsunami design parameters
- › Design wind speed
- › Key geotechnical data such as boring logs, SPT/CPT data, liquefaction potential, lateral spreading assessment
- › Sea level rise allowance
- › Live load design parameters

1.3 – Structural Design Calculations

Given the short project schedule, the design calculations for the new Seawall and Pier 1 will be performed in parallel. Both structural design teams team will work in close coordination with the geotechnical engineers from M&N and GeoEngineers for the appropriate use of the existing geotechnical site data and the seismic design criteria from the preliminary design phase. As stated earlier, the design calculations for both the new Seawall and Pier 1 will be based on the readily available information as much as possible. *(There is no new field investigation or additional geotechnical analyses included in the scope.)*

1.4 – Utility Design and Site Drainage

It is our understanding that the District will provide the available drawings and other documentation regarding the existing utilities at the site within 10 days of the NTP. The project team will incorporate

the available information in the design drawings. The 60% drawings show the locations of the new utilities together with their connections to the existing utilities.

The project team will also develop the site drainage system for the new pier and the area behind the new seawall. A gravity drainage system will be developed for the new pier to collect the rainwater runoff along the deck structure and run it through a basic filter before it is discharged to the harbor. Similarly, the 60% design drawings will show grading plan for the area behind the new seawall to achieve a proper drainage of the rainwater.

1.5 – Outline Specifications and Cost Estimate

The project team will develop a Class C (order-of-magnitude) cost estimate for each structure based on preliminary dimensions shown in the 60% drawings.

The 60% design submittals will also include outline specifications.

1.6 – Development of 60% Design Documents for Seawall

The 60% seawall design submittals will include primarily the following documents:

- › Design Basis Memorandum
- › Drawings including
 - Cover sheet and general notes
 - Site plan
 - Demolition plan
 - Overall plan view for the new Seawall
 - Longitudinal profile (or Elevation view)
 - Typical cross sections showing all primary structural components, embedment depth, water table, and key dimensions
 - Connection and detail drawings (preliminary)
 - Utility plan / drainage
- › 60% Cost estimate
- › Preliminary structural calculations
- › Outline specifications
- › Geotechnical data summary

The 60% seawall design documentation will identify the material and the dimensions of the primary structural elements (such as wall section, tie-rod/ anchor system, wale beams) at a preliminary level. They will also identify the construction sequence

impacts on adjacent structures and any temporary shoring requirements.

1.7 – Development of 60% Design Documents for Pier 1

The 60% Pier 1 design submittals will include primarily the following documents:

- › Design Basis Memorandum
- › Drawings including
 - Cover sheet and general notes
 - Site plan
 - Overall plan view for the new pier
 - Pile layout
 - Longitudinal section (or Elevation view)
 - Cross section(s) for a typical bent showing all primary structural components, embedment depth, water table, and key dimensions
 - Connection and detail drawings (preliminary)
 - Utility plan / drainage
- › 60% Cost estimate (Class C)
- › Preliminary structural calculations (force-based design analyses for the pier structure with gravity, mooring, berthing and seismic loads)
- › Outline specifications

1.8 – Over-the-Shoulder Review of 60% Submittals by the District

The 60% design submittals will be submitted to the District electronically for review. The project schedule includes a two-week window for this review. However, given the schedule concerns of the overall project, the design team will continue working on the 100% design submittals in parallel. The comments from the District will be addressed in the 100% design submittals.

The 60% review will also be used to confirm that major design decisions remain consistent with the permit applications and to identify any material procurement, constructability, or phasing issues that need to be resolved before final design.

Following the 60% submittal, M&N will support the District and its Project Manager with targeted contractor and supplier outreach to validate anticipated construction sequencing, contractor interest, and long-lead material procurement durations prior to advertisement.

Phase 2 - 100% Design Phase

2.1 – Final Design Calculations

All the design analyses and calculations performed for each structure will be compiled in separate documents. Any additional analyses and calculations performed to address the comments received from the District for the 60% design submittals will be included in these documents. The documents will present demand-capacity ratios (DCR) for all primary structural members and connections.

2.2 – Final Specifications

The specifications in this project will be prepared in CSI MasterFormat and are anticipated to include sections listed below.

- › **Seawall:** Division 01 (General Requirements), Division 02 (Existing Conditions), Division 03 (Concrete), Division 05 (Steel), Division 26 (Electrical), Division 31 (Earthwork), Division 35 (Waterway and Marine Construction)
- › **Pier 1:** Division 01 (General Requirements), Division 02 (Existing Conditions), Division 03 (Concrete), Division 05 (Steel), Division 06 Timber and Plastics (potentially for fender piles), Division 26 (Electrical), Division 35 (Marine and Waterway Construction)

The specifications will also provide guidance for:

- › Contractor qualifications and experience requirements.
- › Quality control and inspection requirements, special Inspection Schedule per IBC Chapter 17.
- › Environmental protection measures (turbidity curtain, BMPs, endangered species protection).
- › Permit conditions incorporated into contract requirements.

2.3 – Class B Cost Estimate based on 100% Drawings

The cost estimate developed in the previous phase will be updated to reflect the final configuration and the dimensions of the structures as shown in the 100% drawings.

2.4 – Development of 100% Design Documents for the new Seawall

The 100% seawall design submittals will include primarily the following documents:

- › Design Basis Memorandum (if revised)
- › IFC Drawings (approximately 20-22 sheets) including:
 - Cover sheet and general notes
 - Site plan
 - Demolition plan
 - Overall plan view for the new Seawall
 - Longitudinal profile (or Elevation view)
 - All critical cross sections
 - Structural connections and details
 - Utility /drainage plan, sections and details
- › Revised cost estimate (Class B)
- › Final structural calculations
- › Final specifications

2.5 – Development of 100% Design Documents for Pier 1

The 100 % Pier 1 design submittals will include primarily the following documents:

- › Design Basis Memorandum (if revised)
- › IFC Drawings (approximately 30-32 sheets) including:
 - Cover sheet and general notes
 - Site plan
 - Overall plan view for the new pier
 - Pile layout
 - Longitudinal section (or Elevation view)
 - All cross sections for bents showing primary structural components, embedment depth, water table, and key dimensions
 - Structural connection and detail drawings
 - Sections and details for the mooring and berthing system components
 - Utility /drainage plan, sections and details
- › Revised cost estimate
- › Final structural calculations
- › Final specifications

2.6 –Review of 100% Submittals by the District and Final submittals

The 100% design submittals will be submitted to the District electronically for review. The project schedule includes a two-week window for this review. After the completion of the review cycle with the District, the stamped design submittals, ready for direct submission to all permitting agencies and for



competitive public bidding for construction, will be provided to the District.

QA/QC Reviews

The proposed work scope includes internal QA/QC review of all design submittals at each submittal milestone (60% and 100%) by a qualified senior engineer independent of the design team. The QA/QC reviewer shall verify the accuracy of the calculations, consistency of the design submittals with the applicable codes and the general engineering principles as well as the consistency of the submittal documents with each other. A QA/QC review checklist shall be completed and filed in the project record for each milestone submittal. The checklist shall be made available to the District upon request.

Assumptions and Exclusions

Structural Design:

- › The Citizen's Dock will remain operational through the construction of the new Seawall and Pier 1.
- › Pier 1 Subsurface Risk: Existing information indicates variable rock conditions within the Pier 1 footprint, creating uncertainty in required pile lengths and drivability. We recommend resolving this uncertainty during final design through supplemental CPT investigation. Carrying the uncertainty into construction through test piles and contingency details is feasible, but would transfer greater cost and schedule risk into the limited in-water work window.
- › While the structural concept for the preferred design alternative was adequately defined in the 30% drawings, the structural details required for the phasing of the construction are yet to be defined. The final design drawings will address the coordination of the construction phases in a more direct way.
- › Corrosion protection for the new seawall and pier will be based on provision of protective coating and/or sacrificial material.
- › In the current 30% concept drawings for Pier 1, the fender piles are considered as pressure treated timber piles. However, given the comments received by the permit agencies to-date, other fender pile materials, such as sleeved FRP piles or composite piles, will be considered in the 60% and 100% submittals.
- › Design drawings will be provided as a full-size set (22" x 34") in pdf format. The final design will be stamped by an Engineer of Record (EOR) after the completion of the final review of the District.
- › All submittals will be provided electronically via secure file transfer or the District-designated project management platform.
- › We recommend early contractor outreach after the completion of the 60% design submittals to alert potential contractors and to gather information from them to help ensure their participation in the competitive bidding of the project.

Civil Design and Utilities:

- › Mechanical Design of the 'wet' utilities for the bulkhead and piers consisting of potable water from point of connection to the onshore feeder to the pier 1 with lateral stub-outs to each user. The proposed scope does not include provision of a sewer system or a fire protection system (i.e. fire water piping and hydrants) either on the seawall or on the pier 1.
- › We assume the as-built drawings for the underground utility lines in the vicinity of the project are available. Therefore, the budget estimate does not include any allowance for a survey of underground utilities at the site.
- › The scope of the electrical and lighting design for the Seawall and Pier 1 will be limited to provision of power from the point of connection to the onshore primary substation with secondary distribution including pathways on the pier 1 to each user.
- › Civil Design of the area behind the bulkhead disturbed by the seawall installation will include drainage and utility infrastructure therein.
- › Specials items:
 - Fish-buying spaces – We will prepare standard configuration 'sites' on the pier 1 with utilities for each buyer to complete installation of their equipment sheds and hoists. The design of the site adaptation to meet special needs of individual buyers was not considered in this scope.
 - Ice Plant – Not required for Pier 1.
 - Fuel Dock – Not required for Pier 1.
- › Design of the environmental mitigation restoration project is not included in the scope.

Other assumptions and exclusions:

- › The District will provide all existing available reports, drawings, utility records, environmental biological surveys and wetlands delineation, geotechnical data, and topographic and bathymetric survey data within 10 days of NTP (unless they are already available to the M&N team from the preliminary design phase).
- › No significant design changes will be directed by the District after issuance of the 60% package without a written scope amendment.
- › The proposed work scope, budget and schedule are based on one round of the District and agency review comments per design phase; additional review cycles constitute additional services.
- › Unless specifically included by a contract amendment, the scope of work in this proposal exclude the services listed below:
 - Geotechnical field investigation and laboratory testing
 - Topographic and bathymetric survey of the project site
 - Environmental biological surveys and wetlands delineation
 - Physical hydraulic or wave model study
- Construction and post-construction phase services (such as construction administration, site observation, and inspection services during construction, as-built drawing preparation) are excluded in this scope
- Pile drivability analysis
- Peer review services
- Hazardous materials assessment or abatement design
- Structural assessment of existing adjacent structures
- Agency permit fees (to be paid directly by the District)
- Work associated with upland access improvements (roads, parking, lighting) outside the project area.
- The 30% Seawall Replacement drawings that were developed earlier included ground improvements with Deep Soil Mixing (DSM) behind the exiting seawall. We anticipate that this will be part of the construction design as well. The final design of the DSM will be performed by the DSM contractor. The 100% design submittals will provide an adequate level of detail and requirements for the DSM design to maintain open competition for the construction contractor, who will employ the specialty DSM subcontractor.

Section 6 → Fee

The budget estimate for the final design effort is \$700,000. The breakdown of the budget for each submittal milestone as well as for each structure is presented below assuming the design of all both structures are approved simultaneously to achieve the economy of joint preparation. (For example, the utility design in the Seawall is dependent on the utilities on the pier. Therefore, the budget total and breakdown would be different if both structures are not authorized simultaneously.)

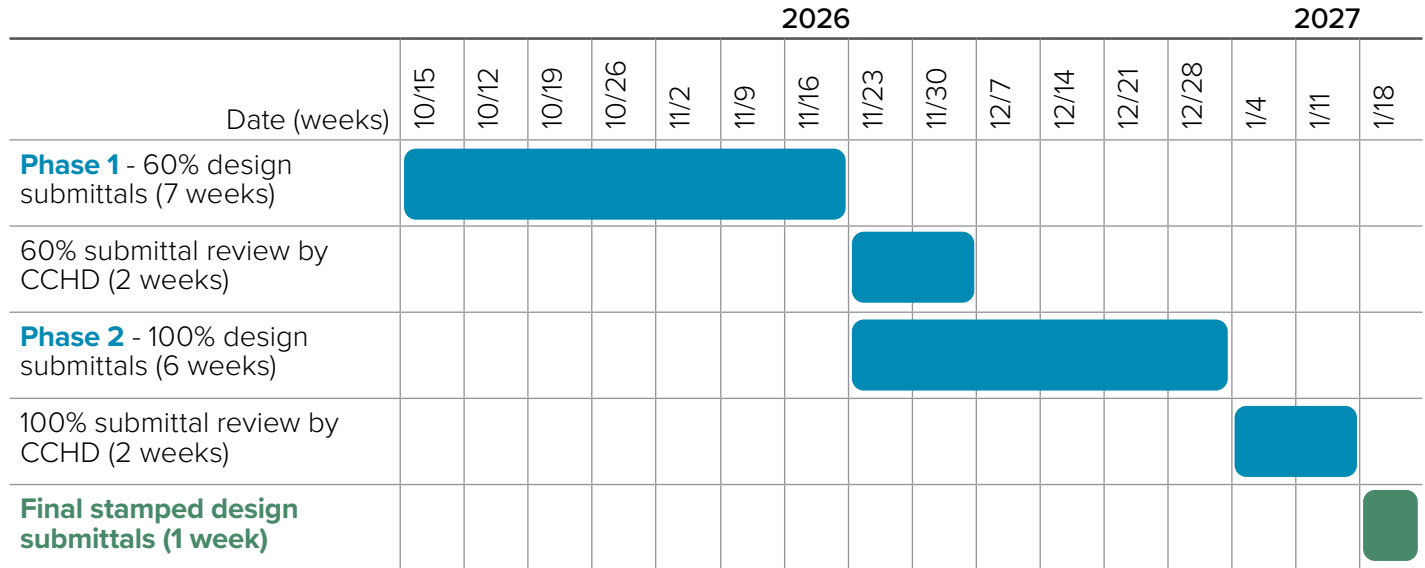
Task	Seawall	Pier 1	Total
60% Design	\$166,000	\$203,000	\$369,000
100% Design	\$153,000	\$178,000	\$331,000
Total	\$319,000	\$381,000	\$700,000

The invoices for this project will be submitted monthly and on a T&M basis with the hourly rate schedule provided in Attachment B. The total project budget will not be exceeded without the District's written authorization.

Section 7 →

Timeline

Final Design Schedule and Path to the 2027 Construction Window



Schedule Strategy

Our schedule is built backward from the 2027 construction window. M&N will advance the Seawall and Pier 1 in parallel, targeting 60% design in Week 7, 100% in Week 13, and final stamped construction documents in Week 16. Design will continue during the District's review periods to maintain momentum and maximize the time available for permitting, bidding, material procurement, and mobilization. The 60% submittal will be an important construction-readiness milestone. At this stage, the primary structural systems, materials, dimensions, preliminary quantities, and construction phasing will be sufficiently defined to identify long-lead materials, confirm constructability, and address potential permitting or procurement issues before final design. Throughout final design, M&N will coordinate permitting, constructability, and procurement considerations so that potential schedule constraints are identified early. The objective is to position the District to enter the 2027 in-water work window with the design complete and as much contractor selection, material procurement, coating, and mobilization as practicable already advanced.

The 16-week design schedule is structured to preserve the time needed after design for permitting, contractor selection, material procurement, coating, and mobilization before the 2027 in-water work window. To protect that window, M&N will advance permitting coordination, constructability review, and long-lead material planning concurrently with design rather than waiting for the final stamped package.

- › 60% submittals – Week 7
- › 100% submittals – Week 13
- › Final stamped design submittals – Week 16