

TECHNICAL PROPOSAL

August 7, 2024

New Bedford/Fairhaven Harbor Plan Renewal

NBPA-FY24-006



Submitted by:

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A Tetra Tech Company
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Fort Point Associates, Inc.
Urban Planning Environmental Consulting Project Permitting
A TETRA TECH COMPANY



TETRA TECH



BROWN, RICHARDSON + ROWE, INC.
Landscape Architects and Planners



Submitted to:

New Bedford Port Authority
123 MacArthur Drive
New Bedford, MA 02740



MARTIN
ASSOCIATES



WOODS HOLE
GROUP

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1.0 Statement of Interest



Fort Point Associates, Inc.
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Fort Point Associates, Inc. (FPA), A Tetra Tech Company, is a multi-disciplinary urban planning and environmental consulting firm that provides project planning, project management, and environmental

permitting services to public and private sector clients. Founded in 1985, FPA has a long history of working on urban waterfront projects in Massachusetts, including management of the 2010 New Bedford/Fairhaven Harbor Plan Update (MHP). We have significant experience in all ten of the Commonwealth's DPAs, supporting a variety of water-dependent industrial uses, such as commercial fishing, shipping, and other vessel-related marine commercial activities, as well as offshore wind and manufacturing, processing, research, and production activities that require marine transportation.

FPA enjoys an enviable reputation among our clients for our professionalism and adeptness in dealing with the many federal, state, and local agencies that have authority for the approval and permitting of waterfront development projects. Our broad experience in waterfront infrastructure permitting and engineering includes review and approvals from Massachusetts Executive Office of Energy and Environmental Affairs (EEA) under the Massachusetts Environmental Policy Act (MEPA), Massachusetts Department of Environmental Protection (MassDEP) under Chapter 91, the Massachusetts Public Waterfront Act, as administered by the Waterways Program, the Massachusetts Office of Coastal Zone Management (CZM), and the United States Army Corps of Engineers (ACOE).



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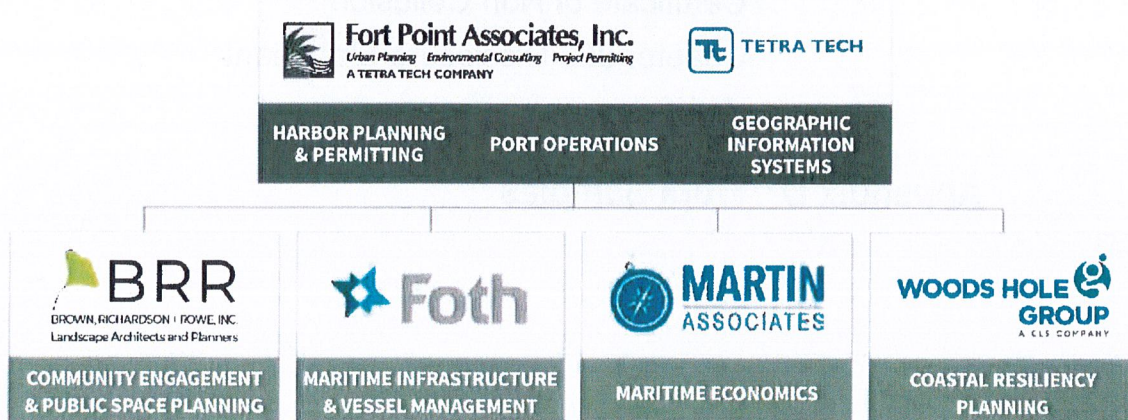
In 2018, FPA joined Tetra Tech, a global provider of consulting and engineering services in water, environment, sustainable infrastructure, and renewable energy.

Tetra Tech began as a coastal engineering firm and is now recognized as an industry leader in climate resilience planning and sustainable infrastructure design. Tetra Tech's work runs the gamut from helping local communities plan for a sustainable, blue economy, and implementing living shorelines, to the planning, permitting, design, and construction administration of major structural solutions, such as surge barrier protection systems. This experience includes multiple assignments for the Port Authority of New York and New Jersey, as well as innovative hazard mitigation solutions for major U.S. cities including New Orleans, New York City, Miami, Seattle, and Washington, DC. Tetra Tech has also supported more than 1,500 wind projects in the United States.

This contract will be managed from FPA's Boston office, which is backed by 350+ planners, engineers (environmental, site/civil, structural, MEP, etc.), scientists, and technical specialists in Massachusetts. Worldwide, Tetra Tech has over 28,000 employees in 550+ offices. The New Bedford Port Authority can be assured that FPA has the technical expertise and capacity to lead this effort and ensure its success.

FPA will serve as Prime Consultant on this contract, provide overall Project Management, and lead harbor planning and permitting, port operations, and GIS services. We have augmented our in-house capabilities with four niche subconsultants—all of whom are leading experts in their respective spaces and exclusive to our team. The significant, shared project experience of our team members is presented in Section 3.0. As demonstrated below, our team is well positioned to complete the Plan Renewal with great value and efficiency.

Team Organizational Chart





Founded in 1981, Brown, Richardson + Rowe, Inc. (BRR) is a women-owned (WBE) landscape architecture, urban design, and planning firm that specializes in waterfronts, public parks, and transportation projects. BRR has worked seamlessly with FPA/Tetra Tech on numerous projects including the Hyannis Harbor MVP Resilience Plan, the Lynn Waterfront Master Plan Revision and MHP Update, the Latimer Overlook Resilient Waterfront Park in Chelsea, and Spectacle Island, all of which have required robust engagement efforts. BRR also worked on the New Bedford RiverWalk Feasibility Study Update with both Foth and Woods Hole Group. We are thrilled to team with BRR once more on this Plan Renewal. While fulfilling a crucial role on this project, BRR also demonstrates our team's commitment to Diversity, Equity, and Inclusion (DEI). BRR's expertise in engaging the community and enhancing climate resiliency on urban waterfront projects will be a great benefit to the New Bedford Port Authority.



Founded in 1938, Foth is an industry leader in maritime infrastructure and vessel management with nearly 40 professionals in Marion and Newport. For the past 30+ years, Foth's Ports and Harbors Group has partnered with owners and managers of waterfront facilities, including many within New Bedford Harbor, to plan for, maintain, and improve their maritime assets. Over the past 16 years, Foth has been involved in most of the marine infrastructure and dredging projects in the Harbor including the design and construction of the North Terminal Expansion, the design and construction of CAD Cell No. 4, and the dredging of more than 40 sites. As a result, the firm has a strong working knowledge of Harbor conditions, constraints, and stakeholder considerations. Foth is also adept at navigating potential conflicts and advocating for projects that fully activate the shoreline and harbor areas to maintain operations and create opportunities. This extensive local experience and site knowledge will help accelerate the project schedule and provide cost savings as we develop the Plan Update.



Martin Associates will be invaluable as the New Bedford Port Authority seeks to sustain the prosperity of the harbor's traditional fishing and shipbuilding industries while exploring opportunities in offshore wind and blue technology. Martin Associates (John C. Martin Associates, LLC) is an internationally recognized maritime economics consulting firm. Since its founding in 1986 by Dr. John Martin, Martin Associates has conducted more than 3,500 economic and planning studies for nearly every port in the United States and Canada. Over the last 38 years, Martin Associates has developed over 1,500 economic impact studies for ports, port systems, and airports, including the 2015 and 2019 economic impact studies of the Port of New Bedford and the New Bedford/Fairhaven Harbor. The firm's local work also includes updating economic impact analyses for the Massachusetts Port Authority. In addition, Martin Associates recently developed offshore wind support impact models for the Port of Salem, New Jersey, focusing on the development of cable and nacelle manufacturing and tower fabrication.

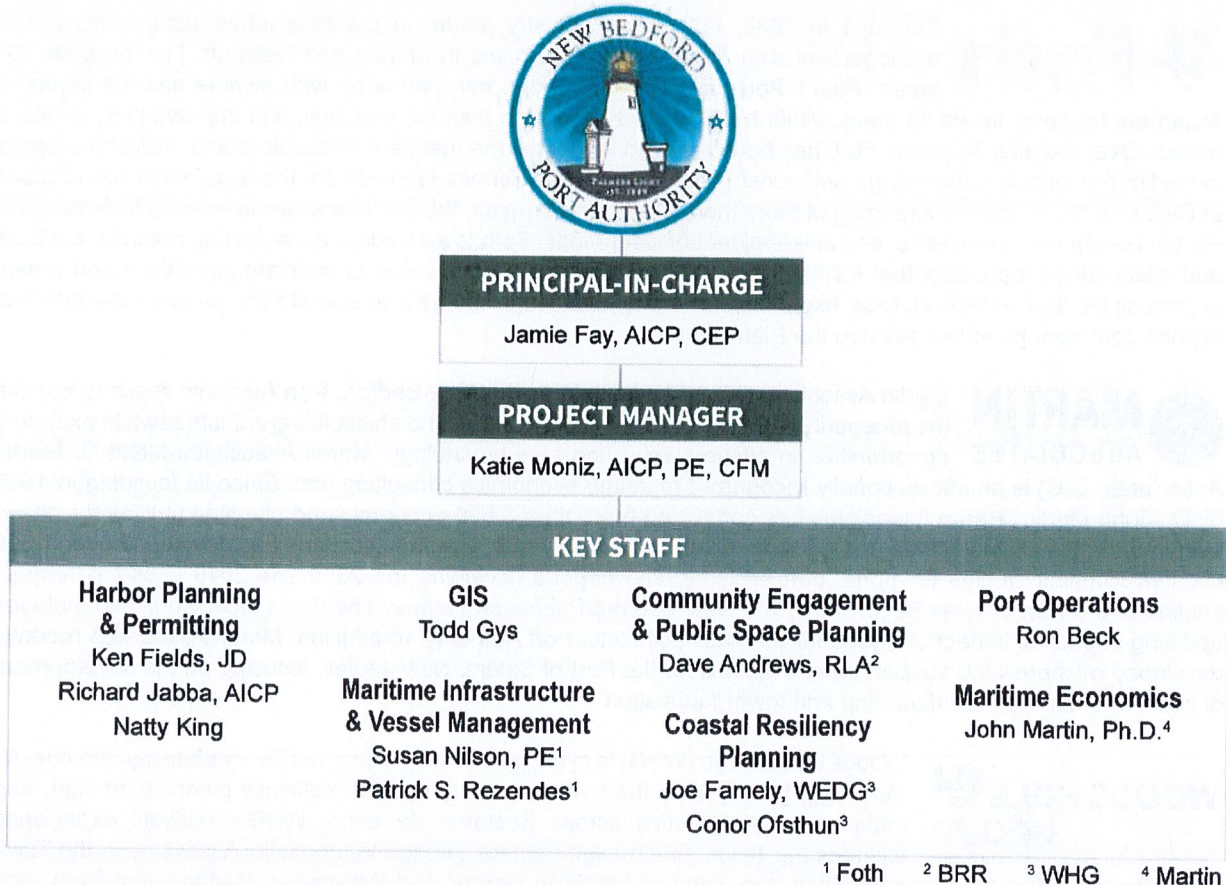


Woods Hole Group (WHG) is synonymous with expert resiliency planning and coastal modeling, having supported virtually every coastal resiliency planning, design, and implementation initiative across Boston's shoreline. WHG's relevant experience includes the Town of Fairhaven Climate Change Vulnerability Assessment, the Town of Mashpee Harbor Management Plan, the Town of Eastham Harbor and Waterways Management Plan, and two ongoing projects with the Town of Scituate: Comprehensive Dredging and Disposal for Scituate Harbor and Resilient Design for Flood Damage Reduction, Scituate Harbor. FPA has a long history of partnering with WHG, including on the Hyannis Harbor MVP Resilience Project, the City of Gloucester MHP/DPA Update, and the Lynn Waterfront Master Plan Revision/Waterfront Open Space Master Plan. We are currently teaming with WHG on the Island End River Flood Resilience Project in Everett and Chelsea, and the Dorchester Resilient Waterfront Project.

2.0 Credentials of Key Personnel

The FPA Team is excited to partner with the New Bedford Port Authority as it creates a new vision for the economic, environmental, and cultural future of the Harbor. We have assembled a highly qualified, committed, and responsive team that has the leadership, and depth and breadth of multidisciplinary skills, to more than match the demands of the project. We commit to providing the services required with great expertise and efficiency, and we are available immediately upon Notice to Proceed to ensure project completion within 18 months. Our team organizational chart is shown below, followed by bios of Key Staff. Resumes are provided in Appendix A.

Staff Organizational Chart



Jamie Fay, AICP, CEP – Principal-in-Charge. Jamie Fay is Founder and President of FPA, Boston's premiere urban waterfront planning and environmental permitting firm. For 40 years, he has served as the Lead Consultant for some of the most complex and high-profile projects in the state, including the \$2.5B Encore Boston Harbor Resort, the \$850M Boston Convention and Exhibition Center, and the \$14B Central Artery/Tunnel project. In addition to managing the 2010 New Bedford/Fairhaven Harbor Plan update, Mr. Fay has played a leadership role on the development and/or update of MHPs in Charlestown, Chelsea, Everett, Gloucester, Lynn, and Salem. He has also completed projects in all ten of the Commonwealth's DPAs, in support of wide-ranging water-dependent industrial uses, as well as manufacturing, processing, research, and production activities that require marine transportation. Mr. Fay is currently managing the permitting process for an offshore wind marshalling terminal development in Salem. This project requires the acquisition of all authorizations under MEPA and NEPA, MassDEP Chapter 91 Licensing, a MassDEP 401 Watery Quality Certification, and additional federal, state, and local permit reviews within an aggressive schedule. As Principal-in-Charge, Mr. Fay will dedicate the resources necessary to ensure completion of this project within 18 months.



Katie Moniz, PE, AICP, CFM – Project Manager. Katie Moniz is a Vice President at FPA with nearly 20 years of experience in civil and site land development. She has worked extensively on urban waterfront projects, moving them through the local, state, and federal regulatory approval process and performing critical infrastructure vulnerability analyses and adaptive site designs to improve their climate resilience. Ms. Moniz recently managed the team for the Hyannis Harbor MVP Resilience Plan, which included BRR and WHG, and resulted in the development of implementable actions to revitalize the harbor into an adaptive regional hub. She also managed the Island End River Flood Resilience project for the Cities of Chelsea and Everett, which included planning and permitting in the Mystic River DPA, as well as consensus building with private sector commercial and industrial property owners/operators, outreach to environmental justice (EJ) communities, and coordination with regulatory agencies. Her additional experience includes Resilient Dorchester and the Bass River District Resilience Plan in Beverly. Ms. Moniz's strong technical, project management, and stakeholder engagement skills will help ensure the success of this contract.



Ken Fields, JD – Harbor Permitting. Ken Fields has 30+ years of experience in waterfront planning and policy, with a focus on environmental and land use permitting for complex projects. Prior to joining FPA, Mr. Fields served as the Executive Secretary for the Boston Conservation Commission and as an Area Permit Manager for the Central Artery/Tunnel Project. He has provided planning and permitting services for numerous public agencies including the New Bedford Harbor Development Commission, Massport, CZM, MassDevelopment, DCR, and the communities of Salem, Gloucester, and Chelsea. He also led a Port and Infrastructure Analysis for Offshore Wind Development for the Massachusetts Technology Center/Massachusetts Clean Energy Center. Mr. Fields' experience in and around the Commonwealth's DPAs includes management of MEPA/Chapter 91/Wetland and Army Corps regulatory processes for the 2002 New Bedford State Pier dredge to deepen the navigation channel to allow for cruise ship port of calls.



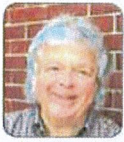
Richard Jabba, AICP – Harbor Planning & Permitting. Richard Jabba has more than 30 years of urban and waterfront planning experience, from MHPs to site-specific projects with development costs up to \$2.4B. His representative experience includes MHP and master development plans in Boston, Everett, Fall River, Gloucester, Quincy, and Salem, MA; Galilee, RI; and Hampton Beach, NH, which included coordinating a 30-member advisory committee and local and state agencies to create a 50-year vision for one of the state's largest tourist areas. Prior to joining FPA, Mr. Jabba developed community plans, master plans, and harbor plans for cities and towns across New England including the Fall River Harbor and Downtown Economic Development Plan that led to several state-funded highway and recreational projects, and the Winthrop Waterfront Assessment and Harbor Plan that led to the construction of a \$2.2M multi-use commercial pier. His current experience includes permitting for the development of an offshore wind marshalling terminal in Salem.



Susan Nilson, PE – Maritime Infrastructure/Vessel Management. Ms. Nilson is a Senior Vice President and Business Unit Leader for Environment Solutions at Foth. She has more than 25 years of experience on marine infrastructure, dredging, vessel management, and civil engineering projects, including the design, construction, and O&M of port and terminal facilities (commercial fishing, offshore wind, cargo, bulk materials, and recreational marine facilities). Over the last 16 years, Ms. Nilson has helped the NBPA realize its vision for the port. She has played a leadership role in the successful execution of numerous projects: the optimization of mooring fields; enhancements to recreational boating and rowing facilities at Pope's Island; the assessment and inspection of city-owned waterfront infrastructure, including resiliency assessments, pier repairs, and fendering; and the design and permitting for the reconstruction of Homer's and Leonard's Wharves and North Terminal II. Additionally, Foth is the engineering lead for critical initiatives such as the Confined Aquatic Disposal (CAD) Cell, North Terminal Expansion, and Phase V dredging. As Client Manager, Ms. Nilson supports Foth's engineering and permitting teams, develops and implements strategies, and actively engages with stakeholders on behalf of NBPA.



Dave Andrews, RLA – Community Engagement and Public Space Planning. Dave Andrews is a Principal/Landscape Architect at BRR with 20+ years of experience across a wide range of project types including waterfronts, master planning, public parks, urban design, streetscapes, and affordable housing. In addition to his expertise in developing climate resilience strategies for urban waterfront projects, Dave is an effective communicator, adept at translating complex project requirements to stakeholders. He recently managed a multi-year community engagement process for the Lynn Waterfront Open Space Master Plan. He also provided engagement services on the Lynn Harbor Park and Shoreline Restoration project and the Lynn Heritage State Park project, both of which involved meeting with stakeholders to define the preferred program of activities and site design. In addition, Dave played a key technical and engagement role on the Hyannis Harbor MVP Resilience Plan, the Gloucester MHP/DPA Update, and the Hyannis Harbor Master Plan. His local experience includes New Bedford's Riverwalk Feasibility Study Update.



John Martin, Ph.D. – Maritime Economics. Dr. John Martin, President of Martin Associates, has conducted more than 3,500 port economic, market, and planning studies over the past 50 years. The Economic Impact Methodology he developed in 1980 is the industry standard for articulating the economic impacts of seaports and maritime real estate activity in the United States. Dr. Martin served as Principal-in-Charge of the 2015 and 2019 Economic Impact Studies of the Port of New Bedford and the New Bedford/Fairhaven Harbor. His additional experience on the Atlantic Coast includes economic impact studies for the Ports of Baltimore, Boston, Miami, New York, Palm Beach, Providence, and Jacksonville. He is currently updating economic impact studies at the regional and state level for numerous public agencies, including Massport. In addition, Dr. Martin directed the strategic development plan for the Port of Lake Charles in Louisiana, which included the development of additional lay-down areas to support on-shore wind farm development.



Ron Beck – Port Operations. Ron Beck is a Senior Consultant at Tetra Tech with 30+ years of experience in maritime operations and the offshore energy sector. He is an expert in navigational safety risk assessments and the impacts of wind farms on marine navigation. Prior to joining Tetra Tech, Mr. Beck served as a Coast Guard officer and then as a civilian member of the First Coast Guard District where he was the Chief of the Maritime Energy Branch. He was also a member of the Coast Guard's Atlantic Coast Port Access Route Study team which developed potential routing measures for vessel traffic near offshore wind farms. In 2017, Mr. Beck represented the Mass Maritime Offshore Wind Workforce Development Team in the multi-agency reconciliation of regulations and other guidance for offshore wind. In 2018, he provided subject matter expertise on the impacts of Bay State Wind and other offshore projects on commercial fishing, as part of the New Bedford Fisheries Advisory Panel. More recently, Mr. Beck managed the development of a Navigational Safety Risk Assessment for the Ørsted Bay State Offshore Wind Farm. He also provided installation services for AIS data acquisition aboard three research vessels at the New Bedford Marine Commerce Terminal.



Joe Famely, WEDG — Coastal Resiliency Planning. Joe Famely is WHG's Climate and Sustainability Lead with more than 20 years of experience in Environmental Science and Climate Planning. He is an expert in the assessment of climate change vulnerability and risk for infrastructure and natural resources, and the development of adaptation and resiliency plans. Mr. Famely recently worked alongside FPA on the Hyannis Harbor MVP Resilience Plan, leading the development of a site-specific coastal vulnerability assessment for town-owned and private assets, the derivation of harbor specific design flood elevations for future sea level rise and coastal storms, and the generation of adaptation and resilience recommendations and concept plans. He also managed Municipal Coastal Vulnerability Assessments and Adaptation Plans for Duxbury, Edgartown, Sandwich, and "Resilient Woods Hole," an assessment of the vulnerability of infrastructure to the impacts of sea level rise and storm surge at Woods Hole Oceanographic Institution, the Marine Biological Laboratory, and the NOAA Northeast Fisheries Science Center. Mr. Famely's additional experience includes serving as Senior Resiliency Specialist on the Feasibility of Harbor-wide Barrier Systems: A Preliminary Analysis for Boston Harbor.



Todd Gys – GIS. Todd Gys is a Senior GIS Analyst/GIS Coordinator at Tetra Tech with more than 20 years of experience in GIS project management and technical review; Geodatabase design; GIS data conversion, development, migration, and integration; GIS scripting and automation; and GIS/GPS deployment. He is an expert in GIS projects involving energy planning/siting, utility systems, asset management, and constraint/impact analysis. Prior to joining Tetra Tech, Mr. Gys served as an in-house GIS Data Manager for the City of Chelsea. His recent experience includes on- and off-shore mapping for proposed wind and transmission projects along the East Coast. He is also providing on-call GIS services to support Municipal Separate Storm Sewer System (MS4) Compliance for the City of Beverly.



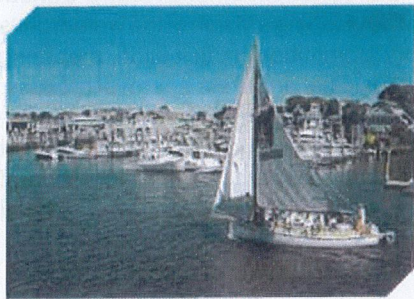
Natty King – Planning & Permitting Support/GIS. Natty King is an Environmental/Urban Planner at FPA who supports public infrastructure, coastal resilience, and waterfront real estate projects. His primary duties include conducting regulatory analyses on environmental and land use controls applicable to waterfront sites, participating in community/stakeholder engagement, and supporting MEPA, Chapter 91, Wetlands Protection Act, and 401 Water Quality Certification permit applications. He has provided planning and permitting services for multiple projects within DPAs including the ongoing Island End River Flood Resilience project in Chelsea and Everett. His additional experience includes the Salem Offshore Wind Terminal, Resilient Dorchester, and the Harborview project within the historic Charlestown Navy Yard. Prior to joining FPA, Mr. King supported Massport's planning for a Resilient Harborwalk across Massport's landholdings on the South Boston Waterfront. Interestingly, Mr. King's Master's thesis analyzed the Port of New Bedford, focusing on the importance of municipal harbor planning.

3.0 Qualifying Projects

Comprehensive Harbor Planning

The FPA Team is the right partner to help the New Bedford Port Authority set its vision and port development objectives for the next 5-10 years. Our work has helped coastal communities sustain traditional industries and historic assets while capturing new opportunities in tourism, recreational use, marine science, maritime technology, blue technology, and offshore wind.

In addition to our experience managing the 2010 New Bedford/Fairhaven MHP, we have shepherded numerous harbor plans through the visioning and approval process in a timely and cost-effective manner.



Hyannis Harbor MVP Resilience Plan

Almost every member of our team—FPA/Tetra Tech, Foth, BRR, and WHG—crossed paths on the Hyannis Harbor MVP Resilience Plan. FPA/Tetra Tech, BRR and WHG worked together to help the Town of Barnstable develop an integrated land use, infrastructure, and public space strategy for the Harbor District study area. FPA led the team throughout the duration of the project, which was completed on schedule, and included: grant work; a site-specific coastal vulnerability assessment for town-owned and private assets; development of conceptual flood resilience strategies; initial land use recommendations; preliminary zoning and design guidelines; initial

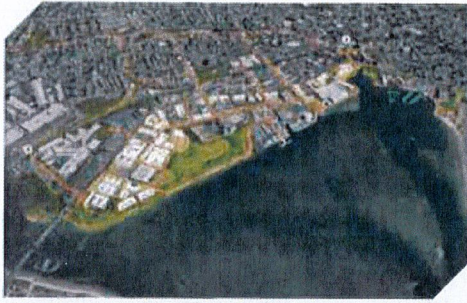
economic development recommendations; and community engagement and outreach. The MVP Resilience Plan provides targeted recommendations for regulations and specific implementation actions aimed at revitalizing the harbor into an adaptive and resilient regional hub, including recommendations for the renovation of two important waterfront parks and other open spaces, a comprehensive wayfinding strategy, a new continuous Harbor Walk, new gateways, and improved waterfront amenities. The FPA/Tetra Tech team successfully coordinated this project with several others in the area, including Foth's Hyannis Inner Harbor Improvements.



New Bedford/Fairhaven MHP

FPA provided comprehensive harbor planning services for the 2010 New Bedford/Fairhaven MHP Update. Our firm led a team of planners, engineers, and economists to prepare the plan for approval, including responsibility for the following tasks: developing a vision of the port's future; facilitating stakeholder interviews and a series of public meetings; providing guidance for port development and management; incorporating technical regulatory issues related to Chapter 91 and DPAs; drafting a new plan; and stewarding the Plan through the municipal and state approval processes. The Harbor

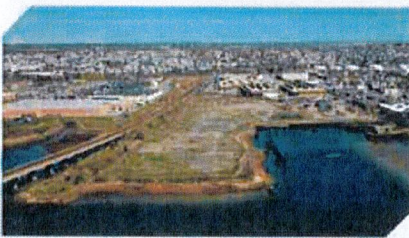
Plan was approved by the Secretary of Energy and Environmental Affairs in 2010, has served its purpose, and now needs to be reconsidered in the light of new circumstances. FPA's history with the Harbor Plan—our detailed knowledge of the over-riding principles that shaped it and the day-to-day dynamics of the local area—positions us well to help re-envision it with the community. This continuity will also ensure the greatest value and efficiency.



Lynn Waterfront Master Plan Revision and MHP Update

As a subconsultant, Tetra Tech provided waterfront resilience planning, traffic/transportation infrastructure assessment, environmental/hazardous material analysis, and civil engineering for the Lynn Waterfront Master Plan and MHP Update. The purpose of the revision is to promote economic opportunities, improve connections, remediate and develop underutilized areas, create buffers for conflicting uses, and create a vision for a revitalization. Our work included: identifying infrastructure funding sources to guide implementation of the Master Plan; participating in steering committee and stakeholder meetings to

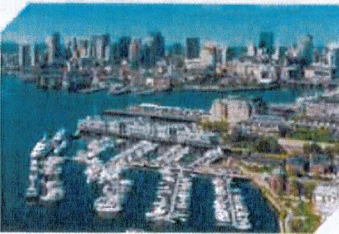
study options to mitigate flood risks; and assessing climate and flooding impacts and strategies to address flood pathways. WHG was a partner on this project, and our team incorporated BRR's recommendations from the Lynn Waterfront Open Space Master Plan into this MHP update.



Everett Central Waterfront MHP

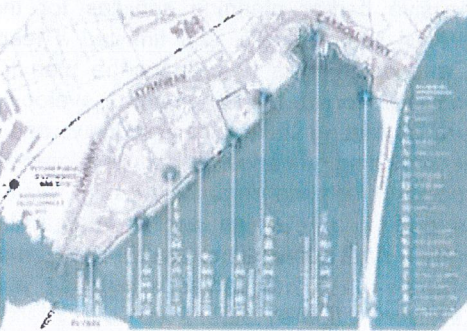
FPA provided planning services for the development of Everett's Central Waterfront MHP. The project included developing a vision of the waterfront's future, facilitating public and Advisory Committee participation, preparing the MHP, and guiding it through the municipal and state approval process. Through modifications to the use and dimensional standards of Chapter 91, the MHP will accommodate new private development that will reconnect the City to the Mystic River and set high standards for the activation of

portions of the central waterfront that for decades have been inaccessible, underutilized, and/or have provided limited public amenities.



Charlestown MHP Amendment

FPA was retained to prepare a MHP amendment for the Charlestown Waterfront, which included the historic Charlestown Navy Yard. The amendment provided a management plan for the integration of water dependent and non-water dependent uses along the waterfront. The primary goal of the amendment was to promote and protect water dependent uses while providing a more hospitable environment for private redevelopment projects with public benefits to move forward in the area.



Lynn Waterfront Open Space Master Plan

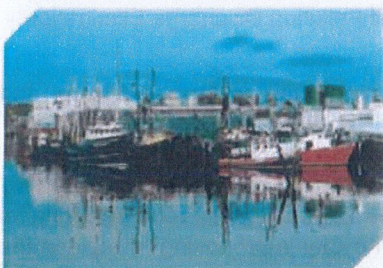
BRR prepared a Waterfront Open Space Master Plan for the City of Lynn's 305-acre waterfront. A series of priority projects emerged from this Master Plan, including DCR's Lynn Heritage State Park, DCR's Willis Fishing Pier, and the 30-acre Lynn Harbor Park, which have become major catalysts for the regeneration of Lynn's waterfront. Under BRR's leadership, the design team carefully researched each parcel in the waterfront zone, including the regulatory boundaries and impacts, potential future public and private development plans, and projected climate resiliency vulnerabilities, to develop a framework for possible new open spaces, destinations, and a continuous

public promenade through the waterfront zone. BRR successfully identified a new location for a signature public waterfront park, prepared design guidelines for all future waterfront projects, and established design goals that seek to ensure the waterfront is welcoming and connected to Lynn's downtown.

Pertinent Regulations

The FPA Team has significant experience working in all ten of Massachusetts' Designated Port Areas (DPAs) with public, private, and institutional clients. We know how to build consensus among diverse stakeholders and move projects and Master Plans through the review and approval process.

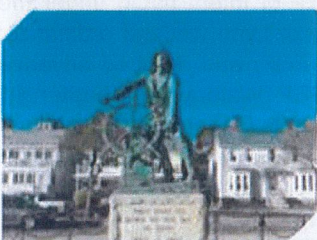
Our team is prepared to help the New Bedford Port Authority produce a DPA Master Plan that fully complies with MHP regulations (301 CMR 23.00), Chapter 91 regulations, federal consistency laws, the City of New Bedford and Town of Fairhaven's local zoning requirements, and other pertinent regulations. The plan will be a tool to facilitate the permitting of projects planned for the DPA and to assist planners, DPA property owners, and waterfront businesses in addressing future opportunities.



Commonwealth DPA Study

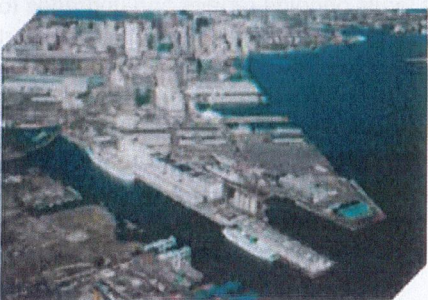
FPA was retained by the Massachusetts Development Finance Agency to develop an inventory of infrastructure needs for privately owned properties in all ten of the Commonwealth's DPAs. The project involved an outreach program to develop information and contacts, which included meetings with elected officials, port directors, planning departments, state agencies, port operators, private landowners, and waterfront businesses. FPA provided a Technical Report that assessed the cost associated with maintenance and desired improvements for specific private properties. The report gave

MassDevelopment a tool to assist the State legislature in establishing a DPA Fund in order to make loans for the design, construction, repair, renovation, rehabilitation, or other capital improvement of commercial and marine industrial infrastructure and commercial and public marine transportation infrastructure in DPAs.



Gloucester MHP/DPA Update

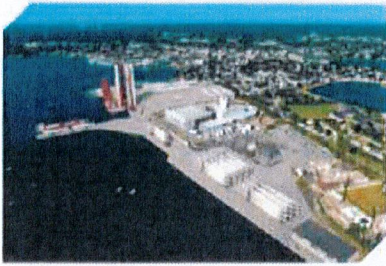
Tetra Tech and WHG are key subconsultants on the 2024 update of the City of Gloucester's MHP/DPA Master Plan. The scope of work includes revisiting and adjusting the course of the MHP to allow the City more flexibility in preserving, adapting, and growing existing and new uses for the next ten years and beyond. Our services include waterfront resilience planning, and assessments of water/wastewater infrastructure, transportation/access, and the water's edge, pier/pile conditions, and berthing. The team is also providing public involvement, environmental review, and regulatory permitting support for the MHP and DPA Plan Updates.



Raymond L. Flynn Marine Park Master Plan

FPA was retained by the Boston Redevelopment Authority (BRA, now BPDA) and the Economic Development and Industrial Corporation (EDIC) to prepare the first Master Plan for the 200-acre marine industrial park in South Boston, MA. Our firm evaluated historic and current uses within the South Boston DPA, assessed short- and long-term potential uses for the area, addressed the consistency of the proposed land uses in terms of regulatory criteria for DPA uses, and made recommendations to the BRA concerning future land uses within the park. Additionally, FPA supported public outreach efforts with various interest groups, produced

informational materials for distribution, presented a proposed DPA Master Plan, coordinated with regulatory agencies, and obtained an innovative Chapter 91 Master License that provided for pre-approval of most projects. We continue to secure state permits for the sustainable redevelopment of several RLFMP parcels, including recent work with tenants at Parcel O and Parcel P.

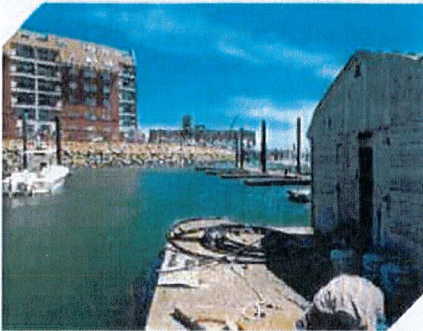


Salem Wind Port Permitting

FPA is providing permitting services for the development of an offshore wind marshalling terminal in Salem. This facility is being built out by Crowley, on land owned by MACEC, to support Avengrid's offshore wind farms south of Martha's Vineyard. Our team is conducting the environmental studies and obtaining the necessary authorizations for the development of a new heavy-lift deployment terminal for offshore wind marshalling operations for both currently proposed fixed-bottom and future floating offshore wind platforms. FPA is responsible for securing the following regulatory approvals:

- Massachusetts Environmental Policy Act (MEPA)
- MassDEP Chapter 91 Licensing
- MassDEP 40 Water Quality Certification
- Massachusetts Office of Coastal Zone Management (CZM) Federal Consistency Review
- Salem Conservation Commission
- Salem Planning Board and Zoning Board of Appeals
- Federal Aviation Administration
- U.S. Army Corps of Engineers Section 10/404/103
- National Environment Policy Act (NEPA)
- U.S. EPA National Pollution Discharge Elimination System

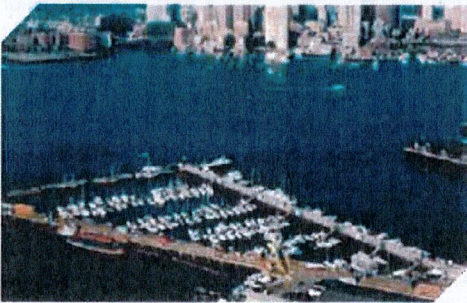
FPA is utilizing a streamlined permit acquisition strategy to move the project through design, permitting, and construction within an aggressive schedule.



Lynn Marina Permitting

FPA is providing consulting services related to the reconstruction of floating docks at the Lynn Marina. The City is proposing to replace the existing pile-supported docks for small boats within the northern portion of the marina, remove existing remnant piles, and install a pile-supported linear pier and ramps in the western portion of the marina in front of the boardwalk. FPA is providing permitting services including the preparation of a Lynn Conservation Commission Notice of Intent (NOI) under the state Wetlands Protection Act and the City of Lynn wetland ordinance; a MEPA Environmental Notification Form (ENF) and required advance notification to EJ communities; a MassDEP Waterways Chapter 91

License amendment; and filing with the ACOE for authorization under the Massachusetts General Permit through a Pre-Construction Notification (PCN).



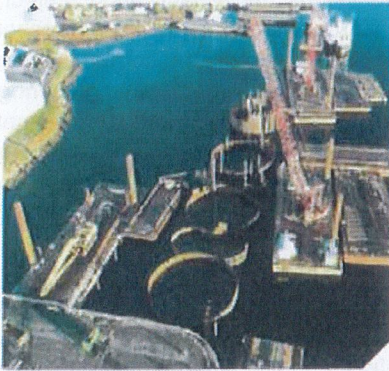
Boston Harbor Shipyard Permitting

Portside Shipyard Developers LLC, the manager of the Boston Harbor Shipyard, which is owned by Massport, retained FPA to obtain environmental permits for its ongoing repairs and upgrades to the shipyard infrastructure in order to continue its uses and support other businesses within the site. Over the past 10+ years, FPA has obtained approvals from local, state, and federal agencies to repair docks, bulkheads, piers, outfalls, and a relieving platform. These approvals have allowed for substantial investments, totaling over \$5.6 million, to be made at the shipyard. FPA has also ensured the

shipyard complies with state and federal stormwater requirements by updating the approvals as uses change.

Maritime Infrastructure and Vessel Management

Over the past 16 years, Foth has helped the NBPA realize its vision for the Port. This local experience and site knowledge will accelerate the project schedule and provide cost savings as we develop the Harbor Plan Update.



Confined Aquatic Disposal (CAD) Cell No. 4, North Terminal Expansion, and Phase V Dredging

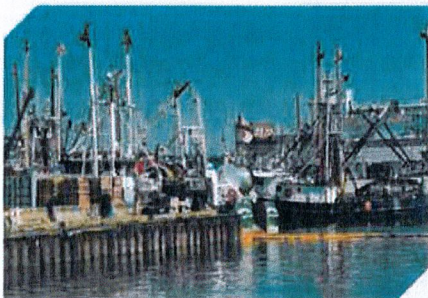
In 2018, the New Bedford Port Authority engaged Foth to undertake three major initiatives: design and construction of CAD Cell No. 4; design and construction of a North Terminal extension, and Phase V dredging.

- **CAD Cell No. 4** – The first phase was the design and construction of a fourth CAD cell, with disposal capacity for approximately 500,000 cubic yards of contaminated dredged sediment. Foth provided project management, contractor coordination, bathymetric surveys, water quality monitoring, design, and construction services. Siting the new CAD cell required extensive stakeholder engagement and careful consideration of geotechnical, environmental, logistical, and operational factors.
- **North Terminal Expansion** – Foth is the Design Engineer for the extension of the North Terminal, including the creation of 6.5 acres of marine industrial space from beneficial reuse material generated from the construction of CAD Cell No. 4. The project includes construction of a cellular cofferdam bulkhead and associated dredging of material within the cells, construction of a pile-supported concrete deck, and backfill and compaction of the cofferdam footprint and site infield area to create new upland terminal area. Foth assessed potential vessel management plans so that basis of design for the terminal berths allows flexibility for users including commercial fishing, offshore wind, and other maritime activities.
- **Phase V Dredging** – Foth is responsible for dredging more than 34 sites which will clean approximately 275,000 cubic yards and 2.6 million square feet throughout the Harbor and maintain, restore, and activate the shoreline for maritime uses. This work is optimizing the environmental cleanup, providing navigable access throughout the Harbor, and unlocking millions in public and private infrastructure investment.



Union Wharf Bulkhead and Waterfront Improvements

In 2009, the Town of Fairhaven selected Foth to design a replacement bulkhead system and facility upgrades for Union Wharf. Building from an understanding of the Town's vessel management, operational, and usage goals for the site, Foth developed an alternatives analysis detailing options for the 830 linear feet of bulkhead replacement surrounding one of the oldest solid filled wharfs in the country. Foth evaluated various alternatives based on geotechnical data, loading conditions, and proposed future dredge depths. The Town selected an anchored steel sheet piling system in front of the existing bulkhead face/stone seawall, with a mix of steel and timber fender piles, depending on the designated use of the space and vessel berthing requirements. Foth managed design and construction, which included approximately 500' of the bulkhead replacement totaling approximately \$4.5 million. Foth also developed plans for a 3,300-square-foot pile supported concrete platform and a public safety marina floating dock system to house harbormaster, fire, and police department response vessels. Foth continues to work with the Town, providing engineering design, bid, and construction phase services for a sheet pile bulkhead replacement along the north side of Union Wharf.



Homer's Wharf Inspection and Improvements

Foth is currently advancing the design, engineering, and permitting of Homer's Wharf. The wharf's approximately 1,300 linear feet of bulkhead will be rebuilt to accommodate the improved berthing and loading needs of the commercial fishing industry. The deck will be elevated by two feet to provide resilience against sea level rise. Foth collaborated with the NBPA to engage stakeholders impacted by the rehabilitation project, gathering input on their envisioned future uses for the site and vessel berths. A thorough understanding of existing conditions combined with the Basis of Design allows Foth's team to develop detailed engineering

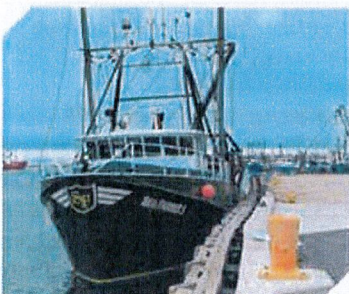
plans for wharf replacement including an appropriate anchoring system, as well as site improvements, and vessel berths. Foth will develop an estimate of probable costs as the design develops. Foth will also lead permitting through the State Enhanced Remedy (SER) process, developing a Work Plan for the wharf rehabilitation to allow the project to advance to construction.



Leonard's Wharf Extension

The NBPA contracted Foth to advance the design, engineering, and permitting through the project bid phase and award of the construction contract. Leonard's Wharf will be extended by approximately 150 feet, and 950 linear feet of bulkhead will be rebuilt (over-sheeted) to accommodate increased berthing and loading needs. The deck of the wharf will be elevated by two feet to provide resilience against sea level rise due to climate change over its expected service life and to increase loading capacity. These improvements will provide useful access to the

port for offshore wind installation, operations and maintenance vessels, along with much-needed berthing space for commercial fishing vessels. The planned increase in its load capacity will also meet offshore wind industry standards and include shore-side electric power to eliminate the need for vessels to run diesel-powered electric generators while berthed, reducing greenhouse gas and particulate emissions.



New Bedford State Pier North Wharf

Foth is currently working with the MDFA, in cooperation with the DCR, to remove and reconstruct the approximately 550-foot-long North Wharf. Work will include the removal of the existing structure, strategic replacement of portions of the North Wharf to maximize operational benefits, installation of fendering to accommodate new berthing areas, and enhancement of structural support for the foundation of the adjacent warehouse. The project will also include navigational dredging of the berthing areas and a reconfiguration of the access routes on and off the ferry loading platform. To date, Foth has developed detailed structural designs and is proceeding with permitting of the proposed improvements with

regulatory agencies. Foth will also provide bid phase and construction phase services to transform the North Wharf from its current condition to a reconstructed and purpose-built facility.



Hyannis Inner Harbor Improvements

The Town of Barnstable retained Foth to perform master planning, surveying, geotechnical and sediment investigations, engineering design for both waterfront infrastructure and dredging, environmental permitting, and public outreach for improvements within Hyannis Inner Harbor at the Bismore Park, Gateway Marina, and Pleasant Street waterfront facilities. The project sites are owned and managed by the Town and include the local Harbormaster & Visitor Center building, fixed piers which support the local commercial charter and fishing community, a 27-slip public marina, over 850 linear feet of bulkhead extending along the shoreline,

and green space that is available for recreation, seasonal artist shanties, and underutilized waterfront parcels. Foth successfully coordinated this project with several others in the area, including the Hyannis Harbor MVP Resilience Plan with FPA, BRR and WHG.

Resiliency Planning

The future of the Port hinges on coastal resiliency planning that is aligned with the New Bedford and Fairhaven Municipal Vulnerability Plans.

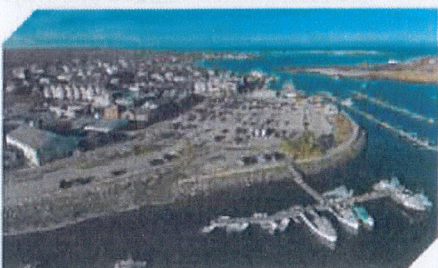
Our team's local experience and Resiliency Planning expertise will enable us to review existing plans and initiatives from both communities and articulate how to coordinate and improve the Harbor's ability to respond to a changing climate.



Fairhaven MVP Climate Change Vulnerability Assessment

WHG supported the Town of Fairhaven in conducting a FY23 MVP Action Grant-funded Climate Change Vulnerability Assessment. The firm prepared a vulnerability and risk assessment of municipal infrastructure and natural resources to begin planning and adapting to present and future coastal hazards. MC-FRM projections from Present Day, 2030, 2050, and 2070 were used to assess the vulnerability and total risks from storm surge impacts to Town infrastructure and roadways. Outside of the New Bedford Hurricane Barrier, flood extent is greatest, threatening residents

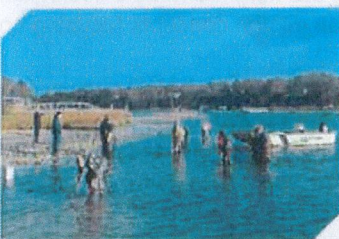
and emergency access, while also encroaching on portions of developed commercial areas adjacent to Route 6. Inside the Hurricane Barrier, flooding of the commercial and industrial waterfront (e.g., Union Wharf) is anticipated with limited flood extent, but significant potential economic impact.



Dredging and Disposal for Scituate Harbor & Resilient Design for Flood Damage Reduction

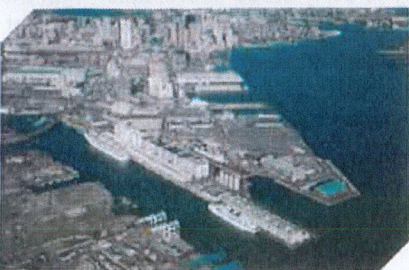
WHG is supporting two projects to improve Scituate Harbor: (1) Acquisition of a Comprehensive Dredging and Disposal Permit; and (2) Resilient Design for Flood Damage Reduction. For the dredging work, WHG developed a Sampling and Analysis Plan (SAP) and presented it to the ACOE for approval. Implementation of the SAP is ongoing. WHG also prepared preliminary engineering design for dredging of four priority sites and assessed feasibility and disposal alternatives. In

addition, WHG is providing planning, analyses, and preliminary engineering for waterfront redevelopment at Cole Parkway, a public park, marina, boat launch, and home to Coast Guard facilities. WHG evaluated flood risk and developed design flood elevations across present day, 2030, 2050, and 2070 time horizons.



Mashpee Harbor Management Plan

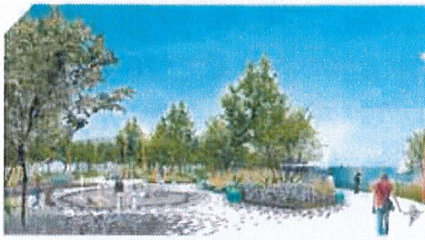
WHG, in collaboration with the Urban Harbors Institute, supported the Town of Mashpee in planning and development towards a State-Approved Harbor Management Plan. The plan takes into consideration the Town's needs across economic, environmental, recreational, and resilience categories, among others. WHG provided analyses and recommendations regarding dredging, water quality, shellfish resources, sea level rise, salt marsh migration, and flood mitigating resiliency measures.



Raymond L. Flynn Marine Park Master Plan Update

WHG is a key player on the Coastal Resiliency Design Team for the RLFMP Master Plan Update. The project aims to develop an implementable, stakeholder-supported flood mitigation solution for the RLFMP that can protect against current and future coastal flooding and sea-level rise while also supporting marine industrial uses and ship-to-shore transfer of goods. WHG conducted risk and vulnerability assessments and contributed to the analysis of district-scale coastal resilience strategies and alignments. Throughout this process, WHG has been working closely with stakeholders

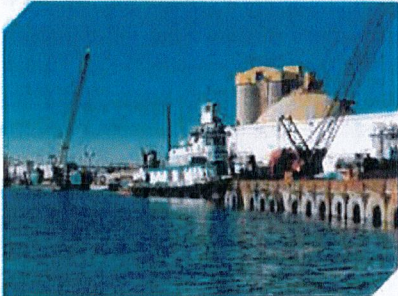
including Massport, marine-dependent businesses, the RLFMP Business Association, and tenants.



Lynn Heritage State Park Design Project

After learning about the community's resiliency goals during the Lynn Waterfront Open Space Master Plan public process, BRR redesigned Heritage State Park. The proposed redesign includes: a large splash pad, flexible public plaza with a performance area, a waterside overlook, improved vehicular access, sixty new trees, a waterfront promenade, and a large lawn for passive recreation. It also includes repairs to the seawall and the boardwalk to improve access and provide ample seating

and picnicking areas at the southern end of the park. Foth and WHG supported BRR on this project, which is scheduled to be put out to bid this year.



Island End River Flood Resilience Project

FPA/Tetra Tech serves as Prime Consultant for the Island End River (IER) Flood Resilience Project, with WHG as a key subconsultant. We are collaborating extensively with the Cities of Chelsea and Everett to pursue climate resilience planning goals and master permitting for projects focused on the IER corridor, with responsibility for: state and federal grant writing; planning and permitting; due diligence; storm surge barrier design in Everett; and stakeholder engagement. The goal of the project is to evaluate current and future flood risks and identify short- and long-term plans for resiliency in the area, which is a major hub of commercial, industrial, and regional

infrastructure, and also home to Chelsea residents including EJ communities. The inundation and flood pathways include the Mystic River DPA.



Coastal Resilient Solutions for Dorchester and Resilient Dorchester

As a subconsultant, Tetra Tech supported the development of a resilience plan to protect water/wastewater and transportation infrastructure in Dorchester against coastal flooding, including: providing conceptual design and engineering strategies; conducting a cost-benefit analysis; and providing an environmental review and regulatory permitting evaluation. The team, which included WHG, prepared a robust analysis of coastal

flooding, identified pathways and time horizons, and used this to evaluate the impacts of coastal flooding on homes, businesses, infrastructure, key transportation routes, transit corridors, and the neighborhood's ecological and open space systems. In 2023, the team was awarded a new contract to develop design concepts focusing on the flood pathways at Tennean Beach and Victory Park.

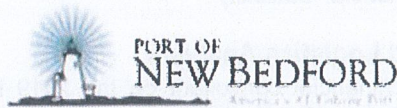


Lynn Shoreline Restoration

BRR is Prime Consultant for the preparation of preliminary shoreline restoration plans for the Lynn Harbor Park's waterfront zone. Proposed coastal infrastructure upgrades include raising the elevation of the coastal edge and introducing bioswales and bio-retention basins to mitigate storm surges and flooding. BRR's work includes early-stage coordination with the CZM and MassDEP. Foth is working with BRR on this important project, which will help preserve important destinations, such as Lynn Harbor Park, for generations to come.

Maritime Economics

Martin Associates developed the 2015 and 2019 Economic Impact Studies of the Port of New Bedford and the New Bedford/Fairhaven Harbor. The firm's firsthand knowledge of the Study Area and unmatched expertise in maritime economics will be invaluable as the NBPA seeks to sustain the prosperity of traditional industries and examine potential economic development opportunities.

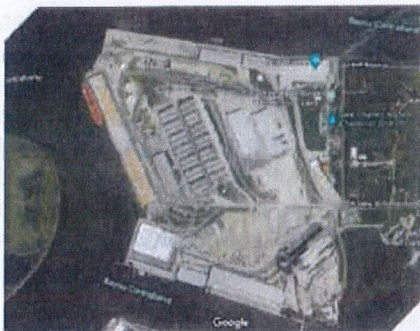


Economic Impact Study of the New Bedford/Fairhaven Harbor

Examining the Economic Impact of the Port of New Bedford and Phase V & Navigational Dredging in the New Bedford/Fairhaven Harbor

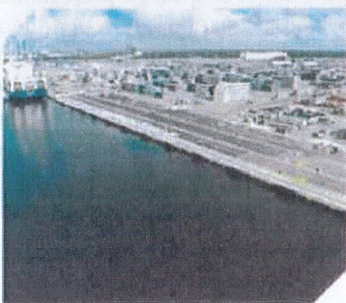
New Bedford/Fairhaven Harbor Economic Impact Study

Martin Associates developed the 2015 and 2019 Economic Impact Studies of the Port of New Bedford and the New Bedford/Fairhaven Harbor. These studies, which quantified the jobs, income, revenue, and tax impacts of cargo, commercial fishing, marina activity, and ship and boatbuilding operations in the harbor, were based on detailed interviews with the more than 150 firms in the Port of New Bedford's Port Services Directory. As part of the project, Martin Associates developed detailed economic impact models to assess the baseline impacts of the various cargo, fishing/processing, marina, and ship/boatbuilding and repair operations. The models were also used to estimate the economic impact of channel deepening and maintenance.



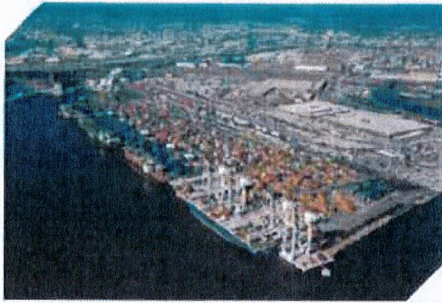
Port of Lake Charles Strategic Development Plan

Martin Associates directed the strategic development plan for the Port of Lake Charles in Louisiana, the nation's 10th-busiest port district and the No. 1 LNG export area of the world. The plan included improving aged wharf infrastructure, rebuilding clear span warehouses to handle new break bulk opportunities, developing additional lay-down area for blades, nacelles, and towers to support on-shore wind farm development, improving in-terminal circulation, and strategies to improve rail service to handle the growing wind energy component markets served by the Port. Martin also completed an economic impact analysis of the Calcasieu Ship Channel which supports maintenance dredging operations.



JAXPORT, Strategic Business Planning

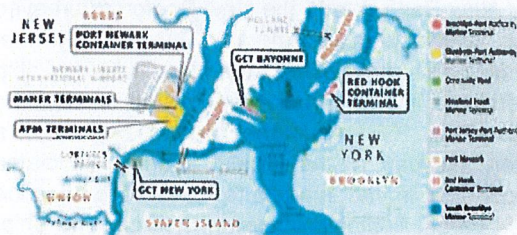
Martin Associates has provided continual planning and economic services to the Port of Jacksonville for nearly 25 years. The firm recently directed the Port's Strategic Plan Update, which included a review of the financial performance of all three terminals and their tenants: Blount Island (754 acres), Dames Point (585 acres) and Talleyrand (251 acres). The update included terminal-specific demand and capacity analyses, the development of key strategic goals and strategies, economic impact analyses, and benefit-cost analyses of navigational projects. Other projects have included a benefits analysis of deepening the shipping channel and an accelerated dredging financing plan.



Maryland Port Authority Strategic Business Planning

Martin Associates has provided the Maryland Port Authority with market studies, terminal feasibility studies, lease and financial analyses, and economic impact services for the Port of Baltimore under multiple contracts. With a 50-foot shipping berth and a 50-foot container berth, the Port is the nation's largest for specialized cargo and passenger facilities. Martin's work has included a port-wide development study that considered the theoretical physical capacity of each terminal under the most state-of-the-art technologies available and under development, the required maintenance dredging and disposal capacity to operate

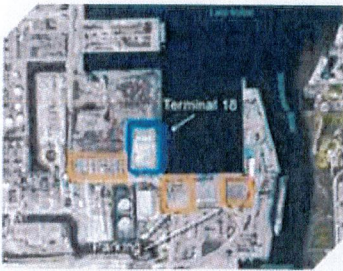
for the next 50 years, and the potential reconfiguration of the port to maximize existing and planned terminal utilization. Scenarios were evaluated in terms of economic impact and financial feasibility.



Market Analysis and Logistics Analysis

As the lead economic/financial consultant on the 2019 Port of New York/New Jersey Master Plan, Martin Associates developed a detailed competitive logistics analysis of the Port's container, auto, and bulk terminals by trade lane. Key ports included in the competitive intermodal analysis included Los Angeles/Long Beach, Norfolk, Halifax and Montreal, Baltimore and Philadelphia. Detailed financial models were developed for

each terminal, and revenue projections were developed based on market forecasts. Martin Associates provides ongoing support for terminal lease negotiations.



PortMiami On-Call Cargo Marketing and Economic/Logistics Studies

Martin Associates provides on-call planning, economic, marketing, and logistics services to PortMiami, the largest passenger port in the world and one of the largest cargo ports in the United States. Work includes the analysis of cargo flows to and from Florida currently moving via non-Florida ports; the development of total logistic costs of using Miami via other ports; the development of targeted marketing strategies to Beneficial Cargo Owners, carriers and distribution centers; the economic impact of channel deepening; and MEGA grant application benefit/cost analyses.



Port Everglades Master Plan

Martin Associates developed the cargo market and cargo projections analysis for the 2019 Port Everglades Master Plan and is now updating the plan. The firm developed cargo projections and the potential impact of these operations on in-terminal traffic circulation, berth capacity, and utilization. The market analysis results and projections were used to develop future facility investment plans and infrastructure improvements. Martin Associates provides ongoing economic impact support and has just been selected for another 5-year economic and planning contract with the Port.

Community Engagement

The FPA Team can help the New Bedford Port Authority create a consensus-driven Renewal Plan without compromising its integrity or its acceptability by the EOEEA.

The success of this project will require a great deal of coordination between many different interest groups, agencies, and projects. That is why we have assembled a team with tremendous technical and coordination skills, honed on similar Scopes of Work.

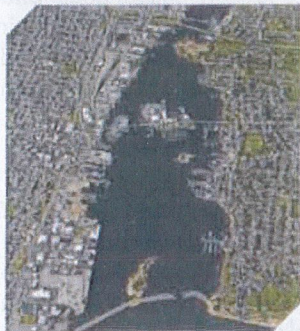
Engagement Methods

Our methods of engagement are tailored to the needs of each specific project. Though they vary in size and style, all of our engagement efforts have one objective—to welcome and incorporate the input and priorities of diverse stakeholders who share an interest in the success of the project, be they local residents, neighborhood organizations, businesses, non-profits, property owners/operators, or local, state, and federal agencies.

Effective engagement methods (in-person, virtual, or hybrid) can include:

- Public meetings/
- Presentation graphics
- On-line mapping tools
- Workshops
- Project websites
- Site walks
- 3D Video
- Stakeholder Interviews
- Dashboards
- Surveys
- Translation services

We anticipate partnering with CCCS to provide translation services for Cape Verdean Kriolu, Portuguese & Spanish. CCCS has supported municipal projects in New Bedford, including work with Foth.



New Bedford/Fairhaven MHP

FPA provided comprehensive harbor planning services for the renewal of the 2002 New Bedford/Fairhaven MHP. Our work included facilitating stakeholder interviews and a series of public meetings to help developing a shared vision of the port's future.

New Bedford/Fairhaven Harbor Economic Impact Study

Martin Associates' 2015 and 2019 Economic Impact Studies of the Port of New Bedford and the New Bedford/Fairhaven Harbor, were based on interviews with more than 150 firms in the Port of New Bedford's Port Services Directory. These interviews helped quantify the jobs, income, revenue, and tax impacts of cargo, commercial fishing, marina activity, and ship and boatbuilding operations in the harbor.



FPA coordinated a boat tour of the Study Area with members of the Community Advisory Group for the IER project in Chelsea and Everett.

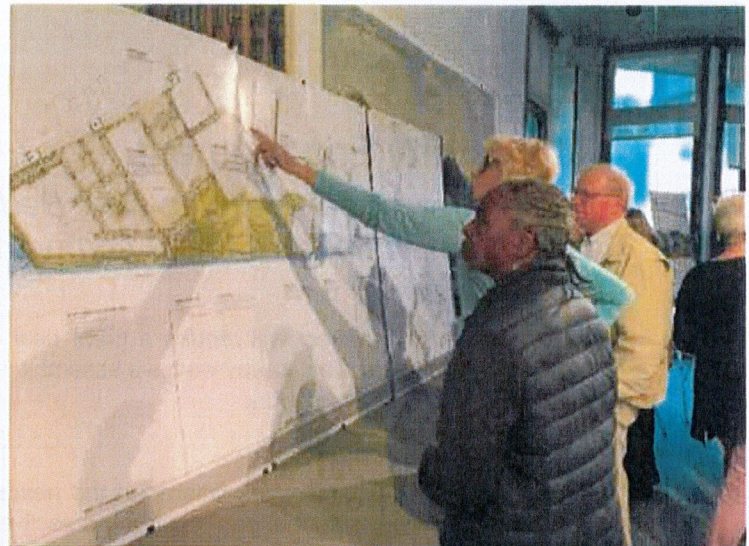
Island End River (IER) Flood Resilience Project

FPA/Tetra Tech is collaborating extensively with the Cities of Chelsea and Everett to pursue climate resilience planning goals and master permitting for projects focused on the IER corridor. Our robust engagement plan includes a Stakeholder Working Group where FPA/Tetra Tech staff built a coalition with private sector commercial and industrial property owners and operators, including the Everett Chamber of Commerce, the Mystic River Watershed Association, National Grid, SPS New England, the Davis Companies, Constellation Energy, Lineage Logistics, P.W. Marks & Sons, GreenRoots, and others. The working group meets quarterly and is the basis for the design and future implementation of regional flood solutions that will protect both vital waterfront industry and inland environmental justice communities. The importance of these efforts cannot be overstated,

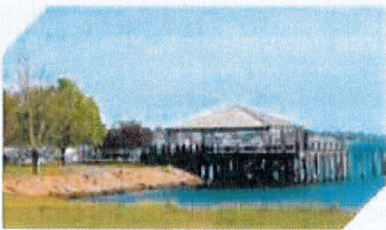
as all flood resilience measures will be constructed on private property. The inundation and flood pathways include the Mystic River DPA.



Dave Andrews, our proposed Community Engagement Lead, participates in one of many public meetings for the Lynn Waterfront Open Space Master Plan.



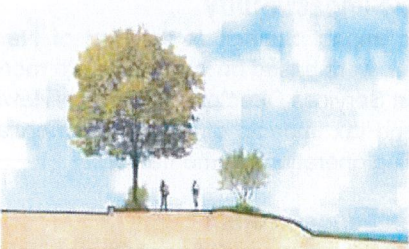
BRR's presentation materials are effective tools to facilitate community feedback and consensus-building.



Lynn Waterfront Open Space Master Plan

BRR prepared a Waterfront Open Space Master Plan for the City of Lynn's 305-acre waterfront. The Master Plan was guided by a comprehensive, multi-year public engagement process that provided the forum for residents, advocacy groups, and City and State officials to identify critical goals and objectives as they developed and established an agreed vision for their underutilized waterfront. To facilitate the engagement process, BRR led public meetings, conducted a number of site walks, and assisted with

outreach to local advocacy groups, including creation of a survey and a project website.



Proposed section of the RiverWalk

New Bedford Riverwalk Feasibility Study Update

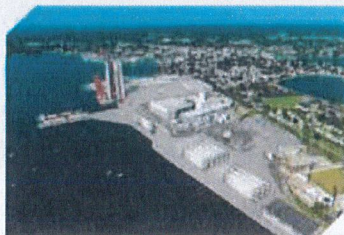
BRR, with subconsultants including Foth and WHG, assisted the City of New Bedford with planning and phasing recommendations for a multiuse path adjacent to the west bank of the upper Acushnet River. Following the completion of the Feasibility Study Update in 2020, BRR and the team prepared a Preliminary Design for the RiverWalk in 2023. The design team has now begun the preparation of permitting and construction drawings for Phase 1 of the RiverWalk project. BRR will lead the public engagement process efforts consisting of public meetings, site walks, and stakeholder outreach slated to begin in the coming months.

Hyannis Harbor MVP Resilience Plan

FPA/Tetra Tech and BRR worked together to help the Town of Barnstable develop the Hyannis Harbor MVP Resilience Plan. The community engagement process began in December 2023 with a series of stakeholder meetings including representatives from hotels, restaurants, local businesses, and ferry companies, as well as Town and regional staff from entities such as the Cape Cod Commission. Two meetings were conducted at different times on December 13, 2023, to ensure maximum participation. During the meetings, participants used the SWOT method (Strengths, Weaknesses, Opportunities, and Threats) to convey their assessments of the existing conditions of the Harbor. Additionally, interviews were conducted with the Cape Cod Commercial Fishermen's Alliance to gain a better understanding of the commercial fishing industry in the Harbor. The interviews engaged many of the commercial fishing operations that utilize the Harbor on a daily basis for offloading catch.



The FPA team often conducts steering committees, stakeholder workshops, and small group meetings on urban waterfront development projects.

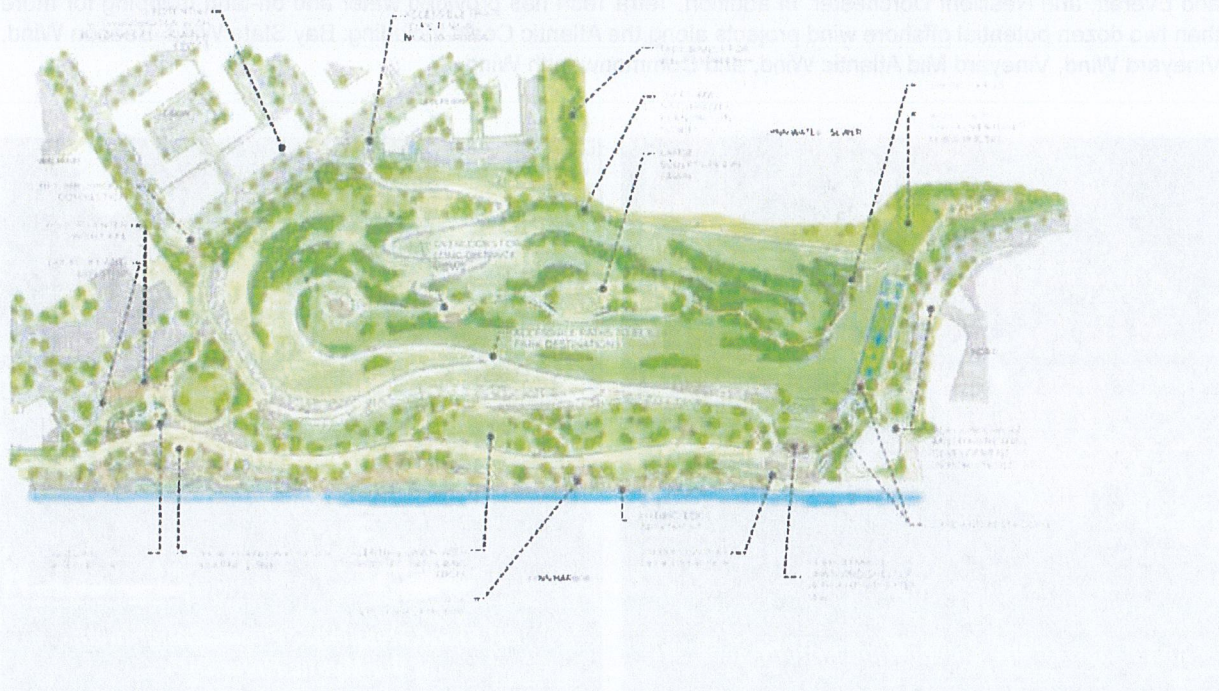


Salem Wind Port Permitting

FPA is providing permitting and community/stakeholder engagement services for the development of an offshore wind marshall terminal in Salem. We have provided extensive community and stakeholder engagement over a 2-year period for the project, including public meetings and hearings with local and state agencies, and presentations to local stakeholders and advocacy groups. FPA also prepared written and verbal responses to public comments that helped people understand the project, impacts, and mitigation measures.

Lynn Harbor Park

The City of Lynn, in partnership with the EOEEA Gateway City Parks Program, hired BRR to help turn former municipal landfill overlooking Lynn Harbor into a landmark waterfront park. Through careful relationship building and close coordination, BRR (with Foth as a key subconsultant), has worked with the current landfill owner, State agency partners, and the City to amend the landfill plans to allow for the implementation of the first phase of the Harbor Park, which is currently under construction. BRR led the public engagement process, met with local residents, municipal officials, and other stakeholders to learn what amenities would best serve the users of this park. Engagement efforts consisted of public meetings, stakeholder outreach and site walks.



GIS Capabilities

Our team has the local Geographic Information Systems (GIS) capabilities to work with and expand the current mapping schematics of the New Bedford/Fairhaven Harbor.

FPA's parent company, Tetra Tech, is an industry leader in the innovative use of GIS technology, with expertise in producing site maps and illustrations while managing large, multidisciplinary environmental datasets. Representative GIS services include:

- Application development and programming
- 3D and spatial modeling
- Mobile mapping solutions
- Asset management
- Geodatabase design
- Cartography and map template design
- Web-based GIS and mapping

Award-Winning GIS

Tetra Tech was recently awarded the MAPPS Geospatial Excellence Award in the GIS/IT/Remote Sensing Analysis category for our work on the Sunoco Pennsylvania Pipeline Project. We also received the Special Achievement in GIS award at the Esri International Users Conference.

Local Capacity

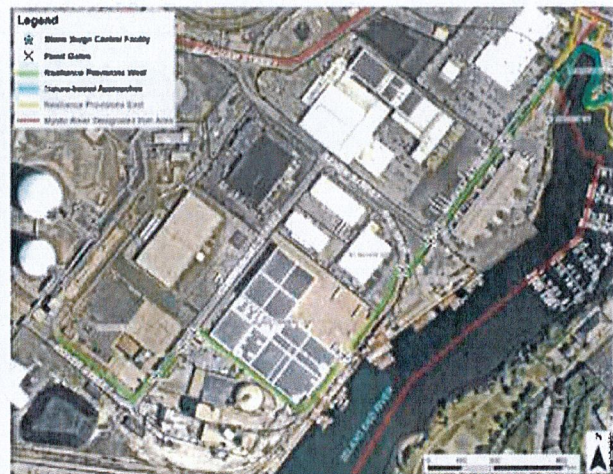
Tetra Tech's broad bench of talented GIS staff ranges from junior GIS technicians to seasoned GIS project managers, including five GIS professionals in downtown Boston. Tetra Tech also offers a complete in-house staff of peer reviewers, technical editors, and document production staff who routinely support the development and production of the draft and final maps, reports, and other deliverables. Samples are presented in the appendix.

Clients

Tetra Tech has provided GIS and database technology solutions to federal, state, and local government agencies, as well as private, utility, and commercial clients across the United States. In Massachusetts, we have provided GIS solutions for public agencies including BWSC, DCR, MassDOT, MBTA, and dozens of cities and towns. Most of the projects highlighted in Section 3.0 include a GIS component, including Gloucester MHP/DPA Update, Salem Wind Port Permitting, Lynn Waterfront Open Space Master Plan, the IER Flood Resilience Project in Chelsea and Everett, and Resilient Dorchester. In addition, Tetra Tech has provided water and on-land mapping for more than two dozen potential offshore wind projects along the Atlantic Coast including: Bay State Wind, Beacon Wind, Vineyard Wind, Vineyard Mid Atlantic Wind, and Commonwealth Wind.



Aerial view of the Salem Wind Port Project Site



IER Flood Resilience Project Alignment in the Mystic River DPA

4.0 Client References

As requested in the RFP, we are pleased to provide the following client references for each team member. We encourage the NBPA to contact these references, as they can attest to the quality and responsiveness of our professional services on recent, relevant Scopes of Work.

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Gloucester Municipal Harbor Plan/
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Lynn Waterfront Master Plan
Revision and MHP Update, Lynn
Open Space Master Plan &
Lynn Harbor Park and Shoreline
Restoration

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New Bedford Riverwalk Revised
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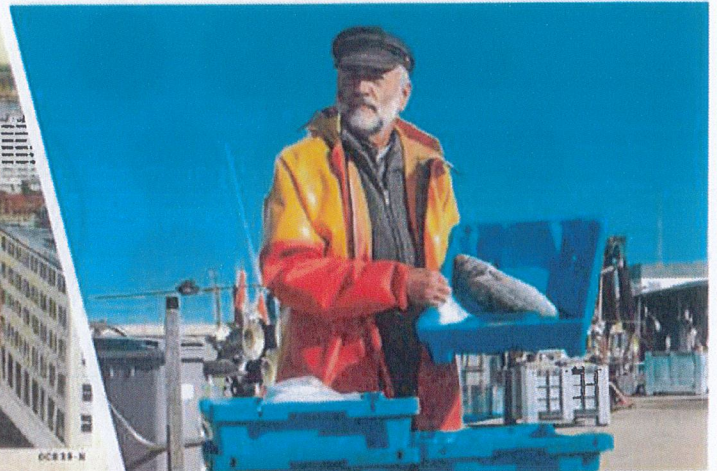
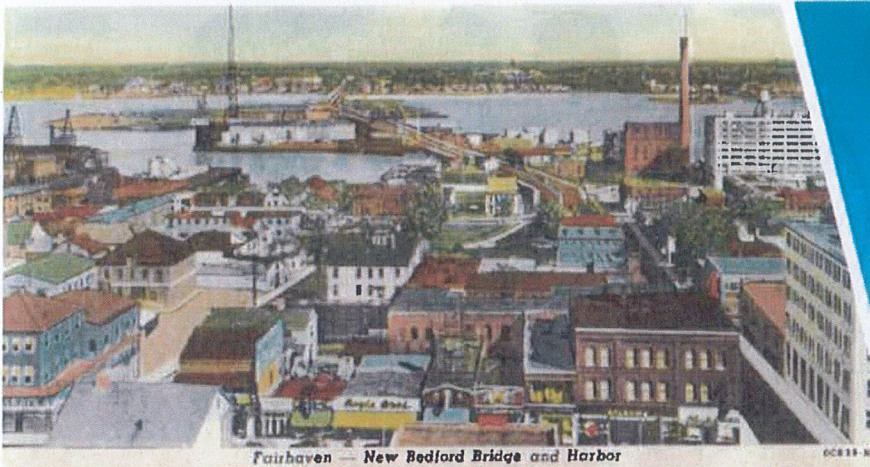
5.0 Detailed Methodology/Work Plan

5.1 Project Understanding

The New Bedford/Fairhaven Harbor is a tremendous natural and economic resource. Located on the northwestern side of beautiful Buzzard's Bay, the Harbor is steeped in maritime history and home to a vibrant mix of industrial, commercial, marine, residential, and recreational uses and operations.

Once a famous whaling port, the Harbor has shaped the identities of New Bedford and Fairhaven for more than 150 years. It has also been a consistent, driving force in the local, state, and regional economies. Today, New Bedford/Fairhaven Harbor remains a thriving working waterfront, supporting old and new businesses alike. In addition to being the #1 commercial fishing port by value in the United States, the New Bedford/Fairhaven Harbor is a cargo transport hub, a cultural and historic tourist destination, and the center of the region's blue economy. The Harbor is also at the forefront of maritime industry and well-positioned to capture emerging offshore wind development opportunities.

With this project, the New Bedford Port Authority will preserve the Harbor's rich history and current vitality while moving toward a very promising future. Specifically, the Authority will identify which elements of the 2010 Plan warrant modification, assess the changing character of the Port, and create a vision and clear objectives for the next decade.



The Harbor is steeped in history and well-positioned for a sustainable future.



To this end, the New Bedford Port Authority seeks a consultant partner with the qualifications and experience to complete a Revised Plan within 18 months. We are the right partner for the Authority! In addition to being a preeminent harbor planning and permitting firm for 40 years, FPA completed the 2010 Harbor Plan. We facilitated the visioning process, led stakeholder engagement, incorporated regulatory issues related to Chapter 91 and DPAs, and ultimately, shepherded the Plan through the municipal and state approval processes on schedule. This continuity will be of great value to the Authority, as will the fact that we have—exclusive to our team—experts in every space required for project success:

- Brown, Richardson & Rowe – Community Engagement and Public Space Planning
- Foth – Maritime Infrastructure and Vessel Management
- Martin Associates – Maritime Economics
- Woods Hole Group – Coastal Resiliency Planning not Coastal Flood Resiliency

We also anticipate engaging with Cross Cultural Connection Systems, Inc, for translation/interpretation services, a vendor that has successfully worked in the New Bedford-Fairhaven community on prior projects, to ensure a robust and inclusive community engagement process. As demonstrated in the following Detailed Work Plan, our team offers a clear and comprehensive plan to address all of the project objectives stated in the RFP.



Our team can help the Authority balance, and build consensus for, the overarching objectives for the New Bedford/Fairhaven Harbor Renewal Plan.

The FPA Team welcomes the opportunity to work closely with the Harbor Plan Renewal Committee (HPRC), the community, and all appropriate organizations and agencies on this exciting project. Together, we will ensure the New Bedford/Fairhaven Harbor remains the #1 U.S. fishing port while maximizing its potential as a truly adaptable 21st century economic engine.

5.2 Project Approach

With a broad base of direct, relevant experience and a sophisticated grasp of the complex waterfront and port planning, multiple uses, and regulatory context of the New Bedford/ Fairhaven Harbor, our Project Team will meet the objectives set forth in the Request for Proposal. Within an 18-month timeframe, we will complete all tasks necessary to update to the New Bedford/ Fairhaven Municipal Harbor Plan. Our technical work effort will support the Harbor Plan Renewal Committee (HPRC) who will be the focus of participation and decision making. We see our role as three-pronged:

- to complement the in-house knowledge and skills of the NBPA, the HPRC, and other participating arms of the two municipal governments, as well as the Community Working Group, to draw effectively on our diverse expertise;
- to advise and support the NBPA and the HPRC with an updated vision for the future of the Harbor; and
- to facilitate the productive engagement of a variety of knowledgeable participants in shaping the final products of this Project.

The methodology employed will effectively engage team members to capitalize on their respective skills and experience, and to draw from the depth of our backgrounds with similar projects to ensure that the process runs smoothly and efficiently from kick-off to final approvals and implementation. A description of our methodology is incorporated throughout our Work Plan which follows the Scope of Services identified in the Request for Proposals.

5.3 Detailed Work Plan

FPA is pleased to present a Detailed Work Plan for accomplishing the Scope of Work. As required in the RFP, our Detailed Work Plan describes our methodology for:

- developing goals, objectives, and policies for the Plan Renewal;
- maximizing public participation;
- educating the appropriate officials, boards, commissions and community groups; and
- engaging with state agencies required for plan development approval, most notably, the CZM and MassDEP.

The following Detailed Work Plan describes our team's deliverables for the 18-month project schedule. We will prepare notices and agendas for six public meetings with the HPRC to obtain valuable input and share project progress with the HPRC. These hour-long meetings will assist with project organization and execution and allow our team to plan content and timing of six Community Working Group/public workshops in the community. The Work Plan is illustrated in the Schedule provided on page 34 which proposes a meeting schedule with community workshops to follow HPRC meetings. This schedule is subject to modification via input from HPRC and NBPA.

7 Steps for Success

01



Organize Planning Process

02



Data Collection

03



Develop Key Elements

04



Draft Report

05



Final Draft Report

06



EOEAA Review/ Approval

07



Final Deliverable

Task 1: Organize Planning Process

Approximately 12 Weeks

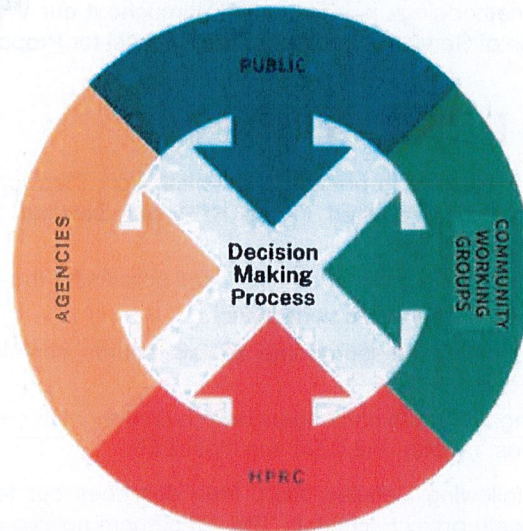
FPA will support the HPRC in conducting a planning process and preparing a Renewal Plan that can be supported by all groups affected by the Harbor. While the HPRC will be the nucleus of the planning process, we look forward to collaborating with other relevant agencies and organizations, including but not limited to:

- Town of Fairhaven Selectman
- New Bedford City Council
- Town of Fairhaven and City of New Bedford Planning Boards
- New Bedford Harbor Development Commission
- City of New Bedford/ Fairhaven - Conservation Commissions
- Massachusetts Department of Environmental Protection (MassDEP)
- Massachusetts Clean Energy Center
- Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA)Massachusetts Division of Marine Fisheries
- Massachusetts Seaport Council
- US Environmental Protection Agency
- US Army Corps of Engineers
- NOAA Fisheries
- Coalition for Buzzards Bay
- State Enhance Remedy Working Group

We understand the HPRC's goal is to create a consensus-driven Renewal Plan to the degree possible without compromising the integrity of the Renewal Plan or its acceptability by the EOEEA.

The Planning Process will include the following subtasks:

Subtask 1-A – Community Participation. Our team, led by Brown, Richardson, and Rowe (BRR) will prepare a public outreach strategy, based on our proposed schedule for review, concurrence, or modification by the HPRC to inform the public about the process, the regulatory implications of substitute provisions, and opportunities for shaping the overall direction of the updated plan. We will outline our goals and objectives to obtain input on key issues such as the commercial fishing industry, recreational boating, dredging needs, environmental/ecological, commercial boating including excursions, ferry, and cruise port of calls, break/bulk shipping, offshore wind and the support for these issues including, ship building and repair, updates to port facilities, and the benefits to the community such as tourism, public access, and direct and indirect job creation. The development of our outreach strategy will begin by identifying the elements of the plan that requires or could be improved by public input, as well as the elements that depend upon public buy-in. When selecting engagement methods, we recognize how a given method will generate the desired outputs, and how well those outputs can be analyzed and incorporated into the final plan.



We are prepared to help the HPRC create a consensus-driven Renewal Plan.

Since the COVID-19 pandemic outset in 2020, the regulatory and public meeting world has experienced certain benefits of virtual meetings, including increased public participation and decreased travel costs. We will explore the potential for inclusion of virtual meetings with the HPRC as we set priorities for the efforts to develop the Harbor Plan Update.

BRR will prepare flyers and press releases, translated to reach the larger New Bedford community, who will provide direction to public meetings and the use of the project website for obtaining information, posting comments, and asking questions. Translated materials and interpretation services for the following languages will be included: Cape Verdean Kriolu, Portuguese, and Spanish.

Subtask 1-B – Incorporate Feedback. Our team's approach to developing the MHP update is based on early and frequent contact with the NBPA, HPRC, the Commonwealth, and the public, with frequent reviews and assessments among the Project Team, to provide a general framework of the flexibility allowed through the MHP process to implement the vision for the New Bedford/Fairhaven waterfronts. We will work with the HPRC, following input from the public and harbor stakeholders, to make any necessary refinements to the harbor planning areas as generally defined in the RFP. It is our understanding that the Harbor planning area shall, at a minimum, include the harbor planning area used in the 2010 Harbor Plan and may also be expanded to include a portion of the upper portion of the harbor beyond the Coggeshall Street Bridge. The potential for changes to the planning area will be a point of discussion in the pre-filing meeting with CZM to determine flexibility or timing of setting the 2024-2025 planning area relative to the Request for a Notice to Proceed.

For the substance of the Harbor Plan Update, we propose a public visioning process that is guided, but not predetermined, by the MHP process. Within this framework, we look at how the range of options could be implemented through a variety of different MHP approaches, ranked from least to greatest complexity in terms of approvals and implementation. In this way, the benefits of a specific waterfront development strategy may be considered in the context of its regulatory complexity, providing a more comprehensive analysis of options. Our strategy will combine an educational component with hands-on workshops designed to generate actionable takeaways that can be reincorporated in the plan. We propose working with the HPRC to identify which engagement exercises will be most efficient for public meetings, such as visual preference, surveys, break-out strategy sessions, comment cards that could include multiple choice questions, map-based activities, or opportunities for written feedback.

Subtask 1-C – Community Working Groups. The development of the Harbor Plan Update will benefit from the local knowledge of the variety of stakeholders with interest in the harbor beyond the members of the HPRC. We understand that NBPA will have the HPRC select key constituents from harbor industries, business and economic development interests, environmental groups, historic, and cultural concerns for the Community Working Group by invitation. Under their direction, we will develop presentations and feedback loops for public meetings with the Community Working Group and revise the meeting schedule, as necessary.

Subtask 1-D – Agency/Organization Coordination. The maritime economy is evolving, and the regulatory frameworks have changed since the adoption of the 2010 Harbor Plan. We will coordinate with NBPA to form an agenda for a pre-filing consultation meeting with CZM and the Massachusetts Department of Environmental Protection (DEP) to discuss the form and content of the Request for a Notice to Proceed including the process to set the planning area and proposed meeting schedule. We will work with the HPRC to defining the planning program approach to be submitted in the Request for a Notice to Proceed to the Secretary of Energy and Environmental Affairs (the Secretary) and facilitate the distribution of associated documents as required by 310 CMR 23.08(4) (c). We will prepare and submit the Request for a Notice to Proceed and track comments on the submission. We will translate and facilitate publication of the public notice in a local newspaper at the HPRC direction. Through the HPRC we will solicit appropriate stakeholders to submit positive supporting comments on the Request for a Notice to Proceed for the planning process to move forward. Outreach to other key state, federal, and local agencies and organizations will be initiated by notifying the relevant agencies and organizations that the Request for a Notice to Proceed has been submitted, that follow up outreach will follow, and contact information to reach the project team. Notwithstanding site visits and scheduled in-person public meetings, outreach to agencies and organizations are expected to be conducted as virtual engagement.

Subtask 1-E – Decision Process. To create a consensus-driven Renewal Plan to the degree possible, we will identify sequential key decisions required during the planning process. The first of these is to set the planning area boundaries. We will work with the HPRC to identify priorities and determine whether desired improvements or preservation of harbor uses require modifications to the regulatory standards. Key decisions will include how the allocation of supporting uses in the DPA will be calculated, and how nonwater-dependent use buildings outside the DPA may be encouraged by balancing building heights, parcel coverage, and setbacks and how much public access is desired or practical in various parts of the harbor.

Subtask 1-F – Schedule. We have included a proposed milestone schedule identifying the major steps of the process, the completion of the process within 18 months, and the proposed dates of the Community Working Group meetings. Upon Notice to Proceed, we will hold an in-person kick-off meeting with the HPRC to confirm project milestones and timelines. We expect to have a series of virtual meetings with the HPRC in advance of each of the Community Working Group meetings to seek directions and guidance for the Community Working Group meeting presentations. The schedule provides an outline of project tasks and targeted completion dates, including the completion of technical work, decision-making dates, review periods by appropriate agencies, and completion of project deliverables.

Subtask 1-G – Public Meetings. We will hold a minimum of 6 public meetings to include language interpretation services for Cape Verdean Kriolu, Portuguese, and Spanish. The focus and scheduling of these meetings are laid out to comply with the overall 18-month schedule. The focus and timing of these meetings may be modified via input from the HPRC.

Public Meeting #1 – Kick Off Meeting. The Kick Off Meeting will feature a presentation of the MHP planning process, its advantages, and its limitations. A map will be presented of the Harbor Planning Area and potential areas for expansion. The map will show the limits of the DPA, the historic shoreline, and Chapter 91 licensing jurisdiction. Our presentation will include a discussion regarding how the Waterways Regulations apply to water-dependent and nonwater-dependent development and DPA requirements. Key provisions of the Waterways Regulation allowing for substitute provisions, offsets, and amplification of the numerical standards will be presented along with examples of how the MHP could operate within and outside of the DPA. We will discuss the project team's tasks and focus on the key elements of renewal and opportunities for meaningful contributions to update the existing Harbor Plan. We will present the planning process meeting schedule and what to expect at each meeting. We will advise on what to expect in the upcoming Visioning Workshop to help prepare participants. We will take questions and comments at various points of the meeting and have a questions and comments session at the end of the meeting.

Public Meeting #2 – Visioning Workshop. Our schedule has projected this meeting as a virtual meeting for early to mid-February. We will identify the opportunities, constraints, and our data collection findings and look to the community to highlight issues of importance in their everyday experience of the waterfront and enlist them as thought partners in designing the future character of the planning area. Subject to consultation with the HPRC, we would recommend the following format: After our opening presentation, initiate a twenty-minute open house where we will invite attendees to provide feedback about what they think works for the harbor and what their priorities are in terms of what they would like to see changed on a map of the area and sub areas. A second open house activity will ask attendees to identify desired future uses and character zones and match them to different areas of the waterfront. This will be curated to reflect uses allowed within the Chapter 91 and DPA restrictions. Facilitators from the planning team will be present to guide discussions, and depending on group attendance, will lead into a breakout session where attendees can discuss these issues. DPA supporting use status and projections will be discussed to determine whether there is an appetite to increase or decrease the supporting use allowed percentages relative to the 2010 DPA Master Plan or the Waterways Regulations. The goal of this meeting is to walk away with a greater understanding of the purpose, goals, and objectives of the Plan Update.



We anticipate partnering with Cross Cultural Communication Systems, Inc. (CCCS), a WBE/PBE Certified vendor for language interpretation services. CCCS can provide language interpretation services for Cape Verdean Kriolu, Portuguese, and Spanish for public meetings and outreach materials including, but not limited to, flyers, surveys, and presentations. CCCS has supported multiple municipal projects in New Bedford including recent work with our team member, Foth In the New Bedford/Fairhaven community.

Public Meeting #3 – Public Benefit, Infrastructure, Climate Resiliency, and Economic Strategy Workshop.

The third public meeting is scheduled mid-way through the planning period and will present, with greater detail, some of the opportunities and limitations of working within a Chapter 91 regulatory framework. This meeting will have a focus on three areas:

1. **Public Benefits Prioritization:** The planning team will present a summary of the overall community vision and look more directly at addressing concepts and strategies for public waterfront access. We will prepare a presentation with the summary of feedback and stakeholder conversations to date and gather around large-scale maps of the different sub-areas to have a more focused discussion about public amenities and access.
2. **Infrastructure and Climate Resiliency Evaluation:** The planning team will present a summary of our findings related to harbor navigation issues, vessel conflicts, harbor depth and dredging needs, portside vessel services, and infrastructure improvements or needed repairs. Resiliency measures will be discussed including the potential implications of modification of use/design of the hurricane barrier closures, nuisance flooding considerations, and approach to long-term protection of critical harbor infrastructure.
3. **Economic Strategy Scenario Planning:** The planning team will also present the market analysis and discuss other key findings. The format will consist of a presentation of the analysis and breakout stations to discuss initial planning and design scenarios. The goal of this meeting is to keep the public informed of the plan and solicit feedback that has the potential to shift the direction of the planning process.

Public Meeting #4 – Presentation of Draft Plan. The fourth meeting will include a presentation of a draft of the proposed Plan Update and the approach to the regulatory substitutions, offsets, and amplifications intended to incorporate the community's vision into the plan. The team will solicit feedback from participants to maximize consensus.

Public Meeting #5 – Final Plan for Municipal Approval. The incorporation of edits based on feedback and consensus from Public Meeting #4 and the HPRC will be presented to show the community their interests have been addressed and integrated into the Plan Update. This will be the final document to be submitted to the New Bedford City Council and Fairhaven Board of Selectmen for adoption and to CZM and the Secretary for approval.

Public Meeting #6 – Plan Approval Report Back. This final public meeting will be an opportunity to report back to the community on any changes made to the plan as part of the formal review and approval process including the adoption of substitute provisions and the conditions or offsets required for the use of such provisions. This meeting will also double as a soft plan launch to signal to the public that the process has concluded and the new plan will go into effect shortly.

Subtasks 1-H – Implementation Strategy. Having an action plan that details the specific steps that may be needed is critical to ensuring implementation of plan goals. This task will propose an outline and approach for the implementation strategy to be developed in Task 3. We will review the steps required to implement a plan and try to anticipate questions that might arise 5 or 10 years after the MHP has been approved. Specificity must be balanced with flexibility, and the language of the plan must be broad enough to allow for atypical conditions and public benefit opportunities that may not be anticipated. We will outline the development goals and initiatives defined in the Renewal and propose an implementation strategy to meet them. Our Task 3 review of the proposed actions in the 2010 Harbor Plan for project updates, and input gathered from various meetings, will inform the proposed actions section of the draft and final Plan Update. Our strategy will include the development of a funding strategy that considers grant opportunities and other funding mechanisms. We will update the implementation table in the 2010 Harbor Plan to reflect current and future enhancements of the harbor planning area.

TASK 1 DELIVERABLES

- Outreach publications and notices and translated copies of these documents
- Project website
- Public meeting schedule
- Draft Planning Area Boundary Map
- Meeting Summary Memorandum from CZM pre-file meeting
- Draft and Final Request for Notice to Proceed documents
- Agenda and meeting materials for all meetings



BRR, currently working on the New Bedford RiverWalk Feasibility Study Update, has successfully facilitated community feedback and consensus-building on urban waterfront projects across Massachusetts.

Task 2: Data Collection

Approximately 20 Weeks

Our team will review the elements and/or activities listed in the RFP, specifically noting changes relative to conditions described. Data will be collected from the 2010 Harbor Plan, review of existing land use and zoning, and harbor uses, site visits, completed reports with information related to the harbor, public documents and public and private databases, stakeholder interviews, and public meetings analysis of marine industries that were located in or have realistic potential for moving into the port. We will examine trends in key areas such as marine biotechnology including technologies, evolving use cases, and facility requirements for these uses. We will seek guidance from the HPRC on all elements and activities and we will need specific guidance on:

- Status of traditional maritime industries, including fishing industry and supporting services and businesses, and cargo shipping
- Status of potential and developing maritime industries, including short sea shipping, marine science and technology, ferry services, recreational boating, and cruise ships

The above will be supplemented by our own research inquiries depending on the quantity and quality on information received. We will also seek guidance, and if necessary, outreach help from HPRC for who we should be contacting from the various sectors of the Maritime Economy. We expect to use virtual meetings while collecting data to the maximum extent feasible while also conducting a limited number of in-person interviews. Prior to the initiation of interviews, we will develop a series of questions designed to capture the information relative to the Plan Update to be vetted by the HPRC. These interviews will focus on:

- Waterside infrastructure including dredging
- Waterfront tourism
- Port Security
- Port I maritime economy
- Plans for expansion of water-dependent industrial uses
- Plans, areas, and expectations for DPA supporting uses
- Traffic and transportation systems
- Public access

The results of this analysis will be translated to potential development program options that can support the case for amplifications and substitutions as part of the amended harbor plan.

We will work closely with HPRC and identify and involve a variety of port constituencies, including local, regional, state, and federal agencies and entities (e.g. Steamship Authority, NBEDC, DCR/State Pier management); legislative delegations; environmental groups; educational institutions (e.g., SMAST); and residents of both communities; Interview and/or meet with said port industry groups.

We will hold at least one meeting with and interview representatives from all sectors of the Maritime Economy: Commercial Fishing; Seafood Processing; Ship Building and Repair, Offshore Wind Construction, Operation and Maintenance; Cargo; Ferry, Cruise, Excursion; Recreational Boating; Marine Science and Technology; and Maritime Support Businesses. We will review and incorporate, as appropriate, findings, recommendations, and summaries of local, regional, and state-sponsored studies of the Harbor and the DPA, as well as waterfront, harbor, and municipal planning efforts completed or initiated since 2010.

TASK 2 DELIVERABLES

We will present findings of this task to the HPRC, in both a written memorandum and oral presentation. Once accepted by the HPRC, these findings will be posted to the project webpage.



Interviews with representatives from all sectors of the Maritime Economy, including offshore wind and ferry/cruise/excursion, will be a critical component of our data collection efforts

Task 3: Develop Key Elements of Renewal

Approximately 24 Weeks

We will complete the following work under Task 3:

Subtask 3-A – Port Vision. The overall vision for the future of the Harbor will be a focal point of the Public Meeting #2 where participants will be invited to share what current Harbor feature should be retained and improved and what additional Harbor features will enhance the Harbor as an economic engine and as an asset for all of the New Bedford and Fairhaven communities. The vision should capture the Harbor's historical tradition as a fishing port and the status as the country's #1 fishing port as key to the success of the Harbor and include the viability of the ferry, cruise, and excursion operations as well as traditional commercial shipping industry. The development and upcoming expansion of the Marine Commerce Terminal points to the positioning of the Harbor as an asset to the development of energy producing offshore wind facilities, ocean technology, and research and development of marine resources. The vision should also include the opportunities for safe public access to the water's edge for all to enjoy.

Subtask 3-B – Project Updates. Public Meeting #2 will also provide input from HPRC and the Community Working Group regarding recommendations for removal of projects identified in the 2010 Harbor Plan which have not been initiated for which there is no strong public support, or which no longer have reasonable potential to benefit the Harbor's future economic or environmental health.

Subtask 3-C – Planning Boundaries. We will seek HPRC guidance on additional areas to include in the planning area and present the existing boundaries and potential areas for expansion at Public Meeting #1 for input and consensus from the Community Working Group. The public process to create a consensus for modification of the harbor planning area boundaries will be discussed at the pre-filing meeting with CZM and DEP. The MHP regulations require the harbor planning boundaries to be included with the Request for a Notice to Proceed. With CZM consent we will provide an example to be presented graphically in the Request for the Notice to Proceed.

Subtask 3-D – Infrastructure Improvements. Additional improvements needed to secure the harbor's economic future, including portside infrastructure and dredging, will be determined through the Public Meetings, interviews with the sectors of the marine economy and other port constituencies and the HPRC. Interviews with pilots and tug operators will be consulted as they can provide valuable insight regarding navigation depths and vessel drafts. Property owners will be queried on portside needs. The projects identified in the 2010 Harbor Plan will be reviewed with HPRC and vetted during Public Meeting #3 and the Updated Harbor Plan will include revised Recommendations and Implementation chapters with an updated Matrix of Plan Implementation Oversight and Authority. Estimated costs will be gathered from project proponents or determined through an order of magnitude based on available information.

Subtask 3-E – Vessel Management. We will review whether since 2010 increased harbor channel depths, ferry, excursion, and cruise operation along with the addition of the operations of the Marine Commerce Terminal have, in turn, increased operational conflicts between watersheet users. We expect that information from the HPRC, the harbor masters, and the U.S. Coast Guard can provide such information. The question regarding watersheet conflicts will be included in the questions developed for interviews with members of the maritime industry. We will explore the level of success on color-coded mooring areas and navigation channels on vessel management. We will provide recommendations based on our findings of whether additional management of existing and expected vessel traffic is necessary through education, additional enforcement, physical queues, or other recommendations from port users as appropriate.

Subtask 3-F – Economic Assessment. Martin Associates will update their New Bedford Harbor Economic Impact Model, with the addition of the offshore wind farm development and services based in New Bedford and include an assessment of the cargo market that will drive land use needs within the harbor. Martin Associates has developed the economic impact assessment of the cargo and commercial fishing activity located in the New Bedford Harbor, as well as the marina activity and ferry operations. Their first economic impact analysis of the New Bedford Harbor was conducted in 2016, and then updated in 2019 to also include the impacts of harbor deepening and channel maintenance. The present update will include a re-survey of the Harbor tenants and service providers to the



Foth will lead our team in the evaluation of infrastructure improvements based upon their 16+ years of experience working in the Port of New Bedford and their existing relationships with a diverse range of stakeholders.

commercial fishing/processing, marinas, ferry operations and cargo sectors. The personal and telephone surveys will focus on the current jobs, income, revenue, and taxes generated by each individual operation. In the 2018-2019 study, data was collected from 153 firms operating in the New Bedford Harbor. This firm-specific data is then used to develop industry sector impact models for diverse types of cargo activity including offshore wind, general cargo operations and perishable cargo operations. Similarly, Martin Associates will develop a separate model for the shipyard and repair operations within the Harbor, as well as the recreational marina activity. The commercial fishing model will include the impacts generated by the operations of the fleets homeported at New Bedford, as well as the commercial fishing operations that occur within the Harbor and include seafood processing and distribution.

With respect to the marine cargo sector, in their 2019 study, there was a total of 312,000 tons of cargo through the marine facilities owned by the Port of New Bedford. These 312,000 tons included petroleum, aggregates, and imported fruits. In the proposed study, we will again update the cargo models to identify the specific economic impacts generated by the cargo activities, and we will include a separate economic impact analysis of the offshore wind support operations based out of New Bedford.

The marina impact analysis will focus on the public marinas within the New Bedford/Fairhaven Harbor. In the 2019 study, seven marinas in the Harbor moored 570 recreational boats, for which impacts were estimated based on local purchases to support and maintain the moored vessels. We will develop and update our ship and boat repair impact models to estimate baseline economic impacts of these operations, as well as contact the various ferry boat operations based in the New Bedford Harbor.

Subtask 3-G – Waterfront Development. The separate economic impact models for the above-noted sectors will then be used to estimate the economic impacts of various future land use scenarios focusing on these sectors and priorities established by HPRC, Community Working group, and public meetings. For example, the models will provide frameworks to estimate potential economic impacts of various development scenarios that would include future expansion of the seafood processing operations or growth in cargo operations. These scenarios will be driven by the projected market outlook for the various sectors, and land use required estimated in other tasks of the scope.

Per the RFP and based on input received, we will develop a plan to maximize the development potential and capacity of the waterfront, addressing:

- Redevelopment priorities as defined by HPRC, community work groups, and public meetings
- Fishing and seafood processing facilities
- Future offshore wind facilities expansion
- New offshore wind potential
- Shipping terminals/maritime industrial complexes
- Supporting maritime industries
- Ship building and repair
- Ship storage
- Maritime technology/Blue Tech
- Marinas and recreational boating
- Access points/launch to both New Bedford and Fairhaven
- Residential mixed-use development and urban renewal projects outside the DPA
- Public access & recreation projects outside the DPA
- Port security issues
- Linkages from the waterfronts to Fairhaven and New Bedford commercial centers



Martin Associates recently developed similar offshore wind support impact models for the Port of Salem, New Jersey, focusing on the development of cable manufacturing, nacelle manufacturing and tower fabrication.



Recognizing the importance of maximizing offshore wind potential while mitigating its impacts on marine navigation and commercial fishing, Tetra Tech has committed Ron Beck to our team. Mr. Beck was the Chief of the First Coast Guard District's Maritime Energy Branch and brings 30+ years of experience in the state's maritime operations and offshore energy sector.

Subtask 3-H – Port Management and Governance. The 2010 Harbor Plan recognized the shared jurisdiction and interests between New Bedford and Fairhaven in the Harbor and included a recommendation to establish a Memorandum of Understanding (MOU) between the municipalities to include: provisions for CAD cell management and related permitting of dredge projects and tipping fees; mooring fees, coordinated emergency response, and versions of an inter-municipality alliance group, which may include commercial interests. We will explore the progress of such recommendations with the HPRC and make updated recommendations. We will revisit the issue of CAD cell tipping fees based on existing practices and projected dredging needs. We will examine port security issues with HPRC, the harbormasters, and the U.S. Coast Guard, and recognize the cyber security issues are more pressing than they were in 2010. We will make recommendations based on input of past issues and potential threats.

Subtask 3-I – Resiliency & Sustainability. Our team, led by Woods Hole Group, will review the 2020 Resilient/New Bedford Climate Change Vulnerability/Resiliency Plan and the 2020 Fairhaven Municipal Vulnerability Preparedness Planning documents and provide a “desktop” evaluation of the climate change driven increase in storm intensities, projected sea level rise, flood zones, and pathways to identify short- and longer-term approaches to protect the uses and infrastructure along the harbor. Additional work will be conducted to understand the implications of existing/future closure operations for the hurricane barrier, needed investments in that key infrastructure, and preparedness measures to address critical infrastructure asset vulnerability in the Port should the barrier closure not be viable in all storm events. Consideration to nuisance flooding potential along waterfront properties and integration with ongoing vulnerability and implementation projects will be incorporated into this work.



WHG is uniquely qualified to complete Subtask 3-I having conducted the FY23 MVP Action Grant-funded Fairhaven MVP Climate Change Vulnerability Assessment.

Subtask 3-J – DPA Master Plan. Based on a review of the 2010 Harbor Plan DPA Master Plan, we will examine how the DPA Supporting Use Eligibility Credit Program (ECP) has worked to date through the Data Collection Task 2. We will present other models of the application of supporting use percentages such as parcel by parcel, DPA Area wide or sub areas using the ECP approach, DPA supporting use fund depending on the changes to the type, density, distribution, and need of supporting uses within the DPA since the 2010 DPA Master Plan. We will use the HPRC and Community Working Group input as well as business owners interviews input in Subtask 3-B Project Updates focusing in the DPA to assess methods for managing the integration of marine industrial uses and supporting uses within the DPA. We will explore the efficiencies and obstacles of whether a DEP Chapter 91 Consolidated Written Determination could streamline the permitting process for marine industrial and supporting commercial development within the DPA and determine whether the use limitations and dimensional standards in the City/Town Zoning Codes need to be modified for streamlining and consistency. Based on input of the number, size, and type of supporting commercial uses proposed, we will provide a compatibility analysis to ensure that proposed supporting uses are an asset to the viability of water-dependent industrial uses in the DPA.

We will review the 2010 DPA Master Plan ratio of water-dependent industrial uses and supporting DPA uses and, if necessary, revise the percentages up or down depending on input and direction received through the public process and the HPRC. Should there be a desire to increase the supporting use percentages above the 25% limit in the Waterways Regulations, we will need to justify how such increase in supporting use will adequately compensate for the reduced amount of tidelands that will be available for water-dependent industrial use during the term of the DPA master Plan and resulting licenses. The goal is to produce a DPA Master Plan that complies with Commonwealth’s MHP regulations (301 CMR 23.00), Chapter 91 regulations, federal consistency laws, the City of New Bedford and Town of Fairhaven’s local zoning requirements, and other pertinent regulations to allow for supporting uses to provide economic or operational support and to facilitate public access where appropriate in the DPA.

TASK 3 DELIVERABLES

- Draft Vision Statement
- Draft Revised Implementation Matrix
- Updated Planning Area Boundary Map
- Draft Infrastructure Needs Findings
- Draft Vessel Management Findings
- Draft Economic Assessment
- Waterfront Development Priorities and Findings
- Port Governance Update
- Coastal Flood Resiliency Recommendations
- DPA Supporting Use Options

Task 4: Draft Report

Approximately 10 Weeks

Our team will develop a draft of the updated Master Plan including a new appendix with the DPA Master Plan and errata sheets with updates for the other appendices. The Draft Update to the New Bedford/ Fairhaven Municipal Harbor Plan Document will be produced to deliver a narrative of the need for key proposed interventions, and for the multi-layered benefits, those interventions can generate and graphic representations to support the understanding of the harbor planning areas and sub areas as directed. The narrative will build on the guiding principles of the 2010 Harbor Plan to balance water-dependent industrial uses and recreational and ecological spaces with the built environment created through public and private development, with an eye toward public access, resilience, and shoreline protection. The Updated Harbor Plan will include the final versions of the Task 3 deliverables incorporating recommendations by the Community Working Group as approved by the HPRC. We will incorporate any additional necessary revisions to the plan and submit to the HPRC for confirmation hearing and post draft to the project website accompanied by a feedback form, to collect public comment.

Once the Draft Plan is completed, the HPRC will submit the draft document to the New Bedford City Council and Fairhaven Board of Selectmen for local approval and adoption. We will assist the HPRC with local approval and be present at the Municipal Hearings to present and discuss the updated plan. The team will work with the administration and legislative bodies of both municipalities to provide background on its planning and economic analyses, the logic of Chapter 91-related regulations as may be modified, and the long-term impacts of a state-approved MHP and DPA Master Plan.

TASK 4 DELIVERABLES

- Draft Update to the New Bedford/Fairhaven Municipal Harbor Plan

Task 5: Final Draft Report

Approximately 6 Weeks

After adoption by both municipalities, we will present the final draft to the HPRC prior to submission to EEA. Based on input from the HPRC, the general public and the Community Working Groups, CZM and the other pertinent agencies and organizations, we will develop a Final Draft of the Plan Update including a new appendix with the DPA Master Plan and errata sheets with updates for the other Harbor Plan appendices and the compliance document. The Updated Harbor Plan will be submitted to CZM and the EEA Secretary for review and approval. We will attend the final consultation meeting with CZM and the public hearing.

We expect to provide technical support for EEA and CZM review, including response to public comments and appearance at one additional public hearing if required by the State. Regulatory issues will be addressed through the proposed substitute provisions, offsets, and amplification for non-water dependent uses, including guidance to DEP in narrative and tabular form. The plan will include the agreed formula for establishing the qualifications and percentages of supporting DPA uses and how the percentages will be applied geographically and include any special clarifications. A compliance statement documenting how the Updated Plan meets the standards for Issuance and Renewal of Municipal Harbor Plans and include a statement on compliance with CZM Enforceable Policies

TASK 5 DELIVERABLES

- Draft Update to the New Bedford/Fairhaven Municipal Harbor Plan. (20 copies plus electronic PDF file).



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FPA has a long track record of shepherding MHPs and challenging urban waterfront projects through the review and approval process, as well as strong relationships with state regulatory agencies.

Task 6: EOEAA Review and Approval

Approximately 20 Weeks

We will submit the final draft plan for review and approval to the EEA via the HPRC, the Mayor and City Council of the City of New Bedford, and the Fairhaven Board of Selectmen. We will provide support for the Plan Renewal to CZM and EEA review, including response to completeness review, response to public comments, and appearance at one additional public hearing if required by CZM and EEA. We understand this review will require our participation in meetings, phone calls, and electronic mail with regulatory agencies to discuss aspects of the plan that may need clarification, refinement, change or elimination to ensure the plan is consistent with CZM enforceable policies and to assist in the state efforts to develop a written decision by the Secretary of EEA on the proposed plan.

TASK 6 DELIVERABLES

- Submit update of the New Bedford/Fairhaven Municipal Harbor Plan to EEA, CZM, and municipal government.

Task 7: Final Deliverable

Approximately 4 Weeks

Following the Secretary's approval, we will publish the final New Bedford/Fairhaven Harbor Master Plan including a new appendix with the DPA Master Plan and errata sheets with updates for other appendices, and the EEA Secretary's Written approval. We will present a report out to the Community Working Group on the implications of the Secretary's decision, inclusion of substitute provisions, and any clarifications or rejections of plan elements.

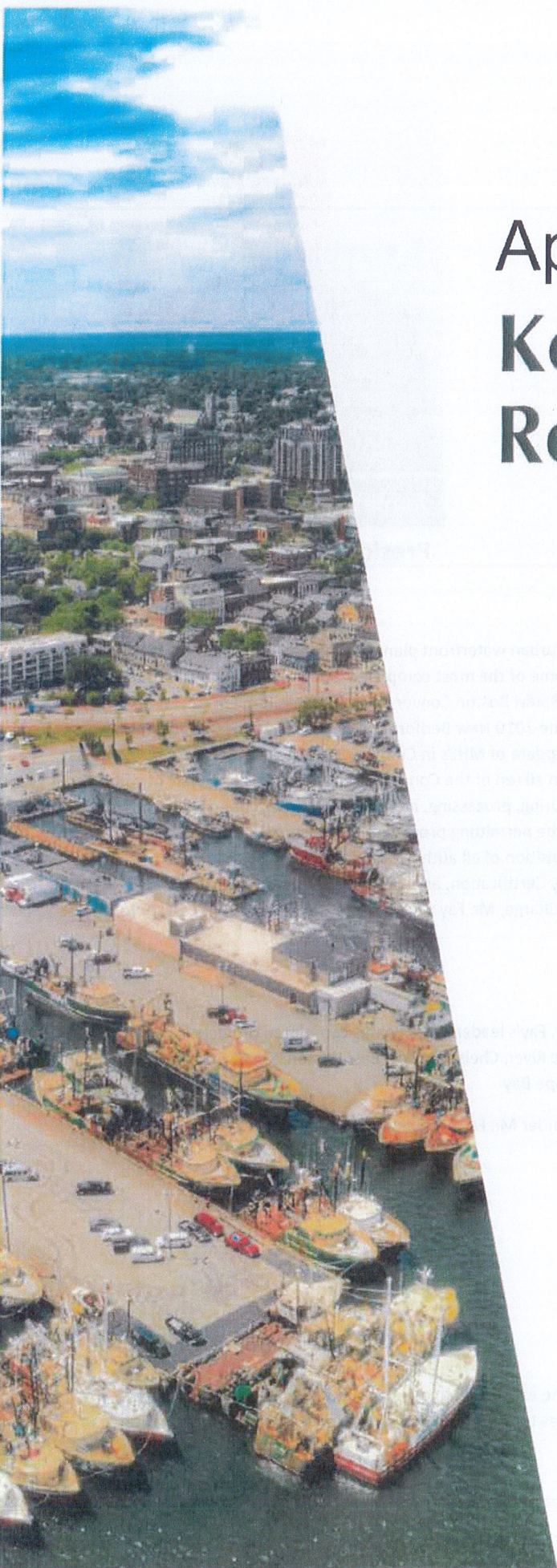
TASK 7 DELIVERABLES

- Final New Bedford/Fairhaven Harbor Master Plan with the Secretary's Decision. Twenty-five copies and electronic file and a MS Word version of the text.

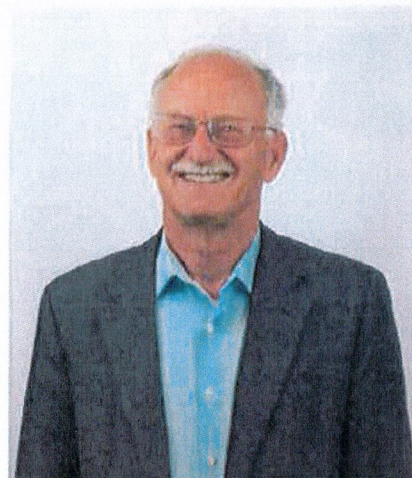


New Bedford/Fairhaven MHP Renewal Schedule

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An aerial photograph of a coastal city, likely San Francisco, showing a dense urban area with various buildings and a large harbor filled with numerous boats, including sailboats and larger vessels. The sky is blue with scattered white clouds.

Appendix A Key Staff Resumes



Jamie M. Fay, AICP, CEP

President

Summary

Jamie Fay is Founder and President of FPA, Boston's premiere urban waterfront planning and environmental permitting firm. For 40 years, he has served as the Lead Consultant for some of the most complex and high-profile projects in the state, including the \$2.5B Encore Boston Harbor Resort, the \$850M Boston Convention and Exhibition Center, and the \$14B Central Artery/Tunnel project. In addition to managing the 2010 New Bedford/Fairhaven Harbor Plan update, Mr. Fay has played a leadership role on the development and/or update of MHPs in Charlestown, Chelsea, Everett, Gloucester, Lynn, and Salem. He has also completed projects in all ten of the Commonwealth's DPAs, in support of wide-ranging water-dependent industrial uses, as well as manufacturing, processing, research, and production activities that require marine transportation. Mr. Fay is currently managing the permitting process for an offshore wind marshalling terminal development in Salem. This project requires the acquisition of all authorizations under MEPA and NEPA, MassDEP Chapter 91 Licensing, a MassDEP 401 Watery Quality Certification, and additional federal, state, and local permit reviews within an aggressive schedule. As Principal-in-Charge, Mr. Fay will dedicate the resources necessary to ensure completion of this project within 18 months.

Relevant Experience

Representative DPA Experience – Statewide, MA. Under Mr. Fay's leadership, FPA has completed projects in all ten MA DPAs: Gloucester Inner Harbor, Salem Harbor, Lynn, Mystic River, Chelsea Creek, East Boston, South Boston, Weymouth Fore River, New Bedford-Fairhaven, and Mount Hope Bay.

Representative Municipal Harbor Plans – Statewide, MA. Under Mr. Fay's leadership, FPA has managed the development of the following Municipal Harbor Plans:

- New Bedford and Fairhaven Municipal Harbor Plan
- Chelsea Municipal Harbor Plan
- Salem Municipal Harbor Plan
- Everett Municipal Harbor Plan
- Gloucester Municipal Harbor Plan
- Lynn Harbor Management Plan
- Charlestown Municipal Harbor Plan Amendment

These projects typically included: comprehensive analysis of the existing plan, development of new recommendations, preparation of a draft report, facilitation of the approval process through the EOEA acceptance stage, and preparation



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of a final approved plan. Often, the projects also addressed technical regulatory issues related to Chapter 91 and the subset of DPA regulations.

Salem Wind Port – Salem, MA. As a subconsultant to Crowley Marine, Mr. Fay is Principal-in-Charge of permitting services to develop an offshore wind marshalling terminal. The proposed terminal at a 42-acre site will support proposed wind farms off the Massachusetts coast and potential deepwater floating wind farms in the Gulf of Maine. Mr. Fay created and is now implementing a streamlined permit acquisition strategy to move the project through design, permitting, and construction within an aggressive 18-month schedule. The permitting effort includes the acquisition of all authorizations under MEPA and NEPA, MassDEP Chapter 91 Licensing, a MassDEP 401 Watery Quality Certification, and additional federal, state, and local permit reviews. FPA also provided extensive community and stakeholder engagement over a 2-year period including public meetings and hearings with local and state agencies, and presentations to local stakeholders and advocacy groups. The work involved preparing written and verbal responses to public comments that helped people understand the project, impacts, and mitigation measures.

Clippership Wharf – East Boston, MA. Mr. Fay led FPA's efforts on behalf of Lendlease Development, Inc, including managing the environmental review and permitting of the mixed-use, transit-oriented redevelopment project on 7 acres of underutilized land. The project included an innovative "living shoreline" component, which pulls back the shoreline to create a resilient salt marsh and coastal bank area. FPA secured approvals from the BPDA, BCC, BWSC, BTM, and other state and federal agencies including the EOEAA, CZM, DEP, USACE, and FAA.

Raymond L. Flynn Marine Industrial Park Master Plan (RLFMP) – South Boston, MA. Mr. Fay managed the first Master Plan for the RLFMP. He oversaw the evaluation of historic and current uses within the South Boston DPA, assessed short- and long-term potential uses, addressed the consistency of the proposed land uses in terms of regulatory criteria for DPA uses, and made recommendations to the BRA concerning future land uses within the park. He also obtained an innovative Chapter 91 Master License that provided for pre-approval of most projects.

Massport Conley Marine Terminal – South Boston, MA. FPA was retained by Massport to prepare a Master Plan for the 40-acre Conley Marine Terminal. Mr. Fay directed transportation, rail, and marine cargo subconsultants to develop a strategic plan for future development. At the same time, the Master Plan was underway, Massport expanded the study to evaluate the feasibility of extending freight rail to the site. The Master Plan has proved a valuable document for guiding development proposals. Most of the parcels are now under development.

Fitzgerald Shipyard – Chelsea, MA. Mr. Fay served as Principal-in-Charge of planning, zoning, and environmental consulting services for this important maritime facility. The 10-acre shipyard is a critical piece of infrastructure for the working port in Boston, servicing tug boats, barges, commercial passenger vessels, and other medium size ships. Following the accidental loss of the existing marine railways, Mr. Fay worked with the owner to obtain planning, zoning, and environmental approvals for the reconstruction of a new 1,600-ton marine railway.

Boston Harbor Shipyard and Marina – East Boston, MA. Since 2008, FPA has obtained environmental permits for infrastructure repairs and upgrades to the shipyard, including approvals from local, state, and federal agencies to repair docks, bulkheads, piers, outfalls, and a relieving platform to preserve the Shipyard's historic uses and support on-site businesses. These approvals have generated substantial investments totaling over \$5.6M. FPA has recently been retained to manage a 20-year Capital Investment Plan.

Education

B.A., 1976: Hampshire College, Amherst, Massachusetts

Professional Affiliations

- Member, American Institute of Certified Planners | Trustee, Boston Harbor Now | Former Trustee and Executive Committee Member, Boston Harbor Associates (25 years) | Finance Committee Member, Town of Ipswich (34 years) | Public Affairs Committee Member, NAIOP Massachusetts Chapter | MassDEP Regulatory Reform Task Force





Katie Moniz, PE, AICP, CFM

Vice President

Summary

Katie Moniz is a Vice President at FPA with nearly 20 years of experience in civil and site land development. She has worked extensively on urban waterfront projects, moving them through the local, state, and federal regulatory approval process and performing critical infrastructure vulnerability analyses and adaptive site designs to improve their climate resilience. Ms. Moniz recently managed the team for the Hyannis Harbor MVP Resilience Plan, which included BRR and WHG, and resulted in the development of implementable actions to revitalize the harbor into an adaptive regional hub. She also managed the Island End River Flood Resilience project for the Cities of Chelsea and Everett, which included planning and permitting in the Mystic River DPA, as well as consensus building with private sector commercial and industrial property owners/operators, outreach to EJ communities, and coordination with regulatory agencies. Her additional experience includes Resilient Dorchester and the Bass River District Resilience Plan in Beverly.

Relevant Experience

Hyannis Harbor MVP Resilience Plan – Hyannis, MA. Ms. Moniz managed the consulting services associated with the Hyannis Harbor MVP Resilience Plan. The goal of the effort was to develop an integrated land use, infrastructure, and public space strategy for the Harbor District study area. FPA led the grant work, including data collection, conceptual flood resilience strategies, initial land use recommendations, preliminary zoning and design guidelines, initial economic development recommendations, and overall project management and reporting.

Bass River District Resilience Plan – City of Beverly, MA. Ms. Moniz is managing grant work, conceptual flood resilience planning, community outreach, and other services for this MVP FY23 grant-supported project. The project included: review of critical assets within Beverly's HMP and Coastal Vulnerability Assessment Assets; identification of design flood elevations for implementation of flood resilience strategies; establishment of site conditions to provide the basis for resilience planning; and stakeholder engagement within the project area. The project developed flood intervention concepts on a district-wide level that could be implemented at city-owned assets.

Island End River (IER) Flood Resilience Project – Cities of Chelsea and Everett, MA. Ms. Moniz is the Project Manager, with overall responsibility for state and federal grant writing, planning, permitting, design, and stakeholder engagement services. The goal of the project is to implement a flood resilience solution to address current and future flood risks and identify short- and long-term plans for resiliency in the area, which is a major hub of commercial, industrial, and regional infrastructure, and also home to Chelsea residents including Environmental Justice communities. The inundation and flood pathways include the Mystic River DPA. Ms. Moniz collaborates extensively



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with the two cities to pursue climate resilience planning goals and master permitting for projects focused on the IER corridor. She also leads a Stakeholder Working Group and has helped build consensus with commercial and industrial property owners, demonstrating her ability to bring private stakeholders to the table, and even moving a flood resilience barrier in the Mystic River DPA through MEPA approval.

Resilient Dorchester – Boston, MA. Building off *Coastal Resilience Solutions for Dorchester*, the Scape Team, with FPA/Tetra Tech as a key subconsultant, is developing implementable design options to protect the Dorchester waterfront from future sea level rise and coastal storm events. The project is advancing the design concepts, focusing on the flood pathways at Tennean Beach and Victory Park. Ms. Moniz led pre-permitting feasibility analysis and supported engagement with state agencies including DCR, MassDOT, MBTA and others.

Hazard Mitigation Plan (HMP) Update – City of Everett, MA. As Project Manager, Ms. Moniz is leading the City of Everett through its 2020 HMP update process. She leads a Local Planning Committee of key city staff and stakeholders including business owners, nonprofit advocates, and regional partners through this project, which is currently in final review by FEMA Region 1. The Plan provides risk assessment for the following natural hazards: flooding, landslides, drought, severe thunderstorms, severe winter storms, dam failures, and earthquakes. It also considers projected coastal flood and coastal hazard risks associated with sea level rise impacts and increasing heat hazards due to climate change. The HMP update is strongly guided by public outreach and education. It has included numerous public meetings and a community survey distributed in three languages to encourage community input.

Beverly Water Street Pump Station Resilience Project – City of Beverly, MA. Ms. Moniz is managing a Vulnerability Assessment and Feasibility Study to identify, develop, and evaluate near-term flood resilience measures, and to plan for the long-term viability of the pump station, a regional facility of critical importance. Her team evaluated near-term measures intended to be implemented over the next 2 years. The team also built upon the City's resiliency and vulnerability preparedness planning efforts to date. This planning work brought together the City, South Essex Sewerage District, Salem Sound Coastwatch, CZM, Woods Hole Group, and residential and commercial neighbors to explore the use of natural and structural solutions. The visioning process featured a robust public process, including focus groups and interviews with stakeholders and community-wide forums.

Beverly Coastal Vulnerability Assessment – City of Beverly, MA. Prior to joining FPA, led the City of Beverly in its first climate planning effort in 2016-2017 to analyze the potential sea-level rise impacts to critical facilities and infrastructure in this coastal community. Working with WHG, created a vulnerability assessment framework to allow the community to rank assets and flood risks to prioritize future floodproofing and relocation efforts. Conducted three community workshops to engage and educate stakeholders. Prepared a community survey, a visual demonstration of flood pathways at Lynch Park, and a final report titled Beverly Coastal Resiliency Plan to document this work.

Education

MS Urban and Environmental Planning and Civil Engineering, Tufts University | BS Civil Engineering, Tufts University

Registrations/Certifications

- Licensed Professional Engineer, Massachusetts No. 48183 (2009)
- Certified Planner: American Institute of Certified Planners (AICP)
- Certified Flood Manager (CFM)
- Certified Municipal Vulnerability Preparedness (MVP) Grant Program Provider

Professional Affiliations

Urban Land Institute, Climate Resiliency Committee; Boston Chamber of Commerce - Climate & Energy Leadership Council Member; NAIOP MA, Govt Affairs Committee; U.S. Green Building Council; American Planning Association – MA; Environmental Business Council of New England, Corporate Member





Kenneth P. Fields, JD

Senior Project Manager

Summary

Ken Fields has 30+ years of experience in waterfront planning and policy, with a focus on environmental and land use permitting for complex projects. Prior to joining FPA, Mr. Fields served as the Executive Secretary for the Boston Conservation Commission and as an Area Permit Manager for the Central Artery/Tunnel Project. He has provided planning and permitting services for public agencies including the New Bedford Harbor Development Commission, Massport, Coastal Zone Management, Mass Development, Boston Redevelopment Authority, DCR, and the coastal communities of Salem, Gloucester, and Chelsea. He also led a Port and Infrastructure Analysis for Offshore Wind Development for the Massachusetts Technology Center/Massachusetts Clean Energy Center. Mr. Fields' experience in and around the Commonwealth's DPAs includes management of MEPA/Chapter 91/Wetland and Army Corps regulatory processes for the 2002 New Bedford State Pier dredge to deepen the navigation channel to allow for cruise ship port of calls. He recently coordinated permitting, landscape design, and marine engineering for the reconstruction of the Charlestown Marina.

Relevant Experience

Massachusetts Technology Center/Massachusetts Clean Energy Center, Port and Infrastructure Analysis for Offshore Wind Energy Development. As Project Manager, led an inter-disciplinary team in gathering and analyzing the infrastructure needs for handling the components of wind turbines, and the vessels used for offshore deployment of wind energy generation facilities, and the ability of Massachusetts port facilities to accommodate the receiving, storage, preconstruction, handling and delivery to proposed project sites. Research involved interviewing Mass Port operators, and developers from the various proposed East Coast wind farms. The final report recommended New Bedford Harbor as the logical Massachusetts port facility for meeting the nascent industry's needs. The Commonwealth has subsequently funded and constructed the expansion of the former South Terminal into the Marine Commerce Terminal in New Bedford Harbor, per the report's recommendation.

Gillette South Boston Manufacturing Center, South Boston, MA. Regulatory Support responsible for obtaining Conditional Use Permits from the Boston Zoning Board of Appeal, Order of conditions from Boston Conservation Commission, and submission of a Chapter 91 License Application in place of 33 historical licenses. Responsible for community presentations for zoning relief and the Chapter 91 process. Successful removal of 7+ acres of Gillette property from Waterways jurisdiction through a Chapter 91 Request for Determination process. Presently, assisting Gillette with regulatory implication of divestment of their South Boston Manufacturing Facility properties and negotiations with grantees.



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Raymond L. Flynn Marine Park – South Boston, MA. Mr. Fields managed multiple regulatory reviews prior to the issuance of building permits and construction for The Foundry at Dry Dock, a 262,000-sf life science campus at Parcel O and Parcel P in the RLFMP, as a DPA supporting use on property owned by the EDIC of Boston. The Marcus Partners' development provides for the further expansion of local start up, Ginko Bioworks, into a next generation 219,000-sf life science/R&D building. Similarly, he managed multiple regulatory reviews for Parcel X for a 740,000-sf life science/R&D building as a multi-year RLFMP Master Plan process concluded resulting in a new formula for allocation of supporting DPA uses under a Chapter 91 Amendment to the Marine Park Master License.

Coastal Resilience Solutions – Dorchester, MA. As a subconsultant to SCAPE, provided environmental review and regulatory permitting evaluation, and participated in a series of steering committee and stakeholder meetings to study the options to mitigate flood risks. The team prepared a robust analysis of coastal flooding in Dorchester, identified pathways and time horizons, and used this information to evaluate the impacts of coastal flooding on homes, businesses, water/wastewater infrastructure, key transportation routes, transit corridors and the neighborhood's ecological and open space systems.

Bio-Med Realty Trust – Cambridge, MA. Responsible for wetlands and waterways regulatory compliance for a multiple building, mixed-use life sciences research campus in Kendall Square adjacent the Broad Canal. Through Chapter 91 Minor Project Modifications, extensions, partial and final certificate of compliance, he obtained the regulatory approvals for managing upgrades to open space areas, including establishing Termeer Square, honoring the father of modern biomedical research. Obtained authorization for updating the gas main infrastructure on campus and relocating a gas transfer station from Third Street to the Kendall Green Energy Cogeneration Station, and had FEMA issue a Letter of Map Amendment to remove the mapped flood zone from the property.

Coastal Zone Management Chapter 91 Jurisdictional Mapping – Statewide, MA. Mr. Fields was responsible for regulatory interpretation and implications analysis of historic shoreline mapping to establish a "Presumptive Line" of Chapter 91 jurisdiction; directing the research team comprised of regulatory professionals, university professors, and graduate students; coordinating between the Commonwealth Archives Director of Records Management and Department of Environmental Protection Waterways staff archivist, and for transfer of historic documents. The project required record digitizing to support setting presumptive historic shorelines as they relate to Chapter 91 jurisdiction, including private, and landlocked tidelands.

Charlestown Marina Reconstruction, Charlestown MA. Project Manager responsible for coordinating permitting, landscape design, graphic support, and marine engineering. The Marina facilities at Pier 8 and Pier 6 were subject to a Consent Judgement due to neglect by the prior owner. Chapter 91 authorization required a water-dependent License for Pier 8 and a Non-water dependent License on Pier 6. Other regulatory submissions included an Environmental Notification form under the Massachusetts Environmental Policy Act, Massachusetts Coastal Zone Management Federal Consistency and two sets of Army Corps Section 10 Permits and Wetland Orders of Conditions from the Boston Conservation Commission. Coordination of submissions of numerous other documents to and negotiations with the Massachusetts Attorney General's Office.

Encore Boston Harbor, Everett, MA. Project Support responsible for obtaining a 401 Water Quality Certification from Massachusetts DEP, and an Army Corps Section 10 and 404 individual permit for a Resort Casino on the Mystic River. Coordinated relief of Time of Year Restrictions with the Massachusetts Division of Marine Fisheries, National marine Fisheries Service, Army Corp of Engineers and MADEP Waterways and Water Quality Divisions.

Education

Juris Doctor, Suffolk University Law School | BA, English, Secondary Education Certificate, UMass – Boston

Professional Affiliations

Environmental Business Council (EBC) Ocean and Coastal Resources Committee | Board of Bar Overseers 1995 - 2015 (inactive) | Neponset River Superfund Citizen's Advisory Committee | Former Co-Chair of the Greater Boston Urban Resources Partnership | Former Vice-Chair of the Rezoning Advisory Committee, Hyde Park





Richard Jabba, AICP

Senior Planner

Summary

Richard Jabba has more than 30 years of urban and waterfront planning experience in the United States and abroad. He has worked on a variety of waterfront plans, from municipal harbor plans to site-specific projects with development costs up to \$2.4B. He currently manages the acquisition of local, state, and federal regulatory approvals for large commercial, industrial, and public sector waterfront developments. Mr. Jabba has worked extensively on municipal harbor plans and master development plans throughout New England, notably in Boston, Gloucester, Everett, Fall River, Quincy, and Salem, MA; Galilee, RI; and Hampton Beach, NH. Prior to joining FPA, Mr. Jabba developed community plans, master plans, and harbor plans for cities and towns across New England including the Fall River Harbor and Downtown Economic Development Plan that led to several state-funded highway and recreational projects, and the Winthrop Waterfront Assessment and Harbor Plan that led to the construction of a \$2.2 million multi-use commercial pier. His additional experience includes permitting for the development of an offshore wind marshalling terminal in Salem and for the mixed-use Clippership Wharf development in East Boston, which involves critical analyses of Chapter 91, MHP, and USACE compliance and applies specific resiliency measures to address sea level rise.

Relevant Experience

Gloucester Municipal Harbor Plan and DPA Master Plan – City of Gloucester, MA. Mr. Jabba assessed the port facilities and provided recommendations for key public and private sites for revitalization and reuse. The plan address Chapter 91 regulatory changes to improve the development of the harbor to align with commercial fishing needs and the City's mixed use waterfront.

Salem Municipal Harbor Plan and Update – Salem, MA. Mr. Jabba supported the development of the Salem MHP (2000) and the Updated Salem MHP (2008). In each of these endeavors, Mr. Jabba gained considerable insight and understanding of the complex issues and opportunities along this varied and historic waterfront. He supported the vision planning, alternatives creation, and coordination with the Harbor Planning Committee and state officials.

Fall River Harbor and Downtown and Economic Development Plan – City of Fall River, MA. Mr. Jabba managed this comprehensive downtown and waterfront revitalization plan that led to the funding and development for several projects including a waterfront gateway and walkway, and reconstruction of the State Pier for mixed uses.

Offshore Wind Terminal Development – Salem, MA. FPA is currently permitting the proposed marshalling terminal at a 42-acre site that will support proposed wind farms off the Massachusetts coast and potential deepwater floating wind



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farms in the Gulf of Maine. Key components include construction of two wharfs and dredging to accommodate the delivery, offloading, pre-assembly, and shipment of heavy offshore wind components. Mr. Jabba is managing the permitting and coordination under a fast-tracked schedule to meet critical construction and operational deadlines that will help the wind farms meet the Commonwealth's goals for clean, renewable energy. FPA also provided extensive community and stakeholder engagement over a 2-year period including public meetings and hearings with local and state agencies, and presentations to local stakeholders and advocacy groups. Also prepared written and verbal responses to public comments that helped people understand the project, impacts, and mitigation measures.

Boston Harbor Shipyard – East Boston, MA. Mr. Jabba served as Permit Manager for multiple local, state, and federal permits that supported pier improvements and buildings within the shipyard. The former naval shipbuilding facility had unique structures, such as relieving platform, which needed to be improved and permitted to support continued vessel repair and marina uses. FPA was recently retained for a 20-Year Capital Investment Plan to redevelop and rebuild the shipyard for modern maritime use and obtain all required local, state, and federal entitlements.

Fore River Shipyard – Quincy, MA. Mr. Jabba managed federal, state, and local permitting for the redevelopment of a large industrial shipyard for commercial and industrial uses. He provided support graphics and analyses for historical shoreline information and a Chapter 91 jurisdiction determination.

Marina Bay – Quincy, MA. Mr. Jabba managed the federal, state, and local permit process for extensive series of improvements including dock expansion, a floating breakwater, and travel lift piers in one of the state's largest marinas.

Hampton Beach Master Plan – City of Hampton Beach, NH. Mr. Jabba coordinated efforts of a 30-member advisory committee and local and state agencies to create a 50-year vision for one of the state's largest tourist areas. This plan created a new development framework and established an implementation program of actions and regulation.

Port of Galilee Master Development Plan – City of Narragansett, RI. Mr. Jabba created a waterfront plan that focused on economic development through compatible expansion of commercial and recreational fishing and tourism in Rhode Island's largest fishing port.

Everett Central Waterfront Municipal Harbor Plan – City of Everett, MA. Mr. Jabba supported development of this municipal harbor plan, which opened public access to the Everett's waterfront and lead to the development of the Encore Boston Harbor resort and pedestrian connections to Department of Conservation and Recreation park lands.

Clippership Wharf, Lendlease – East Boston, MA. Mr. Jabba managed key environmental permits for this mixed-use waterfront development that includes 478 residential units, restaurants, a kayak launch, docks, and other public amenities. This project involved critical analyses of Chapter 91, Municipal Harbor Plan, and Army Corp of Engineers compliance. It is also a model for development that applies specific resiliency measures to address sea level rise.

New Street Development – East Boston, MA

Mr. Jabba managed permits for the 224-unit mixed use development that included a restaurant, Harborwalk, water taxi landing, and marina. Worked extensively with advocacy and neighborhood groups as well as the state and local agencies.

Education

Master of City Planning, 1997: University of Rhode Island

Bachelor of Arts, 1990: Geography and Marine Affairs, University of Rhode Island

Registrations/Certifications

- American Planning Association, AICP Certified





Susan E. Nilson, PE
Senior Vice President
Environment Solutions

Education

M.S., Civil Engineering, University of Washington

B.S., Civil Engineering, University of Massachusetts, Amherst

Professional Registrations/ Certifications

- Professional Engineer -
CT, #PEN.0032570
MA, #EN 41339-C
NJ, #24GE04820800
NY, #085328-1
RI, #PE0012338
WI, #47023-6
- OSHA 40 hour HAZWOPER
- Transportation Workers
Identification Card (TWIC)

Papers/Publications

- "Port Infrastructure: Marine
Commerce Terminal in New Bedford,
MA" – ASCE Ports, New Orleans, LA
- "Bulkhead Design for the New
Bedford Marine Commerce
Terminal"
- ASCE Structures Congress, Boston,
MA

Key Areas of Expertise

- Marine Industrial Facilities
- Operations and Maintenance of Port
Facilities
- Offshore Wind Port Facilities
- Shipyards
- Recreational Boating Facilities
- Regulatory Strategies
- Dredge Engineering
- Project Management
- Contract Management
- Team Building

Ms. Nilson has over 25 years of experience with marine infrastructure, dredging, and civil engineering projects for private, commercial, and public concerns. As a Senior Vice President at Foth, Ms. Nilson is the Business Unit Leader for Environment Solutions and has a well-established track record working with clients to execute solutions to the toughest science and engineering challenges. Her professional career has developed through numerous projects that have involved a wide range of skill sets, including harbor planning, engineering, permitting, bid and construction phase services.

As former President of CLE Engineering, Inc., Ms. Nilson successfully led the firm and was responsible for the development of staff, business opportunities, and execution of projects. She clearly identifies project needs, overlaying the skill sets of key staff, and then successfully putting a plan into action to provide exceptional client service and excellent project delivery.

Ms. Nilson has extensive experience with design, construction, operations and maintenance of port and terminal facilities, including commercial fishing, offshore wind, cargo, bulk materials, public and private recreational marine facilities. She initiates projects with the development of the Basis of Design document to thoroughly assess and understand the client's design criteria and constraints. Ms. Nilson routinely provides strategies for waterfront development projects based on decades of garnered experience with operational requirements, engineering, regulatory strategies, constructability, and costs. Ms. Nilson regularly engages with stakeholders to listen, collaborate, and share information to achieve alignment where possible, and foster positive relationships.

Relevant Experience

New Bedford Port Authority (NBPA): Mooring Fields, Recreational Boating Facilities, Inspection and Assessment of Port Infrastructure, Pier Repairs, Pier Extensions, Terminal Expansions, Confined Aquatic Disposal (CAD) Cell, and Dredging, Client Manager, New Bedford, MA. Ms. Nilson has a long-standing commitment to the NBPA and over the last 16 years, she has contributed to the successful execution of various projects throughout the harbor. From surveys and engineering work to permitting and construction phase services, her expertise has played a crucial role in realizing NBPA's vision for the port. Notable projects include optimizing mooring fields, enhancing recreational boating and rowing facilities at Pope's Island, assessing, inspecting and recommending improvements for city-owned waterfront infrastructure (including resiliency assessments, pier repairs, and fendering), design and permitting for the reconstruction of Homers and Leonards Wharves, and North Terminal II. Additionally, Foth is the engineering lead for critical initiatives such as the Confined Aquatic Disposal (CAD) Cell, North Terminal Expansion, and Phase V dredging. As Client Manager, Ms. Nilson supports Foth's engineering and permitting teams, develops and implements strategies, and actively engages with stakeholders on behalf of NBPA.

Town of Fairhaven, MA, Union Wharf Bulkhead Replacement, Timber Platform, and Floating Dock, Client Manager, Fairhaven, MA. Ms. Nilson has been working with the Town of Fairhaven since 2009, delivering phased construction improvements, aligned with funding resources, for Union Wharf, which supports the commercial fishing industry and serves as a base for the harbor master. Ms. Nilson originally led the team providing inspection, hydrographic surveys, waterfront engineering, permitting, cost estimating and phasing, and construction phase services for the first phase of the replacement bulkhead system and facility upgrades. Over the last 5 years, Ms. Nilson has served as the client manager, working with Foth's project manager, to successfully execute subsequent phases, aligning with the master plan for improvements.

Susan Nilson, continued

Private Waterfront Property Owners, Client Manager, New Bedford and Fairhaven, MA. For nearly 20 years, Ms. Nilson has worked with owners of waterfront properties throughout New Bedford/Fairhaven harbor to repair, improve, and expand their marine facilities. Services include planning, assessments, inspections, surveys, engineering, regulatory strategies/permitting and construction phase services. The industries supported include shipyards, commercial fishing/processing facilities, offshore wind construction and operations & maintenance facilities, marine contractors, restaurants, etc. This breadth of experience represents many of the stakeholder interests in the harbor and Ms. Nilson's positive relationships are the result of collaboration with agencies and owners, leading to the successful delivery of projects. Permitting strategies rely on Ms. Nilson's thorough understanding and appropriate application of the State Enhanced Remedy (SER) process, and also expertise in securing local, state and federal permits when required. The 2010 New Bedford and Fairhaven Municipal Harbor Plan has been a foundational reference for projects. Ms. Nilson is also well versed with 310 CMR 9.00 Waterways, building an understanding over decades of experience working on Massachusetts shorelines including within Designated Port Areas, activating water-dependent, supporting and temporary uses.

New Bedford Marine Commerce Terminal, Massachusetts Clean Energy Center, Project Manager, New Bedford, MA. Ms. Nilson managed the design and construction of this facility beginning with the development of the Basis of Design, in consideration of the design criteria as well as site constraints, an extensive alternatives analysis, preliminary design which progressed through final design details for the marine terminal. This terminal was the first purpose-built facility with deep water access and roughly 20 acres of port terminal space to support the construction, assembly, and deployment of offshore wind projects, as well as handle bulk, break-bulk, container shipping and large specialty marine cargo. The Foth team of engineers, led by Ms. Nilson, was responsible for the engineering design of steel cofferdams with a pile-supported concrete relieving platform. During construction, Ms. Nilson managed Foth's on-site personnel, reviewed submittals, and RFIs, and worked with the design team to resolve construction-related issues while maintaining the integrity of the design and schedule. MassCEC continues to work with the Foth team, which is providing engineering services.

Massport Waterfront Facilities Term Consultant, Principal-in-Charge/Project Manager, East Boston, South Boston & Charlestown, MA. Starting in 2016, Ms. Nilson serves as the Primary Point of Contact for Massport and assigns resources to each requested task to provide rapid responses with appropriate personnel. Ms. Nilson manages and provides engineering for the assessments, design, permitting, bid, and construction services phase of projects. In particular, Ms. Nilson recognizes the importance of delivering designs within the available construction budgets while also providing recommended future phases of work. Assignments have included the Black Falcon Cruise Terminal: Pier Rehabilitation, Black Falcon Cruise Terminal: Berth 4/5 Fendering, Commonwealth Pier, Conley Berth 17, North Jetty, Pier 1: Sail Boston 2017, Logan Airport: Pier 4R Structural Repairs, Logan Airport: Delta Taxiway Stormwater Outfall, Saratoga St./Belle Isle Inlet, and Logan Ferry and Commuter Taxi.

Terminal Expansion and Dredging for Offshore Wind Operations and Maintenance Facility, Tisbury Marine Terminal, LLC, Client Manager, Tisbury, MA. The Tisbury Marine Terminal has been in operation since the late 1800s and provides critical and essential services for the entire island of Martha's Vineyard (MV). As the only marine industrial terminal on MV, it is currently providing receipt/transfer of materials, cargo and bulk, was well suited to be the first site as an Operations & Maintenance hub for offshore wind. Ms. Nilson led the development and permitting of a new marine terminal project working with the property Owner and Vineyard Wind, LLC. Marine infrastructure and site improvements provide the identified logistics, layout, and operational requirements of the facility, while balancing the regulatory requirements for construction in this coastal area. Project elements include steel sheet pile bulkheads, solid filled pier reconstruction, steel pipe and sheet pile wave break, pile supported concrete deck structures, barge ramps, and dredging.