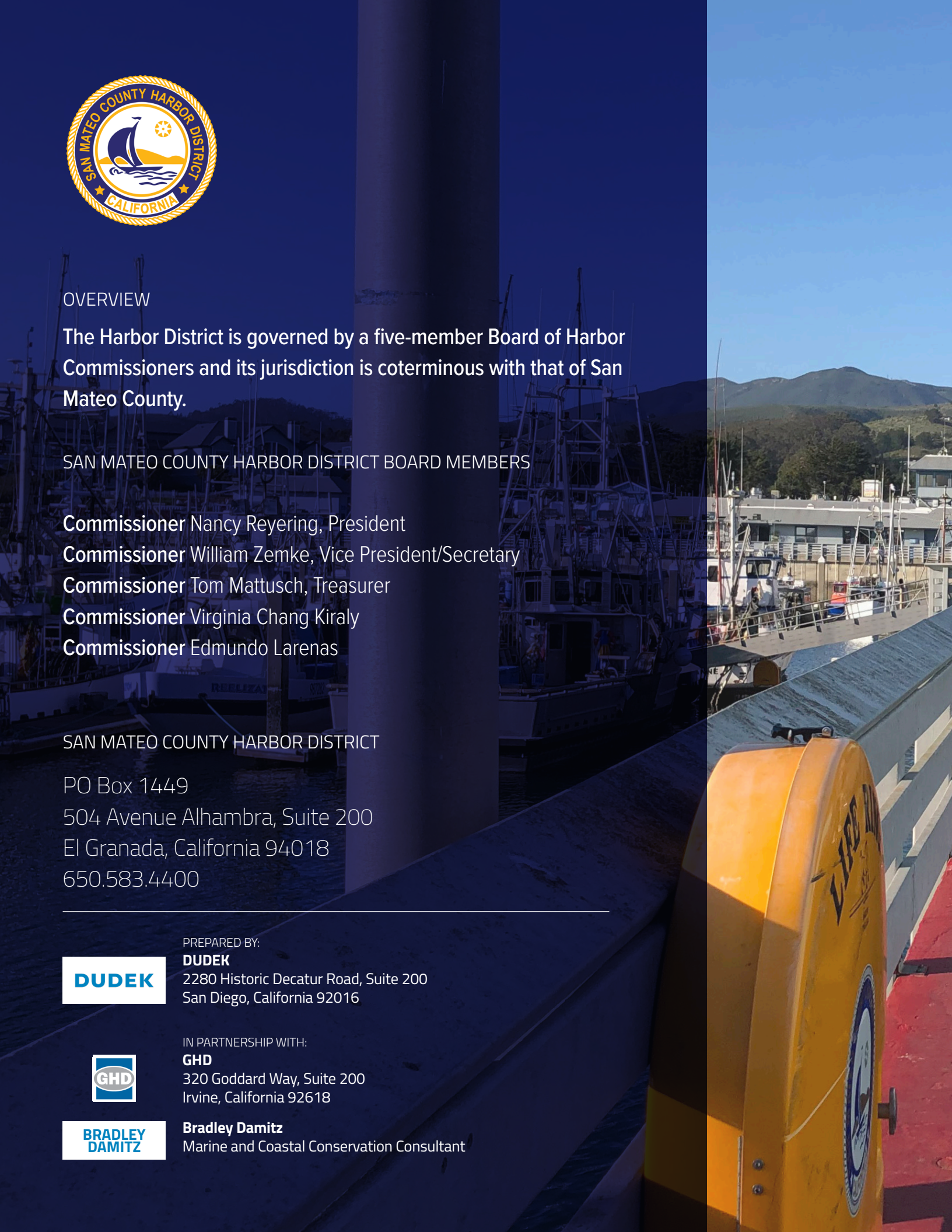
San Mateo County Harbor District

MASTER PLAN

March 2022

PREPARED BY:
DUDEK



OVERVIEW

The Harbor District is governed by a five-member Board of Harbor Commissioners and its jurisdiction is coterminous with that of San Mateo County.

SAN MATEO COUNTY HARBOR DISTRICT BOARD MEMBERS

Commissioner Nancy Reyering, President
Commissioner William Zemke, Vice President/Secretary
Commissioner Tom Mattusch, Treasurer
Commissioner Virginia Chang Kiraly
Commissioner Edmundo Larenas

SAN MATEO COUNTY HARBOR DISTRICT

PO Box 1449
504 Avenue Alhambra, Suite 200
El Granada, California 94018
650.583.4400

PREPARED BY:
DUDEK
2280 Historic Decatur Road, Suite 200
San Diego, California 92016

IN PARTNERSHIP WITH:
GHD
320 Goddard Way, Suite 200
Irvine, California 92618

Bradley Damitz
Marine and Coastal Conservation Consultant

Contents

SECTIONS

Executive Summary iv

1 Introduction 1

1.1 Purpose 3
1.2 Mission and Vision 4
1.3 How To Use This Document 5
1.4 History and Context of Master Plan Areas 6
1.5 Relationship to Other Jurisdictions, Regulatory Documents and Plans 9

2 Project Prioritization 16

2.1 Overview 16
2.2 Pillar Point Harbor 18
2.3 Oyster Point Marina 26
2.4 Future Opportunities 33

3 Sustainability and Sea Level Rise 42

3.1 Sea Level Rise Projections 42
3.2 Pillar Point Harbor Vulnerability Overview 44
3.3 Oyster Point Marina Vulnerability Overview 52

4 Marina Facility Condition Surveys 60

4.1 Pillar Point Harbor Existing Conditions 62
4.2 Oyster Point Marina Existing Conditions 66

5 Public Engagement 71

5.1 Stakeholder Interviews 74
5.2 Public Surveys, Pop Up Events and Canvas 74
5.3 Commissioner Interviews 76
5.4 Workshops 76

APPENDICES

Appendix A - Project Prioritization Table

Appendix B - Marina Facility Condition Surveys

Appendix C - Communication and Engagement Plan

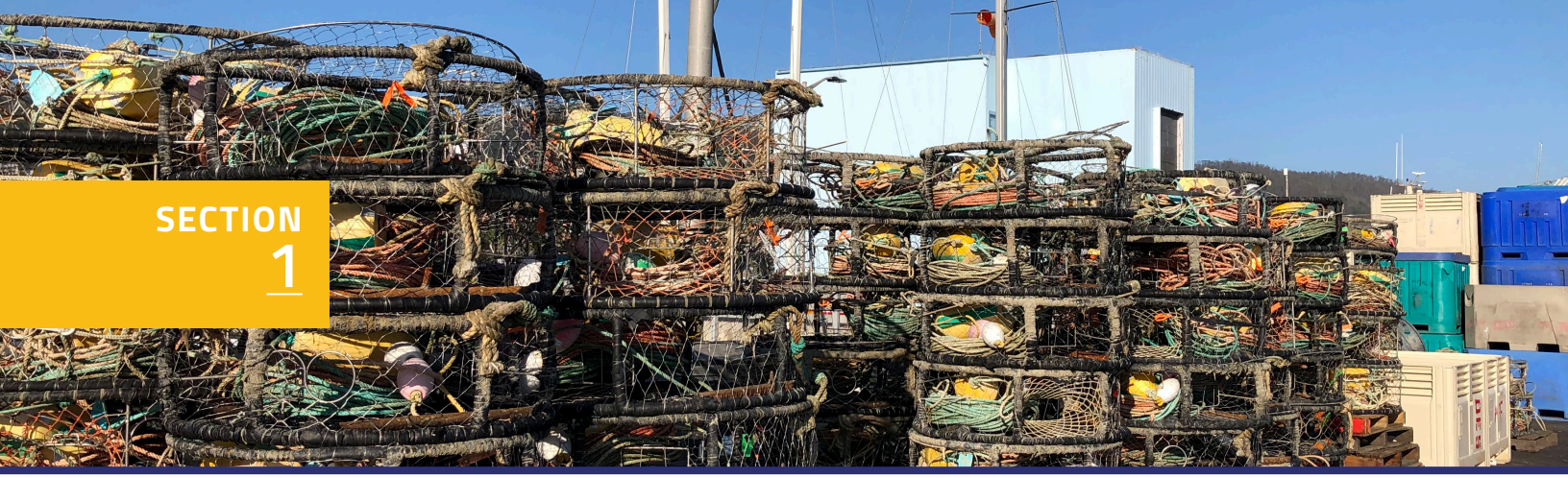
Executive Summary

The San Mateo County Harbor District Master Plan serves as the District's comprehensive plan to guide future capital improvement projects, land development and maximization of water resources under the District's jurisdiction. It also addresses the District's current infrastructure status and ability to meet the needs of residents, District businesses, users and visitors. The Plan identifies existing land use conflicts and potential future physical improvements and opportunities for new District activities at Pillar Point Harbor and Oyster Point Marina.

The Master Plan complements the 2019 Strategic Plan and the prior Fishing Community Sustainability Plan from 2014, both of which undertook extensive shareholder interviews and data collection. It focuses on the priorities of the District and the community, and reflects ongoing and planned capital improvement projects. Existing and potential projects at both Pillar Point Harbor and Oyster Point Marina are prioritized based on a variety of quantitative and qualitative factors, including existing conditions and remaining useful life for marina facilities, estimated cost, funding opportunities, community support, user benefit, and sea level rise considerations. The projects are grouped into four tiers based on their prioritization score. The purpose of the Master Plan and tiered projects is to provide a roadmap to the District for identifying and implementing capital improvement projects and supportive programs and policies. This Master Plan does not make decisions or commitments regarding project approvals; rather, this plan aims to inform the District, public,, and stakeholders regarding priorities and scopes of potential projects that would be subject to independent decision(s) by the District and environmental review as/when necessary. As with the prior Master Plan (1991), this Master Plan identifies the importance of repair and redevelopment of Johnson Pier in Pillar Point Harbor as foremost of the District's priorities.

SECTION
1

Introduction



SECTION
1

Introduction

The San Mateo County Harbor District Master Plan serves as the San Mateo County Harbor District's (the District) comprehensive plan to guide future capital improvement projects, land development, and maximization of water resources under the District's jurisdiction. It also addresses the District's current infrastructure status and ability to meet the needs of residents, District businesses, users and visitors. The Plan identifies existing land use conflicts and potential future physical improvements and opportunities for new District activities at Pillar Point Harbor and Oyster Point Marina.

The District was established in 1933 as an Independent Special District by resolution of the San Mateo County Board of Supervisors following a petition filed by the registered voters of San Mateo County (the County). The resolution established the entire area of the County as being within the District's boundaries. The District is governed by five Harbor Commissioners who reside in the County. Harbor Commissioners serve 4-year staggered terms. Historically, the Harbor Commissioners were elected County-wide. In 2018, the Harbor Commission created five distinct districts, and beginning in November 2020 the District held its first districted election for three of the five newly created voting districts (Districts 1, 4, and 5). In November 2022, the District will hold an election for the other two voting districts (Districts 2 and 3). The District's jurisdictional boundaries are the same as those of the County.

Oyster Point Marina, 2021

The District presently operates two marine facilities within San Mateo County.

1 PILLAR POINT HARBOR

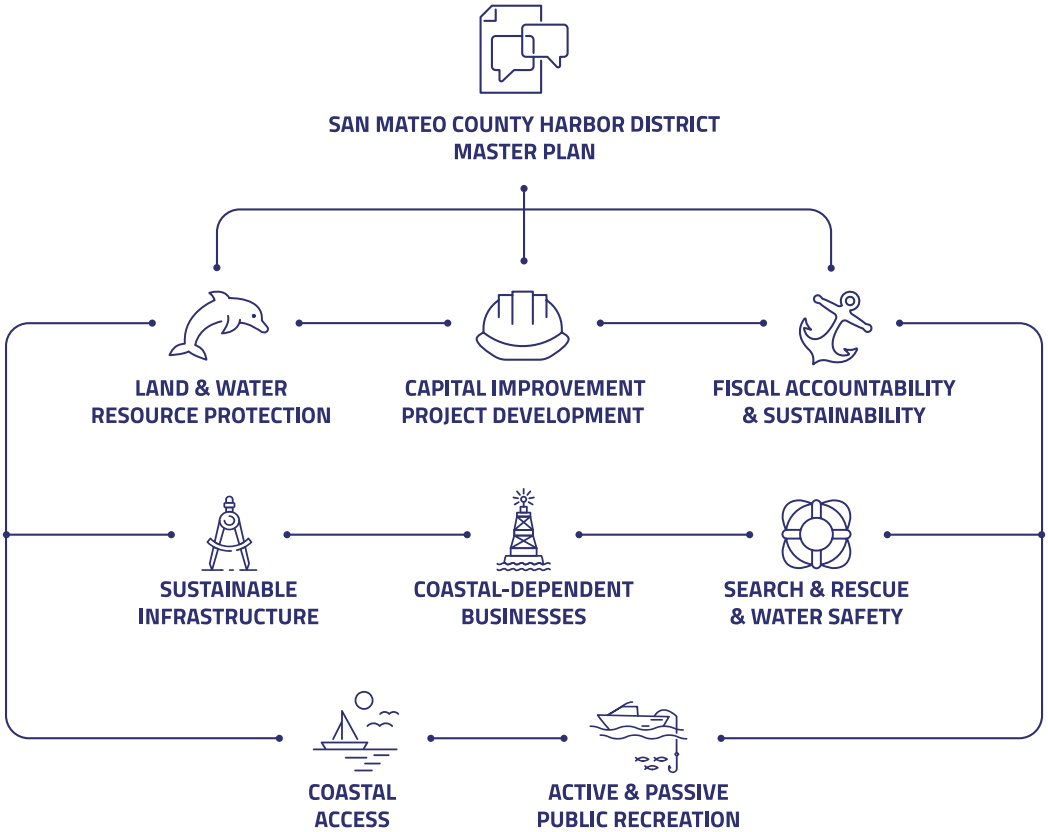
Pillar Point Harbor is located adjacent to the unincorporated communities of Princeton and El Granada on Half Moon Bay approximately 25 miles south of the City of San Francisco. It is a 369-berth mixed-use harbor supporting commercial fishing, recreational boating, and public access.

2 OYSTER POINT MARINA

Oyster Point Marina consists of a 408-berth recreational marina in the City of South San Francisco. It is owned by the City of South San Francisco and managed/operated by the District under the 2018 Agreement.

1.1 PURPOSE

The purpose of the San Mateo County Harbor District Master Plan is to provide a comprehensive guide that will focus future District activities in a relevant, responsive, and realistic manner. The Master Plan will support the District in navigating and defining the best possible use of its land and water resources at marine facilities (also referred to as Master Plan Areas), and in identifying and achieving capital improvement projects. The District is committed to fiscal accountability and sustainability while achieving an operable balance of resource protection, coastal access, sustainable infrastructure, coastal-dependent businesses, and active and passive public recreation. The Master Plan is intended to be used in concert with the Strategic Plan (2019) to identify capital improvements and associated implementation timelines, policies, and programmatic recommendations within the District's jurisdiction. This Plan does not make decisions or commitments about project approvals, but rather helps inform the District, public, and stakeholders regarding priorities and scopes of potential projects that would be subject to independent decision(s) by the District and environmental review as/when necessary.



1.2 MISSION AND VISION

The establishment of a mission and vision for the Master Plan is a critical component to ensure the success and longevity of the Plan. The mission and vision of the Master Plan align with the mission, vision, and core values of the 2019 Strategic Plan and were informed by robust engagement efforts.

MISSION

The mission of the San Mateo County Harbor District Master Plan is to create a comprehensive guide that will focus District activities in a relevant, responsive, and realistic manner.

VISION

The San Mateo County Harbor District Master Plan identifies capital improvement projects that balance recreational and commercial use, public access for residents and visitors, and environmental stewardship for future generations.

1.3 HOW TO USE THIS DOCUMENT

SECTION 1 – Introduction

Section 1 provides an overview of the District's formation and governance. It provides information on the characteristics and boundaries of the District, Pillar Point Harbor, and Oyster Point Marina, as well as the 2018 Agreement between the District and South San Francisco. Section 1 summarizes the purpose, mission, and vision of the Master Plan.

SECTION 2 – Project Prioritization

Section 2 is the core of the Master Plan and provides guidance for projects, specific activities, and prioritization thereof for the future. Section 2 reviews potential future projects at both Pillar Point Harbor and Oyster Point Marina and describes the methodology used to rank those projects in terms of District prioritization. Potential projects are grouped into four tiers, with high priority projects in Tier 1 being described in detail.

SECTION 3 – Sustainability and Sea Level Rise

Section 3 discusses the current effects of sea level rise and coastal hazards on District facilities and includes climate change modeling that predicts future effects of coastal hazards. Key facility vulnerabilities are identified, and recommendations for planning and adapting to climate change are provided.

SECTION 4 - Existing Conditions Analysis

Section 4 provides an overview of the Marina Facility Condition Surveys conducted at Pillar Point Harbor and Oyster Point Marina. The condition surveys document the present day (2021) condition of the facilities within the District's jurisdiction to provide a basis for future planning efforts. Surveys include the estimated remaining useful life and anticipated costs of repair and/or replacement of key marina elements at each facility. Findings from the existing conditions analysis, in addition to funding information and public input, informed the project tiers presented in Section 2.

SECTION 5 – Public Engagement

Section 5 includes a summary of the robust public engagement conducted to help inform the Master Plan's mission, vision, core values, alternatives, and project prioritization. A variety of public engagement strategies were used including public workshops, one-on-one interviews, online and print surveys, and pop-up events to solicit feedback from the District, City and County staff, elected officials, Harbormasters, Harbor Commissioners, and stakeholders, including members of the commercial fishing community, residents, and visitors.

Figure 1. Pillar Point Harbor Overview Map

1.4 HISTORY AND CONTEXT OF MASTER PLAN AREAS

1.4.1 Pillar Point Harbor

Pillar Point Harbor (**Figure 1**) is located adjacent to the unincorporated communities of Princeton and El Granada on Half Moon Bay approximately 25 miles south of the City of San Francisco.

In 1960, by statutory grant, the State conveyed 1,235 acres of tidelands and submerged lands to the District upon condition that the harbor be developed. The outer breakwater was completed in 1961 by the U.S. Army Corps of Engineers, with an extension added in 1967 to decrease the amount of wave energy coming into the harbor. Also in 1961, the main concrete pier was built and

named after Rear Admiral Sigval B. Johnson, U.S. Coast Guard (ret.), former Harbor Commissioner and Board President of the District. Full buildout of the inner harbor was accomplished during the 1980s with the construction of the harbor's floating docks and berths, along with a second, inner breakwater to provide further protection for the coastal fishing fleet.

Today, Pillar Point Harbor is a very active, 369 mixed use berth facility, which supports and serve a large commercial fishing fleet, recreational boating, kayaking and standup paddling opportunities, and other public waterfront experiences at the various restaurants, shops, piers, trails, and promenades.

Pillar Point Harbor is also a designated Harbor of Safe Refuge under California Harbor and Navigation Code Section 70.3, providing safe haven to mariners in distress.

1.4.2 Oyster Point Marina

Oyster Point Marina (**Figure 2**) consists of a 408-berth recreational marina located in the City of South San Francisco. Oyster Point Marina is owned by the City of South San Francisco and managed by the District under the 2018 Agreement. The west basin of the marina was originally constructed in the 1960s, north of the South San Francisco landfill. In 1977, the District assumed operational control over Oyster Point Marina under a 49-year Joint Powers Agreement. The agreement gave the District the authority to improve and complete construction of a recreational marina while retaining the berthing and other related fees. In the 1980s, the District replaced the original docks in the west basin and expanded the marina into the east basin with construction of a new breakwater. At highest available occupancy, the marina had 589 slips. The breakwater was modified in 2008, and Docks 9 and 10, with a combined total of 134 slips, were removed in late 2009 and early 2010 to make way for the Water Emergency Transportation Authority ferry terminal, which opened in 2012. The guest dock (Dock 8) and Dock 11 were replaced during the 2012–2013 fiscal year with concrete floating docks. Dock 8 accommodates side-tie only and is intended for temporary moorage as vessels check into the Marina. It is also being utilized by smaller privately operated commuter ferries. Dock 11 was reconfigured to avoid interference with the operational requirements of the Water Emergency Transit Authority ferry terminal and incorporates both side-tie and slips. This reconfiguration resulted in the loss of approximately 30 slips.

The current slip count for the marina stands at 428 berths spread over 6 dock strings (Docks 1 to 6) in the west basin and 4 dock strings (Docks 11 - 14) in the east basin. In recent years, a research and large-scale office development project at Oyster Point has decreased the District's landside responsibilities.

Figure 2. Oyster Point Marina Overview Map

1.5 RELATIONSHIP TO OTHER JURISDICTIONS, REGULATORY DOCUMENTS, AND PLANS

1.5.1 Relationship to Other Jurisdictions

While the District's physical jurisdiction includes the entirety of the County, currently its operational authority is limited to Pillar Point Harbor and Oyster Point Marina. At Pillar Point Harbor, the District owns land and submerged lands with facilities including buildings, parking lots, boat launch ramp, docks and piers, and a fuel dock. At Oyster Point Marina, the District manages the marina and also owns and manages marina-related facilities on land that is owned by the City of South San Francisco. The 2018 Agreement does provide an opportunity to

construct, at District's expense, a 40,000-square-foot, two-story commercial building on land leased from the City of South San Francisco.

San Mateo County

The County owns and manages several parcels of land that are adjacent to District-owned parcels. County ownership includes Pillar Point Marsh, roads, a parking lot, and other infrastructure. The County also owns and manages the Half Moon Bay Airport, located to the north of Princeton.

United States Government

The U.S. Government owns and manages land adjacent to District-owned land, on the Pillar Point bluff above Pillar Point Harbor's West Basin, the current location of the the U.S. Air Force, Pillar Point Station.

City of Half Moon Bay

The City of Half Moon Bay owns the beach above the mean high tide line immediately to the east of Pillar Point Harbor's east breakwater, while the County owns the land on the bluffs between the beach and Highway 1.

The District also works collaboratively with the following agencies and municipalities:

- San Mateo County Resources Conservation District
- California Coastal Commission
- California Division of Boating and Waterways
- Regional Water Quality Control Board
- Greater Farallones and Monterey Bay National Marine Sanctuaries (NOAA)
- U.S. Army Corps of Engineers
- Harbor Patrol Partnerships with allied agencies
- San Francisco Bay Conservation and Development Commission

In addition to the publicly owned parcels in and adjacent to Pillar Point Harbor, there are also numerous privately owned residential and commercial parcels, including those within the community of Princeton, and several shops, hotels, and other businesses throughout and adjacent to the harbor.

1.5.2 District Search and Rescue Activities and Coordination

Harbor Patrol staff play a very important role in conducting search and rescue activities both inside the boundaries of Pillar Point Harbor and Oyster Point Marina and beyond. Although no formal cooperative agreement exists, the Harbor Patrol works extensively in coordination with the other allied agencies that are active in the vicinities of both facilities, in training for and conducting search and rescue and other maritime response activities. In addition to the crucial public safety services that the Harbor Patrol provides, staff also conduct extensive public education and outreach efforts.

The District's official jurisdictional area of responsibility for search and rescue is within the breakwater of Pillar Point Harbor, an area just south of the breakwater, and Oyster Point Marina. However, the actual area of response for District rescue and assistance at Pillar Point Harbor, when adequately staffed and equipped, is Grey Whale Cove to the north, extending southward to Pigeon Point, and out to approximately 25 miles offshore. Pillar Point Harbor has three rescue watercraft and two rescue vessels (R/V): R/V Radon and R/V Almar. Pillar Point Harbor staff routinely train with allied agencies such as the U.S. Coast Guard, San Mateo County Sheriff's Office, County Parks, California Department of Fish and Wildlife, California Department of Forestry and Fire Protection (CAL FIRE), California Highway Patrol, and California State Lifeguards. Currently the demand for maritime search and rescue and maritime assistance places significant burden on the staff at Pillar Point Harbor. The current response posture places the harbor, Harbormasters, and those being rescued/assisted at risk based on the lack of resources. The Pillar Point Harbor Patrol has proven themselves to be very effective in making maritime rescues and providing maritime assists over the past decades. The public and allied agencies expect the Harbor Patrol to provide that service on a 24/7 basis. However, the Harbor District is not currently staffed, funded, or equipped to provide 24/7/365 maritime search and rescue or maritime assistance without enhancing the capabilities of the Harbor Patrol.

Harbor Patrol staff at Oyster Point Marina also train for and conduct search and rescue activities within the marina breakwaters and beyond. Oyster Point Marina staff also participate in regular trainings with partner agencies Including the U.S. Coast Guard, San Mateo County Sheriff's Office, County Parks, California Department of Fish and Wildlife, CAL FIRE, California Highway Patrol, and California State Lifeguards, and South San Francisco Fire. Oyster Point Marina operates a rescue vessel called R/V Challenger.

1.5.3 Regulatory Documents and Plans

The District is an independent governmental entity with County-wide boundaries that is governed by a five-member Board of Commissioners who are elected for staggered 4-year terms. Several foundation documents and plans establish the District's statutory authority and mandates and provide guidance and structure for both long-term planning and day-to-day decision making. These include the California Harbor and Navigation Code and District Ordinance Code that provide the District's authority, as well as District policies, the 2019 Strategic Plan, and the 2018 agreement between the City of South San Francisco and the District.

California Harbor and Navigation Code

Section 6000 et seq. of the California Harbor and Navigation Code provides statutory authority to the District, allowing them to meet their core responsibilities and mandates. The District is currently providing the full set of services authorized by the enabling legislation including recreational use of District facilities. This code provides the District with the authority to acquire, construct, and maintain property related to the operation and development of ports and waterways; supervise seagoing vessels within its harbors; adopt any necessary police regulations for waterways; issue debt; collect charges for use of facilities; and plan for harbor district improvements. This includes the authority to acquire, construct, own, operate, control, or develop any and all harbor works or facilities within the limits of its established boundaries. However, for the District to operate at any new facilities outside of Pillar Point Harbor and Oyster Point Marina, consent would be required in the form of a resolution of the Board of Harbor Commissioners and a resolution from the governing body of each district, port, or city in which the lands are located.

Pillar Point Harbor, 2021

District Ordinance Code

The San Mateo County Harbor District Ordinance Code is a codification of the General Ordinances of the District. The Code is issued under the authority of the California Harbor and Navigation Code. It documents the authority of the Board of Harbor Commissioners as the governing body of the District, enabling the powers and duties set forth in the California Harbor and Navigation Code. This code covers the general provisions and powers of the District, the administration and management of personnel, harbor rules and regulations, and the commercial activities of the District. District Ordinances are periodically reviewed and updated. Revisions to the ordinances are drafted by the General Manager with input from the Board of Commissioners, staff, and consultants, with review by District Legal Counsel. All updates to ordinances must be approved by the Board of Harbor Commissioners at a public meeting. The District Ordinance Code can be found online at the following District webpage: *https://www.codepublishing.com/CA/SanMateoCountyHarborDistrict/*

District Policies

District Policies provide a broad framework of direction for the District, set standards for District performance, and set expectations for staff and Commissioners. Numerous policies are included in this document including a Code of Ethics and Values, and policies under the following categories: Administration, Commissioners, Finance/Accounting, Operations, and Personnel. The District Policies document is regularly reviewed and revised. All Policies and Policy Updates are approved by the Board of Harbor Commissioners at a public meeting. The District Policies can be found online at the following District webpage: *https://www.smharbor.com/files/3875748c2/.Table+of+Contents+With+Policies+2021_08_18.pdf*

2019 Strategic Plan

This guiding document is the highest-level planning document that represents the District's direction for the future. The Strategic Plan includes key elements such as the District's Mission, Vision and Core Values, and broad goals and objectives. This foundation document serves as a framework for making decisions. The most recent Strategic Plan was completed and approved by the Board of Harbor Commissioners in 2019. The 2019 Strategic Plan can be found online at the following District webpage: *https://smharbor.specialdistrict.org/files/438c80d72/2019_12_18_45_SMCHD_Strategic+Plan_Draft.After.Workshop_TO%2BMission_19.9.18.pdf*

Harbor District Resolutions

Resolutions are an official way to document a decision made by the Board of Harbor Commissioners. They consist of a formal statement of the Board's position on a topic or issue. Resolutions may give formal approval to a proposed action or delegate authority. All resolutions must be approved by vote of the Board of Harbor Commissioners at a public meeting. Harbor District Resolutions are available on the following District webpage: *https://www.smharbor.com/resolutions*

2018 Agreement - Oyster Point Marina

The District's management of the Oyster Point Marina was originally documented and guided by a Joint Powers Agreement dated 1977 between the District and the City of South San Francisco. In 2018, the District and the City of South San Francisco negotiated and entered into a new agreement for the management of Oyster Pint Marina, which replaced the Joint Powers Agreement. This new agreement is referred to as the "2018 Agreement." The agreement is active for an initial 15-year period that automatically renews for two 10-year periods unless either party provides official notice of nonrenewal. The 2018 Agreement is available on the following District webpage: *https://smharbor.specialdistrict.org/files/4f346f9c7/2018+Agreement+SSF+%26+SMCHD+%28Full%29.pdf*

San Mateo County 2021 Multijurisdictional Local Hazard Mitigation Plan

In 2021, San Mateo County developed an updated hazard mitigation plan, replacing the 2016 Plan. The plan was developed in partnership with local governments within San Mateo County including the District. The hazard mitigation plan defines measures to reduce risks from natural disasters in the San Mateo County planning area, which consists of the entire county, including unincorporated areas, incorporated cities, and special purpose districts. The plan assesses hazard vulnerabilities and identifies mitigation actions that jurisdictions will pursue in order to reduce the level of injury, property damage, and community disruption that might otherwise result from such events. The plan addresses natural and human-caused hazards, including flooding, drought, wildfire, landslides, severe weather, terrorism, cyber threats, pandemic, and the impact of climate change on hazards. The plan complies with federal and state hazard mitigation planning requirements to establish eligibility for funding under Federal Emergency Management Agency grant programs for all planning partners. The 2021 Hazard Mitigation Plan is available on the following County webpage: *https://cmo.smcgov.org/multijurisdictional-local-hazard-mitigation-plan*

SECTION
2

Project Prioritization

SECTION 2

Project Prioritization

2.1 OVERVIEW

A list of potential projects concerning infrastructure, hazard adaptation, and public amenities was assembled based on the Marina Facility Condition Surveys (see Section 4), public feedback, and discussions with local decision-makers. While many of these projects have potential benefits, the District does not have the resources to implement all of them. Therefore, a prioritization system was developed for the proposed projects to enable more effective short and long-term planning that maximizes benefits for the District and marina users. A crucial factor in considering project prioritization is the current condition of harbor facilities and their need for repair and/or replacement. Marina Facility Condition Surveys Reports were completed for both Pillar Point Harbor and Oyster Point Marina in 2021, which built upon the prior surveys conducted at the harbors in 2014. The purpose of these surveys was to document the present condition of Pillar Point Harbor and Oyster Point Marina facilities, as well as estimate the remaining useful life and anticipated costs of repair and/or replacement for those facilities. The surveys were based upon observations and input received from District on-site personnel during site visits on April 5–7, 2021. While the Marina Facility Condition Surveys Reports played a critical role, there were several other important factors that were included in the prioritization system, including funding status, community support, and sea level rise (SLR) adaption. The complete list of criteria used to evaluate and prioritize potential projects and their associated weights are shown in **Table 1**.

The full table of project prioritization scores for Pillar Point Harbor and Oyster Point Marina can be found in **Appendix A**.

Table 1. Project Prioritization Scoring Criteria

Criteria	Score	Weight
FACILITY CONDITION		
Satisfactory/Good	1	.30
Fair	2	
Poor	3	
Serious	4	
Critical	5	
FUNDING STATUS		
Unfunded, funding source unknown	1	.20
Unfunded, funding source identified (pending)	3	
Funded	5	
COMMUNITY SUPPORT		
Little to no interest or support	1	.20
Moderate level of interest or support	3	
High level interest or support	5	
USER VALUE AND BENEFITS		
Benefits one user group	1	.20
Benefits two user groups	3	
Benefits three or more user groups	5	
EXPOSURE AND RESILIENCE TO SEA LEVEL RISE (SLR) AND/OR COASTAL HAZARDS		
Will not be impacted by SLR	1	.10
Long-term SLR impacts (>20 years)	2	
Short-term SLR impacts (10–20 years) and high resilience	3	
Short-term SLR impacts (10–20 years) and low resilience	4	
Currently impacted by SLR and/or coastal hazards	5	
ESTIMATED COST		
Over $5,000,000	1	.10
$500,000–$5,000,000	2	
$100,000–$499,999	3	
$25,000–$99,999	4	
Less than $25,000	5	

2.2 PILLAR POINT HARBOR

The priorities of the District for Pillar Point Harbor are commercial fishing, recreational boating, and visitor-serving recreation. The criteria described in Section 2.1 were applied to the comprehensive list of potential projects at Pillar Point Harbor to develop a prioritization score for each. The project prioritization scores range from 0.0 to 5.0, with 5 being the highest priority and 0 being the lowest priority. To allow for phased implementation, the tier ranges have been defined to include between 8 and 11 projects. For Pillar Point Harbor, project tiers are defined as shown below. **Table 2** shows each project's total prioritization score, with the projects grouped into the four tiers described above.

TIER NO.	PILLAR POINT HARBOR PROJECT PRIORITIZATION SCORE
TIER 1	3.4–5.0
TIER 2	3.1–3.3
TIER 3	2.3–3.0
TIER 4	0.0–2.2

Table 2. Pillar Point Harbor Tiered Projects

Project Name	Prioritization Score
1 TIER 1	
Johnson Pier – End of Pier Expansion	4.3
Fuel Dock	4.2
Shoreline Rock Slope Protection – West	4.2
Tenant Row Restrooms	3.9
Tenant Row Building	3.7
Landscaping	3.7
East Restroom (by Launch Ramp)	3.6
Launch Ramp Parking Lot and Roadway	3.6
Johnson Pier – Support Piles and Bents	3.4
2 TIER 2	
Johnson Pier Roadway	3.3
Parking Lot B	3.3
West Trail Shoreline Protection	3.3
Pillar Point Habitat Restoration	3.3
Wooden Public Dock (along bulkhead)	3.3
Pillar Point Coastal Trail Improvement	3.3
Parking Lot C	3.2
Pillar Point Blvd	3.2
Parking Lot A	3.2
Sidewalks and Promenade	3.1
Johnson Pier Electrical Upgrades	3.1
3 TIER 3	
Dock D	3.0
Dock E	3.0
Dock F	3.0
Dock G	3.0
Dock H	3.0
West Restroom (by Docks A–C)	2.9
Boat Launch Ramp - Concrete Ramp Apron	2.7
Central Restroom (by Johnson Pier)	2.7
Bulkhead Wall – Cap	2.5
Boat Launch Ramp – Ramp Surface and Boarding Float Docks	2.3

4

TIER 4	
Concrete Guest Dock (along Johnson Pier)	2.2
Dock A	2.2
Dock B	2.2
Dock C	2.2
Bulkhead Wall – Sheet piles	2.1
Fish Buyer Building	1.9
Ice House Building	1.9
Public Fishing Pier	1.8
Harbor Office Building	1.2
Maintenance Building	1.2

Pillar Point Harbor 1 Tier 1 Projects

Projects that fall into Tier 1 (**Figure 3**) have a prioritization score of 3.4–5.0. These projects represent the highest priority projects for the District and will be the first to be implemented. These projects have been identified to be in poor, serious, or critical condition and are either funded or pending funding. These projects benefit three or more user groups and have moderate community support. Many of these projects were also identified as being currently impacted by sea level rise.

Figure 3. Pillar Point Harbor Tier 1 Projects

Johnson Pier Expansion

The proposed reconfiguration of Johnson Pier includes 9,334 square feet of new pier infill within the bend of the end of the pier, a 6,006-square-foot new pier extension, a reconfigured fuel dock, and a new additional hoist for offloading fishing vessels. This project is critical for the safety and user benefit of everyone who visits Pillar Point Harbor, as evidenced by the substantial community interest in the project. This project has already secured funding for design, engineering, and permitting. Funds for the actual construction must still be identified.

Shoreline Rock Slope Protection

The shoreline rock slope protection found throughout Pillar Point Harbor is a key part of the overall perimeter protection system of the harbor, which is essential to its safe function. The rock slop protection between Johnson Pier and the inner breakwater near the entrance to Docks A, B, and C is highly degraded and requires immediate replacement and/or rehabilitation to ensure the continued functionality of the harbor. This project has already been funded.

Fuel Dock Replacement

The fuel dock is used by all commercial and recreational boaters, and so is an extremely important part of Pillar Point Harbor's overall functioning. Ensuring the dock is in a materially safe condition is critical to ensure required services continue in the harbor, as well as for protecting the environment from oil spills. The dock was in a critical safety condition; however, Harbor Staff have made emergency repairs, stabilizing the Fuel Dock. Long-term repairs are still needed and will be addressed during the Johnson Pier Reconfiguration Project.

Ketch Joanne/Tenant Row Restroom

A new restroom facility, compliant with the Americans with Disability Act (ADA), is required in the Ketch Joanne Resturant and Bar. This project is fully funded and is currently in the design and engineering phase.

Launch Ramp Restroom

The restrooms that serve users near the boat launch ramp have reached the end of their useful life and are in poor condition. Having clean, safe, and functioning restrooms is important to maintaining a positive commercial and recreational experience at Pillar Point Harbor. The Board of Harbor Commissioners have approved a project to replace and upgrade the restroom facility, and it is fully funded.

Landscaping/ Invasive Species

Having well-maintained landscaping, supported with drought resistant native plants, throughout the harbor creates a more pleasant user experience and increases environmental sustainability. Some landscaped areas of Pillar Point Harbor have been overrun by invasive species and are in poor or serious condition. Rehabilitating these areas is a relatively low-cost way to improve harbor user experience. Funding for landscape improvements has already been secured.

Launch Ramp Parking Lot and Roadway

The functionality of the boat launch ramp parking lot and roadway is essential to maintaining access to the water for boaters. The area is currently heavily degraded due to the effects of saltwater exposure. Funding for parking lot repairs has been identified.

Tenant Row Building

The tenant row building, also known as the Retail Center building, is comprised of two restaurants and three retail sales spaces over 30 years old. The building is in poor condition and in need of replacement with updated design. Due to age, the building facilities no longer meet ADA requirements.

Pillar Point Harbor 2 Tier 2 Projects

Projects that fall into Tier 2 (**Figure 4**) have a prioritization score of 3.1–3.5. These projects represent medium–high priority projects for the District because they benefit at least two user groups and increase Pillar Point Harbor safety and functionality. However, many of the Tier 2 projects are unfunded with funding sources not yet identified. Additionally, Tier 2 projects have a longer potential window of implementation than those in Tier 1 and are not significantly impacted by sea level rise.

Figure 4. Pillar Point Harbor Tier 2 Projects

Pillar Point Harbor 3 Tier 3 Projects

Projects that fall into Tier 3 (**Figure 5**) have a prioritization score of 2.3–3.0. These projects represent low–medium priority projects for the District because they generally only benefit specific user groups and not all Pillar Point Harbor users. These projects are unfunded with funding sources not yet identified. These projects do not pose an immediate safety concern and will not need to be upgraded or repaired for many years. These projects also generally received low community support, and either were not impacted by sea level rise or would not be impacted within the next 20 years.

Figure 5. Pillar Point Harbor Tier 3 Projects

Pillar Point Harbor 4 Tier 4 Projects

Projects that fall into Tier 4 (**Figure 6**) have a prioritization score of 0.0–2.2. These projects represent the lowest priority projects for the District because they benefit a small number of users. These projects are unfunded with funding sources yet to be identified. These facilities are in good condition and will not need to be upgraded or repaired for many years in order to remain safe and functional. These projects received low community support and were not identified as being impacted by sea level rise within the next 20 years.

Figure 6. Pillar Point Harbor Tier 4 Projects, 2021

2.3 OYSTER POINT MARINA

The criteria described in Section 2.1 were applied to the list of potential projects at Oyster Point Marina to develop a prioritization score for each project. Similar to the Pillar Point Harbor projects, the Oyster Point Marina prioritization scores ranged from 0.0 to 5.0, with 5 being the highest priority and 0 being the lowest priority. To allow for phased implementation, the tier ranges have been defined to include between five and nine projects. For Oyster Point Marina, project tiers are defined as shown below. **Table 3** shows each project's total prioritization score, with the projects grouped into the four tiers described below.

TIER NO.	OYSTER POINT MARINA PROJECT PRIORITIZATION SCORE
TIER 1	3.3–5.0
TIER 2	2.5–3.2
TIER 3	2.1–2.4
TIER 4	0.0–2.0

Table 3. Oyster Point Marina Tiered Projects

Project Name	Prioritization Score
1 TIER 1	
Eastside Lower Parking Lot	4.8
Marina Boulevard from Boat Launch Ramp to Trailer Parking Area	4.6
Eastside Upper Parking Lot	4.5
Marina Boulevard Remaining Roadway Resurface	4.2
Landscaping	4.2
Docks 12–14	3.4
Docks 1–6 Elevated Gangway Platforms	3.3
2 TIER 2	
Harbormaster's Office Building	3.2
Sidewalk /San Francisco Bay Trail	3.2
Landslide Utilities – Electrical Switchgear Cabinets	3.2
Guest Dock 8 Raise Platform	3.0
Docks 12–14 Elevated Gangway Platforms	2.8
Eastside Restroom 1	2.8
Eastside Restroom 2	2.8
Eastside Restroom 3	2.8
3 TIER 3	
Shoreline Rock Slope Protection	2.4
Dock 7	2.3
Seawall – Cap	2.3
Maintenance Building Exterior Repairs/Painting	2.3
Maintenance Building Interior Remodeling	2.3
Landside Utilities – Roof	2.3
Public Fishing Pier	2.3
Navigational Entrance Aids	2.1
4 TIER 4	
Dock 11 Elevated Gangway Platform	2.0
Windsurfing Launch Ramp	2.0
Docks 1–6	1.9
Seawall – Sheet Piles	1.8
Dock 7 Elevated Gangway Platform	1.7
Maintenance Building Interior Beam Painting	1.7
Oyster Point Marina 40,000-square-foot Building	1.2
Dock 11	1.1

Oyster Point Marina 1 Tier 1 Projects

Projects that fall into Tier 1 (**Figure 7**) have a prioritization score of 3.3–5.0. These projects represent the highest priority projects for the District. These projects benefit three or more user groups. These projects have been identified as currently being impacted by sea level rise and/or require upgrades and repairs that are vital for continued use of Oyster Point Marina facilities.

Figure 7. Oyster Point Marina Tier 1 Projects, 2021

Eastside Lower and Upper Parking Lots

The parking lots that serve users accessing the boat launch ramp, docks, and ferry terminal range in current condition from fair to critical, due to high use and exposure to the marine environment. Having functional and safe parking lots is critical to every user who drives to the marina.

Landscaping

Having well-maintained landscaping throughout the marina creates a more pleasant user experience and also increases environmental sustainability. Some landscaped areas of the marina are currently in poor condition, and rehabilitating these areas is a relatively low-cost way to improve marina user experience.

Oyster Point Marina, 2021

Oyster Point Marina 2 Tier 2 Projects

Projects that fall into Tier 2 (**Figure 8**) have a prioritization score of 2.5–3.2. These projects represent medium–high priority projects for the District. Some of these projects are funded and some are not. These projects have low to moderate community support and benefit a range of marina users. Most of these projects are either currently impacted by sea level rise or will be impacted within the next 10–20 years and have minimal resiliency.

Figure 8. Oyster Point Marina Tier 2 Projects

Oyster Point Marina 3 Tier 3 Projects

Projects that fall into Tier 3 (**Figure 9**) have a prioritization score of 2.1–2.4. These projects represent low—medium priority projects for the District. These projects only benefit certain users and are unfunded with funding sources yet to be identified. These projects will not need upgrade or replacement for several years in order to remain safe and functional. The majority of these projects also received little to no community support and either are not impacted by sea level rise or have resiliency measures in place to handle sea level rise within the next 20 years.

Figure 9. Oyster Point Marina Tier 3 Projects

Oyster Point Marina 4 Tier 4 Projects

Projects that fall into Tier 4 (**Figure 10**) have a prioritization score of 0.0–2.0. These projects represent the lowest priority projects for the District. These projects benefit a small number of users and are unfunded. Similar to many of the Tier 3 projects, most of the Tier 4 projects are in good condition and will not need significant work for many years in order to remain safe and functional. The majority of these projects received little to no community support and have resiliency measures in place to handle sea level rise within the next 20 years.

Figure 10. Oyster Point Marina Tier 4 Projects

2.4 FUTURE OPPORTUNITIES

In addition to the prioritized projects listed in Sections 2.1 and 2.2 above, the San Mateo County Harbor District Master Plan has identified opportunities for new District activities within San Mateo County jurisdiction and a proposed timeline for future detailed review and analysis. Future opportunities were informed by public input received during the public engagement process, further described in Chapter 5, and input from the District. These potential new opportunities, for the purposes of the Master Plan, include any potential capital improvement project, management responsibility, cost savings, or revenue-generating activity that the District is not currently engaged in. This is an inclusive list of potential opportunities brought up during the stakeholder engagement process. The activities described herein have not been evaluated or prioritized.

2.4.1 Management of Additional Marina Facilities

Many interviewees and survey respondents recommended that the District evaluate the possibility of taking on management responsibilities at additional marina location(s) in the future. The only specific site mentioned was Coyote Point Marina, which was recommended by several people. Coyote Point has roughly 580 boat slips, with an annual revenue of $3 million per year. It is currently managed by the San Mateo County Parks Department with on-site staff including a Harbormaster. In addition to the docks, Coyote Point Marina facilities and assets include a boat launch ramp, fuel dock, Harbormaster's Office, and harbor patrol vessel. Given the San Mateo County Harbor District's purpose, it should manage all County marinas and harbors. The County-owned Coyote Point Marina should be run by the Harbor District.

There are eight other marina facilities, other than Oyster Point Marina and Pillar Point Harbor, within San Mateo County, with a total of an additional 2,100 berths and related facilities. Three of these facilities are publicly owned, including Brisbane Marina, Coyote Point Marina, and Port of Redwood City. The other five are private marinas: Bair Island Marina, Docktown Marina, Oyster Cove Marina, Pete's Harbor, and Westpoint Marina.

Under its existing authority, the District could take on management responsibilities for additional existing or new marina locations within the boundaries of San Mateo County. This would require extensive planning, agreements, and the passing of Resolutions by the Board of Harbor Commissioners and the County or other municipality where the facility is located. It would also require additional funding above and beyond the District's existing budget.

This Master Plan includes an initiative for the District to enter into discussions with the County to gauge interest regarding the potential for the District to take over management of the Coyote Point Marina facility. If there is initial interest by both parties, then the next steps would be to conduct a new marina conditions survey, evaluate funding/staffing needs, and discuss potential mechanisms for coordination and governance (e.g., a memorandum of understanding or other formal agreement). This would likely be a controversial proposal to many stakeholders who may suggest that the District should fully meet their management and maintenance responsibilities at Pillar Point Harbor and Oyster Point Marina before taking on another site. However, for the purpose of this evaluation, it is assumed that if the District takes on management of this facility then it would require supplemental budget that would cover all expenses associated with management of the facility.

Replacement of the roughly 580 boat slips at Coyote Point Marina and upgrading the associated landside facilities would likely cost in the range of $65,000 to $85,000 per boat slip based on similar projects, which equates to roughly $37.7 million to $49.3 million needed in capital improvements to completely renovate the marina-related portions of the aging facility. This is an estimated probable present-day bare construction cost and does not include permitting of the project, escalation, or other ancillary factors.

Coyote Point Boat Launch, 2021

2.4.2 Opportunities for Pillar Point Harbor

District Management of Pillar Point Harbor Fuel Dock

The fuel dock is leased to KN Properties, who is responsible for its operation. The existing 50-year lease with KN Properties is set to expire on June 1, 2033, and stipulates that the "lessee shall, during the entire lease term, maintain and operate a complete marine fuel facility." Numerous commenters recommended that the District take over full operation of the fuel dock at Pillar Point Harbor, as a new revenue-generating activity. While the District would have the capability to take over fuel dock operation, it would not be possible until 2033 without breaking the current lease. It would also require hiring of at least 1 additional full-time staff person as well as new management responsibilities for the Director of Operations and other staff.

Electrical Upgrades at Johnson Pier

The existing electrical infrastructure at the pier is insufficient and problematic. The electrical service to the harbor consists of four metered electrical services, including three individual tenant meters and one District-owned house meter; all are operational. Many commenters recommended that the District replace the existing electrical system with three-phase electric power all the way out to the fish buyers' buildings. A recent analysis (June 4, 2021) completed for the District by GA Electrical Engineering Consulting Services made several recommendations, including a change of voltage from the existing 208/120V, 3ø, 4w to 480/277V, 3ø, 4w, with each tenant being fed with 200A at 480V.

Permanent Restrooms at West Trail

Several commenters brought up the need for a permanent restroom at the Pillar Point Harbor West Trail. Currently there are portable toilet facilities at this location, which would be replaced with a permanent facility with plumbing and electrical. It would be possible to construct new facilities at this location; however, it would require connecting into the utilities located at the paved street that goes up to the Pillar Point Air Force Station.

Purchase New Parcels of Land Adjacent to Pillar Point Harbor

The District should evaluate the possibility of purchasing additional land parcels adjacent to Pillar Point Harbor and using it for the construction of new parking lots, dry boat storage, or RV parking. There is currently a lack of space on District-owned parcels within the harbor to construct necessary and recommended improvements. For example, the harbor does not have enough parking spaces to meet capacity on weekends and holidays. By purchasing more land

the District would have the ability to construct additional parking lots or a parking garage to meet the needs of increased visitation to the harbor. Additional land would also be required to pursue the recommendations for a new RV park or dry stack boat storage (see below). Several parcels above the boat launch ramp area were recommended as potential sites. Additionally, investigating the potential for purchase of a waterfront parcel in Princeton for installation of a dry stack boat storage or boat repair facilities was brought up on occasion.

Fishers' Market

Numerous comments were received about the need to improve the public sale of fish at Pillar Point Harbor. Recommended improvements included a new multi-use building that includes a permanent retail fish market for Pillar Point Harbor fishers, temporary farmers market type booths, and a new floating dock configuration for expanding access to the fishing boats selling off the back of their boats.

Replacing Tenant Row Building with a Larger Two-Story Building

Recommendations were made by stakeholders to replace the existing, approximately 8,000-square-foot, single-story Tenant Row Building with a two-story building that includes additional visitor serving facilities and potentially offices. The District could rent out space in the building as a new revenue-generating activity. However, there is potential for a temporary inconvenience and loss of business revenue for the existing tenants during construction. The current ADA restroom project that is approved and funded at Ketch Joanne and Harbor Bar is being designed and built to be able to integrate into any future new building.

Temporary/Seasonal Floating Finger Docks at Pillar Point Harbor

This suggestion was to provide seasonal dock infrastructure to allow for new water recreation-based businesses to operate within the harbor and provide new water activity opportunities for visitors. This could include smaller charter boats that operate seasonally and provide additional recreational opportunities, such as sportfishing and wildlife watching, to Harbor visitors.

Water Quality Improvement Infrastructure at Parking Lots and Johnson Pier

Commenters recommended that the District install facilities for capturing and filtering stormwater runoff entering Pillar Point and runoff from the parking lots and on the Pier. The stormwater could then be filtered for uses within the Harbor before entering the waters of Pillar Point, greatly improving the water quality at the beaches of Pillar Point.

New Floating Docks for Additional Berth Capacity

Commenters recommended that the District install new floating docks to add additional berths to the harbor. This recommendation, which was also an objective in the previous (1992) Pillar Point Harbor Master Plan, would entail constructing a new set of floating docks between the existing berths and the east inner breakwater that could provide at least 50 additional slips. There is a high demand for more slips at Pillar Point Harbor, and this could create a new revenue-generating opportunity while also providing an important service to the boating community. Reconfiguration of H Dock was proposed by Moffatt & Nichol in 2019 to extend H Dock by 205 feet and increase the number of slips from 45 to 62 boat slips.

More Marine Related Businesses and Repair Facilities

Another common comment was that the harbor does not provide enough marine/boating-related services and that the District should prioritize leases to marine-related businesses. Boat owners at Pillar Point Harbor typically need to travel long distances to San Francisco or Moss Landing to use a haul-out facility or get major repairs to their vessels. By encouraging and facilitating new marine-related businesses to open in the harbor, the District could provide an important service to the local boating community.

More Small Boat Recreational Opportunities

Commenters recommended that, with the ever-increasing number of visitors, the District should facilitate a larger offering of businesses that provide rental of kayaks and non-motorized, human-powered aquatic craft.

Dry Stack Boat Storage at Pillar Point Harbor

Many recommendations were made that the District install dry stack boat storage facility. Such a facility would require a significant amount of space that would need to be in proximity to the water. Boats would be loaded and unloaded using a specialized forklift that transports them between the storage rack and the water. It was recommended that the District evaluate the possibility of purchasing a parcel either on the bluff above the boat launch ramps or a waterfront parcel in Princeton, and construct or lease the land to a third party who could construct and operate the facility.

Additional Retail/Office/Fish Sales Facilities at Pillar Point Harbor

Many commenters suggested that, in general, the District should construct new facilities at Pillar Point Harbor to provide more visitor-serving opportunities, including retail space, offices, and new facilities for fish sales. One commenter suggested that the District construct a new building on the parcel they own near the Post Office in El Granada, that could be used for retail, office space, and fish sales. Such a facility should also generate additional revenue for the District.

Construct a New Commercial Fishing Pier at Pillar Point Harbor

Several commenters suggested that the District have a long-term plan to construct and operate a new pier at Pillar Point Harbor, at the historical Romeo Pier location, which would be used solely for commercial fishing activities. Johnson Pier would then become the public pier with fish sales, retail, and other visitor-serving facilities. This would resolve many of the existing conflicts at Johnson Pier, where public visitors now can interfere with commercial activities and cause potential safety issues.

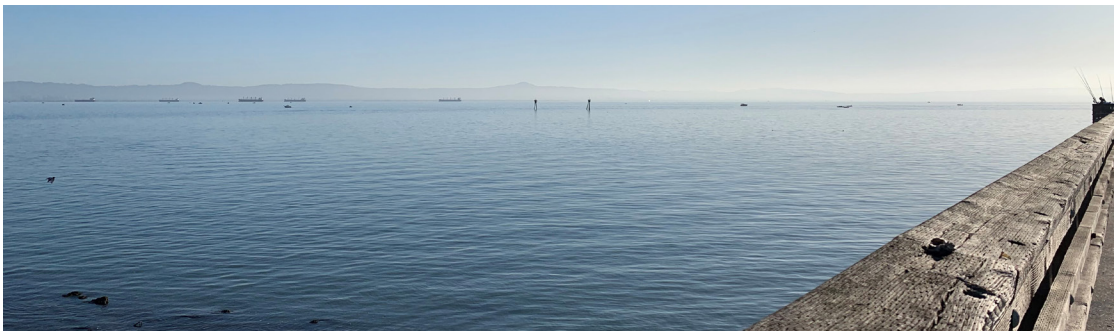
Bike Lockers

A recommendation was made for the District to install bike lockers, which would allow for cyclists in the harbor to store their bikes while using other Harbor facilities. Pillar Point Harbor is considered a destination and key location along the Coastal Trail. There are currently eight storage lockers in the parking lot near Docks A–C that can be used by boat slip renters for storing bicycles. The recommendation was to install many additional bike storage lockers for use by the general public.

2.4.3 Opportunities for Oyster Point Marina

Fuel Dock at Oyster Point Marina

Oyster Point Marina historically had a fuel dock, but it was found to be in disrepair, was dismantled in 2018/2019, and is no longer in existence. Numerous commenters recommended that the District install and operate a new fuel dock at Dock 7 as a convenience to boaters and as a new revenue-generating activity. The fuel dock would provide a much-needed service to boaters in this location on San Francisco Bay, where there is a shortage of vessel fueling facilities. The District has the authority to construct a new fuel facility at Oyster Point Marina; however, it would require a substantial amount of planning, permitting, and funding to make it a reality. Ongoing operation would require hiring at least one additional full-time employee.



Oyster Point Marina, 2021

More Marine-Related Businesses and Repair Facilities at Oyster Point Marina

Similar to comments for Pillar Point Harbor, commenters provided a significant amount of feedback stating that Oyster Point Marina does not provide enough marine/boating-related services and that the District should prioritize leases to marine-related businesses. Specific examples included a new bait shop and boat repairs and sales. There was previously a bait shop at Oyster Point Marina located in a modular building; it was suggested to replace that building and bring in a new bait shop potentially with deli or other retail.

Enhanced Security Services/Equipment (e.g., cameras) at Oyster Point Marina

Several commenters recommended that the District improve security at Oyster Point Marina There is currently a security guard shack at the marina, but it does not provide coverage of the full marina area, and currently there are no security cameras. The suggestion is to install a new security camera system and assess and potentially improve the overall security program at the marina.

Opportunities for the 40,000-square-foot Building at Oyster Point Marina

A significant amount of feedback was received about potential opportunities related to the District constructing a new building at Oyster Point Marina. As part of the agreement between South San Francisco and the District, South San Francisco will provide use of a plot of land within Oyster Point Marina where the District can build and operate a 40,000-square-foot building. Numerous commenters recommended that visitor-serving businesses should be sought out as tenants in the new building. Many recommended bringing in marine-related businesses, and other suggestions included office space, a public meeting room, a visitor center, and shops. Many commissioners stated this new business should be used for the public benefit and include public-serving facilities.

2.4.4 Other Opportunities

Renegotiation of District Contracts

Several commenters noted that the District's existing contracts with lessees are advantageous to the lease holder but not to the District. It was recommended that as these contracts expire that they revised upon renewal with an agreement that has more standard terms. Such an agreement would be more to the benefit of the District than the one it replaced, providing additional revenue and giving it more autonomy and control.

Bike Lockers

A recommendation was made for the District to install bike lockers, which would allow for cyclists to store their bikes while using Marina facilities. Oyster Point Marina is considered a destination and key location along the Bay Trail.

Return Oyster Point Marina Management Responsibilities Back to City of South San Francisco

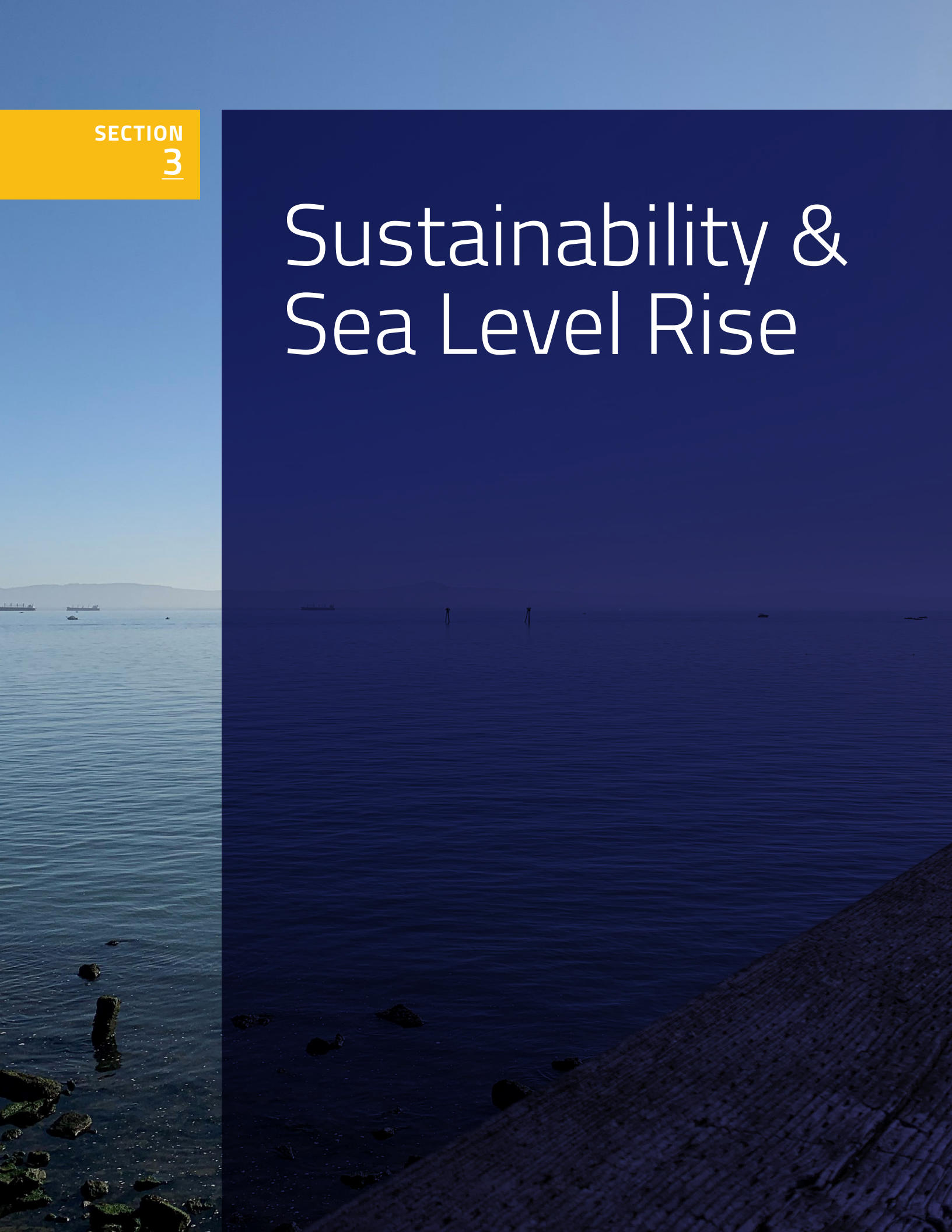
Numerous commenters and interviewees suggested that the District should transfer all Oyster Point Marina management responsibilities to the City of South San Francisco. Since the original agreement was signed in 1977, the District has been authorized to manage, maintain, and operate the marina property, and to construct, manage, maintain, and operate marina development at Oyster Point Marina. The most recent agreement was signed in 2018. The agreement is active for an initial 15-year period and automatically renews for two 10-year periods unless either party provides official notice of nonrenewal. The agreement has a list of principles to be followed upon termination of the agreement if either party decides not to renew after the initial 15 years. Many commenters stated that the District should not renew this agreement and instead focus on maintaining and improving Pillar Point Harbor.

West Trail Transfer of Ownership with County

This suggestion is for the District to enter into discussion with the County to evaluate the feasibility of transferring ownership of the parcels along the harbor's west trail and have the County's Parks Department assume management responsibilities. County Parks owns and manages much of the adjoining land inside and adjacent to the harbor, including the Pillar Point Bluffs Park and Pillar Point Marsh (part of the Fitzgerald Marine Reserve).

SECTION
3

Sustainability & Sea Level Rise



SECTION
3

Sustainability and Sea Level Rise

Waterfront facilities such as Pillar Point Harbor and Oyster Point Marina will be among the first to experience the unique challenges associated with sea level rise (SLR). Often considered a slow-moving disaster, SLR will develop over the span of decades with significant uncertainty in magnitude, particularly beyond 2050. The key difference between SLR and most other natural disasters is that the adverse effects on coastal infrastructure will not subside. The science is clear that SLR has accelerated over recent decades,[1] but there is time to plan, fund, and implement projects to mitigate the adverse effects of SLR.

Pillar Point Harbor and Oyster Point Marina include a variety of infrastructure exposed to dynamic water levels and a corrosive marine environment which are at various stages in their service life. Aging infrastructure is particularly vulnerable due to the cumulative effects of ongoing deterioration from the marine environment coupled with increased stressors associated with SLR.

The following sections describe SLR projections based on the best available science, provide an overview of vulnerabilities at each District facility and SLR considerations for capital improvement projects. Incorporating SLR considerations into the planning and design of these projects will help mitigate future vulnerabilities.

3.1 SEA LEVEL RISE PROJECTIONS

Sea level rise projections along the west coast of California are provided in the 2018 State of California Sea Level Rise Guidance document. The California Coastal Commission Sea Level Rise Policy Guidance, also updated in 2018, refers to these as the “best available science” on SLR projections in California. San Francisco is the nearest tide gauge to both Pillar Point Harbor and Oyster Point Marina for which SLR projections are provided in the OPC SLR Guidance document. These projections are shown in **Table 4** for a range of probable scenarios and time horizons provided in the guidance.

1 **IPCC (Intergovernmental Panel on Climate Change). 2019.** *The Ocean and Cryosphere in a Changing Climate*. *https://www.ipcc.ch/site/assets/uploads/sites/3/2019/12/SROCC_FullReport_FINAL.pdf*

Table 4. Sea Level Rise Projections for San Francisco (OPC 2018)

Time Horizon	Low Risk Aversion		Medium Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	66% PROBABILITY SLR IS BETWEEN... (FEET)		5% PROBABILITY PROJECTION (FEET)	0.5% PROBABILITY PROJECTION (FEET)	H++ SCENARIO PROJECTION (FEET)
2030	0.3	0.5	0.6	0.8	1.0
2050	0.6	1.1	1.4	1.9	2.7
2070	1.0	1.9	2.4	3.5	5.2
2100	1.6	3.4	4.4	6.9	10.2

The range in projections at each time horizon indicates the uncertainty associated with estimating SLR, particularly for distant time horizons such as 2070 and 2100. At each given time horizon, the OPC guidance provides a range of projections with an associated probability of occurrence. Risk tolerance and design life are important factors to consider when evaluating SLR projections for use in planning or design. The OPC guidance provides the following "risk aversion" categories to aid in selecting appropriate values for a given project.

- **"Low Risk Aversion"** projects should evaluate the upper end of the likely range of SLR projections at a given time horizon. "Low Risk Aversion" refers to projects that would suffer little or no damage or disruption to the function of the harbor if SLR exceeded this projection. There is a 17% chance that these projections are exceeded at any given time horizon.
- **"Medium-High Risk Aversion"** projects should evaluate the 0.5% probability SLR projections at a given time horizon. "Medium-High Risk Aversion" covers a wide range on the spectrum of risk and would apply to projects that would suffer greater consequences (damage and disruption) if SLR exceeded this projection. To clarify what is meant by the probability of these projections, there is a 0.5% (or 1-in-200) chance these values will be exceeded at each time horizon.
- **"Extreme Risk Aversion"** projects should evaluate the worst-case SLR projections as indicated by the H++ scenario, further described in OPC 2018 as related to major losses of the West Antarctic Ice Sheet. "Extreme Risk Aversion" refers to projects that would pose a major threat to life, public health and safety, or the environment if damaged or disruption would be expected under an extreme SLR scenario.

The OPC guidance suggests evaluating a range of SLR projections in planning and early design phases but does not provide specifics for incorporating SLR into project design criteria. For both Pillar Point Harbor and Oyster Point Marina, the appropriate risk aversion category may vary depending on project type. Major capital improvement projects essential to Harbor operations may use a "medium-high risk aversion" scenario, whereas other projects non-essential to Harbor operations or less sensitive to SLR impacts may use a "low risk aversion" scenario. SLR is one of many design parameters that must be considered at the project scale but informed by a long-term adaptation plan for each facility.

Note, the OPC plans to update their SLR projections at 5-year intervals to reflect ongoing research from the scientific community. The timing and probability associated with these projections are considered the "best available science" at the time this document was prepared. However, these projections will be updated before some capital improvement projects are implemented. With each update, we can expect the timing and probability of a given SLR scenario to be adjusted based on the latest and best available science.

3.2 PILLAR POINT HARBOR VULNERABILITY OVERVIEW

Vulnerability is the degree to which natural, built, and human systems are susceptible to harm as defined in the Adaptation Planning Guide.[2] Assessing vulnerability is one of the key steps in understanding future hazards and their potential impacts to District facilities. Vulnerability is a function of hazard exposure, sensitivity to this exposure, and capacity to adapt to this exposure.

Identifying impact thresholds, or tipping points, at which the potential consequences associated with a given hazard scenario increase significantly are key to understanding vulnerability. These impact thresholds can be correlated to an SLR projection to quantify the probability of occurrence at a given time horizon.

Pillar Point Harbor is well protected from wave energy by inner and outer rubble-mound breakwaters. These coastal structures are essential for safe navigation and mooring within the harbor and will be subject to increasing hazards with SLR. A detailed assessment of the breakwater system and its capacity for SLR was outside the scope of this study. To estimate potential SLR impact thresholds within the Harbor, it is assumed these structures will be adapted in response to SLR to maintain the wave protection provided today.

Assuming the breakwater systems remains functional, ocean water levels in combination with SLR are the primary hazard of concern for marina infrastructure at Pillar Point Harbor.

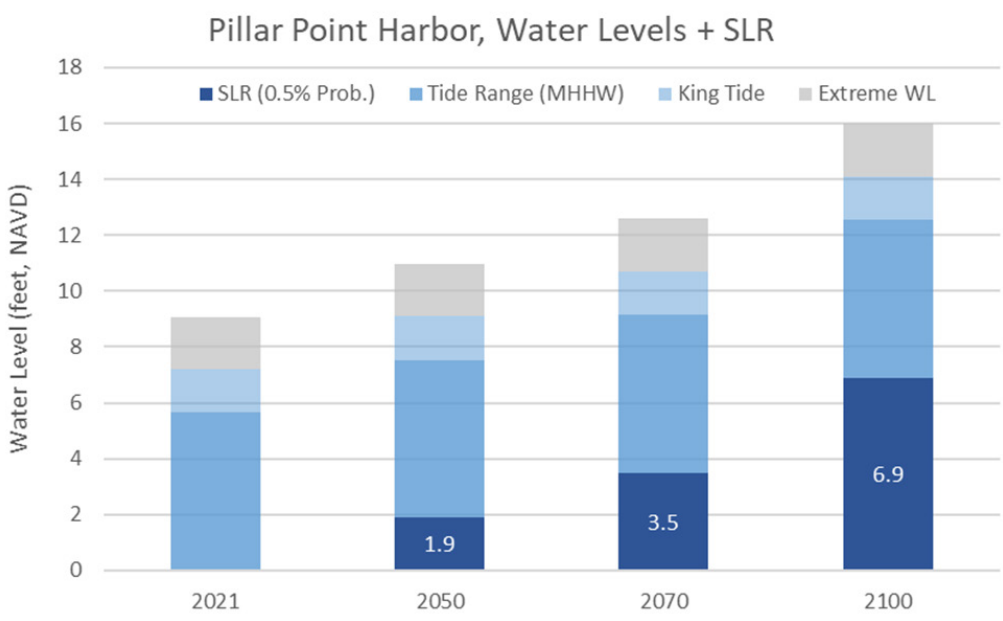
2 *https://resilientca.org/apg/*

Ocean water levels typically vary within predictable astronomical tide ranges; however, sea level anomalies caused by El Niño Southern Oscillation or storm surge events can increase the water levels above the predicted astronomical tide. These events in combination with high astronomical tides can result in extreme water levels and increased potential for flooding of low-lying coastal areas.

The typical and extreme water levels are illustrated in Figure 11 for present-day and three future time horizons. Tides at Pillar Point Harbor typically vary from mean lower low water to mean higher high water, a range of about 5.6 feet (NOAA Station 9414131). King tides, which occur several times each year, result in high tide water levels over 7 feet National Geodetic Vertical Datum (NAVD) and extreme water levels can exceed 9 feet (NAVD) in the present day. SLR projections for the 0.5% probability scenario are included at each future time horizon to illustrate how SLR will increase these water levels.

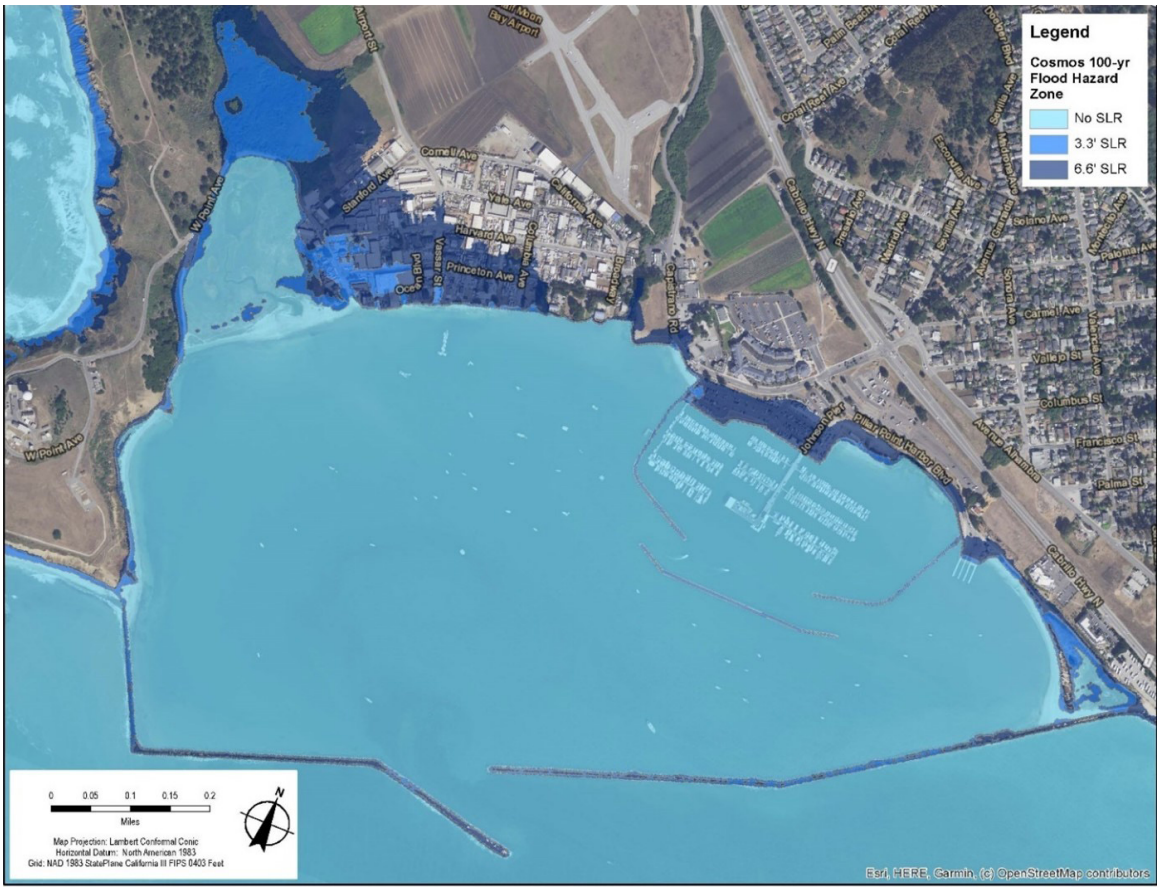
The U.S. Geological Survey (USGS) has mapped future coastal hazards as part their Coastal Storm Modeling System (CoSMoS), which evaluated a range of storm events in combination with SLR. Our Coast Our Future (OCOF) maintains an interactive web-viewer,[3] which shows flood extents for each potential storm and SLR scenario. An example of potential flooding during an extreme water level (100-year event) in combination with SLR is provided in **Figure 12**. These maps are useful for identifying key impact thresholds at which landside facilities and developed areas in the harbor vicinity will be subject to coastal flooding.

Figure 11. Pillar Point Harbor, Typical and Extreme Water Levels + SLR



3 *https://ourcoastourfuture.org/hazard-map/*

Figure 12. Pillar Point Harbor Flood Hazards for 100-year Event with SLR (Sources: USGS and OCOF)



3.2.1 Key Vulnerabilities at Pillar Point Harbor

Based on a comparison of future water levels and existing infrastructure in Pillar Point Harbor, the following summarizes the key vulnerabilities:

- The Pillar Point Harbor bulkhead has a crest elevation of approximately 13 feet (NAVD), which provides capacity for the range of typical and extreme water levels based on projections through 2070. There is only a very slight chance (<0.5% probability) that SLR in combination with extreme water levels will exceed the top of bulkhead over the next 50 years. The parking lots, buildings, and promenade behind the bulkhead, therefore, have low exposure to coastal flooding before 2070.
- Johnson Pier has a deck elevation slightly higher than the adjacent bulkhead (13 feet, NAVD). It is unlikely SLR and water levels will exceed the deck elevation before 2070. However, the utilities that hang beneath the Pier at an elevation of about 9 feet (NAVD) could be subject to periodic flooding with 1 to 2 feet of SLR.

- Marina docks and the fuel dock are well equipped to handle changing water levels, though capacity for SLR depends upon the height of the guide-piles that hold the docks in place. The existing guide-piles will likely be adequate for the remainder of their service life (0–10 years), but design of new docks will require more consideration of future water levels.
- Development adjacent to the harbor, along the Princeton shoreline, is vulnerable to coastal flooding during an extreme event combined with 3 feet or more SLR. Once SLR exceeds 5 feet, the CoSMoS results indicate coastal flooding in Princeton could occur on an annual basis.
- Inner and outer breakwater systems are essential for safe navigation and mooring within Pillar Point Harbor. SLR will increase water levels and wave energy transmission through and over these structures. The existing structures could likely tolerate some SLR (~1 foot) without widespread failure, but higher amounts of SLR will likely result in more frequent damage during storm events. A detailed assessment of the breakwaters, which was beyond the scope of this study, would be required to better understand the impact thresholds for the inner and outer breakwater systems.

Pillar Point Harbor, 2021

3.2.2 SLR Considerations for Pillar Point Harbor Projects

Most of the projects developed in this master planning effort consist of upgrades, modifications, or repairs to existing infrastructure. Regular inspection, maintenance, and repair of waterfront infrastructure are essential to limit damage and disruptions to marina operations. These activities are an important part of adapting to SLR and will likely be required at higher frequency and costs in proportion to the rate of SLR.

Johnson Pier

Johnson Pier is essential to the function of the Pillar Point Harbor and is overall in good condition having been well maintained with an expected remaining service life of 30 to 40 years if repairs and retrofits are made. The existing pier structure has capacity for several feet of SLR before water levels are in contact with the pier soffit on a regular basis. The Johnson Pier expansion will likely maintain the same deck elevation for functionality, and there is very low probability that SLR will exceed this elevation before 2070. However, the significant investment associated with the pier expansion warrants a project-specific analysis of how SLR may impact the pier structure and utility systems that hang below the pier (**Figure 13**). Vulnerabilities identified from this project-scale assessment should be mitigated through design features, or with future adaptation strategies.

Figure 13. Johnson Pier, Under-deck Utilities at Bulkhead, 2021

Figure 14. Pillar Point Harbor – Parking Lots, Buildings and Promenade, 2021

Parking lots, Buildings, and Promenade

Landside facilities and infrastructure (**Figure 14**), including parking lots, buildings, and sidewalks, are dependent on the bulkhead and shoreline protection system for coastal flood protection, which likely has adequate capacity for SLR projections through 2070. Therefore, SLR is not a major consideration for these maintenance and repair projects whose service life will expire before coastal flooding is a significant concern. However, any future project that involves a new building or other significant investment on the landside should consider long-term hazards associated with SLR (2070–2100) and align with the long-term adaptation plan for major coastal infrastructure.

Marina Docks and Fuel Dock

All dock replacement projects should include a project-specific assessment of SLR that accounts for design life and risk tolerance in selecting the appropriate design criteria. The marina docks and fuel dock rise and fall with the change in water level and can be designed to adjust to higher water levels by modifying the mechanical connections and increasing the height of guide piles that hold the docks in place. The landside platform supporting the gangway and utilities to Docks A–C on the west side of the Harbor (**Figure 15**) is at a similar elevation as the top of bulkhead and adjacent parking lot and would be subject to the similar SLR considerations.

Figure 15. Pillar Point Harbor —Landslide Gangway Platform to Docks A-C, 2021

Figure 16. Pillar Point Harbor —Boat Launch Ramp, 2021

Boat Launch Ramp

The existing boat launch ramp at Pillar Point Harbor (**Figure 16**) sees seasonal high use and consists of six reinforced concrete boat launching lanes served by four boarding float docks held in place with concrete guide piles. The boarding docks can rise and fall with the tides, but the landside abutment (or ramp) connecting the docks to the landside are fixed in position. The existing top of launch ramp is roughly a few feet above the abutments, and reconstruction of the launch ramp in the future will need to consider moving and raising the top of ramp and abutments, as well as the adjacent utilities, sidewalk, and restroom.

Most SLR impacts can be mitigated for the remaining service life of major harbor infrastructure such as Johnson Pier and the marina bulkhead. However, long-term impacts associated with higher amounts of SLR (i.e., over 3 feet) are significant. Adapting to these coastal hazards will likely require major upgrades and/or modifications to the coastal protection infrastructure (breakwaters and bulkheads), harbor operations, and landside infrastructure.

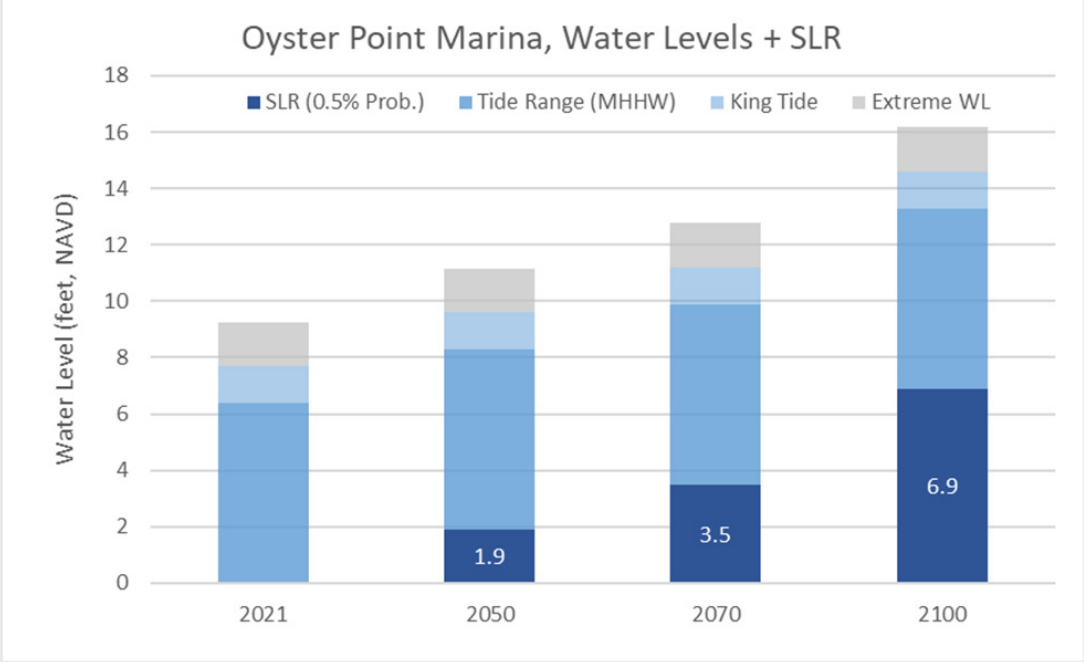
Given the scale of potential impacts and variety of stakeholders affected, significant lead time will be required for planning, funding, and implementing these large-scale adaptation strategies. The timing and need for a long-term adaptation strategy will depend upon the rate of SLR experienced over the next several decades. Based on current SLR projections there is only a 1.2% chance SLR will exceed 3 feet before 2070. The probability and timing associated with this impact threshold will continue to be refined with updated SLR projections, and the District will factor this information into ongoing long-term planning and adaptation efforts.

Johnson Pier at Pillar Point Harbor, 2021

3.3 OYSTER POINT MARINA VULNERABILITY OVERVIEW

Ocean water levels are the best indicator for potential flooding of Oyster Point Marina and surrounding areas. Located on San Francisco Bay, the marina is sheltered from wind waves by a concrete sheet pile breakwater. SLR impacts within the marina were evaluated assuming the breakwater will be adapted in response to SLR to maintain the wave protection provided today. A detailed study of the breakwater's vulnerability to future water levels and wind wave events was beyond the scope of this study.

Figure 17. Oyster Point Marina, Typical and Extreme Water Levels + SLR



Astronomical tides significantly influence water levels within the San Francisco Bay. Typical daily tides range from mean lower low water to mean higher high water, a range of about 6.6 feet (NOAA Station 9414750). During spring tides, which occur twice per lunar month, the tide range increases due to the additive gravitational forces caused by alignment of the sun and moon. The largest spring tides of the year, which occur in the winter and summer, are sometimes referred to as "King" tides and result in water levels of nearly 8 feet (NAVD).

Ocean water levels typically vary within predictable astronomical tide ranges; however, sea level anomalies caused by El Niño Southern Oscillation or storm surge events can increase the water levels above the predicted astronomical tide. These events in combination with high astronomical tides can result in extreme water levels that result in flooding of low-lying areas around Oyster Point Marina. The typical and extreme water levels are illustrated in **Figure 17** for

Figure 18. Oyster Point Marina, Flood Hazards for 100-year Event + SLR (Source: USGS)

present-day and three future time horizons. SLR projections for the 0.5% probability scenario are included at each future time horizon to illustrate how SLR will increase these water levels.

The CoSMoS flood extents (**Figure 18**) indicate the vulnerability of landside infrastructure and amenities around Oyster Point Marina to current and future coastal flooding. The harbor master building, access roads, parking and trails adjacent to the west basin experience temporary flooding today during high water level events. SLR will increase the frequency and duration of coastal flooding, rendering much of the area inaccessible during high tides. Significant development underway at Oyster Point, plans to increase the elevation of roads and buildings to reduce the risks associated with SLR, but this development will not eliminate vulnerabilities at Oyster Point Marina.

3.3.1 Key Vulnerabilities at Oyster Point Marina

Based on a comparison of current and future water levels to existing topography at Oyster Point Marina, the key vulnerabilities are summarized below.

The Harbormaster Building is vulnerable to temporary flooding during high water level events and will likely require flood protection improvements or relocation to accommodate SLR. Marina docks and the fuel dock are well equipped to handle changing water levels, though capacity for SLR depends upon the height of the guide-piles that hold the docks in place and mechanical connections to the gangway platforms. Access to the docks will be hindered by temporary flooding unless the gangway platforms, access roads, and paths are also adapted for SLR.

The sheet pile breakwater system is essential for safe navigation and mooring within Oyster Point Marina. SLR will increase water levels and wind wave energy acting on these structures. A detailed assessment of the breakwaters, which was beyond the scope of this study, would be required to better understand the impact thresholds for breakwater system.

3.3.2 SLR Consideration for Oyster Point Marina Projects

The vulnerability of Oyster Point Marina to coastal flooding demonstrates the need for significant investment to maintain marina operations and build capacity for SLR. Some key SLR considerations are listed below for different project types.

Bay Trail/Parking Lots/Access Roads

Portions of the existing SF Bay Trail and low-lying parking lots and access roads on the District-controlled areas of Oyster Point experience temporary flooding during King tide events exceeding elevations of approximately +8 feet NAVD88. (**Figure 19**). SLR will be a primary design consideration for a large-scale project to address current and future vulnerabilities at this location. Adaptation strategies and projects that enhance flood protection will also need to address the trade-offs associated with potential impacts to coastal resources and connectivity to other access infrastructure.

Figure 19. Oyster Point Marina Flooding During King Tide Event, 2021

Figure 20. Oyster Point Marina – Landside Gangway Platform to Dock 12, 2021

Marina Docks

The marina docks rise and fall with the change in water level and can be designed to adjust to higher water levels by modifying the mechanical connections and raising the tops of the existing or new pilings holding the docks in place. The landside platform supporting the gangway and utilities to the docks (**Figure 20**) on the west and east sides of the harbor are at a similar elevation as the Bay Trail and would be subject to the same SLR planning criteria as the other landside infrastructure.

Site Utilities

During high tide events, the existing site utilities have been subject to periodic flooding and require continual maintenance to keep them in working order. Most notable are the electrical connections and wiring in low-lying pull boxes, as seen being maintained in **Figure 21** below. Also worth noting are the existing sewer lift station building and vessel sewer pumpout equipment elevations that are at risk of flooding and would be subject to the same SLR planning criteria as the other landside infrastructure.

Figure 21. Oyster Point Marina – Electrical Pull Box Being Maintained to Dock 13, 2021

Figure 22. Oyster Point Marina – Harbormaster Building Undermined Foundation (with skirt), 2021

Buildings/Restrooms

During King tide events, the access road to the Harbormaster's Building has been completely underwater at times, with the pile-supported foundation of the Harbormaster Building being undermined by tidal action (see **Figure 22**). A lattice skirt was placed around it to keep wild animals out, but continual erosion due to moving water has further undermined the soil around the building foundation. Also worth noting are the existing restroom elevations along the Bay Trail that are at risk of flooding similar to other landside amenities. SLR would be a primary consideration for any proposed improvements to these buildings and would need to be planned, designed, and implemented along with improvements to other Oyster Point Marina/infrastructure.

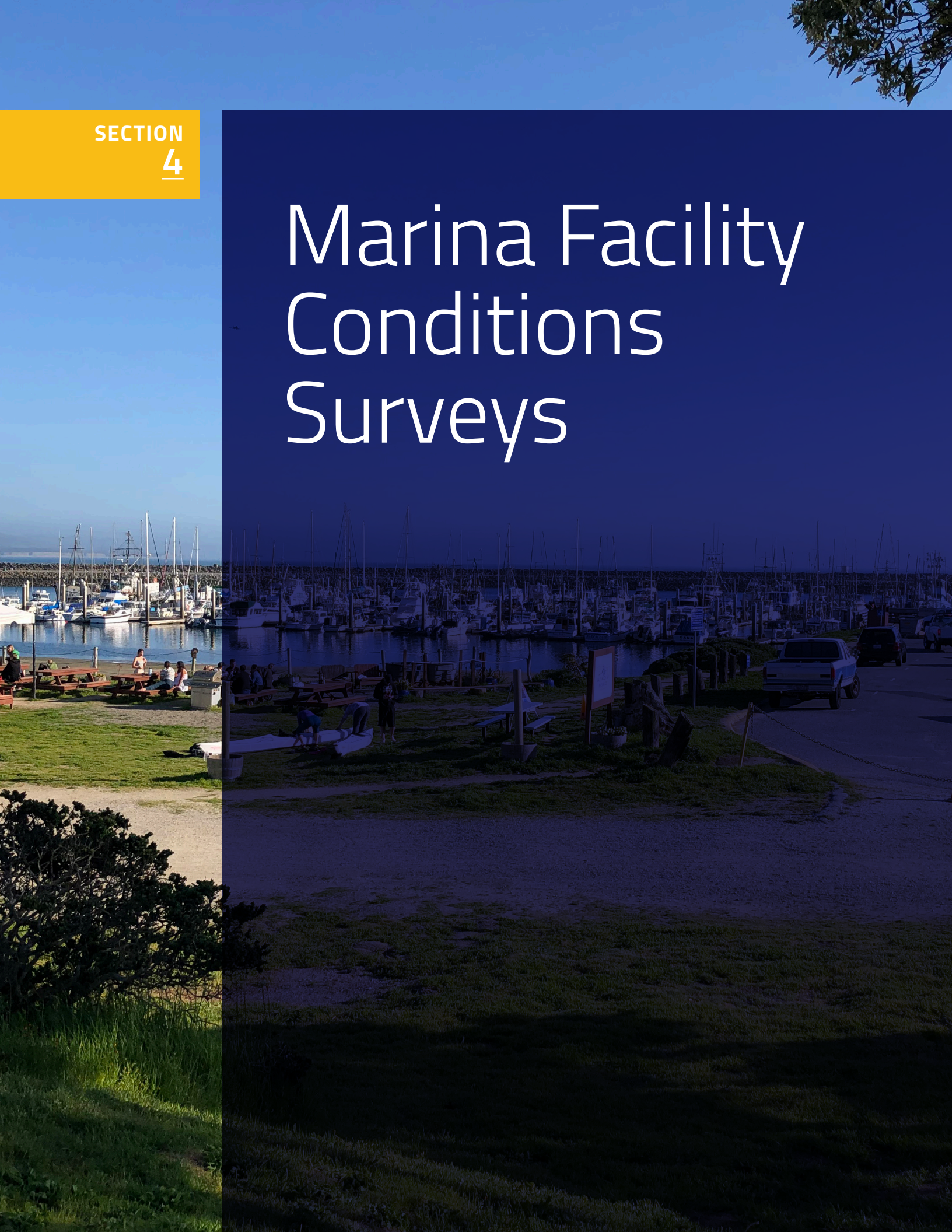
Boat Launch Ramp

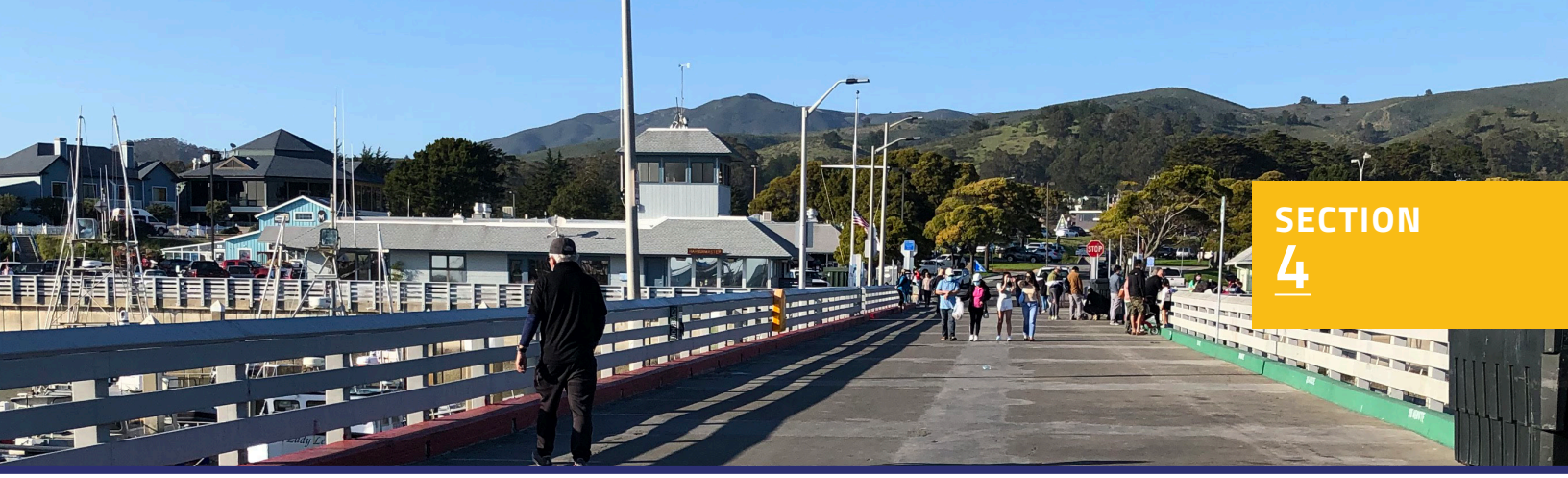
The existing boat launch ramp at Oyster Point Marina consists of two boat launching lanes served by a single boarding float dock held in place with a guide-pile at the end of the dock (**Figure 23**). The boarding dock can rise and fall with the tides, but the landside abutment (or ramp) connecting the dock to the landside is fixed in position. The existing top of launch ramp is roughly the same elevation as the adjacent Bay Trail, and reconstruction of the launch ramp in the future will need to consider moving and raising the top of ramp and abutments.

Figure 23. Oyster Point Marina – Boat Launch Ramp, 2021

SECTION
4

Marina Facility Conditions Surveys





SECTION 4

Marina Facility Condition Surveys

Marina Facility Condition Surveys (**Appendix B**) were performed by GHD in 2021 at both Master Plan Areas—Pillar Point Harbor and Oyster Point Marina—to document existing conditions. These surveys served to update the prior 2014 Pillar Point Harbor Marina Facility Condition Surveys and 2014 Oyster Point Marina Facility Condition Surveys, respectively. "Condition Rating" is a numeric score from 0 through 100 given for each component that allows ranking comparison of facilities. The number is based upon visual observations of the facilities qualitative condition as described in the condition rating tables. The remaining useful life is the amount of time the component is expected to remain serviceable without further maintenance, in its present condition. The range is generally 5- to 10-year intervals, such as "5 to 10" or "10 to 20." The measure of remaining useful life is to be distinguished from the original "useful life" or "service life" that is commonly used in the valuation of an asset. **Table 5** provides a summary of the definitions used for the existing conditions analysis. The complete existing conditions survey reports can be found in **Appendix B**.

Oyster Point Marina, 2021

Table 5. Marina Facility Conditions Survey Definitions

Condition	Description	Remaining Useful Life	Condition Rating	Repair Priority
GOOD	Like-new condition; shows very minor deterioration; no overstressing observed.	More than 30 years	100	—
SATISFACTORY	Serviceable condition; lightly worn due to normal wear. No repairs are required.	20–30 years	80	—
FAIR	Localized moderate defects or deterioration; structure serviceable and lightly worn due to normal wear. Repairs are recommended but the priority of the repairs is low.	10–20 years	60	Low (Level 4)
POOR	Widespread advanced deterioration or overstressing observed; structure is serviceable with minor loss of structural capacity. Repairs are recommended with moderate priority/ urgency.	5–10 years	40	Moderate (Level 3)
SERIOUS	Advanced deterioration or overstressing observed; significant loss of capacity with local failures possible. Repairs are recommended with high priority/urgency.	2–5 years	20	High (Level 2)
CRITICAL	Very advanced deterioration or overstressing with localized failures observed; significant loss of capacity with load restrictions and repairs recommended with very high priority/urgency.	Should replace in less than 2 years	0	Very High (Level 1)

4.1 PILLAR POINT HARBOR EXISTING CONDITIONS

The Pillar Point Harbor condition survey was based upon observations and input received from the District on-site personnel during site visit on April 5–6, 2021, by Robert Sherwood, P.E, with GHD. The underside of the pier, concrete sheet pile bulkhead, and fuel dock at Pillar Point Harbor were observed by boat. The conditions were rated using a system similar to that used on the previous condition assessment report (San Mateo County Harbor District, Pillar Point Harbor Marina Facility Condition Surveys, December 2014 by Moffatt & Nichol) to facilitate comparison of the changes over time. Once the condition was rated, the priority and cost and any needed repair or replacement was estimated and compared to previous condition surveys in present day U.S. dollars. The methods for the parameters of condition rating, priority, cost, and type of repair or replacement are described as follows.

The following observations document the present day (2021) condition of the Pillar Point Harbor facilities within the District's jurisdiction to provide a basis for future master planning efforts. The estimated remaining useful life, and anticipated costs of repair and/or replacement of key marina elements of the facility are also taken into consideration. The condition survey report is formatted to be as consistent as practicable with past reports for continuity, while still utilizing current accepted industry standards for the inspection of marine facilities.

PILLAR POINT HARBOR JOHNSON PIER

Johnson Pier is the backbone and centerpiece of the harbor, and key components include the following:

SUPPORT PILES AND PILE BENTS – The majority of piles and pile bents are in "good" condition; some of the reinforced concrete beams (or bents) supporting portions of the deck at the end of the pier were noted to be in "poor" condition and in need of repair in the next 5 to 10 years due to overstressing by excessive loading, and one pile under the Fish Buyer Building was noted to also be in "poor" condition and in need of repair in the next 5 to 10 years.

DECKING AND BULLRAIL – Well maintained and in "good" condition.

RAILING – Relatively new plastic lumber and well maintained in "good" condition.

PIER UTILITIES – Recently renovated under pier and well maintained in "good" condition.

PILLAR POINT HARBOR PERIMETER PROTECTION

The Pillar Point Harbor perimeter protection is essential to the safe function of the harbor, and key components include the following:

ROCK SLOPE PROTECTION – Observed to be in "critical" condition with failed sections needing immediate replacement; high priority but fair amount of buffer at top of slope for now.

SHEET PILE WALL – Vertical concrete sheets appear to be in "satisfactory" condition with an anticipated remaining useful life of 20 to 30 years; reinforced concrete cap in "poor" condition and needs several localized repairs in the next 5 to 10 years.

PILLAR POINT HARBOR MARINA DOCKS

The marina docks are at end of their 30- to 40-year useful life and components include the following:

DOCKS A–C (majority recreational boat owners) – Wooden docks with conditions range from "serious" to "poor" indicating a need of replacement within 10 years

DOCKS D AND E (majority commercial fishing boats) – Wooden docks with conditions range from "serious" to "poor" indicating a need of replacement within 10 years.

DOCKS F–H (mix of recreational and commercial vessels) – Wooden docks with conditions range from "serious" to "poor" indicating a need of replacement within 10 years.

GUEST DOCK (along Johnson Pier between Docks D and E) – Concrete dock in "fair" condition indicating a need of replacement in 10 to 20 years.

FUEL DOCK – Dock was observed to be worn with uneven freeboard possibly due to loss of foam floatation in the open top tubs from chemical attack and is considered to be in "serious" condition, indicating a need of replacement of the fuel dock in 2 to 5 years. Replacement is recommended for only the floating fuel dock and various mechanical and dock fueling appurtenances, and assumes the landside underground storage tanks and under pier fuel lines to the dock, gangway, guide piles, and fuel dispensers do not need replacement.

Buildings within the harbor include the following:

HARBOR OFFICE BUILDING – ADA access added and interior recently remodeled; well maintained and in "satisfactory" condition with a remaining useful life of 20 to 30 years.

MAINTENANCE BUILDING – New paint and exterior doors; well maintained and noted to be in overall "satisfactory" condition with a remaining useful life of 20 to 30 years.

TENANT ROW BUILDING – In overall "fair" condition structurally with a remaining useful life of 10 to 20 years before needing major renovations; interior upgrades tenant responsibility.

WEST RESTROOM AT DOCKS A THRU C – Overall "fair" condition, with an anticipated remaining useful life of 10 to 20 years; existing ramps to showers need to be ADA compliant.

CENTRAL RESTROOM AT BASE OF PIER – Appears to be in "fair" condition, with an anticipated remaining useful life of 10 to 20 years before needing major renovations.

EAST RESTROOM AT BOAT RAMP – Appears to be in "poor" condition, with an anticipated remaining useful life of 5 to 10 years before needing major renovations or replacement.

FISH BUYER BUILDING – Appears to be in overall "fair" condition structurally with 10 to 20 years before needing major renovations; interior upgrades tenant responsibility.

ICE HOUSE BUILDING – Appears to be in overall "satisfactory" condition structurally with a remaining useful life of 20 to 30 years before needing major renovations.

Other site work includes the following:

ROADWAYS – Remaining useful life varies from 2 to 20 years depending on location.

PARKING LOTS – Remaining useful life varies from 2 to 20 years depending on location.

SIDEWALKS AND PROMENADE – Conditions range from "serious" to "poor" depending on location, with remaining useful life of 2 to 10 years before needing replacement. At the landside base of the pier, the 3-step stairs from the promenade to the pier walking surface appear to be worn and in "poor" condition, need to be replaced in the next 5 to 10 years.

LANDSIDE UTILITIES – Varies from "fair" to "satisfactory" condition for existing uses.

LANDSCAPING – Landscaping is sparse and overgrown, with condition varying from "poor" to "serious" condition; priority may be dependent on location and public visibility.

BOAT LAUNCH RAMP – Surface and boarding float docks were observed to be in "fair" condition with an anticipated remaining useful life of 10 to 20 years, and the concrete pavement at the top of ramp is considered to be in "poor" condition with an anticipated remaining useful life of 5 to 10 years before needing replacement. The asphalt concrete roadway from the launch ramp to the boat trailer parking area is more heavily degraded and considered to be in "serious" condition with an anticipated remaining useful life of 2 to 5 years before needing replacement.

PUBLIC FISHING PIER – Recently completely renovated and is considered to be in "good" condition, with the anticipated remaining useful life of 20 to 30 years with regular maintenance.

Pillar Point Harbor, 2021

4.2 Oyster Point Marina Existing Conditions

The following observations document the present day (2021) condition of the facilities within the District's jurisdiction to provide a basis for future master planning efforts. The estimated remaining useful life and anticipated costs of repair and/or replacement of key elements of the facility are also taken into consideration. The condition survey report is formatted to be as consistent as practicable with past reports for continuity, while still using currently accepted industry standards for the inspection of marine facilities. Additionally, the 2016 *Marina Market Evaluation and Updated Conditions Assessment for the Oyster Point Marina* (performed by Anchor QEA), and the 2017 *Oyster Point Fuel Dock Condition Assessment and Recommended Repairs and Replacement* memorandum (also performed by Anchor QEA) will be considered for consistency in the updated condition survey report.

Many changes have occurred at the Oyster Point site since the previous condition surveys, mainly due to the ongoing Oyster Point Redevelopment Project consisting of new office buildings, a parking structure, site utilities, and the realignment of Marina Boulevard adjacent to the west basin docks. During construction, the west basin parking lot and Restrooms 4 and 5 were demolished and a temporary parking lot and restrooms were set up at the time of the survey. The fuel dock dispensers and associated landside underground storage tanks and piping were removed in 2019 because of their degraded condition and safety/environmental concerns. Additionally, many of the major maintenance issues outlined in prior 2014 and 2016 condition reports have been addressed by the District and staff to extend the life of the facility buildings and docks.

Oyster Point Marina, 2021

OYSTER POINT MARINA

MARINA DOCKS

The marina docks are a key component of this condition survey, and include the following:

WEST BASIN – PUBLIC DOCKS 1–6: Docks observed to be in "serious" to "poor" condition indicating a need of replacement within 10 years; upgraded electrical system; large percentage of slip fingers out of cross slope tolerance for walking surfaces.

WEST BASIN – RESERVED DOCK 7: Observed to be in "critical" condition and in need of removal or replacement with an anticipated remaining useful life of 0 to 2 years.

GUEST DOCK – DOCK 8: Fairly new concrete dock in "good" condition with an anticipated remaining useful life of at least 30 years before needing replacement; concrete gangway platform and landside utility connections may need to be raised with parking lot.

EAST BASIN – DOCK 11: Fairly new concrete dock in "good" condition with an anticipated remaining useful life of at least 30 years before needing replacement; concrete gangway platform in need of replacement (and raising with Bay Trail).

EAST BASIN – DOCKS 12–14: Docks observed to be in "serious" to "critical" condition indicating a need of replacement within 5 years; fairly new concrete wave attenuators at ends; large percentage of slip fingers out of cross slope tolerance for walking surfaces; Platforms in need of replacement (and raising with Bay Trail).

Oyster Point Marina, 2021

OYSTER POINT MARINA PERIMETER PROTECTION

The harbor perimeter protection is essential to the safe function of the harbor, and key components include the following:

SHORELINE ROCK SLOPE PROTECTION – Observed to be in "satisfactory" condition and should last indefinitely with normal maintenance; may need to be reassessed in 20 to 30 years.

SEAWALL – Vertical concrete sheets appear to be in "fair" condition with an anticipated remaining useful life of 10 to 20 years; reinforced concrete cap in "poor" condition in need of repairs in several locations in the next 5 to 10 years.

OYSTER POINT MARINA BUILDINGS

Buildings within the harbor include the following:

HARBOR OFFICE BUILDING – ADA access added and interior recently remodeled; well maintained and in "satisfactory" condition with a remaining useful life of 20 to 30 years; recommend replacement of roof in 5 to 10 years.

MAINTENANCE BUILDING – New paint and exterior doors; well maintained and noted to be in overall "satisfactory" condition with a remaining useful life of 20 to 30 years; recommend repairs and repainting of exterior and remodeling of the interior in 5 to 10 years.

RESTROOM 1 – Appears to be in "satisfactory" condition, with an anticipated remaining useful life of 20 to 30 years before needing major renovations.

RESTROOM 2 – Appears to be in "satisfactory" condition, with an anticipated remaining useful life of 20 to 30 years before needing major renovations.

RESTROOM 3 – Appears to be in "satisfactory" condition, with an anticipated remaining useful life of 20 to 30 years before needing major renovations.

OTHER SITE WORK

Other site work includes the following:

ROADWAYS – Remaining useful life varies from 5 to 20 years depending on location.

PARKING LOTS – Remaining useful life varies from 2 to 20 years depending on location; lower boater and Harbormaster parking lots recommended to be raised with facility improvements.

SIDEWALKS AND BAY TRAIL – Overall "fair" condition; need to be resurfaced in the next 10 to 20 years, but recommend raising grade with other facility improvements such as dock replacement.

LANDSIDE UTILITIES – Varies from "poor" to "fair" condition; replace and raise with site.

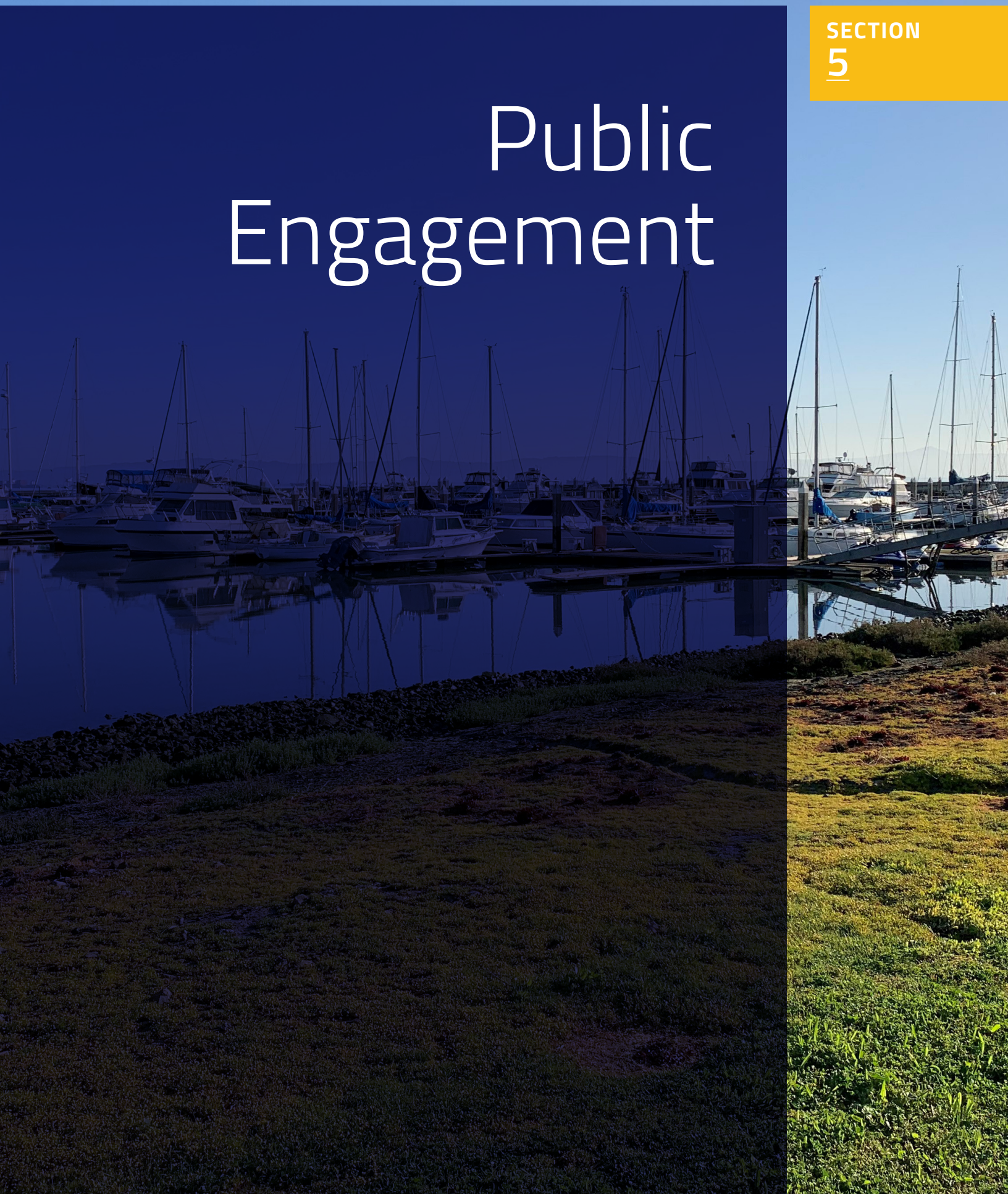
LANDSCAPING – Sparse and in "poor" condition; replacement priority may be dependent on location and public visibility; recommend replacing some areas with drought-tolerant plants.

BOAT LAUNCH RAMP – Surface and boarding float docks were observed to be in "good" condition with an anticipated remaining useful life of 30 years or more; asphalt pavement from the top of ramp to the boat trailer parking lot is considered to be in "poor" condition with an anticipated remaining useful life of 5 to 10 years before needing resurfacing.

PUBLIC FISHING PIER – Recently constructed and is considered to be in "good" condition, with the anticipated remaining useful life of 30 years or more with regular maintenance.

SECTION
5

Public Engagement



SECTION
5

Public Engagement

The public engagement efforts conducted as part of the planning process for preparation of this Master Plan used a variety of methods to effectively engage members of the public, stakeholders, staff of adjacent jurisdictions, District staff, businesses, facility users, and visitors through direct dialogue, canvassing, virtual workshops, and surveys. By using a variety of engagement strategies, the District and project team was able to effectively communicate the purpose, goals, and outcomes of the Master Plan to the community at large, as well as to communicate the processes and timelines of engagement opportunities. The public engagement efforts were critical to the planning process and collected meaningful feedback on public and stakeholder perceptions and experiences with District amenities and services. Engagement also helped to identify gaps in services, stakeholder thoughts and opinions on facilities, and opportunities for projects and collaboration. The public was also asked to share thoughts on priorities for projects.

Building on the efforts completed by the District in preparing the 2019 Strategic Plan, the communication and engagement approach for the Master Plan honored that work and built upon it. A Communication and Engagement Plan (CEP), found in Appendix C, was prepared for the Master Plan and was shared publicly on the District's website and with other agencies. The CEP was prepared with the following purposes (1) to convey and adhere to the Mission of the San Mateo County Harbor District; (2) to be responsive to the communities the District serves; and 3) to reflect the District's commitment to the best achievable balance of resource protection, coastal access, sustainable development, coastal-dependent businesses, and active and passive public recreation. The CEP provided a guide outlining how and when stakeholders and the public can actively engage in the process of developing the Master Plan. An overview of the engagement tasks and approximate dates in relation to Master Plan milestones is provided in **Table 6**. This timeline was used frequently to ensure members of the public understood how and when they could participate in the Master Plan process.

Table 6. Public Outreach Tasks and Approximate Dates

Task	Approximate Dates
Conditions Surveys and Summary Reports	Spring 2021
Canvass and Pop Ups at Pillar Point Harbor and Oyster Point Marina	June 5 and 12
Workshop #1 – Introduction to the Master Plan Process	**July 13 at 6:00 pm via Zoom**
Master Plan Vision and Guiding Principles New Opportunities Investigation ADA and Resiliency Incorporation into Capital Improvement Plans	Mid-Summer 2021
Workshop #2 – Pulling the Information Together	**August 10 at 6:00 pm via Zoom**
Workshop #3 – Infrastructure and Projects	**September 9 at 6:00 pm via Zoom**
Revisions to Master Plan Draft Master Plan and Environmental Protection Road Map	Autumn 2021

Pillar Point Harbor, 2021

In addition to the tasks shown above, the following engagement strategies were used to collect stakeholder and community member input:

Table 7 Engagement Strategies, Audience, and Purpose

Engagement Strategy	Audience	Purpose
Personal interviews via Zoom and phone	Key stakeholders and members of the public	Discuss existing conditions, projects, scope of the Master Plan, and shared opportunities, projects, and collaboration.
Personal interviews via Zoom and phone	Harbor District Commissioners	
Personal interviews via Zoom and phone	Harbormasters at Pillar Point Harbor and Oyster Point Marina	
Individual interviews and discussions	San Mateo County elected and appointed officials and their staff members	
Focused meetings	City of South San Francisco staff in various departments	
Focused meetings	San Mateo County staff in various departments	
Focused meetings	City of Half Moon Bay staff and consultants	
Direct emails	Stakeholder list	Advertise upcoming engagement events including virtual workshops, online survey, and pop-up events.
Social media posts	All members of the public	
Advertisements in community calendars	All of members of the public, targeted to those who don't use social media	
Presentations at other community meetings	Members of partner organizations, community groups, and other interested entities	Discuss scope of the Master Plan and opportunities to provide feedback via engagement events.
Four public workshops organized with the San Mateo County Harbor District	All members of the public, stakeholders, District staff, partner agency staff	Master Plan process update meetings and opportunity to provide feedback on work completed to-date.

5.1 STAKEHOLDER INTERVIEWS

Between April 2021 and June 2021, 29 key stakeholders were interviewed over Zoom or via phone. Stakeholders represented City and County departments, elected officials, partner and affiliated governmental organizations, community leaders, Pillar Point Harbor and Oyster Point Marina users, boat owners, businesses and business leaders, commercial fishermen, representatives of community-based organizations and non-governmental organizations and others. Interviews ranged from 20 minutes to 90 minutes, and a broad range of topics was discussed. The following key issues were raised during multiple interviews:

- Need for infrastructure improvement projects
- Conflicts between visitors and working marina activities at Pillar Point Harbor
- Need for more public information related to wildlife and potential conflicts between tourism and wildlife safety at Pillar Point Harbor
- Need for better signage at both locations (Pillar Point Harbor and Oyster Point Marina)
- Need for coastal trail signage and better circulation at Pillar Point Harbor
- Need for more lighting at Oyster Point Marina
- Need for better sediment management and water quality at Pillar Point Harbor
- Need to replace the fuel dock at Oyster Point Marina
- Desire for dry storage
- Desire for coffee or sandwich shop

5.2 PUBLIC SURVEYS, POP UP EVENTS AND CANVAS

Two surveys were conducted over the course of the Master Plan process. The first survey was developed with input from the District staff and key stakeholders. The survey was released by email, social media, and notices published in community calendars, and shared with agencies that used their own email stakeholder lists to distribute the link. The survey was also posted the District website. The first survey included in-person solicitation of feedback at pop-up and canvass events. In total, 282 survey responses were received, including 58 from the in-person pop-up and canvass event at Oyster Point Marina and 71 at Pillar Point Harbor. The second survey was released after the second workshop as a follow on to the polls taken in the workshop and was related to the need to prioritize infrastructure projects and other types of projects. There were 19 responses received at the close of the second survey after the 2-week period.

5.2.1 Oyster Point Marina Feedback

There were four district user groups at Oyster Point Marina:

1. Users of the Oyster Point Marina and boating infrastructure, and other recreational water sports, including small craft, kayaks, and other ocean recreational activities
2. Users of the coastal trail for biking and walking
3. Users of the fishing pier and
4. Visitors and tourists who came just to enjoy open space and picnicking.

Among those groups, the majority of discussion was among the boating community and the comments related most to the need for an improvement of slips and docks, reconstruction of the fuel dock, a desire for more ferry service, general upgrade of the look and feel of the facilities, a desire to increase the profile of the area to draw more people, and expansion of amenities such as storage opportunities and potentially dry storage. The users of the fishing pier were more generally concerned with lighting and safety, evenness of the pavement in the parking lots, and overall maintenance. The user group that frequented the trails for hiking and biking were generally happy with the facilities, especially the bathrooms. Visitors and tourists were also generally happy with the facilities, including the quality of the bathroom facilities, and enjoyed the opportunity to have a quiet place in a large city.

5.2.2 Pillar Point Harbor Feedback

There are a wide range of user groups, representing a range and diversity of communities and languages spoken, that frequent Pillar Point Harbor, including business owners (restauranteurs, recreational operators, retail and hotel owners and operators), tourists, residents of the surrounding areas, the fishing community, walkers, bikers, users of the fishing pier. The most commonly discussed concerns were wildlife and human conflicts; the need to upgrade Johnson Pier and other infrastructure, the need for better signage, including multi-lingual communication and signage; improving coordination on health and safety issues and rescue efforts; increasing parking, including RV parking for the fishing community; better integration of the coastal trail; and the need for increased dredging and water quality improvement projects.

5.3 COMMISSIONER INTERVIEWS

The commissioner interviews unfolded over a period of 2 weeks in June and July 2021. The major topics discussed were the need for coordination and collaboration with the County of San Mateo, City of Half Moon Bay, and the City of South San Francisco; the prioritization of funding projects; improving coordination and communication on rescue efforts, human safety, and fire safety; and minimizing conflicts between the working marina and tourism.

5.4 WORKSHOPS

WORKSHOP #1
Introduction

WORKSHOP #2
Pulling the Information Together

WORKSHOP #3
First Look

Workshop 1

The first Public Workshop was convened via Zoom as a Special Meeting on July 13, 2021. It was called to order by the Chair, Commissioner Kiraly, and then turned over to the General Manger and Team to present. As the first workshop, a general overview was provided for purposes of orienting the public to the overall aim of the Master Plan; providing an understanding of the work that had been accomplished to-date, such as the Existing Conditions Survey Reports for infrastructure at Pillar Point Harbor and Oyster Point Marina; detailing the outcomes of the first survey; identifying the next steps with the Master Plan and engagement; and providing attendees with an opportunity to comment and ask questions.

Public comments from the workshop/meeting are summarized below:

- An overall desire for clarity on the San Mateo County Harbor budget and the relationship of the budget to approved and funded projects and to approved projects that are unfunded.
- A desire for more coordination and leveraging of opportunities for visitor-serving and income-generating opportunities at Pillar Point Harbor and Oyster Point Marina
- Opportunities for RV parking at Pillar Point Harbor for the fishing community.
- The need to upgrade facilities at both locations to address community expectations and to serve recreational and boating needs.
- The need to better coordinate and communicate with, and recognize the concerns of, people working and those visiting Pillar Point Harbor.
- Need to understand jurisdiction at Mavericks onshore.

WORKSHOP #1
Introduction

WORKSHOP #2
Pulling the Information Together

WORKSHOP #3
First Look

Workshop 2

The second Public Workshop was conducted via Zoom on August 10, 2021, with the intent of providing more information about the mission, vision, and values of the Master Plan and about the current list of projects that the District is working on, the projects the District has prioritized and funded, and the projects that are unfunded. The workshop included a discussion of the opportunities identified through the stakeholder interview and survey processes described above. Zoom polls were also included at key points in the workshop to elicit feedback on the potential projects, and workshop leaders indicated that surveys would also be circulated after the meeting. These surveys would mirror the content of the Zoom polls and would allow people to take more time answering the questions. In addition, these surveys would allow for those not in attendance at the meeting to provide feedback. Although those in attendance took the polls, during the public comment section of the workshop, some attendees expressed a need to split projects out into two types: infrastructure projects and planning/process type projects. Therefore, the survey was restructured before it was circulated. Moreover, after the meeting closed, to address the comments related to specific project types, it was decided that another workshop would be convened with the specific focus of discussing the County Harbor District Infrastructure.

Pillar Point Harbor

WORKSHOP #1
Introduction

WORKSHOP #2
Pulling the Information Together

WORKSHOP #3
First Look

Workshop 3

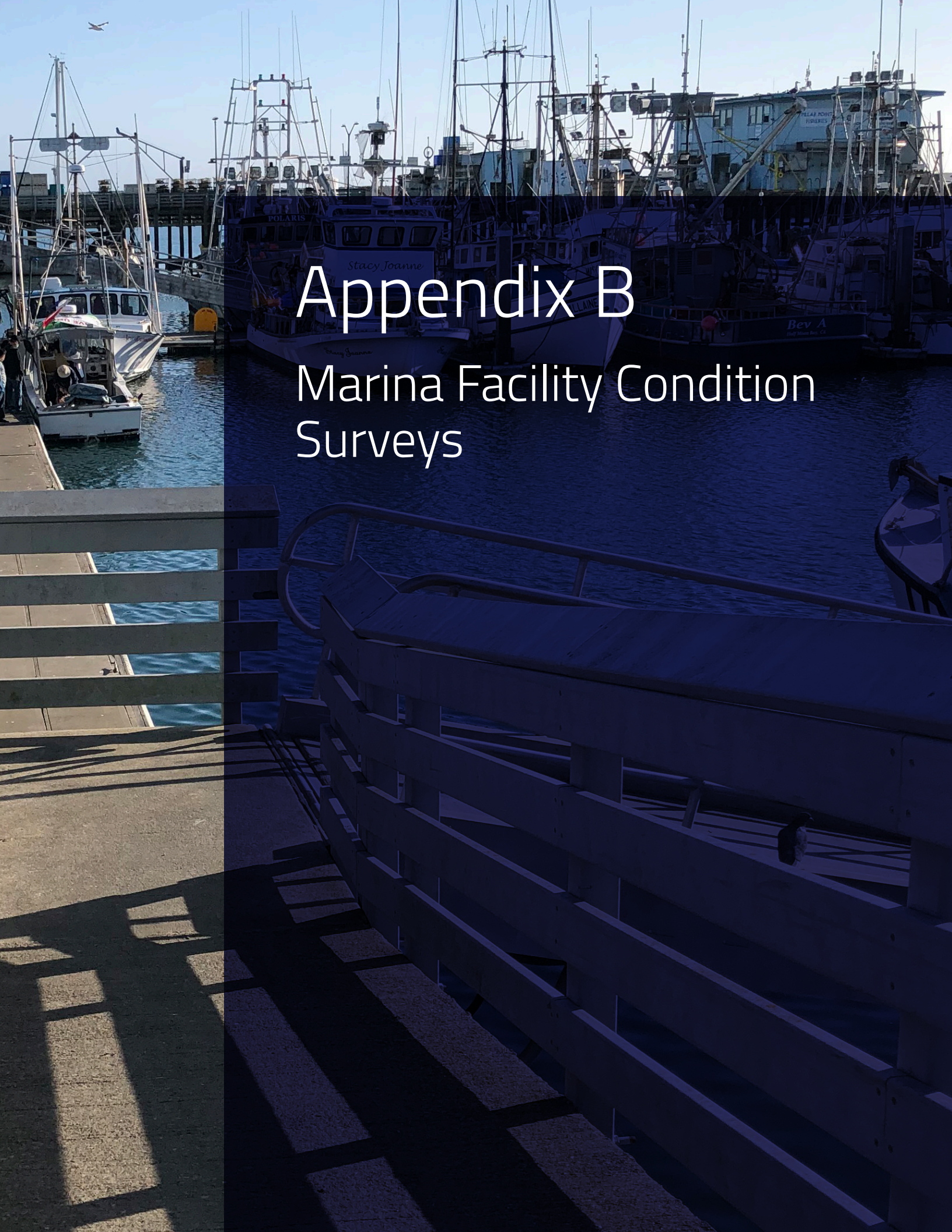
As discussed above and in response to public comments received at Workshop 2, Workshop 3 was organized to give specific focus and attention to the current infrastructure projects and the planned future infrastructure projects, and to provide discussion on the potential projects that may be included in the Master Plan.

The workshop was convened via Zoom on Thursday, September 9, 2021, and provided an in-depth review and discussion of all the projects that the District was currently working on; the status of the projects that have been approved by the District board and are funded, but have not yet commenced; projects that have been approved by the District board and are unfunded; and projects that were identified via the infrastructure surveys conducted by GHD as part of the Master Plan process. All projects were discussed categorically under the headings of Very High Priority equating to 0–5 years for commencement/implementation, High Priority equating to 5–10 years for commencement/implementation, Moderate Priority equating to 10–20 years for commencement/implementation and Low Priority equating to 20 or more years for commencement/implementation. Projects were also categorized by location, i.e., Pillar Point Harbor or Oyster Point Marina. The workshop also addressed topics of planning and resource management, specifically in relation to the current and ongoing dredge management plans, management of coastal sediment, requirements to address SLR, and whether additional District facilities were required. Finally, an overview of further project opportunities was provided, including discussion related to criteria associated with adding projects to the Master Plan.

Stakeholder engagement and discussion was encouraged throughout the workshop, and participation was very high. Stakeholders were invited to ask questions or make comments at the end of each slide to ensure all feedback was captured and either recorded or immediately addressed or explained. Stakeholder questions and comments that were not answered during the workshop were followed up on by District staff of the consultant team.

Appendix A

Project Prioritization Table



Appendix B

Marina Facility Condition Surveys

Appendix C

Communication and Engagement Plan

SAN MATEO COUNTY HARBOR DISTRICT
CALIFORNIA

Prepared By:

DUDEK

GHD

BRADLEY DAMITZ