

SAN FRANCISCO BAY RESTORATION AUTHORITY

Staff Recommendation

March 22, 2024

**DEER ISLAND TIDAL BASIN WETLANDS RESTORATION PROJECT:
PHASE 1 CONSTRUCTION**

Project No. RA-004

Project Manager: Vanessa Aczon

RECOMMENDED ACTION: Authorization to disburse up to \$2,423,000 to Marin County Flood Control District to implement the Deer Island Tidal Basin Wetlands Restoration Project: Phase 1 Construction, consisting of restoring 71.1 acres of tidal baylands; enhancing flood protection measures along 9,600 linear feet of existing levees, including the creation of 5,500 linear feet of ecotone slopes along the levees and raising of 2,800 linear feet of levee; and conducting three years of post-construction monitoring and adaptive management at Deer Island Basin Complex, Novato, Marin County.

LOCATION: Novato, Marin County, Measure AA Region: North Bay

MEASURE AA PROGRAM CATEGORY: Vital Fish, Bird and Wildlife Habitat Program; Integrated Flood Protection Program

EXHIBITS

Exhibit 1: [Project Location and Site Maps](#)

Exhibit 2: [Project Design](#)

Exhibit 3: [Deer Island Tidal Basin Wetlands Restoration Project](#)
(June 30, 2023 Authority Staff Recommendation)

Exhibit 4: [Project Letters](#)

Exhibit 5: [Project Photographs](#)

RESOLUTION AND FINDINGS

Staff recommends that the San Francisco Bay Restoration Authority adopt the following resolution and findings:

Resolution:

The San Francisco Bay Restoration Authority hereby authorizes the disbursement of an amount not to exceed two million four hundred twenty-three thousand dollars (\$2,423,000) to Marin

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County Flood Control District to implement the Deer Island Tidal Basin Wetlands Restoration Project: Phase 1 Construction, consisting of restoring 71.1 acres of tidal Baylands; enhancing flood protection measures along 9,600 linear feet of existing levees, including the creation of 5,500 linear feet of ecotone slopes along the levees and raising of 2,800 linear feet of levee; and conducting three years of post-construction monitoring and adaptive management at Deer Island Basin Complex, Novato, Marin County. Prior to commencement of the project, the grantee shall submit for the review and written approval of the Executive Officer of the Authority the following:

1. A detailed work program, schedule, and budget.
2. Names and qualifications of any contractors to be employed in carrying out the project.
3. A plan for acknowledgement of Authority funding.
4. Evidence that all permits and approvals required to implement the project have been obtained.
5. Evidence that the grantee has entered into agreements sufficient to enable the grantee to implement, operate, and maintain the project.
6. Evidence that the grantee has entered into a project labor agreement consistent with San Francisco Bay Restoration Authority Resolution 22.

Findings:

Based on the accompanying staff recommendation and attached exhibits, the San Francisco Bay Restoration Authority hereby finds that:

1. The proposed authorization is consistent with The San Francisco Bay Restoration Authority Act, Gov. Code Sections 66700-66706.
2. The proposed authorization is consistent with The San Francisco Bay Clean Water, Pollution Prevention and Habitat Restoration Measure (Measure AA).

STAFF RECOMMENDATION

PROJECT SUMMARY:

Staff recommends that the San Francisco Bay Restoration Authority (Authority) authorize a grant of up to \$2,423,000 to Marin County Flood Control District (MCFCD) to implement the Deer Island Tidal Basin Wetlands Restoration Project: Phase 1 Construction, consisting of restoring 71.1 acres of tidal Baylands; enhancing flood protection measures along 9,600 linear feet of existing levees, including the creation of 5,500 linear feet of ecotone slopes along the levees and raising of 2,800 linear feet of levee; and conducting three years of post-construction monitoring and adaptive management in the Deer Island Basin Complex in the lower Novato Creek watershed (Exhibit 1). The project is comprised of three main areas along Novato Creek: Duck Bill and Heron’s Beak Ponds (collectively referred to as the Bird Ponds), and Farmers Basin. The project will implement the project design work that was funded by an Authority grant that was first authorized on April 11, 2018 for preparation of project designs, environmental

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documentation, and permit applications and later amended as authorized on June 30, 2023 to include preparation of final construction documents (Exhibit 3).

The overarching goal of this project is to restore the ecologically valuable tidal baylands and associated uplands, creating an improved habitat for endangered and threatened species such as the salt marsh harvest mouse, Ridgway's rail, and steelhead. The project aims to enhance tidal connectivity to diked areas that were once tidal wetlands along Novato Creek. To achieve this, the project approach features multi-benefit reuse of dredge sediments, restoration of tidal marshes, and increasing flood protection by improving the conveyance capacity of the creek. This restoration effort is considered a crucial first step in the larger goal of restoring approximately 200 acres of diked former baylands at the Deer Island Basin Complex.

This project also catalyzes a larger Novato Creek Baylands Strategy planning effort, which involves collaboration among Marin County, San Francisco Estuary Institute, Marin Audubon Society, Novato Sanitary District, and other local stakeholders. The aim of this collaboration is to develop an implementation plan that supports the regional goal of restoring over 1,000 acres of historic tidal marsh in the Novato Creek Baylands. This presents one of the last remaining opportunities for landscape-scale wetland restoration in the San Francisco Bay. Implementing this project is key in demonstrating the effectiveness of its beneficial sediment reuse approach, geomorphic dredge design concept, and robust project monitoring. It will serve to inform and inspire future successful project partnerships within the Novato Baylands, encouraging continued restoration efforts. The remaining restoration efforts for Deer Island Basin Complex will be integrated into the broader regional planning of the Novato Creek Baylands Strategy.

The proposed project consists of activities that will span a period of five years. These activities include two years of construction and three years of post-construction monitoring and adaptive management. The construction phase is anticipated to be completed over two full construction seasons, which consists of the following activities:

- Construction Season One (Spring 2025-Fall 2025): dewater the Bird Ponds, initiate excavation to widen and enhance the Novato Creek channel and marsh plain; excavate the Bird Ponds to generate ecotone and levee material; and excavate material from Farmers Basin that will be used to raise the Farmers Basin cross levee.
- Construction Season Two (Spring 2026-Fall 2026): complete construction of Lynwood Levee and ecotone slope elements; conduct revegetation; lower and breach the Novato Creek levee at two locations, reintroducing tidal flow to the Bird Ponds (Exhibit 2).

Prior to construction, western pond turtles residing in the Bird Ponds will be relocated to an approved site nearby. During both the first and second construction seasons, construction monitoring will be conducted. Construction monitoring will encompass a comprehensive range of on-site biological and cultural monitoring activities, including pre-construction surveying and construction monitoring for salt marsh harvest mouse, Ridgeway's rail, and bats; fish relocation; bird nesting surveys; tribal cultural monitoring; and general construction monitoring. Invasive species management may be carried out between the two construction seasons, depending on the available capacity of MCFCD staff. Subsequently, post-construction monitoring and adaptive management will occur, which will consist of vegetation monitoring, physical monitoring, and vegetation establishment maintenance. Vegetation establishment maintenance will involve tasks such as weed control, irrigation, propagation, and the replanting/seeding of native species as

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necessary. Following completion of the project, including the three years of post-construction activities, MCFCD will fund an additional two years of post-construction monitoring. This will bring the total duration of post-construction activities to five years.

Established in 1953 by the State Legislature, MCFCD has been a leader in utilizing natural systems for flood protection and habitat initiatives, making them well suited to carry out the project. They have been at the forefront of implementing pilot projects to adapt to sea level rise, setting a precedent in this field. MCFCD's experienced team of in-house staff and consultants have a wealth of expertise in tidal marsh restoration projects, including having been involved in several tidal wetland restoration endeavors, such as Hamilton Wetland Restoration Project, Martin Luther King, Jr. tidal wetlands restoration for the Port of Oakland, and Heron's Head Park for the Port of San Francisco. MCFCD has been involved in the planning efforts of this project, making them a suitable choice to lead and implement the proposed project (Exhibit 3). Additionally, project letters were received that expressed support for the funding of this project. See "Leveraging resources and partnerships" section below for details.

Engagement with varying organizations has been extensive. MCFCD has actively engaged in numerous meetings with a range of organizations, including two California Native American tribes to incorporate their ideas and input into the project design. These organizations and the two tribes have played a crucial role in the project's development and will continue to be involved during its implementation. These organizations include the State Lands Commission, San Francisco Estuary Institute, California Department of Fish and Wildlife, Caltrans District 4, Pacific Gas & Electric (PG&E), Novato Sanitary District, and Environmental Science Associates.

Site Description:

The Deer Island Basin Complex, comprised of Deer Island Basin, West Deer Island Basin, Farmer's Basin, and the Heron's Beak and Duck Bill Ponds, is located several miles upstream from San Francisco Bay along Novato Creek, where the fresh waters of the creek mix with the saline waters of San Francisco Bay. This mixing zone is ecologically important for species that live at the edge of tidal and riverine habitats. The Deer Island Basin Complex is adjacent to the Deer Island Preserve and is just north of the Bel Marin Keys Unit V and Hamilton Wetlands restoration sites (See Exhibit 1). The area consists of a blend of native and non-native plant species, providing habitat that supports a diverse range of wildlife, including endangered and threatened species.

Within the Deer Island Basin Complex, the project site includes the Duck Bill Pond, Heron's Beak Pond, a section of Novato Creek, the levee along and between these two ponds, and the levee between Novato Creek and Farmers Basin. The two wildlife habitat ponds are located between Novato Creek and the Lynwood Basin, with Duck Bill Pond located upstream along Novato Creek, and Heron's Beak Pond downstream. The Sonoma Marin Area Rail Transit (SMART) rail line crossing of Novato Creek is just upstream of Duck Bill Pond, while SR 37 and the Northwestern Pacific Railroad Company crossing of Novato Creek are located just downstream of the Heron's Beak Pond. The Farmers Basin is located between Novato Creek, the Deer Island Preserve, and just upstream of SR 37. The State Lands Commission owns the

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project site and is in the process of updating its lease to MCFCD to enable implementation of the project.

PROJECT FINANCING

San Francisco Bay Restoration Authority	\$2,423,000
National Fish and Wildlife Foundation	\$7,107,000
Marin County (General Fund)	\$1,018,000
Project Total	\$10,548,000

MCFCD has secured two additional funding sources for the project, consisting of a \$7,107,000 award from the National Fish and Wildlife Foundation’s National Coastal Resilience Fund (NCRF) and Marin County’s General Fund. Authority funds will be used to meet match requirements for the NCRF grant.

CONSISTENCY WITH AUTHORITY’S ENABLING LEGISLATION, THE SAN FRANCISCO BAY RESTORATION AUTHORITY ACT:

The San Francisco Bay Restoration Authority Act, Government Code Section 66704.5, authorizes the Authority to grant funds for eligible projects. Consistent with Section 66704.5(a), the project is located in Marin County along San Pablo Bay, outside of the Delta primary zone.

The project is eligible for a grant under section 66704.5(b)(1) as the project will restore tidal wetlands and natural habitats along Novato Creek. The project is also eligible under Section 66704.5(b)(2) as the project will create ecotone levees that will provide both flood protection and habitat.

The proposed funding of the project’s construction, monitoring and maintenance is consistent with Section 66704.5(e), which provides that the Authority may award grants for “all phases of planning, construction, monitoring, operation, and maintenance" of eligible projects.

CONSISTENCY WITH MEASURE AA PROGRAMS AND ACTIVITIES:

The project is consistent with the *Vital Fish, Bird and Wildlife Habitat Program* as it will restore wetlands and create both low and high marsh habitat to support a variety of significant fish, bird, and mammal species of concern, including the salt mouse harvest mouse, Ridgeway’s rail, and steelhead. Upon construction of the project, MCFCD will assume responsibility for monitoring and maintenance of the restored marsh. MCFCD is dedicated to preserving the marsh to ensure its long-term benefits for future generations.

The project is consistent with the *Integrated Flood Protection Program*, as it will provide nature-based flood protection through wetland and habitat restoration along the lower portion of Novato Creek. The project will offer substantial flood protection for critical infrastructure located within and near the project site. This includes the Novato Sanitary District’s force main sewer which bisects Deer Island Tidal Basin, and State Route 37, a major transportation

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corridor that is vulnerable to flooding. Additionally, the flood management components of the project will provide habitat benefits.

The project is also consistent with the *Safe, Clean Water and Pollution Prevention Program* because the project will enhance water quality by restoring tidal marsh and wetlands, which will act as natural filters, capturing sediment and effectively removing pollutants and harmful toxins from entering the Bay.

CONSISTENCY WITH MEASURE AA PRIORITIZATION CRITERIA:

1. Greatest positive impact.

The project will further contribute to restoration efforts of the Novato Baylands, one of the most extensive remaining undeveloped reaches of San Pablo Bay. It will connect to and expand a tidal wetlands habitat corridor across three counties in the San Francisco north bay area: Marin, Sonoma, and Napa. Connecting these bay wetlands is crucial for preserving and promoting biological diversity, as it will restore and provide habitat for numerous critically threatened and endangered species that rely on these areas. It will also enhance the functionality of Bay habitats and improve the overall quality of our regional aquatic environment. Moreover, the project will beneficially reuse dredged sediment to build up ecotone slope elements and levees. This approach not only provides a practical solution for sediment management, but also contributes to restoration efforts.

Regional habitat planning initiatives, including the Baylands Ecosystem Habitat Goals Project, the US Fish and Wildlife Service's Tidal Marsh Ecosystem Recovery Plan, Flood Control 2.0, Novato Watershed Plan and Novato Creek Baylands Vision, all highlight the ecological importance of restoring tidal marsh along Novato Creek.

2. Greatest long-term impact

The revitalized marshes will ultimately offer significant benefits for flood control and preventing shoreline erosion, both of which are predicted to increase in severity over time. The project's flood reduction benefits are designed to endure even as sea levels rise in the near and mid-term. With the incorporation of 5,500 linear feet of ecotone slopes along existing levees along the project area, it will guarantee the availability of refuge for birds and salt marsh harvest mouse during high tides, ensuring their survival and providing habitat transition zones as time progresses.

3. Leveraging resources and partnerships.

As detailed in the Project Financing section, MCFCD has secured additional funding to support this project. This project also leverages multiple partnerships, as previously mentioned, that have been actively involved since the project's inception and will remain engaged throughout the project's implementation. Notably, project letters have been provided by State Lands Commission, the landowners of the project site, and from State Assembly Member Jared Huffman, clearly demonstrating their support and engagement with the project (Exhibit 4).

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4. Economically disadvantaged communities.

The Nave Gardens community, located just upstream of the project site in the City of Novato, will be one of the beneficiaries of this project. The Nave Gardens, a flood prone neighborhood, is an area that provides affordable housing options to individuals and families with low socioeconomic status. The community would benefit from the projected lowering of surface water levels and an overall reduction in flooding.

5. Benefits to economy.

At the local level, the project will protect against the expenses caused by flooding such as the rehabilitation of both public and private infrastructure, and reducing the negative impacts on small and local businesses that result from flooding. The reduction of flood-related disruptions would enhance the sustainability of local businesses, allowing them to provide reliable services, and job opportunities for the local workforce.

On a regional level, the project helps begin the work of protecting major transportation and water infrastructure utilities that connect across several counties in the Novato Baylands including SR 37, Sonoma-Marín Area Rail Transit (SMART) train, and PG&E utilities.

6. Engage youth and young adults.

While the limited availability of safe access points to the site and the hazards associated with the required construction methods does not permit youth engagement for this phase of the project, there are opportunities for MCFCD to partner with the Conservation Corps North Bay (CCNB). As MCFCD regularly contracts with the CCNB to provide maintenance services, there is the opportunity for CCNB to conduct vegetation maintenance for the five years following completion of the Bird Ponds construction. This would offer opportunities for vulnerable youth to acquire practical job experience and knowledge in the field of natural resources management.

7. Monitoring, maintenance, and stewardship.

A Monitoring and Adaptive Management Plan (MAMP) has been developed for the project. This plan details how the biological and physical characteristics of the restored area will be monitored to evaluate the project's performance and success. The MAMP includes descriptions of the monitoring methods and performance criteria used for assessing biological resources, water quality, and the evolution of the physical site. In addition to monitoring and management actions, the MAMP also identifies triggers for adaptive management actions and specifies reporting requirements.

Following construction, MCFCD will assume responsibility for managing and monitoring the project.

8. Coastal Conservancy's San Francisco Bay Area Conservancy Program.

This project satisfies the criteria of the Coastal Conservancy's San Francisco Bay Area Conservancy Program.

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- a. By incorporating nature-based design approaches to restore native tidal wetlands while also providing valuable climate change and flood resilience benefits, this project aligns with multiple local and regional plans. These plans include: *Flood Control 2.0; Baylands Ecosystem Habitat Goals Project; Estuary Blueprint Actions 4 and 11; US Fish and Wildlife Services' 2013 Recovery Plan for Tidal Marsh Ecosystems for Northern and Central California, 2018 Marin County Multi-Jurisdictional Local Hazard Mitigation Plan, and Bay Area Integrated Regional Water Management Program, Goals 3.1 and 4.3.*
- b. The project is a good investment of resources as it will provide multiple benefits, such as flood control, restoration of valuable tidal baylands, beneficial reuse of dredged sediment and sea level rise adaptation. The project's expected flood control benefits for SR 37 corridor have the potential to positively impact regional traffic flows and hazard mitigation.
- c. The project will be sustainable and lead to resiliency over the project lifespan. The project includes a total of five years (three years Authority-funded, two years of MCFCD-funded) of post-construction monitoring and management that will allow MCFCD to oversee and assess the success of the project. Additionally, the project is designed to be self-sustaining.
- d. The project will deliver multiple benefits and significant positive impact as it will provide improved habitat to listed species, restore valuable ecological wetlands, adapt to sea level rise, and provide flood resiliency that will be beneficial to surrounding communities, and the local economy.

The project has actively engaged with multiple organizations and stakeholders who recognize the importance of the Deer Island Basin restoration efforts, as it will help reduce flooding hazards, while also protecting and enhancing habitat for sensitive species.

9. San Francisco Bay Joint Venture's Implementation Strategy.

The project is consistent with the San Francisco Bay Joint Venture's (SFBJV) Implementation Strategy as it directly contributes to the strategy's goal of restoring of 72,000 acres of tidal marsh. The project has been adopted by SFBJV and is included on its priority projects list.

CONSISTENCY WITH AUTHORITY'S INTERIM TRIBAL CONSULTATION POLICY:

The project is consistent with the Authority's Interim Tribal Consultation Policy. Since the beginning of the project's planning phase, MCFCD has been in contact and coordination with two California Native American tribes. While MCFCD initially reached out to three tribes through letters for consultation, two tribes responded and initiated the consultation process. MCFCD has conducted meetings, both in-person and virtual, and organized a site tour with one of the tribes at Deer Island Basin Complex. During the planning phase, the consultation with one of the tribes led to a modification in the project design. MCFCD remains dedicated to working with these tribes and maintaining open lines of communication. This commitment will continue into the future.

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Furthermore, on February 6, 2024, the Authority sent letters to consult with three tribes of Marin County and received one response. This prompted the Authority to provide additional project information to the tribe.

COMPLIANCE WITH CEQA:

For its grant authorization on June 30, 2023, the Authority adopted findings based on the *Deer Island Basin Complex Tidal Wetland Restoration Project Final Initial Study and Mitigated Negative Declaration* (IS/MND), which was adopted by the Marin County Flood Control District on June 6, 2023. Since then, there have been no project changes, new information or changed circumstances that would trigger the need for additional CEQA analysis.

Upon approval of the project, staff will file a Notice of Determination.