



**CITY OF PALO ALTO  
CITY COUNCIL  
Monday, April 21, 2025  
Council Chambers & Hybrid  
5:30 PM**

<b>Agenda Item</b>
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7. Approval of Amendment No. 1 to the Cooperative Agreement with the Association of Bay Area Governments to Construct the Horizontal Levee Pilot Project (WQ- 22001) to Reflect an Additional \$2 Million in California Coastal Conservancy Grant Funds; CEQA Status – Exempt under Section 15133



## City Council Staff Report

**From: City Manager**

**Report Type: CONSENT CALENDAR**

**Lead Department: Public Works**

**Meeting Date: April 21, 2025**

Report #:2503-4336

### **TITLE**

Approval of Amendment No. 1 to the Cooperative Agreement with the Association of Bay Area Governments to Construct the Horizontal Levee Pilot Project (WQ- 22001) to Reflect an Additional \$2 Million in California Coastal Conservancy Grant Funds; CEQA Status – Exempt under Section 15133

### **RECOMMENDATION**

Staff recommends that the City Council approve and authorize the City Manager or their designee to execute Amendment No. 1 to the agreement between the Association of Bay Area Governments and the City for implementation and construction of the Horizontal Levee Pilot Project (WQ-22001) to reflect an additional \$2 million in grant funding from the California Coastal Conservancy.

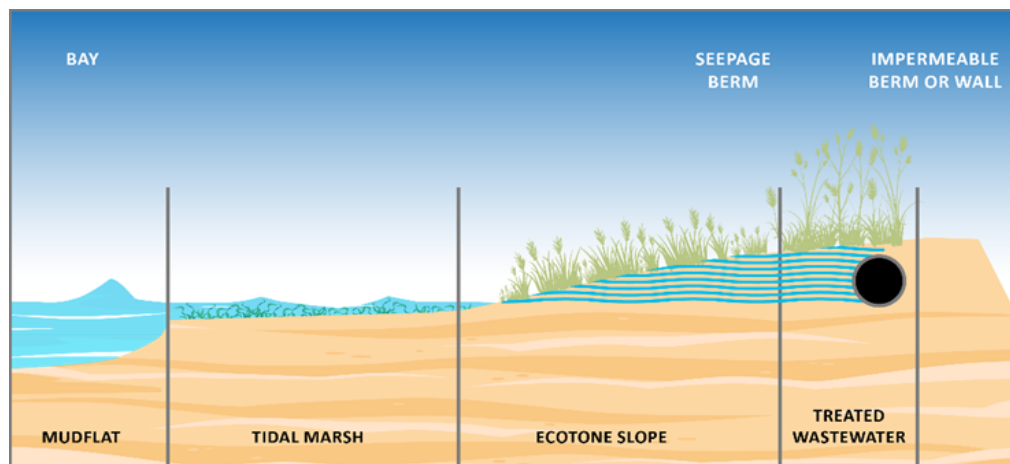
### **EXECUTIVE SUMMARY**

In 2024, the City entered into a Cooperative Agreement with ABAG to formalize responsibilities of both parties concerning funding, construction, and monitoring of the Horizontal Levee Pilot Project. The current Cooperative Agreement requires an amendment to account for the recently awarded California Coastal Conservancy grant. Horizontal levees are a green, nature-based, multi-beneficial alternative to traditional greyscape solutions (e.g., rip rap, sheet piling) for wave attenuation on the bayside of flood control levees. Since 2017, the City has been working in collaboration with the Association of Bay Area Governments (ABAG – host agency for the San Francisco Estuary Partnership) to design and eventually construct the Horizontal Levee Pilot Project (WQ-22001) on the east side of Harbor Road near Byxbee Park.

### **BACKGROUND**

Horizontal levees are a nature-based alternative to traditional greyscape solutions (e.g., rip rap, sheet piling) for wave attenuation on the bayside of flood control levees (Figure 1). Horizontal levees utilize treated wastewater to irrigate a gently sloping, vegetated ecotone slope that provides wave attenuation as well as refugia, transitional habitat between tidal wetlands and

terrestrial uplands, sea level rise adaptation, and polishing treatment of treated wastewater. A unique aspect to horizontal levees is their use of treated wastewater to irrigate the ecotone slope. Other ecotone slopes that have been built in the area utilize passive irrigation or potable



water for irrigation of the vegetated area.

Figure 1: Illustration of a horizontal levee system.

Unlike much of the shoreline along the San Francisco Bay, the Palo Alto shoreline, while highly developed and altered, continues to sustain tidal marsh. The Palo Alto Baylands shoreline is comprised of low levees and a closed landfill. Directly behind these levees are City assets that are critical infrastructure, including the City's Regional Water Quality Control Plant (RWQCP), airport, the Palo Alto Flood Basin, roads, and light commercial development. Potential flooding of City infrastructure, buildings, and other development west of Highway 101 is limited by the existing levees. However, these levees are not engineered to meet Federal Emergency Management Agency (FEMA) accreditation standards, and in many locations do not provide 100-year flood protection.

An emerging regional goal and best practice for levee improvement is to incorporate nature-based solutions, such as horizontal levees, to provide flood protection that can evolve in the future, restore Bay habitats, and enhance public access. Since design considerations for horizontal levees are still early in their development, a permanent pilot project was pursued to answer outstanding questions about permitting requirements, construction costs, and site-specific design parameters (e.g., plant palettes). Information from Palo Alto's Horizontal Levee Pilot Project will inform the design for potential additional future horizontal levees around Palo Alto and the greater Bay Area.

Since 2017, the City of Palo Alto has collaborated with ABAG – the host entity for the San Francisco Estuary Partnership – to evaluate and design a permanent horizontal levee pilot project within the Palo Alto Baylands with the following objectives:

1. Be on the leading edge of integrating habitat enhancement with sea level rise adaptation and novel wastewater treatment approaches around the San Francisco Bay;

2. Integrate a horizontal levee on the bayfront of a traditional flood control levee to provide wave attenuation;
3. Adapt to sea level rise by providing a vegetated transitional slope that will build organic soils and support sediment accretion and accumulation to allow for future tidal marsh migration;
4. Improve habitat along the perimeter of Harbor Marsh for native species;
5. Provide polishing treatment to treated wastewater; and
6. Maintain and provide opportunities for compatible low-impact recreation and social infrastructure.

On January 22, 2024, the City Council adopted Ordinance No. 5616,<sup>1</sup> Approving a Plan for Improvements to the Palo Alto Baylands as part of the Horizontal Levee Pilot Project that includes:

1. construction of a berm and horizontal levee along a portion of existing, poor-quality upland habitat adjacent to Harbor Marsh within the Palo Alto Baylands Nature Preserve;
2. installation of various native plants on the Project site to restore diverse transitional habitats including freshwater marsh, wet meadow, and riparian scrub;
3. installation of an underground pipeline to transport treated wastewater along Embarcadero and Harbor Roads to the horizontal levee for native plant irrigation;
4. realignment of a portion of the Marsh Front Trail as required to accommodate the horizontal levee and reconnect habitats; and
5. installation of educational signage and provide opportunities for public participation in community science activities.

The City entered into a Cooperative Agreement with ABAG pursuant to Council approval and authorization<sup>1</sup> in 2024 that divided responsibilities between the agencies accordingly:

1. ABAG will use grant funding it obtained to provide Project construction, construction management, and related permit compliance;
2. the City will actively participate during project construction and provide oversight of change orders and budget overruns, assist with public outreach, obtain and pay for required construction permits, implement the Monitoring and Adaptive Management Plan, and once constructed, own and operate the Project.

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<sup>1</sup> City Council, January 22, 2024; Agenda Item #5, SR #2303-1230, <https://portal.laserfiche.com/Portal/DocView.aspx?id=70190&repo=r-704298fc&searchid=9c1fbb64-ea58-49cc-806f-fa4c6e785a84>

## **ANALYSIS**

Funding sources for Horizontal Levee Pilot Project (WQ-22001) construction at time of Cooperative Agreement approval were from the Environmental Protection Agency (EPA) Breaking Ground, Nature Based Solutions for Resilient Shorelines, and National Estuary Program Bipartisan Infrastructure Law grants. These grants were awarded to and are administered by ABAG and required local match of in-kind services (e.g., non-monetary contribution) from the City of \$3.4 million, which the City was to provide by showing proof of expenditures in the RWQCP's Capital Improvement Program projects. The project was bid through ABAG in Spring 2024 and received three bids for construction that exceeded the total available budget at the time. Since then, the bids expired while the project team evaluated ways to decrease construction costs (e.g., bidding earlier in the year) as well as ways to increase available budget (e.g., pursue additional grant opportunities). In November 2024, the California Coastal Conservancy awarded ABAG \$2 million to construct the Project with no local match requirement. Amendment No. 1 (Attachment A) to the Cooperative Agreement between ABAG and the City includes modifications in several locations to account for this additional funding source.

With the addition of California Coastal Conservancy funds, the project has a total of \$4.9 million available for construction and construction management (see below table for detailed breakdown of project funding including the changes described in this report). The proposed amendment to the Cooperative Agreement adds the California Coastal Conservancy grant of \$2 million to the ABAG contributions to the project and decreases the City's required local match for construction from \$3.4 million to \$1.4 million to be provided in-kind from Long Range Facilities Plan Update expenses instead of expenses from the Local Advanced Water Purification Facility project. The project was re-bid in early 2025 and received four bids within the new construction budget. Construction is anticipated to begin in Spring 2025 and end in early 2026.

Project Phase	ABAG Contribution	Source(s) of ABAG Funding	City Contribution	Source(s) of City Funding
Preliminary Design (completed)	\$620,673 (paid)	<ul style="list-style-type: none"> <li>Integrated Regional Water Management Program Grant</li> <li>State Coastal Conservancy Proposition 1 Grant</li> </ul>	\$275,000 (paid)	Wastewater Treatment Plant Fund and Secondary Treatment Upgrades Project
Design & Permitting (99% complete)	<del>\$763,661</del> \$563,660 (paid)	<ul style="list-style-type: none"> <li>EPA NBS for Resilient Shorelines Grant</li> <li>EPA Bipartisan Infrastructure Law Funding</li> </ul>	\$1,316,794.29 (paid)	Wastewater Treatment Plant Fund and Secondary Treatment Upgrades Project <sup>a</sup>
Construction & Construction Management	<del>\$3,073,882</del> \$4,860,846 (pending)	<ul style="list-style-type: none"> <li>EPA NBS for Resilient Shorelines Grant</li> <li>EPA Breaking Ground Grant</li> <li>EPA NEP Bipartisan Infrastructure Law Funding</li> <li>State Coastal Conservancy</li> </ul>	<del>\$3,429,459</del> \$1,429,459 (pending)	<del>Local Advanced Water Purification Facility Project</del> Long Range Facilities Plan Update <sup>a</sup>
Post-construction Monitoring & Reporting	\$0	Not Applicable	\$777,055 (pending)	Wastewater Treatment Plant Fund
Operation & Maintenance	\$0	Not Applicable	Unknown	Wastewater Treatment Plant Fund
		Total City In-Kind Contributions	<del>\$4,802,868</del> 2,802,868	CIP Projects <sup>a</sup>
Total ABAG Contributions	\$6,045,179	Total City Direct Costs	\$995,440	Wastewater Treatment Plant Fund <sup>b</sup>

<sup>a</sup>City is leveraging funds spent on planned Capital Improvements that are occurring upstream of the PROJECT at the wastewater treatment plant; actual out-of-pocket expenses for this project are lower than reported in this table.

<sup>b</sup>Majority of direct costs are paid for out of the City's CIP WQ-22001 for the Horizontal Levee Pilot Project. Some direct costs were paid for out of the Wastewater Treatment Plant Fund prior to creation of the project as a CIP.

## **FISCAL/RESOURCE IMPACT**

Funding for the Horizontal Levee Pilot project (WQ-22001) is included in the Wastewater Treatment Fund FY 2025 Adopted Capital Budget. The addition of the California Coastal Conservancy grant and proposed amendment to the Cooperative Agreement decreases the City's in-kind contributions needed for construction of the project by \$2 million (from \$3.4 million to \$1.4 million) but does not change the direct costs to be contributed by the City. In addition to the in-kind contributions, the City plans to contribute approximately \$1.0 million to the project for direct payments related to permitting, environmental review, community outreach, and monitoring studies, which are paid for by the Wastewater Treatment Fund. Approximately \$0.2 million has already been paid, \$0.6 million is encumbered in contracts with the United States Geological Survey<sup>2</sup> and others for required monitoring, and another \$0.2 million is recommended to be funded in future years for the project. Funding in future years is subject to Council approval as part of the annual budget appropriation process.

## **STAKEHOLDER ENGAGEMENT**

Since the beginning of the project in 2017, staff has conducted more than 20 stakeholder engagement activities including several community events (e.g., bioblitzes to tally pre-project animal and plant species) and specific presentations to local non-governmental organizations. In addition, the project team elicited feedback from the Parks and Recreation Commission throughout the design phases as described in the January 22, 2024 staff report. A project website ([www.cityofpaloalto.org/horizontallevee](http://www.cityofpaloalto.org/horizontallevee)) has been created to keep stakeholders updated and photo-point monitoring sites began collecting photos from the community since June 2023. Stakeholder engagement will continue during construction and after through strategic partnerships with local non-governmental organizations including Save the Bay, Nuestra Casa, the Association of Ramaytush Ohlone, and Environmental Volunteers. These activities will include community planting, photo-point monitoring, educational signage, and community science activities.

## **ENVIRONMENTAL REVIEW**

This project is exempt from review under the California Environmental Quality Act (CEQA) under section 15133 of the CEQA Guidelines (small habitat restoration). In addition, the City and ABAG will obtain permits/permit coverage determinations from the United States Army Corps of Engineers and the United States Fish and Wildlife Service.

## **ATTACHMENTS**

Attachment A: Amendment to the Cooperative Agreement

**APPROVED BY:** Brad Eggleston, Director Public Works/City Engineer

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<sup>2</sup> City Council, April 22, 2024; Agenda Item #9, SR #2402-2683,  
<https://cityofpaloalto.primegov.com/Portal/viewer?id=0&type=7&uid=38f23377-beed-4560-9ef9-c038832bfae3>

**AMENDMENT NO. 1**  
**To COOPERATIVE AGREEMENT**  
**Between ASSOCIATION OF BAY AREA GOVERNMENTS**  
**And CITY OF PALO ALTO**  
**For PALO ALTO HORIZONTAL LEVEE PILOT PROJECT CONSTRUCTION**

This AMENDMENT, effective January 1, 2025, is Amendment No. 1 to the COOPERATIVE AGREEMENT (“Agreement”) entered into and effective as of January 26, 2024, by and between the ASSOCIATION OF BAY AREA GOVERNMENTS (“ABAG”) and the CITY OF PALO ALTO (“City”), individually referred to herein as “Party” and together as “Parties.”

NOW, THEREFORE, the parties agree to modify the subject Agreement as indicated below. Where modifications have been made, added text is indicated in *italics*, deleted text is indicated in strikethrough format.

1. Recital D. is revised to include a new funding source, as follows:

- D. WHEREAS, ABAG has received funding via
- United States Environmental Protection Agency (EPA) Grant #W9-98T55001 (“Breaking Ground Grant”), Date of Award May 8, 2023, in the amount of eight million, six hundred fifty-eight thousand, nine hundred eighteen dollars (\$8,658,918),
  - EPA Grant #W9-98T20401 (“Nature Based Solutions (NBS) for Resilient Shorelines Grant”), Date of Award September 13, 2021, in the amount of three million, seven hundred eighty-two thousand, eight hundred eighteen dollars (\$3,782,818) a portion of which will be used in the completion of this project,
  - EPA Grant #4T-98T45901 (“*National Estuary Program Bipartisan Infrastructure Law Grant*”) in the amount of nine hundred nine thousand eight hundred dollars (\$909,800), a portion of which will be used in the completion of this project, *and*
  - *State of California Coastal Conservancy (SCC) Grant G24-046 in the amount of two million dollars (\$2,000,000).*
- All ~~three-four~~ grants allow for no-cost extensions possible up to approximately four (4) years beyond the completion dates as contemplated by the Grants; and

2. Recital E is revised to include a new funding source, as follows:

- E. WHEREAS, Parties’ respective funding contributions to the PROJECT (excluding City staff time) are as follows:



Project Phase	ABAG Contribution	Source(s) of ABAG Funding	City Contribution	Source(s) of City Funding
Preliminary Design (completed)	\$620,673 (paid)	<ul style="list-style-type: none"> <li>Integrated Regional Water Management Program Grant</li> <li>State Coastal Conservancy Proposition 1 Grant</li> </ul>	\$275,000 (paid)	Wastewater Treatment Plant Fund and Secondary Treatment Upgrades Project
Design & Permitting (99% complete)	<del>\$763,661</del> \$563,660 (paid)	<ul style="list-style-type: none"> <li>EPA NBS for Resilient Shorelines Grant</li> <li>EPA Bipartisan Infrastructure Law Funding</li> </ul>	\$1,316,794.29 (paid)	Wastewater Treatment Plant Fund and Secondary Treatment Upgrades Project <sup>a</sup>
Construction & Construction Management	<del>\$3,073,882</del> \$4,860,846 (pending)	<ul style="list-style-type: none"> <li>EPA NBS for Resilient Shorelines Grant</li> <li>EPA Breaking Ground Grant</li> <li>EPA NEP Bipartisan Infrastructure Law Funding</li> <li>State Coastal Conservancy</li> </ul>	<del>\$3,429,459</del> \$1,429,459 (pending)	<del>Local Advanced Water Purification Facility Project</del> Long Range Facilities Plan Update <sup>a</sup>
Post-construction Monitoring & Reporting	\$0	Not Applicable	\$777,055 (pending)	Wastewater Treatment Plant Fund
Operation & Maintenance	\$0	Not Applicable	Unknown	Wastewater Treatment Plant Fund

<sup>a</sup>City is leveraging funds spent on planned Capital Improvements that are occurring upstream of the PROJECT at the wastewater treatment plant; actual out-of-pocket expenses for this project are lower than reported in this table.

3. Recital G is revised to adjust ABAG's contribution:

G. WHEREAS, for construction and post-construction phases, ABAG will contribute a total of ~~\$3,073,882~~ \$4,860,846 towards the PROJECT, as further described in Appendix A; and

4. Recital H is revised to adjust City's contribution:

H. WHEREAS, for construction and post-construction phases, the City will contribute a total of ~~\$4,206,514~~ *\$2,206,514* (including the required ~~\$3,429,459~~ *\$1,429,459* in matching funds for the Breaking Ground Grant); and

5. Section 1, ABAG Obligations, Article 1.3 is revised as shown:

1.3 ABAG will promptly notify City of the discovery of hazardous materials at the Property. ABAG and the City will jointly evaluate the severity and extent of the hazardous materials contamination at the Property and decide on the appropriate course of action to remediate the contamination pursuant to federal and state laws and regulations. ABAG and the City will reassess the feasibility of the PROJECT and mutually agree on a course of action prior to the commencement of additional work. Should the Parties conclude the PROJECT is no longer feasible financially with the available EPA and *State Coastal Conservancy Grants*' funding, the Parties may, individually or collectively, terminate proceeding with the PROJECT. Should EPA and *State Coastal Conservancy Grants*' funding be cancelled, or approval withdrawn as a result of such termination, the City shall be fully and solely responsible for all costs incurred for the PROJECT.

6. Section II, City of Palo Alto Obligations, Article 2.3 is revised as shown:

The City shall provide appropriate documentation to ABAG of the required Breaking Ground Grant funding match obligation in the amount of ~~three million, four hundred twenty-nine thousand, four hundred fifty-nine dollars (\$3,429,459)~~. *one million, four hundred twenty-nine thousand, four hundred fifty-nine dollars (\$1,429,459)*.

7. Appendix A: Project Description and Scope of Work is removed in its entirety and replaced with Appendix A: Project Description and Scope of Work, (Revised January 1, 2025).

8. Retention of Contract Provisions. Except as provided herein, all other terms and conditions of the Agreement remain unchanged.

IN WITNESS WHEREOF, this Agreement has been executed by the Parties hereto on the date first above written.

ASSOCIATION OF BAY AREA GOVERNMENTS

CITY OF PALO ALTO

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Andrew B. Fremier, Metropolitan Transportation  
Commission Executive Director, Acting pursuant to  
the Contract for Services dated May 30, 2017

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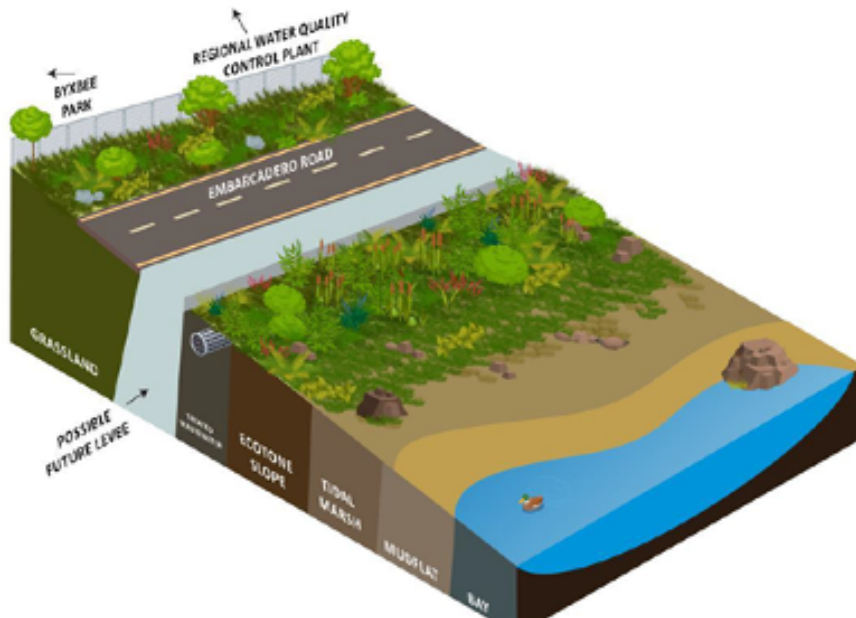
Ed Shikada, City Manager

## APPENDIX A

### Project Description and Scope of Work

(Revised January 1, 2025)

#### Project Description



*Figure 1 Palo Alto Horizontal Levee Rendering*

The Palo Alto Horizontal Levee Pilot (PAHLP) project is a novel initiative led by the City of Palo Alto and the San Francisco Estuary Partnership. The goals of the Project are to enhance the ecological function of the project site and improve resilience to sea level rise. The project objectives include:

- Improve habitat along the perimeter of Harbor Marsh for native species;
- Restore rare and historic broad ecotone that supports a variety of transitional plant assemblages;
- Determine design standards, permitting requirements, and extent of maintenance for incorporation into the future larger levee improvement project (i.e., SAFER Bay/Shoreline Study);
- Adapt to sea level rise by providing a transitional slope that will support freshwater plants, which in turn build organic soils, all of which is aimed at keeping pace with sea level rise;
- Maintain public access to the existing trail system while providing opportunities for compatible low-impact recreation, increased social infrastructure, and educational opportunities on sea level rise and other topics;
- Ensure perspectives of marginalized communities are incorporated into social infrastructure and educational components; and

- Provide polishing treatment to discharged treated wastewater.

The Project site is directly adjacent to the City’s Regional Water Quality Control Plant (“RWQCP”) and Byxbee Park. The Project location is also adjacent to the existing Harbor Marsh, an approximately 90-acre tidal saltmarsh that was established within the former Palo Alto Yacht Harbor. The Project site is bounded by Harbor Marsh to the east, Embarcadero Road to the north, the RWQCP and Harbor Road to the west, and the Byxbee Park parking lot entrance to the south. The project location includes a 500-linear-foot (LF) proposed levee berm, including 315 linear feet of treatment zone irrigated with treated wastewater to create a transitional freshwater wetland slope with upland/riparian transitional plantings in adjacent areas supported with limited irrigation. A 1,650-LF treated wastewater pipeline will be buried along Harbor Road and Embarcadero Road north and west of the proposed levee, connecting to a new supply pump at the City of Palo Alto Regional Water Quality Control Plant (RWQCP), located at 2501 Embarcadero Way, Palo Alto, California 94303. The horizontal levee itself would have a variety of freshwater marsh, wet meadow, and riparian/upland scrub ecotypes. As the freshwater inputs enter the marsh plain, a brackish marsh ecotone band is expected to form within the salt marsh immediately adjacent to the horizontal levee.

The horizontal levee would be divided into four primary areas: (1) an engineered levee berm to support the horizontal levee slope; (2) a treatment zone designed to support polishing of treated wastewater via subsurface seepage through a drainage layer while supporting native transitional habitats; (3) a downslope habitat zone designed to support a variety of ecotypes where polished wastewater would seep toward the adjacent Harbor Marsh as shallow surface/subsurface flow; and (4) transitional slopes north and south of the treatment zone where the project conforms to the existing bank line. The horizontal levee is designed to be a freshwater ecotone transition zone to the tidal marsh.

The City of Palo Alto is the permittee on all permits which have been issued:

<b>Permit</b>	<b>Dated</b>
Federal Aviation Administration (FAA) – Determination of No Hazard to Air Navigation (Aeronautical Study No. 2023-AWP-6606-OE)	<b>5/11/2023</b>
Federal Aviation Administration (FAA) – Determination of No Hazard to Air Navigation for Temporary Structure (Aeronautical Study No. 2023-AWP-12517-OE)	<b>8/29/2023</b>
National Marine Fisheries Service (NMFS) – Letter of Concurrence (with 'not likely to adversely affect' determination) (WCRO-2023-00141)	<b>4/20/2023</b>
SF Bay Regional Water Quality Control Board – Clean Water Action Section 401 General Water Quality Certification for Small Habitat Restoration Projects (File No. SB12006GN; WDID# 2 CW451131)	<b>8/1/2023</b>
San Francisco Bay Conservation and Development Commission – Amendment to Major Permit (M1999.043, Amendment No. 6)	<b>4/5/24</b>

United States Army Corps of Engineers (USACE) – Nationwide Permit 27 (SPN-2019-00445) Aquatic Habitat Restoration, Enhancement, and Establishment Activities	<b>5/5/2023</b>
United States Fish and Wildlife Service (USFWS) – Programmatic Biological and Conference Opinion ESA Section 7(a)(2) Review Form (2022-0005149-S7)	<b>3/31/2023</b>
California Department of Fish and Wildlife – Restoration Management Permit (RMP 2023-0008-R3)	<b>12/15/2023</b>
City of Palo Alto – Minor Architectural Review (23PLN-00043)	<b>11/30/2023</b>
City of Palo Alto – Street Work Permit (to be obtained by the construction firm)	<b>PENDING</b>
State Water Resources Control Board – General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (to be obtained by the construction firm)	<b>PENDING</b>

On December 19, 2023, the City issued a Notice of Exemption that the PROJECT was exempt from review under the California Environmental Quality Act (“CEQA”) (Cal. Public Resources Code § 21000, et seq.) pursuant to CEQA Guideline Section 15333 because the PROJECT qualifies as a small habitat restoration project.

**Table A: Outstanding Work to be Paid for by ABAG**

<b>Party Name</b>	<b>Service Provided</b>	<b>Responsible Entity</b>	<b>Projected Budget Amount</b>
Zoon Engineering	Construction Management Services Contract	ABAG	\$427,937
TBD	Construction Services Contract	ABAG	\$4,121,055
Save The Bay	Plant propagation, planting, community outreach	ABAG	\$131,854
TBD	Contingency	ABAG	\$180,000
<b>TOTAL</b>			<b>\$4,860,846</b>

**Table B: Palo Alto Horizontal Levee Pilot – Design, Community Engagement, and Implementation Process**

<b>Task</b>	<b>Status</b>	<b>Funder</b>
<b>Phase 1 – Early Design Concepts and Stakeholder Engagement - 2017 - 2020</b>		
Feasibility Study	Completed	Oro Loma Sanitary District

30% Design	Completed	EPA Climate Ready Estuaries
Planning and Stakeholder Outreach (carried over from Phase 1 and 2)	Completed	State Coastal Conservancy
Phase 2 – Design and Permitting – 2020-2025		
Permitting studies, Geotechnical Report	Completed	City of Palo Alto
60% Design, Construction Budget and Permitting Memo	Completed	State Coastal Conservancy and EPA Water Quality Improvement Fund Grant # #W9-98T55001
BRRIT Consultations – including pre-permitting consultation in June, 2022	Completed	
Permit Applications	See Permit Table	
Permit Fees	Completed	City of Palo Alto
CEQA - Categorical Exemption	Completed	City of Palo Alto
QAPP	Completed	EPA Water Quality Improvement Fund Grant # #W9-98T55001
100% Design, including final design specifications, bid package and bid period support	Scheduled for completion early 2025	
Phase 3 – Construction, Stewardship, Monitoring and Outreach – 2024-2026		
Plant Propagation, Community Outreach and Planting – Save The Bay	In progress	EPA Water Quality Improvement Fund (#W9-98T55001)
Construction management and monitoring		
Construction	In progress	EPA Water Quality Improvement Fund (#W9-98T20401) State Coastal Conservancy Grant (Grant #G24-046)
Phase 4 – Monitoring & Reporting – 2023-2029		
Community Science & Monitoring	In progress	EPA Water Quality Improvement Fund (#W9-98T20401)
Salt Marsh Harvest Mouse Site Utilization Studies	In progress	City of Palo Alto
Sediment Accretion Study	In progress	City of Palo Alto
Photo-point Monitoring	In progress	City of Palo Alto

Vegetation Surveys, Vegetation Establishment, and Habitat Type Evaluations	To be started after construction	City of Palo Alto
Benthic Community Monitoring	To be started after construction	City of Palo Alto
Wastewater Effluent and Volume Monitoring	In progress	City of Palo Alto