PORT OF OAKLAND

June 6, 2019

Larry Goldzband
Executive Director
Bay Conservation and Development Commission
455 Golden Gate Avenue, Suite 10600
San Francisco, CA 94102

Dear Mr. Goldzband,

Please find below the statement I plan on reading at the BCDC commission hearing today regarding the Middle Harbor Enhancement Area.

Sincerely,

Jan Novak, PWS
Environmental Scientist and Planner
Port of Oakland

530 Water Street • Jack London Square • P.O. Box 2064 • Oakland, California 94604-2064
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Item #8 - Public Hearing and Possible Vote to Initiate Bay Plan Amendment 3-19 Regarding Plan Map 4

Hello BCDC Commissioners and Staff,

My name is Jan Novak. I'm a member of the Port of Oakland's (Port) Environmental Programs and Planning Department and am the Port's project manager for the Middle Harbor Enhancement Area. The Port of Oakland is the local sponsor for this project, working in conjunction with the United States Army Corps of Engineers (Army Corps). My role is to ensure that the monitoring and adaptive management programs are fully implemented.

I wanted to start by updating the Board on one of the primary habitat goals of the Middle Harbor Enhancement Area (MHEA) project. I am happy to report that eelgrass is being planted in the MHEA as we speak. By the end of tomorrow, we'll have between 76 and 80 planting plots within the MHEA. Our model projections for eelgrass habitat suitability, based on three years of data collection, are very encouraging for us meeting our eelgrass habitat goals.
Since joining the Port in October 2017, I have organized four meetings of the Technical Advisory Committee, of which BCDC is a member, and have familiarized myself extensively with the applicable permits for this area. As you may or may not know***, the project's overall goals were to create subtidal habitat that provided foraging opportunities for birds and create habitat for a wider diversity, and larger populations, of prey-based fish. I'm pleased to report that these goals have unequivocally been accomplished.*** This is well documented in our comparative surveys of 1997 pre-project and 2004-5 post-project conditions, which show significant increases in the presence of prey-based fish species and least terns foraging in the MHEA.

We look forward to initiating the monitoring period surveys, that now commence after the planting of the eelgrass. For the period since our last surveys were performed, we can utilize citizen science as a proxy for the MHEA's habitat values. This is data collected by the general public, such as the avid Bay Area birding community. From 2010 through the present, 850 bird checklists have been created for the MHEA on the eBird website, which identify 172 species of birds. Many lists show hundreds or thousands of birds present. For comparison's sake, the 2004 surveys of the Deepwater Middle Harbor Naval base performed before the MHEA restoration found only 38 species of birds, with a few hundred birds present (mostly less desirable gulls and regionally common cormorants). Most excitingly, the Federally Endangered California Least Tern and the Brown Pelican, which was a Federally threatened species during the planning stages of this project, are now regular visitors and foragers in the MHEA, just as this restoration project intended. It should come as no surprise then, that the Golden Gate Audubon Society lists the MHEA as a local birding hot spot on their website.

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Regarding the ancillary project features which BCDC Staff is currently very focused on, we are talking about a 3-5-acre educational marsh, an approximately 3-acre area of submerged land seaward of the beach, and 4,500 square feet of avian island roosting habitat. For context, the MHEA area is 189 acres, of which 181 acres are functioning well and meeting all permit conditions by any standard.

We acknowledge that much of the planned marsh is currently a mudflat as it was underfilled during design and construction. What makes marsh creation challenging, is that eelgrass and marshes are competing environments. Eelgrass beds, the primary habitat goal in the MHEA, exist in areas with low sediment loads in the water columns, as the eelgrass needs clear water in order to photosynthesize. Marshes exist in areas with high sediment content in the water column. Restored marshes are typically underfilled with the goal of sediment accreting over time. For the MHEA educational marsh, as it was originally planned, to be developed to fruition in a sustainable manner, it will need to be designed in a way that reconciles these naturally competing and mutually incompatible forces.

We are also aware of BCDC Staff's complaints that the submerged land seaward of the beach area is muddy and is apparently less attractive to swimmers than Staff would like. Indeed, BCDC staff has described this natural condition as impeding public access to the Bay. Based on the plain reading of the applicable permit and a detailed review by the Port's special counsel, the Port simply cannot agree to this characterization. This is the San Francisco Bay and it will never look like San Francisco's Ocean Beach. Nothing in the applicable permit conditions ever contemplated that kind of beach for this area. The reality for this area, similar to the marsh, is that sandy beaches simply do not occur naturally in low energy environments, such as the MHEA. As every scientist will concur, sandy beaches require significant wave energy to sort material. As with the marsh, a sustainable beach area would need to be designed to be self-sustaining with no possibility of natural recharge. While the Army Corps and Port have absolutely committed to reviewing and evaluating this issue further, we don't believe the type of beach now being envisioned by BCDC Staff is feasible, without regular massive and extremely costly artificial sand recharges in the beach area. This is in direct conflict the one of the MHEA plan goals, which is for the site to be self-sustaining. It is also anathema to the natural habitat of the Bay.

The avian islands were designed primarily to ensure the MHEA hydrology for subtidal habitat functioned properly. The goal was to make them as small as possible to reduce the amount of fill in the Bay. Ironically, now they are being criticized for being too small and providing insufficient high water refugia. Again, the Army Corps and Port have committed to further evaluating these areas. We will specifically be reviewing the feasibility of adaptive management to provide high water refugia within the MHEA in other locations that would be easier to reach with mechanical equipment, thus reducing impacts to current MHEA habitats.

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In closing, as the local sponsor, it is our goal to make this project as successful as possible. We welcome working collaboratively with BCDC on accomplishing project goals through sound science and adaptive management. However, the USACE and the Port have been spending a little too much of our bandwidth responding to aggressive BCDC enforcement threats. We would prefer to focus our time on collaborating with BCDC Staff to develop practical, feasible, and deliverable project solutions. Thank you for your time.

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DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
450 GOLDEN GATE AVE.
SAN FRANCISCO, CA 94102

June 6, 2019

R. Zachary Wasserman
Commission Chair
Bay Conservation and Development Commission
455 Golden Gate Avenue, Suite 10600
San Francisco, California 94102

Dear Mr. Wasserman,

Thank you for the opportunity to comment on the Bay Conservation and Development Commission's (BCDC) proposal to add an amendment to the Bay Plan Dredging policies, Bay Plan Map 4 regarding the Middle Harbor Enhancement Area (MHEA). The United States Army Corps of Engineers (Corps) cannot support the amendment as it arbitrarily singles out the MHEA, retroactively applying new rules to a project that BCDC has already deemed consistent in its 2001 Letter of Agreement, Consistency Determination No. C2000.014 (LOA).

The Corps has been working diligently with the Technical Advisory Committee (TAC) and BCDC to meet the original intent and performance criteria for the MHEA, as outlined in the "Middle Harbor Enhancement Area Construction Period and Long-term Monitoring, Maintenance and Adaptive Management Program" (3M Program). Specifically, the Corps is currently executing its eelgrass planting plan, which will plant over 100 acres, the maximum area allowed, of eelgrass at a greater density than previously designed. The Corps hopes that this aggressive planting program will result in approximately 50 acres of eelgrass establishment, well over the 18.4 acres requested in BCDC's November 6, 2018 letter and the 15 acres originally committed to in the 3M Program. The Corps made BCDC aware of this fact in our March 13, 2019 letter and in numerous conversations with BCDC staff. It is unclear what BCDC hopes to gain from this amendment, when the MHEA is executing plans that are already expected to exceed the Project's original goals.

The Coastal Zone Management Act (CZMA) requires the Corps to be consistent with the Bay Plan as it exists at the time of its concurrence. The Corps has abided with that requirement and is committed to honoring the LOA. However, this amendment seeks to apply an entirely new standard solely on an already approved project, which amounts to an impermissible second bite at the consistency apple. Neither the CZMA nor its regulations endorse this type of action. The result would be that project proponents could not rely on BCDC's decisions and therefore, would never be able to appropriately plan.

The Corps strongly urges BCDC to reject this amendment. Implementation would do nothing to improve the status of the MHEA and the precedent set by this amendment would only endanger support for future federal projects, by penalizing any project that might fall behind schedule and exponentially increasing project costs. This amendment would tip the balance too far against worthy environmental restoration projects that due to unforeseen circumstances might slip their schedule.

Sincerely,

RAYFIELD.TRAVIS.JAY.1161002867 Digitally signed by RAYFIELD.TRAVIS.JAY.1161002867 Date: 2019.06.06 09:15:16 -07'00'

TRAVIS J. RAYFIELD
Lieutenant Colonel, U.S. Army
Commanding

May 31, 2019

Zachary Wasserman, Chair
San Francisco Bay Conservation and Development Commission
455 Golden Gate Avenue, Suite 10600
San Francisco, CA 94102

Dear Mr. Chairman and Commissioners:

We write with objections to language in the preliminary recommendation for Bay Plan Amendment No. 1-17 concerning the use of fill for creation of habitat in the Bay. As the organization that led the creation of BCDC and the Bay Plan decades ago, Save The Bay strongly supports Plan amendments that strengthen protection and enhance restoration of the Bay's natural resources, that improve protection of the public's right to access the Bay shoreline, and that protect water-dependent uses of the shoreline for commerce and recreation.

Save The Bay has for many years encouraged BCDC to recognize the urgency of adapting to climate change by updating Bay Plan policies, including to facilitate accelerated permitting and implementation of tidal marsh habitat restoration projects that require placement of fill. Most of the language recommended by staff this month does advance the goal of increasing habitat restoration using placement of appropriate fill material.

However, the suggested changes to dredging policy 11b undercut the original purpose and intent of that policy, which has still not achieved its goal. While few commissioners may know the history of dredging policy 11b, it was itself an amendment to the Bay Plan two decades ago whose sole purpose was to permit the Port of Oakland to place more than 5 million cubic yards of dredged material from its 50-foot channel deepening project as "fill" in the Port's decommissioned Middle Harbor. The Port aimed to reduce the cost of channel deepening by slurrying the dredged material to this adjacent Middle Harbor site, instead of transporting it by barge to a more distant reuse or ocean disposal site. Without the then-new policy 11b, BCDC could not legally approve the Port's project to change a deep hole to a shallow hole and establish eelgrass habitat on top of it. This unprecedented effort was dubbed a "pilot project" that could not be repeated unless and until it was successful, per policy 11b. As the current BCDC staff acknowledges:

> "the Commission amended the Bay Plan in 2000 to ensure that additional large projects using dredged sediment for Bay restoration could not occur until the Middle Harbor project was successfully completed (BPA 3-00.) The Middle Harbor project is currently about 14 years behind schedule in completing the habitat features"[1]

Save The Bay and other stakeholders negotiated that agreement with the Port of Oakland, U.S. Army Corps of Engineers and BCDC. Unfortunately, despite many years of effort and millions of

[1] BCDC Staff Report: "Bay Fill for Habitat Restoration, Enhancement, and Creation in a Changing Bay," May 24, 2019, p.11

dollars, the Middle Harbor Enhancement Area has not yielded successful creation of promised habitat. While the fish and wildlife did endure environmental harm from turbidity and other impacts during the channel's dredging, the Bay has not yet received the required environmental benefits that are now many years overdue. As the staff report underscores:

> While the project has progressed since its initial construction, it is still significantly behind schedule and the regulatory agencies, Save the Bay, the Sierra Club, Audubon Society, and others are concerned that it will not meet its proposed habitat enhancement goals.[2]

BCDC's efforts to secure full achievement of the Middle Harbor Enhancement Area's benefits from the Port of Oakland and the U.S. Army Corps of Engineers have continued without success for many years, and the federal consistency determination used to enable the project (Consistency Determination No. C2000.014.01) has proven challenging to enforce. BCDC continues to seek remedial action from the Corps of Engineers, to make the project consistent with original USACE commitments and to compensate for the temporal loss of habitat benefits during substantial project delays. [See BCDC's detailed letter of November 6, 2018, attached]

The incomplete status of the Middle Harbor Enhancement Area and the Commission's continuing efforts to secure the project's promised habitat benefits for the Bay make staff's recommendation to eliminate all of Dredging Policy 11b, and to instead relegate this important requirement to a note on Plan Map 4, inappropriate and counterproductive.

It is disappointing that the staff report, "Bay Fill for Habitat Restoration, Enhancement, and Creation in a Changing Bay," does not even mention Consistency Determination C2000.014, when BCDC efforts to secure required habitat benefits from the USACE and Port of Oakland are still in process. The staff's proposed draft of a Plan map note would weaken those efforts, suggesting merely that the USACE and Port "should provide habitat benefits …[and] complete work as quickly as possible," when in fact <u>those habitat benefits are legally required by C2000.014.01 and are long overdue</u>, as the Commission's November 6, 2018 letter to USACE emphasizes.

Bay Plan Amendment No. 1-17 should allow for and encourage the appropriate use of fill material – including dredged material from the Bay and material from upland – for habitat restoration, without eliminating Dredging Policy 11b. Instead, that policy should be updated to reflect the original purpose and intent of the Bay Plan Amendment that created it, and should be strengthened to emphasize that the Middle Harbor Enhancement Project must be completed successfully to provide required benefits. This should be a pre-requisite to the Commission approving any fill project similar to the Middle Harbor Enhancement Project's particular scale, bathymetric modification, and type of habitat creation. It should not remain a pre-requisite to approval of fill for tidal marsh or similar habitat.

This outcome can best be accomplished by modifying Dredging Policy 11b to require that "the Commission should not authorize dredged sediment disposal projects in the Bay and certain waterways to create, enhance or restore sub-aquatic habitat in shallow water, except for projects using a minor amount of dredged sediment, until the Oakland Middle Harbor Enhancement project authorized by the Commission is completed successfully and provides the required benefits, including remedial action for temporal loss of benefits.

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[2] Ibid., p. 19.

We have made these suggestions to staff and now make them directly to the Commission in support of the goal Save The Bay has long championed – accelerating Bay habitat restoration to keep pace with rapid climate change and rising sea levels. That goal can and must be accomplished without relieving already-authorized projects and the agencies responsible for them from obligations in BCDC permits and Consistency Determinations, especially projects whose authorization required unprecedented amendment of the Bay Plan itself. The Commission should zealously protect and reinforce those obligations, especially at a time when the integrity of its enforcement regime and the fairness of its enforcement practices is under intense scrutiny in the wake of the State of California's recent audit of the Commission.

We offer our continued assistance to you and your staff on this issue, and look forward to a resolution of this matter that Save The Bay can fully support.

Thank you for your consideration.

Sincerely,

David Lewis
Executive Director

Attachment

San Francisco Bay Conservation and Development Commission
455 Golden Gate Avenue, Suite 10600, San Francisco, California 94102 tel 415 352 3600 fax 415 352 3606

Via US Mail

November 06, 2018

Lieutenant Colonel Travis Rayfield
Commander and District Engineer
United States Army Corps of Engineers
1455 Market Street
San Francisco, CA 94103

SUBJECT: Request for Remedial Action, Oakland Harbor Navigation Improvement Project, Middle Harbor Enhancement Area (BCDC Letter of Agreement for Consistency Determination No. C2000.014.01)

Dear Lt. Col. Rayfield:

Please accept this letter as a formal request for the U.S. Army Corps of Engineers (USACE) to begin remedial action to rectify the temporal loss of habitat due to delays in completing the Middle Harbor Enhancement Area (MHEA) project, a component of the Oakland Harbor Navigation Improvement Project (-50 Foot Deepening Project), authorized under San Francisco Bay Conservation and Development Commission's (Commission) Letter of Agreement for Consistency Determination No. C2000.014 (Letter of Agreement).

1. **Legal Authority to Request Remedial Action.** As you are aware, Section 930.45(b) of Title 15 of the Code of Federal Regulations establishes the legal authority of the Commission to request remedial action to rectify issues related to a Federal consistency determination under the Coastal Zone Management Act. This section states, in part, that:

   The State agency may request that the Federal agency take appropriate remedial action following a serious disagreement resulting from a Federal agency activity, including those activities where the State agency's concurrence was presumed, which was:

   a. Previously determined to be consistent to the maximum extent practicable with the management program, but which the State agency later maintains is being conducted or is having an effect on any coastal use or resource substantially different than originally described and, as a result, is no longer consistent to the maximum extent practicable with the enforceable policies of the management program.

   As described below, the MHEA project is significantly behind schedule in providing several key habitat benefits to which the USACE committed in its consistency determination and, therefore, is substantially different than originally described. The Commission is requesting specific remedial actions, detailed below, to make the project

consistent with original USACE commitments and to compensate for the temporal loss of habitat benefits during substantial project delays.

2. **Brief Project Background.** In December 2000, after amending the Bay Plan through a negotiated agreement among environmental non-governmental organizations, the Port of Oakland (Port) and the USACE, the Commission authorized the minus 50 Foot Deepening Project. This decision enabled the USACE and its local project sponsor, the Port, to widen and deepen the Oakland Harbor Inner, Outer and Entrance channels to minus 50 feet Mean Lower Low Water, and to beneficially reuse the dredged sediment to construct the MHEA and the Montezuma and Hamilton Wetlands Restoration Projects. The Commission concurred that the project was consistent to the maximum extent practicable with its laws and policies in the above-mentioned Letter of Agreement, and issued a permit to the Port for MHEA monitoring and maintenance (BCDC Permit No. 2014.000.00).

   Construction of the MHEA required placing and beneficially reusing 5.8 million cubic yards (cy) of dredged sediment in the Bay at the berthing area and basin formerly deepened and used by the U.S. Navy. This work was supposed to create roughly 180 acres of shallow intertidal and subtidal habitat at the western end of the Harbor Channel. The goal of the MHEA was to restore the area to its historic shallow water habitat and create new habitat features, including intertidal sandy beach and marsh habitat, shallow subtidal shoals with eelgrass beds, shallow and deep channels, subtidal basins, rocky intertidal and subtidal habitat for bird loafing and roosting, and buffers between public access and habitats.

3. **MHEA Commitments, Current Status, and Concerns.** The MHEA Construction Period and Long-term Monitoring, Maintenance, and Adaptive Management Program (3M Program) is part of the consistency determination and also is discussed in the Letter of Agreement to support the Commission's findings that the MHEA project is consistent with the San Francisco Bay Plan's dredging policies[1]. The 3M Program describes the original performance criteria, acreage, and construction period to which the USACE committed when submitting the project for the Commission's concurrence. The nine performance criteria, on which the success of the project is to be evaluated, are summarized in Table 1 below, along with their associated due dates and current status[2]:

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[1] Along with the 3M Program, the other documents comprising the complete consistency determination are the *Second Stage Consistency Determination for the Oakland Harbor Navigational Improvement (-50 Foot) Project,* the *Middle Harbor Habitat Design/65% Design Memorandum,* the *Responses to Comments 65% Design Submittal,* and *Addendum #1 to the Second Stage Consistency Determination on Middle Harbor Commitments.*

[2] Attached are the complete performance criteria and the Schedule of Monitoring and Management Activities from the 3M Program. Please note that while the 3M Program uses relative due dates for performance criteria (e.g. "10 years after initiation of dredging"), we have converted these into absolute years using the original construction schedule and a dredging initiation date of 2002.

Table 1. MHEA Project Performance Criteria from 3M Program

Criteria No.	Criteria, summarized for brevity (due date; current status)
1	Provide a new 3-5 acre marsh for bird foraging and educational opportunities (by 2012; partially complete)
2	Create at least 55 acres of habitat suitable for eelgrass habitat development and 110 acres of other shallow water habitat (by 2007; completed in 2016)
3	Provide a new beach for public access and bird storm refuge (by 2003; partially complete)[3]
4	Provide improved bird habitat by constructing four avian islands and providing a protected area along the shoreline of the Union Pacific (UP) Mole (by 2012; partially complete)
5	Provide 4-8 acres of hard bottom habitat (by 2006; complete)
6	Create at least 15 acres of eelgrass habitat (by 2017; incomplete)
7	Provide a more productive and diverse estuarine community than existing conditions (by 2017; status not assessed)
8	Increase habitat benefits for aquatic birds, particularly the least tern colony (by 2017; status not assessed)
9	Provide a greater number of fish than existing conditions (by 2017; status not assessed)

We understand that the MHEA project has been subject to multiple federal funding delays since its authorization in 2000. These have caused the project to fall significantly behind schedule. Based on the 3M Program, MHEA was scheduled to begin in 2001, but did not start until 2002. Furthermore, according to the USACE's and Port's October 2018 Technical Advisory Committee (TAC) presentation, the project is now in the Habitat Suitability Evaluation/Warranty Period through March of 2019; this period was originally scheduled to end twelve years ago in 2006.

Despite these delays, we recognize the progress the USACE has made on the project, including placing and consolidating 5.8 million cy of dredged material to create shallow water habitat, final sculpting of 400,000 cy of sediment, initial construction of two avian islands and the educational marsh, creating 5.1 acres of hard bottom habitat and 101 acres of habitat suitable for eelgrass, opening the project site to full tidal circulation, and exploratory planting of eelgrass.

[3] As described below, this criterion is not the direct responsibility of the USACE, but was to be completed by the Port under a separate authorization, BCDC Permit No. 1999.007.

Through this work, as indicated in Table 1 above, the USACE has fully met Criteria Nos. 2 and 5, and has partially met Criteria Nos. 1 and 4. However, we are concerned that the project remains significantly behind schedule in fully meeting Criteria Nos. 1, 3, 4, and 6 as described below (Please note that Criteria Nos. 7, 8, 9, while behind schedule, are not addressed here because the verification of these criteria is not due to occur until after the ten-year post-construction monitoring period; this period was originally planned for 2007 to 2017, but has not yet started):

a. **Eelgrass habitat (Criteria No. 6).** As stated in the Letter of Agreement (Page 6), eelgrass is the primary target habitat for the MHEA project. Criteria No. 6 of the 3M Program requires the USACE to establish at least 15 acres of eelgrass habitat within ten years of commencing dredging (i.e., by 2012). This criterion was also included as a required condition in the U.S. Fish and Wildlife Service's Endangered Species Formal Consultation, issued in 1999, to offset for impacts to listed species (including the California Least Tern). However, according to the USACE and Port's October 2018 TAC presentation, only pilot eelgrass plantings have occurred to date, creating a total of 0.45 acres of habitat. Full plantings are not scheduled to occur until Spring 2019 (Phase 1) and 2020-2021 (Phase 2), meaning the 15 acres of eelgrass habitat is at least nine years behind schedule, assuming no further delays occur.

b. **Marsh (Criteria No. 1).** Criteria No. 1 requires the USACE to provide a new three-to-five acre marsh for bird foraging and educational/interpretive benefits within ten years of commencing dredging (i.e. by 2012). According to the USACE's and Port's May 2018 TAC presentation, the USACE has established a 4.7-acre marsh, and there is at least some shorebird use of the marsh. However, we understand that the construction of the marsh did not reach the necessary elevations for plant colonization, and that the area is unlikely to accrete the sediment necessary to meet the project's stated goals through natural processes. Therefore, the marsh is not providing the intended bird foraging and educational benefits and likely will be unable to do so without further intervention. The USACE has not provided an expected date of completion for the marsh and associated benefits, but it is currently at least six years behind schedule.

c. **Improved Bird Habitat (Criteria No. 4).** Criteria No. 4 requires the USACE to provide improved bird habitat by constructing four avian islands and providing a protected area along the shoreline of the UP Mole within ten years of commencing dredging (i.e. by 2012). The project design specified that each island should be no larger than 5,000 sq. ft., and that the four islands combined should be no smaller than 5,000 sq. ft. 4 We understand that the protected area along the shoreline has been created. However, according to the USACE and Port's May 2018 and October 2018 TAC presentations, the USACE created only two avian islands (the Western and Eastern Avian Islands, near the southern border of the project site), totaling just 630 sq. ft.

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[4] We understand the original project goals did not specify the tidal elevation at which the area of the islands should be measured. This point is addressed in section IV below.

above Mean High Water, both of which were sinking between 2016 and 2018. Similar to the marsh, the required improved bird habitat is currently at least six years behind schedule.

d. **Public Access Beach (Criteria No. 3).** Criteria No. 3 required creating a new beach for public access and bird storm refuge. It is critical to note that this beach, while listed as a key performance criterion of the MHEA project, is part of a separate Commission authorization for the Port of Oakland to construct Middle Harbor Shoreline Park (among other activities). As such, beach construction and maintenance is the Port's responsibility, and not the USACE's. Nevertheless, due to the ecological connectivity between the beach and other key habitats of the MHEA, the USACE must coordinate with the Port to address these habitats in an integrated fashion. (A separate letter is also being sent to the Port regarding this requirement.)

   Based on the USACE and Port's May 2018 TAC Presentation, while the beach has been constructed, the public is prohibited from entering the water for swimming or recreation due to safety concerns. We understand this is due to an insufficient beach slope resulting in a lack of subtidal water and a substrate of deep, soft mud. Furthermore, we understand that a sandbar has developed off the beach, which was not part of project design and is currently used by birds.

4. **Decisions Taken at the October 3, 2018 TAC Meeting.** At the October 3, 2018 TAC meeting, the TAC made the following important decisions that relate to the four concerns described above:

   a. **Regarding Eelgrass Habitat**: The TAC agreed that the USACE and Port would use an L-scheme planting design for planting eelgrass, and that, because this L-scheme was more efficient than a previously proposed planting method, they would plant an unspecified greater number of L plots in order to reach the required 15 acres as quickly as possible.

   b. **Regarding the Marsh:** The TAC agreed that the USACE and Port would conduct a study to determine the most appropriate method to build the marsh to an elevation high enough for plant colonization, including analyzing various sources of sediment and proposing the best alternative. The TAC also agreed that the USACE and Port would determine how to fund this effort.

   c. **Regarding the Improved Bird Habitat**: The TAC agreed that the USACE and Port would consult with relevant literature and avian experts to determine actions needed on the avian islands, but no specific actions were agreed upon.

   d. **Regarding the Beach**: No decisions were made about the beach, and very little was discussed on this topic.

   Finally, while not a formal decision, the TAC also discussed that, due to the interconnected nature of the habitat features that require attention, it would be beneficial to address these features in an integrated manner. We agree and believe this

approach will be more ecologically appropriate than addressing the habitats individually, and will also ensure the greatest efficiency for all parties involved.

5. **Request for Remedial Action.** To resolve the issues described above and provide compensation for the temporal loss of habitat benefits resulting from significant project delays (at least nine years for eelgrass, and at least six years for the marsh and improved bird habitat), we request that the USACE work with the Port to prepare and submit to the Commission a joint project proposal (Proposal). The Proposal should address each of the habitat features discussed below in an integrated manner. Our requested actions are generally in line with the TAC's decisions taken on October 3, but in certain cases go beyond the original project requirements to compensate for temporal loss of habitat benefits. We request that the Proposal be submitted to the Commission no later than February 28, 2019, and that it incorporate the following elements:

   a. **Additional Planting of Eelgrass.** To determine the value of eelgrass habitat benefits that would have been provided from 2012 to 2021 had the eelgrass been established by 2012 per the Letter of Agreement, BCDC staff examined recent expansion rates of existing eelgrass beds at the nearby sites of Emeryville Shoal and Berkeley Shoal. Using the Merkel and Associates Inc. October 2014 Baywide Eelgrass Inventory, we found that the average compound annual growth rate in these areas was 2.3% from 2003 to 2014. Assuming a similar growth rate at MHEA, we estimate that the 15 acres of eelgrass would have expanded by at least 3.4 ac. from 2012 to 2021. Therefore, to compensate for the lack of planting and subsequent expansion during this period, we request that the USACE's Proposal include planting at least an additional 3.4 ac. of eelgrass in an appropriate location at the MHEA project site, bringing the total minimum eelgrass acreage to 18.4 acres. If USACE disagrees with our estimate for expected expansion during that timeframe, or believes that an alternate means of compensation is more appropriate, please provide and justify an alternate proposal. Please note that we have not attempted to calculate the value of all eelgrass ecosystem services that were absent from 2012 to 2021 (e.g., wave attenuation, carbon sequestration, fish habitat provision), and are not asking for compensation for these lost benefits.

   b. **Elevating and Planting the Marsh.** As described above, the TAC agreed that the USACE and Port would conduct a study to determine the best method for raising the existing marsh area to an elevation suitable for establishment of vegetation. In addition to raising the marsh elevation, we request that the Proposal include planting appropriate vegetation to expedite the establishment of marsh habitat and compensate for the temporal loss of benefits.

c. **Assessing and Enhancing the Improved Bird Habitat.** Based on the information shared with the TAC to date, there are several gaps in our knowledge concerning the past, current status, and expected future of the improved bird habitat. As such, we request that the Proposal include the following:

(1) **Eastern and Western Avian Islands.** A detailed statement on how and when the existing islands were originally built (including the method(s) of construction and the source and volume of material used); data and information on the islands' current bird habitat value as compared to the project's original goals; the originally designed and current surface area of the islands as measured at an appropriate tidal elevation; and, how the islands are expected to evolve in the future if left alone, based on the site's characteristics and coastal processes.

(2) **Protected Area.** A written statement describing the protected area along the shoreline of the UP mole, including its size, location, features, and the extent to which it is providing the originally intended bird habitat.

(3) **Missing Two Avian Islands.** An explanation for why only two of the four avian islands are complete, and when the USACE plans to build the remaining two islands.

(4) **Proposal.** Based on the site characteristics, a proposal that identifies and recommends alternatives to increase the extent and value of improved bird habitat to meet the original project goals, without negatively impacting other parts of the MHEA project site or surrounding habitats. If the proposal does not include building the missing two avian islands, please provide a justification and describe how the USACE plans to compensate for those missing islands. Because, as discussed at the October 2018 TAC meeting, the original project design provided neither specific criteria for evaluating bird habitat value, nor a tidal elevation at which to measure the islands' total area, we recommend the Proposal include defined criteria and elevations for assessing the bird habitat in consultation with appropriate experts, such as Golden Gate Audubon, which appears to have recommendations for creating additional roosting habitat.

d. **Ensuring Safety and Accessibility of the Public Access Beach.** As mentioned above, the Commission staff recognizes that beach construction and maintenance is the Port's responsibility, and not the USACE's. However, we request that the USACE work closely with the Port to propose an approach to address the currently unsafe beach, ensuring any actions are coordinated with those taken on other habitats. As mentioned above, we are also writing separately to the Port to ensure it works closely with you.

Thank you in advance for your cooperation in addressing these issues. Please understand that any proposed actions which differ substantially from what was originally proposed will require the Commission's concurrence, and an amendment to the Consistency Determination or Letter of Agreement may be required. Please contact Schuyler Olsson at (415) 352-3668 or at schuyler.olsson@bcdc.ca.gov with any questions or concerns. We look forward to hearing from the USACE and the Port soon.

Sincerely,

Adrienne Klein

ADRIENNE KLEIN
Chief of Enforcement

For Schuyler Olsson
Coastal Program Analyst

Enc.

SO/jk

cc - Richard Sinkoff, Port of Oakland
Jan Novak, Port of Oakland
Thomas Kendall, U.S. Army Corps of Engineers
Eric Joliffe, U.S. Army Corps of Engineers
Brian Haines, U.S. Army Corps of Engineers
Tessa Beach, U.S. Army Corps of Engineers
Thomas Williams, U.S. Army Corps of Engineers
Beth Christian Regional Water Quality Control Board
David Lewis, Save the Bay

1. Performance goals, criteria for success in achieving the goal, methods to assess the parameter are summarized within Table 1-1. While multiple success thresholds have been established for some project goals, Table 1-1 only addresses the highest threshold for any project element. All of the lower thresholds are identified in Appendix 1 and would only become important in determining the degree to which project commitments have been achieved if project success falls short of the highest objective. A summary of all standards that are lower than the highest imposed by any approvals or commitments is provided in Appendix 1.

To evaluate success, it is essential that both the timeframe(s) of the evaluation and method(s) used be established. In some instances, clear direction has been provided with regards to success assessment. Where these exist, they have been adopted in this program. However, in other instances these have not been specified and appropriate evaluation methods and periods have been selected by the design team.

Table 1-1. Performance standards and commitments for the MHEA.

NO	PERFORMANCE STANDARDS AND COMMITMENTS	WHEN AND HOW DETERMINED
1	Provide a new 3-5 acre marsh to provide bird foraging opportunities and educational/interpretive benefits.	*When:* 1) completion of final construction; 2) 10 years after initiation of dredging. *How:* 1) topographic survey (at construction); 2) assessment of vegetation and avian use (over 10 year)
2	Create a minimum of 55 acres of habitat suitable for eelgrass habitat development, 110 acres of other shallow water,	*When:* 1) completion of final construction 2) completion of site suitability evaluation and warranty period *How:* 1) hydrographic and topographic survey (at construction); 2) measurement and assessment of physical conditions developed, as well as comparison to modeling results
3	Provide new public access beach area that will also provide storm refuge to birds.	*When:* 1) To be completed as part of Berths 55-58/Middle Harbor Shoreline Park work. *How:* 1) Confirm beach construction under Port's project by completion of topographic survey.
4	Provide improved bird habitat, with reduced predators and human disturbance through construction of four avian islands, each being a maximum size 5,000 sq. ft. and by providing a protected area along the shoreline of the UP Mole.	*When:* 1) completion of final construction; 2) 10 years after initiation of dredging. *How:* 1) topographic survey (at construction); 2) assessment of vegetation and avian use (over 10 year)
5	Provide 4-8 acres of hard bottom habitat (approximately 4 acres presently exists)	*When:* 1) completion of final construction. *How:*

		1) site survey at completion.
6	Create a minimum of 15 acres of eelgrass habitat within 10 years after initiation (start of dredging) of project not including that planted in the previous 3 years.	*When:* 1) completion of 10 year post-construction monitoring program. *How:* 1) annually evaluate eelgrass cover and density throughout site and reference areas using side-scan sonar and diver verification; 2) compare eelgrass cover with reference areas to control for natural interannual variability in eelgrass.
7	Provide an estuarine community within MHEA that is of higher productivity and greater diversity than the existing community of Middle Harbor. Provide a habitat that is more highly productive than existing conditions and provides a net increase in habitat value.	*When:* 1) completion of 10 year post-construction monitoring program. *How:* 1) evaluation of plant, invertebrate, fish, and avian communities relative to baseline Middle Harbor conditions reported in prior studies.
8	Increase habitat benefits for aquatic birds and most particularly the least tern colony, by increasing habitat and the productivity of fisheries. Of specific interest is the enhancement of least tern prey species which may improve foraging opportunities for terns.	*When:* 1) completion of 10 year post-construction monitoring program. *How:* 1) evaluate availability of forage species and size classes consumed by avifauna, and specifically least terns.
9	Provide a greater number of fish than existing conditions	*When:* 1) completion of 10 year post-construction monitoring program. *How:* 1) evaluation of fish communities relative to baseline conditions reported in prior studies.

1.4 ADAPTIVE MANAGEMENT

The MHEA is to be implemented and managed through the application of adaptive management principles. This approach has been dictated by the relatively unique nature of the project and limited data on projects of similar scale and complexity in San Francisco Bay from which to draw essential design and performance information. The adaptive management program includes various elements including both construction period adaptive design and implementation as well as long-term adaptive management to address habitat maintenance needs. Construction period adaptive management elements are associated with design assumption verification and design refinement during the initial construction periods that are necessary to support the development of the MHEA in accordance with the project goals as outlined in the prior section. These goals are to be achieved through development of a site for which the design and engineering has been governed by a habitat design criteria model summarized below. The adaptive management elements are further integrated into the monitoring program which measures the progress of the system against references or pre-determined expectations. Based on the outcome of the monitoring and data analysis, decisions may be made regarding the performance of the monitored element relative to expectations, and the need or desirability to alter the site conditions, conceptual model, or the performance goals. The process for adapting the project based on monitoring is addressed in this section.
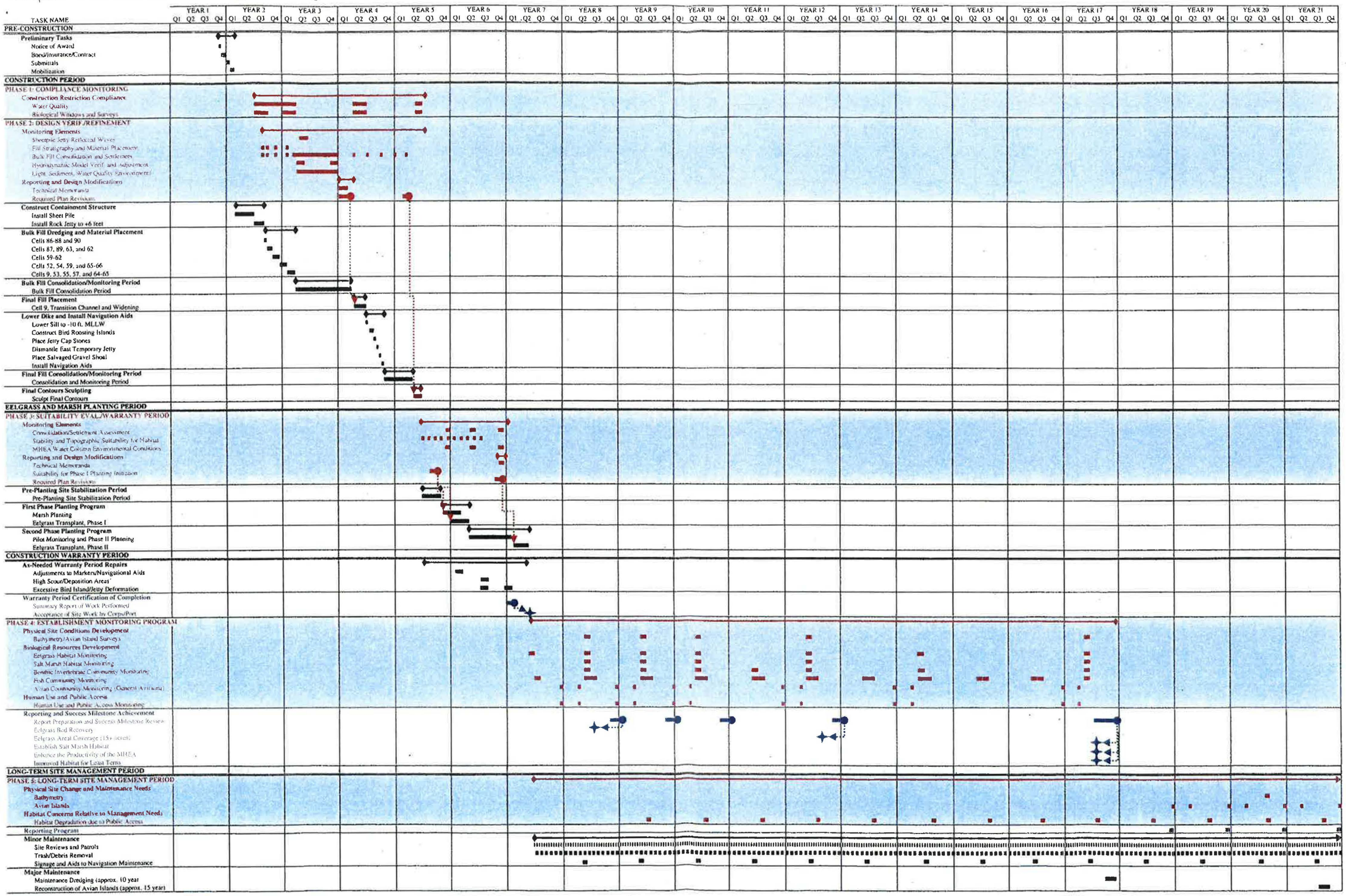
TABLE 2-1. Schedule of Monitoring and Management Activities