



US Army Corps
of Engineers®
San Francisco District

SAN FRANCISCO DISTRICT

Regulatory Division
1455 Market Street, 16th Floor
San Francisco, CA 94103-1398

PUBLIC NOTICE

PROJECT: Airport Perimeter Dike FEMA and Seismic Improvements

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1. **INTRODUCTION:** The Port of Oakland (POC: Diane Heinze, 510-627-1759), 530 Water Street, Oakland, California 94607, has applied to the U.S. Army Corps of Engineers (USACE), San Francisco District, for a Department of the Army Permit to conduct inner and outer perimeter dike improvements at the Oakland International Airport (OAK). This Department of the Army permit application is being processed pursuant to the provisions of Section 404 of the Clean Water Act of 1972, as amended (33 U.S.C. § 1344 *et seq.*), and Section 10 of the Rivers and Harbors Act of 1899, as amended (33 U.S.C. § 403 *et seq.*).

2. **PROPOSED PROJECT:**

Project Site Location: The perimeter dike project is located at OAK, 1 Airport Drive, Oakland, Alameda County, California (Section 30, Township 2S, Range 3W, Section 30, USGS Quad CA-San Leandro, Latitude: 37.7122° N, Longitude: 122.2071° W) approximately seven miles south of downtown Oakland, and adjacent to the cities of Alameda and San Leandro (see Figure 1).

Project Site Description: OAK encompasses approximately 2,600 acres, including approximately 503 acres of wetlands and other waters of the U.S. The land that currently supports OAK was mapped in 1855 as salt marsh, mudflat, and open water of San Francisco Bay. Changes to the salt marsh and mudflat have occurred through the conversion and development of OAK in two major phases: construction of the North Field and construction of the South Field. A 4.5 mile South Field perimeter dike forms the boundary between OAK and San Francisco Bay. The perimeter dike was constructed in three phases beginning in October 1955 in the City of San Leandro and ending in the 1970s at Harbor Bay Parkway in the City of Alameda. The South Field was created by filling in behind the perimeter dike 700 acres initially and then as-

needed for expansions in development. The Airport opened in September 1962. There is a gravel service road at the crest (i.e., top) of the dike, and a concrete rubble berm (also known as a crest structure) on the San Francisco Bay (or outboard) side of the dike. The service road is approximately 9 to 13 feet above mean sea level. The width of the service road varies from about 18 to 28 feet. Portions of the inboard (i.e., landside) side of the perimeter dike are covered with vegetation. The outboard side of the perimeter dike is covered with broken concrete rubble (riprap). Non-tidal wetlands and other waters were thus created as a result of inadequate or incomplete filling behind the perimeter dike at elevations lower than San Francisco Bay (outboard side of the perimeter dike); ongoing seepage; and inadequate drainage of storm water runoff.

The majority of the wetlands in the project study area have specific soil, hydrology, and seasonal characteristics that are associated with runoff from the South Field during the rainy season. These seasonal or non-tidal wetlands are typically inundated for only a short period throughout the year. There are approximately 22 acres of tidal wetlands and 310 acres non-tidal wetlands. Other waters of the U.S. at OAK occur in the South Field. Other waters extend along both sides of the western end of Runway 12-30 and are located behind the perimeter dike. Year-round inundation from low elevations appears to be the result of insufficient filling, precipitation, seepage through the perimeter dike, and high groundwater. There are approximately 23 acres of tidal other waters of the U.S. and 155 non-tidal waters.

Project Description: As shown in the attached drawings, the applicant proposes to address two improvement categories: sea level rise along with FEMA certification requirements for 100-year flood protection; and seismic hazards of the sand portion of the dike. Proposed

improvements would be constructed only where needed along the perimeter dike.

The proposed improvements would address sea level rise and 100-year flood protection requirements for the South Field perimeter dike by raising the dike crest, improving the crest structure, controlling through-seepage, and improving the inboard slope of the dike.

Raising the Dike Crest: The outboard portion of the dike should have a minimum crest elevation of 10 feet above the Stillwater Level (the flood level that does not include the effects of waves, datum: NAVD88), and an additional 2 feet of freeboard. The Port has also adopted design criteria pursuant to include a provision of 1 additional foot of freeboard over that required by FEMA to address potential future sea-level rise. The total design dike crest elevation would be approximately 13 feet. There are several areas where the existing dike crest has an elevation of less than 13 feet (datum: NAVD88), and would need to be raised. In addition, to account for settlement of the Young Bay Mud (YBM) underlying the dike, the crest of the dike would be raised an additional 0.25 to 0.75 foot, depending on the thickness of the YBM underlying the dike. Raising the crest would consist of placing up to approximately 4 feet of earth fill on the dike. The width of the dike would be maintained at a minimum of approximately 18 feet. In addition to earth fill, a 12-foot-wide, 6-inch-thick layer of aggregate base would be placed on top of the dike crest to allow for the continued use of the structure as an Airport maintenance and gravel service road.

At the eastern end of the dike, between Stations 0 and 15, where the perimeter dike is outside the Airport on lands owned by the City of San Leandro, the dike and the riprap structure would be raised up to 2 feet. Between Stations 15 and 250, riprap or concrete rubble would be placed on areas of the outboard slope identified as deficient. The deficiencies include areas where the rubble is thin or not present, exposing the dike fill to direct wave impact. The riprap material would be natural rock or recycled concrete, and the top of the crest structure would be approximately 3 feet wide and cover an area of approximately 7,405 square feet.

Controlling of Through Seepage: The sand portions of the dike where through-seepage is present would be improved by the construction of a soil-cement block, a seepage cutoff wall, or a drainage system. The soil-cement block would be installed to control seepage, and for seismic improvements,

on the outboard side—where the fuel lines are located—between Stations 70 and 80, and between Stations 168 and 202. The depth of the soil-cement block would range between approximately 12 feet and 39 feet below existing ground surface (see Figure 4). The seepage cutoff wall would extend from the crest of the dike through the permeable dike fill to approximately 2 feet into the underlying YBM. The wall would be constructed between Stations 203 and 250. The cutoff wall would be constructed as a slurry wall, and the depth would range between approximately 14 and 39 feet below existing ground surface (see Figure 5).

Improving the Inboard Slope of the Dike: Portions of the dike do not meet the design requirement for 100-year flood protection. For these portions, a stability berm or a shear panel (a wall that is designed to counteract lateral stress) would be constructed. A stability berm would be used except where permanent impacts to wetlands could be significant. Such areas were identified between Stations 54 and 75, therefore shear panels would be installed. Approximately 8,300 linear feet of a stability berm would be constructed of earthen fill in two segments on the inboard side of the dike, between Stations 19 and 38 and between Stations 97 and 188. The berm between Stations 19 and 38 would be up to approximately 7.5 feet high and up to 40 feet wide, and would have a finished grade elevation of approximately 5.5 feet. The berm between Stations 97 and 188 would be up to approximately 6 feet high and up to 35 feet wide, and would have a finished grade elevation of approximately 2.5 feet. The foundation of the stability berm would be cleared of vegetation and grubbed to 6 inches below the ground surface. Topsoil would be removed to a depth of approximately 6 inches, and stockpiled in the staging area for placement on the stability berm after completion (see Figure 7).

Installation of the soil-cement shear panels between Stations 54 and 75 would extend through the dike fill and YBM to approximately 2 feet into the underlying Merritt/Posey Sand. Based on geotechnical investigations (URS, 2011), the depth of the soil-cement shear panels would range between approximately 19 feet and 21 feet (elevation 15 feet and 17 feet) (see Figure 8).

The proposed improvements to address hazard to the sand portions of the dike are replacement stone columns where pipelines are not present between Stations 203 and 250; and a soil-cement block outboard of the pipelines and replacement stone columns inboard of the pipelines where pipelines are present between Stations 70 and 80 and

between Stations 168 and 203. Both soil treatment methods would extend through the sand fill to approximately 2 feet into the underlying YBM. Based on geotechnical investigations (URS, 2011) and the dike geometry, the depth of treatment would range between approximately 12 and 39 feet below the existing ground surface along the dike crest.

Stone columns would be installed by vibrating or compacting stones into the soil. They would be placed in multiple rows along the interior of the perimeter dike, creating a stable substructure. Construction equipment would operate from a temporary working platform on the landside of the dike. This would temporarily impact wetlands adjacent to the dike toe. A 5-foot construction buffer has been included to both the permanent impacts and the temporary working platform on the landside of the dike.

Basic Project Purpose: The basic project purpose comprises the fundamental, essential, or irreducible purpose of the project, and is used by USACE to determine whether the project is water dependent. The basic project purpose is to improve the perimeter dike at OAK.

Overall Project Purpose: The overall project purpose serves as the basis for the Section 404(b)(1) alternatives analysis, and is determined by further defining the basic project purpose in a manner that more specifically describes the applicant's goals for the project, while allowing a reasonable range of alternatives to be analyzed. The overall project purpose is to improve the perimeter dike at OAK to address FEMA certification requirements for 100-year flood protection and improve seismic integrity. The project would increase protection of the infrastructure at OAK and maintain the airport's ability to offer the passenger and cargo services currently provided.

Project Impacts: The proposed perimeter dike improvements would require 870 cubic yards (CY) of rip rap and 4,000 CY or gravel placed permanently in 1.43 acres of non-tidal wetlands, 0.16 acre of non-tidal other waters of the U.S. and 0.178 acre below the high tide line for a total of 1.768 acres. Temporary impacts would be 7,000 CY of gravel placed in 3.31 acres of non-tidal wetlands and 0.2 acre non-tidal waters for a total of 3.51 acres.

Proposed Mitigation: Impacts to non-tidal wetlands and other waters of the U.S. would be minimized where feasible. Though shear panels have higher costs than a stability berm, they are proposed between Stations 54+00

to 70+00 because they would result in less wetland/waters impacts. The Port would employ measures to minimize direct and indirect impacts such as erosion control measures, staff awareness training, construction exclusion fencing, and other best management practices. To compensate for the unavoidable impacts to wetlands and other waters of the U.S., the Port of Oakland proposes to purchase credits at the San Francisco Bay Wetland Mitigation Bank in Redwood City at a ratio of 1:1 for permanent impacts and 0.1:1 (creation: loss) for temporary impacts. Therefore, the Port proposes to purchase 1.80 credits for permanent impacts and 0.35 credits for temporary, for a total purchase of 2.15 credits. The Corps will conduct an independent review of the proposed mitigation prior to reaching a final permit decision.

Project Alternatives: Three (3) alternatives were considered for the FEMA certification and sea level rise and project purpose two (2) for the seismic improvement project purpose. No alternative site locations were considered as the project purpose is specific to the existing OAK perimeter dike.

The Corps has not endorsed the submitted alternatives analysis at this time. The Corps will conduct an independent review of the project alternatives prior to reaching a final permit decision.

3. STATE AND LOCAL APPROVALS:

Water Quality Certification: State water quality certification or a waiver is a prerequisite for the issuance of a Department of the Army Permit to conduct any activity which may result in a fill or pollutant discharge into waters of the United States, pursuant to Section 401 of the Clean Water Act of 1972, as amended (33 U.S.C. § 1341 *et seq.*). The applicant has submitted an application to the California Regional Water Quality Control Board (RWQCB) to obtain water quality certification for the project. No Department of the Army Permit will be issued until the applicant obtains the required certification or a waiver of certification. A waiver can be explicit, or it may be presumed, if the RWQCB fails or refuses to act on a complete application for water quality certification within 60 days of receipt, unless the District Engineer determines a shorter or longer period is a reasonable time for the RWQCB to act.

Water quality issues should be directed to the Executive Officer, California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay

Street, Suite 1400, Oakland, California 94612, by the close of the comment period.

Coastal Zone Management: Section 307(c) of the Coastal Zone Management Act of 1972, as amended (16 U.S.C. § 1456(c) *et seq.*), requires a non-Federal applicant seeking a federal license or permit to conduct any activity occurring in or affecting the coastal zone to obtain a Consistency Certification that indicates the activity conforms with the State's coastal zone management program. Generally, no federal license or permit will be granted until the appropriate State agency has issued a Consistency Certification or has waived its right to do so. Since the project occurs in the coastal zone or may affect coastal zone resources, the applicant has applied for a Consistency Determination from the San Francisco Bay Conservation and Development Commission to comply with this requirement.

Coastal zone management issues should be directed to the Executive Director, San Francisco Bay Conservation and Development Commission, 50 California Street, Suite 2600, San Francisco, California 94111, by the close of the comment period.

4. COMPLIANCE WITH VARIOUS FEDERAL LAWS:

National Environmental Policy Act (NEPA): Upon review of the Department of the Army permit application and other supporting documentation, USACE has made a *preliminary* determination that the project neither qualifies for a Categorical Exclusion nor requires the preparation of an Environmental Impact Statement for the purposes of NEPA. At the conclusion of the public comment period, USACE will assess the environmental impacts of the project in accordance with the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. §§ 4321-4347), the Council on Environmental Quality's Regulations at 40 C.F.R. Parts 1500-1508, and USACE Regulations at 33 C.F.R. Part 325. The final NEPA analysis will normally address the direct, indirect, and cumulative impacts that result from regulated activities within the jurisdiction of USACE and other non-regulated activities USACE determines to be within its purview of Federal control and responsibility to justify an expanded scope of analysis for NEPA purposes. The final NEPA analysis will be incorporated in the decision documentation that provides the rationale for issuing or denying a Department of the Army Permit for the project. The final NEPA analysis and

supporting documentation will be on file with the San Francisco District, Regulatory Division.

Endangered Species Act (ESA): Section 7(a)(2) of the ESA of 1973, as amended (16 U.S.C. § 1531 *et seq.*), requires Federal agencies to consult with either the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) to ensure actions authorized, funded, or undertaken by the agency are not likely to jeopardize the continued existence of any Federally-listed species or result in the adverse modification of designated critical habitat. As the Federal lead agency for this project, USACE has conducted a review of the California Natural Diversity Data Base, digital maps prepared by USFWS and NMFS depicting critical habitat, and other information provided by the applicant, to determine the presence or absence of such species and critical habitat in the project area. Based on this review, USACE has made a preliminary determination that the following Federally-listed species may be present and their respective designated critical habitats are present at the project location, and may be affected by project implementation. Ridgway's rail (*Rallus obsoletus*, rail) populations occur within 10 miles of the airport, but there are no records of rail within the project area and the habitats do not support nests, only marginal dispersal and foraging habitat. Salt marsh harvest mouse (*Reithrodontomys raviventris*, SMHM) could utilize the pickleweed stands which are suitable habitat, but presence is unlikely due to lack of connectivity with occupied habitats and the artificial origins of the wetland habitats present. Central California Coast steelhead (*Oncorhynchus mykiss irideus*) and green sturgeon, Southern distinct population segment (*Acipenser medirostris*), may be present in San Francisco Bay, which includes designated critical habitat and Essential Fish Habitat, but impacts to the habitat outside of the outboard slope of the perimeter dike would be restricted to low tide when the area is above water and no fish are present, and minimization measures would be implemented regarding impacts to habitat. To address project related impacts to these species, designated critical habitat and EFH, USACE will initiate informal consultation with the USFWS and receive guidance on whether consultation is needed with NMFS, pursuant to Section 7(a) of the Act. Any required consultation must be concluded prior to the issuance of a Department of the Army Permit for the project.

Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA): Section 305(b)(2) of the MSFCMA of 1966, as amended (16 U.S.C. § 1801 *et seq.*),

requires Federal agencies to consult with the NMFS on all proposed actions authorized, funded, or undertaken by the agency that may adversely affect essential fish habitat (EFH). EFH is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. EFH is designated only for those species managed under a Federal Fisheries Management Plan (FMP), such as the *Pacific Groundfish FMP*, the *Coastal Pelagics FMP*, and the *Pacific Coast Salmon FMP*. As the Federal lead agency for this project, USACE has conducted a review of digital maps prepared by NMFS depicting EFH to determine the presence or absence of EFH in the project area. Based on this review, USACE has made a *preliminary* determination that EFH is present at the project location or in its vicinity, and that the critical elements of EFH may be adversely affected by project implementation. The outboard side of the existing perimeter dike may contain habitat area that provides dispersal and foraging for the species managed by the FMPs listed above. To address project related impacts to EFH, USACE may initiate consultation with NMFS, pursuant to Section 305(b)(2) of the Act. Any required consultation must be concluded prior to the issuance of a Department of the Army Permit for the project.

Marine Protection, Research, and Sanctuaries Act (MPRSA): Section 302 of the MPRS of 1972, as amended (16 U.S.C. § 1432 *et seq.*), authorizes the Secretary of Commerce, in part, to designate areas of ocean waters, such as the Cordell Bank, Gulf of the Farallones, and Monterey Bay, as National Marine Sanctuaries for the purpose of preserving or restoring such areas for their conservation, recreational, ecological, or aesthetic values. After such designation, activities in sanctuary waters authorized under other authorities are valid only if the Secretary of Commerce certifies that the activities are consistent with Title III of the Act. No Department of the Army Permit will be issued until the applicant obtains the required certification or permit. The project does not occur in sanctuary waters, and a *preliminary* review by USACE indicates the project would not likely affect sanctuary resources. This presumption of effect, however, remains subject to a final determination by the Secretary of Commerce, or his designee.

National Historic Preservation Act (NHPA): Section 106 of the NHPA of 1966, as amended (16 U.S.C. § 470 *et seq.*), requires Federal agencies to consult with the appropriate State Historic Preservation Officer to take into account the effects of their undertakings on historic

properties listed in or eligible for listing in the *National Register of Historic Places*. Section 106 of the Act further requires Federal agencies to consult with the appropriate Tribal Historic Preservation Officer or any Indian tribe to take into account the effects of their undertakings on historic properties, including traditional cultural properties, trust resources, and sacred sites, to which Indian tribes attach historic, religious, and cultural significance. As the Federal lead agency for this undertaking, USACE has conducted a review of information provided by the applicant, which includes a records search of the *National Register of Historic Places*, California Historical Resources Inventory, historic maps, and survey information on file with various city and county municipalities to determine the presence or absence of historic and archaeological resources within the permit area. Based on this review, USACE has made a *preliminary* determination that historic or archaeological resources are not likely to be present in the permit area, and that the project either has no potential to cause effects to these resources or has no effect to these resources. USACE will render a final determination on the need for consultation at the close of the comment period, taking into account any comments provided by the State Historic Preservation Officer, the Tribal Historic Preservation Officer, the Advisory Council on Historic Preservation, and Native American Nations or other tribal governments. If unrecorded archaeological resources are discovered during project implementation, those operations affecting such resources will be temporarily suspended until USACE concludes Section 106 consultation with the State Historic Preservation Officer or the Tribal Historic Preservation Officer to take into account any project related impacts to those resources.

5. COMPLIANCE WITH THE SECTION 404(b)(1) GUIDELINES: Projects resulting in discharges of dredged or fill material into waters of the United States must comply with the Guidelines promulgated by the Administrator of the Environmental Protection Agency under Section 404(b) of the Clean Water Act (33 U.S.C. § 1344(b)). An evaluation pursuant to the Guidelines indicates the project is dependent on location in or proximity to waters of the United States to achieve the basic project purpose. This conclusion raises the (rebuttable) presumption of the availability of a practicable alternative to the project that would result in less adverse impact to the aquatic ecosystem, while not causing other major adverse environmental consequences. The applicant has submitted an analysis of project alternatives which is being reviewed by USACE.

6. PUBLIC INTEREST EVALUATION: The decision on whether to issue a Department of the Army Permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the project and its intended use on the public interest. Evaluation of the probable impacts requires a careful weighing of the public interest factors relevant in each particular case. The benefits that may accrue from the project must be balanced against any reasonably foreseeable detriments of project implementation. The decision on permit issuance will, therefore, reflect the national concern for both protection and utilization of important resources. Public interest factors which may be relevant to the decision process include conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

7. CONSIDERATION OF COMMENTS: USACE is soliciting comments from the public; Federal, State and local agencies and officials; Native American Nations or other tribal governments; and other interested parties in order to consider and evaluate the impacts of the project. All comments received by USACE will be considered in the decision on whether to issue, modify, condition, or deny a Department of the Army Permit for the project. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, and other environmental or public interest factors addressed in a final environmental assessment or environmental impact statement. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the project.

8. SUBMITTING COMMENTS: During the specified comment period, interested parties may submit written comments to Justin Yee, San Francisco District, Regulatory Division, 1455 Market Street, 16th Floor, San Francisco, California 94103-1398; comment letters should cite the project name, applicant name, and public notice number to facilitate review by the Regulatory Permit Manager. Comments may include a request for a public hearing on the project prior to a determination on the Department of the Army permit application; such requests shall state, with particularity, the reasons for holding a public hearing. All

substantive comments will be forwarded to the applicant for resolution or rebuttal. Additional project information or details on any subsequent project modifications of a minor nature may be obtained from the applicant and/or agent, or by contacting the Regulatory Permit Manager by telephone or e-mail cited in the public notice letterhead. An electronic version of this public notice may be viewed under the *Public Notices* tab on the USACE website: <http://www.spn.usace.army.mil/Missions/Regulatory>.