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Prepared by:

South Pacific Division
San Francisco District

South San Fracisco Bay Shoreline 1 Interim Operations, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R) Manual Review Plan

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Section 1

Introduction

1.1 Purpose

This Review Plan (RP) update is for the review of the Construction Completion Report and Interim Operations, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R) Manual for South San Francisco Bay Shoreline Phase I Project (P2 458135) Reaches 1-3. This RP will ensure a quality- engineering project is developed by the Corps of Engineers in accordance with Engineer Regulation (ER) 1165-2-217, "Civil Works Review Policy". As part of the Project Management Plan this RP establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products and lays out a value- added process and describes the scope of review for the current phase of work. The ER outlines general levels of review: District Quality Control/Quality Assurance (DQC/QA), Agency Technical Review (ATR), Independent External Peer Review (IEPR), Safety Assurance Review (SAR), Biddability, Constructability, Operability, Environmental, and Sustainability (BCOES) Review, and Policy and Legal Compliance Review. This RP will be provided to the Project Delivery Team (PDT), DQC Team, ATR Team, and SAR Team. The District Chief of Engineering has assessed that the life safety risk of this project is not significant; therefore, a SAR will not be required, see Paragraph 3 and 7.1.

1.2 Key References

- ER 5-1-11, USACE Business Process, 31 Jul 2018
- ER 1165-2-217, Civil Works Review Policy, 02 September 2024
- ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 August 1999.
- ER 1110-1-8159, Engineering and Design, DrChecks^{sm}, 1 Jan 2015
- ER 1110-1-1901, Engineering and Design, Construction PROJECT GEOTECHNICAL & MATERIALS COMPLETION REPORT, 28 February 2017.
- ER 415-1-11, Biddability, Constructability, Operability, Environmental and Sustainability (BCOES) Reviews, 1 January 2013.
- ER 1110-2-401, Operation, Maintenance, Repair, Replacement and Rehabilitation Manual for Projects and Separable Elements Managed by Project Sponsors, 30 September 1994.
- ECB 2022-7, Interim Approach for Risk-Informed Designs for Dam and Levee Projects, 20 October 2022
- EM 1110-2-1913, Design, Construction, and Evaluation of Levees, 30 April 2000
- EM 1110-2-1601, Hydraulic Design of Flood Control Channels, 30 June 1994
- EC 1165-2-218, USACE Levee Safety Program, 11 March 2025

- SPN Business Quality Procedure 7.2.01 – Quality Management for Engineering Branch (Link: SPN BQP 7.2.01). The file is located on ProjectWise at the following location: https://usace.dps.mil/:w:/r/sites/INTRA-SPN/_layouts/15/doc2.aspx?sourcedoc=%7BE5D5B5F0- F988-4759-BEA5-34A7A0092B86%7D&file=SPN-BQP-7201-Engineering-QMP_v1-STH.docx&action=default&mobileredirect=true&CID=078E203F-A4C3-46F8-87FC- 3E2F98079A10&wdLOR=c81F5721E-DBB2-437E-9DC5-7A5EDD
- RMC-AD-2022-03 Standard Operating Procedure for Safety Assurance Reviews, 22 January 2022
- RMC-AD-2022-03 Standard Operating Procedures for Agency Technical Reviews, 02 November 2021
- USACE, South San Francisco Bay Shoreline Phase I Study, Final Integrated Interim Feasibility Study with Environmental Impact Statement/Environmental Impact Report, September 2015.
- HDR, Design Documentation Report, South San Francisco Bay Shoreline Reach 1 Levee 100% Design, Alviso, California, 05 April 2019
- USACE, Design Documentation Report, South San Francisco Bay Shoreline Reach 2 and 3 Levees, Alviso, San Jose, California, January 2020.
- Independent External Peer Review for the South Bay Shoreline Levee, Reach 1, Santa Clara County, California, IDIQ Contract No. W912QR-16-D-002, December 2018-November 2019
- Final Design Review Report for Type II Independent External Peer Review (IEPR)/Safety Assurance Review (SAR) for South San Francisco Bay Shoreline Project – Reach 2+3 Design, Contract No W912AR-10-D-0002 Task Order F003, January 28, 2017
- Safety Assurance Review (SAR) for South San Francisco Bay Shoreline Levees, Reach 1 Levees, Santa Clara County, California, Contract No. W912QR16D0002, Task Order No. W912P719F0013 SAR Midpoint Construction Site Visit Report: July 12, 2023
- Design Semi-Quantitative Risk Assessment Main Report, San Francisco South Bay Shoreline, August 2020.

1.3 Review Management Organization

The USACE South Pacific Division (SPD) is the Review Management Organization (RMO) for this project. This RP is being developed for the Operation and Maintenance phase.

Section 2

Project Description

2.1 Project Location and Background

The project is located along the shoreline of the South San Francisco Bay in Alviso, California approximately eight miles north of downtown San José, California in Santa Clara County. The area immediately north of the new earthen levee consists predominantly of former commercial salt evaporation ponds. South of the levee lies New Chicago Marsh (NCM), the residential community of Alviso, as well as critical industrial infrastructure, notably the San José-Santa Clara Regional Wastewater Facility (RWF) and the Silicon Valley Advanced Water Purification Center.

A study to assess the need for Flood Risk Management (FRM) in the San Francisco South Bay (South Bay) was authorized by Congress in 1976 (the Shoreline Study). A subsequent flood control study was issued in 1992 by the USACE, which found that a flood management project along the South Bay shoreline was not economically justifiable, mainly due to the continued maintenance of existing salt ponds by Cargill Salt. The levees surrounding the salt ponds are not engineered; however, they do provide incidental flood risk management (FRM) for the surrounding communities. In 2003, the Federal and California State (State) governments began planning a restoration project when 15,100 acres of salt ponds were acquired from Cargill Salt. The planned restoration project would affect the utility of the salt pond levees as flood protection structures, resulting in a request (by the U.S. House of Representatives) that required USACE San Francisco District (District) to review its previous study on flood management, including environmental restoration and protection, and tidal and fluvial FRM. The District completed an initial reconnaissance analysis in September 2004, which determined that, due to the current and future anticipated conditions in the South Bay, it was likely that a federal FRM and ecosystem restoration project could be justified. On October 24, 2005, USACE, United States Fish and Wildlife Service (USFWS), Santa Clara Valley Water District (SCVWD), and the California State Coastal Conservancy (SCC) initiated the first phase of the Shoreline Study. The first phase covered the southern portion of the South Bay, including Alviso Ponds and other lands and waters extending from southwest Fremont to Palo Alto. In 2015, USACE and SCVWD completed a planning level feasibility study in the South Bay just north of Alviso as part of the South San Francisco Bay Shoreline Study Integrated Document (Final Integrated Document). The feasibility study developed several alignments at different levels of flood protection and led to the development of a National Economic Development (NED)Plan and a Locally Preferred Plan (LPP), the latter of which is the basis for the current design. Figure 1 shows the entire authorized project.

Figure 1 Full Project Area Showing Completed and Planned Project Features

2.2 Interim Project Features

As of September 2025, construction of the interim features within Reaches 1 through 3 of the Shoreline Project has been substantially completed. These components, shown in Figure 2, are primarily designed for FRM and include approximately 1.7 miles (8,976 feet) of earthen levee constructed with a crest elevation of 15.2 feet (NAVD88), a 16-foot-wide crest, and 3:1 (horizontal to vertical) side slopes. Additional public access improvements include a short, waterside pedestrian path constructed along the waterside slope of the Reach 1 levee between STA -2+00 and 2+50, as well as a new pedestrian boardwalk built to replace an existing structure near levee station 145+30 in Reach 2/3. In addition, a newly constructed water control structure in Reach 2/3 facilitates the movement of water between Pond A16 and the NCM wetland area. Current project features located with Reaches 1-3 are described in further detail below and are shown in Figure 2.

Reach 1

Reach 1 consists of approximately 4,400 feet (0.83 miles) of earthen levee extending from Alviso Marina County Park (STA -2+00), tying into the high ground at the park, to the Union Pacific Railroad crossing (STA 42+00). The new levee closely follows the alignment of the pre-existing dike and serves to separate New Chicago Marsh (NCM) from Ponds A12 and A13. Reach 1 incorporates a chain-link fence fabric feature on the landside slope to

prevent animal damage, while High Performance Turf Reinforcement Mat (HPTRM) extends along the entire bayside of the alignment to provide erosion protection. For constructability reasons, however, the new levee alignment diverges waterward from the pre-existing dike alignment near STA 2+50 to STA 9+00. In this area, the levee cuts across Pond A12. This revised alignment prevented the contractor from having to construct the levee in two segments joined with 90-degree bends, shortening the overall length of the levee by about 200 feet. An existing 24-inch diameter asbestos cement coated pipe, located at STA -1+51.33 was removed and replaced with a 28-inch diameter solid wall high- density polyethylene (HDPE) pipe with a flap gate installed at the discharge end. Three adjacent non- engineered dikes intersect the levee alignment at STA 2+44.06, STA 36+00.34, and STA 40+84. The design of Reach 1 was completed by HDR, under contract as a consultant to the District.

Reach 2/3

The Reach 2/3 levee follows the southern, westward-trending alignment of the pre-existing dike along Pond A16, extending approximately 4,585 feet (0.87 miles) from the Union Pacific Railroad crossing (STA 103+66.81) to the Artesian Slough crossing (STA 149+52). It separates Pond A16 to the north from NCM to the south and includes a water control structure (STA 134+00) that facilitates flow from Pond A16 into the marsh. Reach 2/3 incorporates chain-link fence fabric on both the landside and bayside slopes to prevent animal damage. This portion of the project was designed by the District.

Water Control Structure

A new water control structure has been constructed through the Reach 2/3 levee at STA 134+00, replacing and upgrading an existing siphon structure that was owned and operated by the USFWS. The installation consists of a 4-foot-diameter reinforced concrete pipe (RCP) culvert that penetrates the levee, hydraulically connecting Pond A16 (north side) with NCM (south side). A manually operated sluice gate at the upstream (north) end allows regulation of flow from Pond A16 into the marsh. The culvert has an upstream invert elevation of -0.5 feet NAVD88 and a downstream invert of -2.0 feet NAVD88. This structure enables active management of water levels in NCM, which is otherwise hydraulically isolated from adjacent pond complexes and the San Francisco Bay. NCM receives water from both Pond A16 and upland runoff through culverts from neighboring properties. Additional water inputs to the marsh include direct precipitation, stormwater runoff, and controlled discharges through the Reach 2/3 culvert. Outflows occur via infiltration, evaporation, and two pump stations that discharge to Artesian Slough and Alviso Slough. The maximum water surface elevation in NCM is 1.0-foot NAVD88. Pond A16 is maintained at a typical water level of 3.0 feet NAVD88 through existing perimeter water control structures. The newly installed culvert provides a means to manage inflow to the marsh based on operational needs, improving hydrologic control within the system.

Figure 2 Reaches 1-3 Constructed Features

2.3 Project Sponsor

The Project Non-Federal sponsor is Valley Water (VW) and the State Coastal Conservancy (SCC). Products and analyses provided by non-Federal sponsors as in-kind services are subject to DQC, ATR, SAR, BCOES, and Policy and Legal Compliance reviews. There will not be in-kind contributions for this effort by the non-Federal sponsors.

Section 3

Risk Assessment During Design

In 2020, the Levee Safety Center conducted a Design Semi-Quantitative Risk Assessment for the South Bay Shoreline Project. At that time, Reaches 1–3 and the water control structure had been advertised for construction but not awarded due to funding limitations. Reaches 4–5 was at ~30% design, and the closure structures were still conceptual. The assessment included a facilitated Potential Failure Mode Analysis (PFMA) and focused on key potential failure modes identified as risk drivers. The primary risk driver was liquefaction of historically deposited soils during a seismic event. The estimated annual probability of failure (APF) was between 3×10^{-4} and 3×10^{-5}, based on a 500-year return period earthquake and projected 2067 sea level rise (Mean Higher High Water (MHHW) Elevation 10.23 ft, high sea level rise scenario). This probability fell below USACE tolerable risk guidelines. All other potential failure modes were determined to be well below tolerable risk thresholds and were excluded from further analysis. While potential economic consequences from a breach were significant ($100M–$1B), the risk to life was considered low due to short evacuation distances and expected warning time, with estimated life loss between 1–10 lives per failure.

Section 4

Project Delivery Team Reviews

4.1 Requirements

PDT Reviews are in addition to the independent DQC Reviews described in Section 5. The PDT Reviews are to ensure consistency and effective coordination across all project disciplines for the work product. For example, the PDT will perform a complete reading of any reports and accompanying appendices prepared by the PDT to assure the overall coherence and integrity of the report, technical appendices, and the recommendations before approval. The PDT will normally include a variety of stakeholders, each with his/her own important project requirements and a different, but interlocking, review responsibility. The PDT Review may also include a plans- in-hand review at the end of development. PDT Reviews, as an extension of the DQC, will be conducted as directed in the MSC/District QMS processes.

PDT Reviews will be performed in DrChecks^{sm}, the official system used by the USACE to ensure for the continuity of the review record, using the four-part comment structure, responses from the PDT using the three-part structure, and back checking as outlined in ER 1165-2-217. PDT review documents will be uploaded to Bentley ProjectWise, the Engineering Data Management platform used by USACE. All documentation related to the PDT reviews will be archived at: O&M Plan.

Section 5

District Quality Control/Quality Assurance

5.1 Requirements

All implementation documents (including supporting data, analyses, reports, environmental compliance documents, water control manuals, etc.) shall undergo DQC/QA in accordance with ER 1165-2-217. The District shall perform these minimum required reviews in accordance with District's Quality Control Policy. The District is developing the Construction Completion Report and the Operation, Maintenance, Repair, Replacement and Rehabilitation Manual (OMRR&R). All design has been completed, and construction is anticipated to be completed at the end of August 2025.

The San Francisco District quality management policy are as follows:

- ER 1165-2-217, Civil Work Review Policy, 02 September 2024
- SPN Business Quality Procedure 7.2.01 – Quality Management for Engineering Branch (Link: SPN BQP 7.2.01)ED District Quality Control Policy (20180331).
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The San Francisco District's DQC process includes the following elements:

Project Delivery Team (PDT) Review

The PDT review is performed by members of the PDT to ensure consistency and effective coordination across all project disciplines. The PDT review takes place on all interim and final submittals of multi- disciplinary products. The customer, local sponsor, and potentially other important project stakeholders will typically participate in the PDT review, as defined in the approved QCP. The PDT is responsible for a complete reading of any reports and accompanying appendices prepared by or for the PDT to assure the overall coherence and integrity of the report, technical appendices, and the recommendations. The PM and Tech Lead for the product/project, with assistance from the PDT members, is responsible for coordination of these PDT reviews, and ensuring they are performed and documented in DrChecks.

Legal Review

PDT will include and coordinate with Office of Counsel, and provide for review of relevant products, to ensure policy and legal compliance. Such reviews may include environmental documents and solicitation/contract documents.

Supervisory Review

The Section Chief of each PDT member is responsible for supervising that team member's work and is ultimately responsible for the technical adequacy and quality of the products produced by their staff. The Section Chief will review and approve the work of their staff before the product is provided for use by other PDT members.

DQC Review

All engineering work products, reports, evaluations, and assessments must undergo DQC review, also called Quality Checks Review, to ensure the quality and credibility of the government's scientific and budgetary information. DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the project's PMP, the RP (civil works only) and/or QCP. The level of review should be commensurate with the significance of the information being reviewed. DQC reviews include the checking of computations, drawings, specifications, and documents. DQC occur during the development/design of a product. DQC reviews must be performed by designated individuals not involved in the day-today production of the project/product, and from the senior staff or other qualified personnel identified by the responsible supervisor. These DQC reviews are discipline-specific reviews and need to take place prior to a design product/deliverable leaving the Section level. It is the responsibility of the Section Chief from which the product (or sub-product of a multidisciplinary product) is developed, to ensure these quality checks are performed. DQC Reviews must be documented using DrChecks.

The approved QCP for the project may require that the Section Chief certify that this step of DQC was performed prior to product being released from the Section.

See Attachment 1, Table 6 for the DQC Lead, reviewers, and reviewer's disciplines.

5.2 Schedule and Estimated Cost of DQC/QA

The general plan for executing all required independent reviews for the interim OMRR&R manual and the Geotechnical & Materials Completion Report is outlined in the following two tables. Table 1 lists each study product to be reviewed. The table provides the schedules and costs for the anticipated reviews. The PDT also determine whether a site visit will be needed to support each review. The decisions about site visits are documented in the table. As the review plan is updated the team will note each review that has been completed.

Table 1. Schedule and Costs of Reviews

Products to Undergo Review	Review Level	Site Visit	Start Day	End Date	Cost	Complete
PDT Draft Geotechnical & Materials Completion Report	District Quality Control	No	5 Jan 2026	13 Feb 2026	$24,000	No
PDT Final Geotechnical & Materials Completion Report	District Quality Control	No	30 Mar 2026	27 Apr 2026	$6,000	No
PDT Draft 60% Interim OMRR&R Manual for Reaches 1-3	District Quality Control	No	01 Jul 2025	18 Jul 2025	$40,000	Yes
PDT Draft 90% Interim OMRR&R Manual for Reaches 1-3	District Quality Control	No	2 Sep 2025	20 Sep 2025	$8,000	Yes
PDT Final 100% Interim OMRR&R Manual for Reaches 1-3	District Quality Control SPN Legal Review	No No	10 Nov 2025 24 Nov 2025	21 Nov 2025 5 Dec 2025	$4,000 N/A	No No
In-Kind Products from the sponsor	No In-Kind Products	No	N/A	N/A	N/A	No
RMO Coordination and Review	Review RP	No	Ongoing	Ongoing	N/A	No

Section 6

Agency Technical Review

6.1 Decision on ATR

Per ER 1165-2-217, Section 5.3, ATR is mandatory for all draft and final decision documents and most implementation products. The PDT answered the series of questions, listed below, to assess rather an ATR for the interim OMRR&R would be needed.

1. Does it include any design (structural, mechanical, hydraulic)? There is no design for the O&M manual. Facility designs are done in the PED phase for each facility and if needed, operating parameters needed for the O&M manual are from the facility designs.
2. Does it evaluate alternatives? The manual does not evaluate alternatives. Alternatives were evaluated in the Feasibility phase of the project.
3. Does it include a recommendation? There are no recommendations made in the manual.
4. Does it have a formal cost estimate? No formal cost estimate is done in the manual. The cost estimates are done in the feasibility and PED phases of the project.
5. Does it have or will it require a NEPA document? No, NEPA done in Feasibility phase.
6. Does it impact a structure or feature of a structure whose performance involves potential life safety risks? The design was reviewed in PED. This is just routine maintenance and operation. However, if the structure/feature is not maintained it could have impact to life safety risks. I'd consider this a normal water control structure, so your description seems appropriate.
7. What are the consequences of non-performance? Inundation of a community. Portions of New Chicago Marsh have ESA listed species as well that could be impacted if the WCS was not operated correctly.
8. Does it support a significant investment of public funding? O&M funding is not significant compared to the original investment for construction. O&M cost is responsibility of the sponsor once turnover is completed.
9. Does it support a budget request? No. O&M is paid by the sponsor once turned over.
10. Does it change the operation of the project? No, the manual describes the operations and maintenance of the project and does not change it.
11. Does it involve excavation, subsurface investigations (drilling or sampling or both), or placement of soil? No exaction, subsurface investigations or placement of soil is involved in the operations and maintenance of the project.
12. Does it affect any special features, such as cultural resources, historic properties, and survey markers that that should be protected or avoided? If needed, the O&M manual will address its maintenance.

13. Does it involve activities that trigger regulatory permitting; for example: activities covered by Section 404 of the Clean Water Act or stormwater-related actions requiring a National Pollution Discharge Elimination System permit? If O&M requires it, the manual will describe it. But the manual does not trigger it.
14. Does it involve activities that could potentially generate hazardous wastes or disposal of materials such as lead based paints or asbestos? No, these facilities do not produce hazardous wastes.
15. Does it reference use of or reliance on manufacturers' engineers and specifications for items such as prefabricated buildings or playground equipment? No. There are no prefabricated buildings or playground equipment for the interim manual. However, the water control structure may have some guidelines on maintenance from the manufacturer.
16. Does it reference reliance on local authorities for inspection/certification of utility systems like wastewater, stormwater, or electrical? For the interim manual, there is no reliance on local authorities for inspection/certification of utility systems like wastewater, stormwater or electrical.
17. Is there currently or is there expected to be any controversy surrounding the federal action associated with the work product? It is not expected that there will be any controversy surrounding the federal action associated with the interim manual.

Based on the responses to the required ATR assessment questions and in accordance with ER 1165-2- 217, Section 5.3, the interim OMRR&R manual does not meet the criteria for requiring an Agency Technical Review (ATR). The manual does not include new design, alternatives, formal recommendations, or cost estimates, nor does it alter project operations or involve activities with significant life safety, environmental, or regulatory impacts. As such, the District made a determination that an ATR will not bring any additional benefit to this interim OMRR&R manual.

Section 7

Safety Assurance Review

7.1 Decision on SAR

A SAR is considered for implementation documents; an OMRR&R is considered an “Other Work Product. SAR is the most independent level of review for implementation documents or other work products and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team of experts outside USACE is warranted. The purpose of SAR is to have external panels assess the critical decisions and criteria of the Preconstruction Engineering and Design or construction activities prior to initiating physical construction and periodically thereafter until construction activities are completed as required in the Review Plan.

SAR is conducted on PED and construction activities for projects where potential hazards pose a significant threat to human life (public safety). SAR is based on the following guiding principles:

1. SAR is an industry best practice, and the requirement is based upon American Society of Civil Engineers Policy Statement 351: Peer Review, the OMB Peer Review Bulletin, and other USACE policy considerations.
2. SAR is an important aspect of the USACE overall quality management strategy for producing sound federal investment decisions and projects.
3. SAR is a higher-level review and is an extension, not a replacement, of ATR. SAR is intended to complement ATR and to avoid impacts to project schedules and costs. SAR is a strategic level review and reasonable effort should be made to avoid having SAR duplicate ATR.
4. All costs associated with SAR, will be shared with the non-federal sponsor according to the project purpose and the phase of work. In planning for a SAR, estimates will need to include the cost for the RMO to administer and manage the SAR and the cost of the SAR Panel. The cost of a SAR through completion of construction should be reasonable, scalable and a function of the risk, complexity, and duration of the project.

An evaluation was conducted to assess whether SAR may be beneficial for the interim OMRR&R. The interim OMRR&R manual does not require novel methods, present complex challenges to interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing flood risk management practices.

As stated in Section 3 The Design Semi-Quantitative Risk Assessment conducted in 2020 determined that the overall risk for the South Bay Shoreline Project fell below USACE tolerable risk guidelines. The primary risk driver

was potential liquefaction during a seismic event, but even under extreme loading conditions, the estimated annual probability of failure remained within acceptable limits. Potential life loss was considered low due to short evacuation distances and sufficient warning time.

A Safety Assurance Review, formerly known as a IEPR Type II, was conducted in the Design and Construction phase, where the critical elements have already been addressed. The SAR conducted during the design phase determined that there was no critical design considerations were missing; the assumptions regarding project-related hazards remain valid, and design loading combinations were found to be adequate for public safety. Furthermore, the SAR midpoint construction site visit did not identify any deficiencies in Reach 1 construction that would compromise the design intent, which confirms the robustness and reliability of the implemented design.

Since there are no changes or deviations that would affect the project's risk profile or operational integrity, an additional SAR focused on the manual would not add meaningful value. The OMRR&R manual serves to document procedures for maintaining and operating a facility that has already been subject to comprehensive, independent expert evaluation. For the reasons stated above, the District made the determination that the SAR will not bring any additional benefit to this project. No SAR will be conducted for this project. RMC concurred with this determination. The District’s Chief of Engineering has also stated that a SAR will not be required as documented in Attachment 4.

Section 8

Model Certification and Approval

EC 1105-2-412 mandates the use of certified or approved models for planning activities to ensure technical soundness, compliance with USACE policy, and computational accuracy. Planning models are tools used to define water resources management problems, evaluate alternatives, and support decision-making. Engineering models, which are not covered by this EC, will continue to follow USACE standards. Proven USACE and commercial software, along with proper documentation of its use, will be maintained. Under the USACE Scientific and Engineering Technology (SET) Initiative, several engineering models are designated as preferred or acceptable for Corps studies. For this current effort, no further modeling is required as all modeling was completed during the feasibility and PED phases.

Section 9

Public Participation

There is no public participation or public comment period for the OMRR&R manual or the Geotechnical & Materials Completion Report. The purpose of the O&M manual is to outline the non-Federal sponsor's responsibilities for the operation and maintenance of the project. The Geotechnical & Materials Completion Report summarizes soil excavation and placement work that has already been completed.

Section 10

Review Plan Approval and Updates

The MSC Commander, or delegated official, is responsible for approving this RP. The Commander's approval reflects vertical team input (involving the District, MSC, and RMC) as to the appropriate scope, level of review, and endorsement by the RMC. The RP is a living document and should be updated in accordance with ER 1165-2-217. All changes made to the approved RP will be documented in Attachment 3, Table 5. RP Revisions and shared with the RMC and MSC. The latest version of the RP, along with the Commander's approval memorandum, will be posted on the District's webpage and linked to the HQUSACE webpage. The approved RP should be provided to the RMO.

Section 11

Review Plan Points of Contact

Table 2 RP POC 's

Title	Organization	Phone
Project Manager – Neil Hedgecock	CESPN-PMI	415-503-6728
Lead Engineer – Anthony Galvan	CESPN-ECE-D	415-503-6929
Senior Reviewer – Rafiqul Talukder	CESPD-RBE	213-219-0900

Attachment 1

Team Rosters (CUI)

Table 3 Key Project Delivery Team (PDT) Members

Discipline/Role	Name	Description of Credentials
Technical Lead	Anthony Galvan	Registered civil engineer with over a decade of experience conducting levee inspections, levee screenings, and pre- flood assessments, primarily supporting the SPN Levee Safety Program, with additional support to SPL in 2014-2015. Experience performing DQC reviews on civil works projects involving dredging, flood risk management, and vertical construction. Since 2016, has served as technical lead on flood risk management, ecosystem restoration, jetty repair, and PL 84-99 rehabilitation projects through feasibility, PED, and construction phases.
Geotechnical	Bernard Wair	Register Civil and Geotechnical Engineer with 17 years of experience in the private sector and 8 years of experience with the Corps assisting in a wide variety of engineering geologic and civil engineering projects. Experience includes various geotechnical analyses for levee design (seepage, stability, settlement), dam and levee evaluations, DQC review, earthwork construction.
Geotechnical	Dillon Braud	Registered professional engineer with over 10 years of experience in geotechnical/civil engineering.

Geologist	Carson Allen	Registered geologist with over 4 years of experience in the private sector and 3 years of experience with the Corps assisting in a wide variety of engineering and geologic projects. Experience includes Representing the USACE Levee Safety Program in risk assessment of critical levee systems and civil works infrastructure, creating robust stakeholder (federal/state/regional/local) engagement programs and developing innovative sets of national guidelines. improving civil works inspection capability and assessment tools; and Project Management (Water/Wastewater, Environmental Restoration, Civil Works Infrastructure).
Civil Engineer	Andrew Moore	Registered Professional Engineer in the State of Louisiana. Over 10 years of experience in engineering during construction with USACE. Over 5 years of dam and levee safety related experience; conducting reviews and providing technical expertise with respect to safety risk assessment and risk informed assessments. Over 8 years of Government contract administration experience for Major Military Construction, Construction O&M, and Architecture/Engineer Service Contracts.
Hydrology & Hydraulics	Janice Lera-Chan	Registered engineer with over 30 years of experience in the U.S. Army Corps of Engineers, serving in roles such as Hydraulic Engineer, FPMS Manager, Project Manager, and Water Resources Section Chief. Assisted in a wide variety of civil works projects. Experience includes hydraulic analyses, levee inspection and screening, O&M manual development, and performing District Quality Control (DQC) reviews.

Table 4 DQC Reviewers

Discipline/Role	Name	Description of Credentials
DQC Review Lead	Janice Lera-Chan	Registered engineer with over 30 years of experience in the U.S. Army Corps of Engineers, serving in roles such as Hydraulic Engineer, FPMS Manager, Project Manager, and Water Resources Section Chief. Assisted in a wide variety of civil works projects. Experience includes hydraulic analyses, levee inspection and screening, O&M manual development, and performing District Quality Control (DQC) reviews.
Civil Engineer	Anthony Galvan	Registered civil engineer with over a decade of experience conducting levee inspections, levee screenings, and pre-flood assessments, primarily supporting the SPN Levee Safety Program, with additional support to SPL in 2014-2015. Experience performing DQC reviews on civil works projects involving dredging, flood risk management, and vertical construction. Since 2016, has served as technical lead on flood risk management, ecosystem restoration, jetty repair, and PL 84-99 rehabilitation projects through feasibility, PED, and construction phases. Anthony Galvan
Hydrology & Hydraulics	George Preston	Registered engineer with over 10 years of hydrology and hydraulics experience including levee safety related experience; conducting reviews and providing technical expertise with respect to analysis and design as well as participating in risk informed design assessments.
Operations and Readiness	Holly Costa	Over 8 years of experience in reviewing of environmental and biological documents for USACE activities; over 15 years of experience in preparing environmental documents for USACE activities; over 5 years of experience conducting DQC review of O&M manuals.

Levee Safety	Cyrus Yaghobi	Registered CA PE with 15 years of engineering experience. RMC Certified co-facilitator and facilitator since FY21. SPN DSPM & LSPM responsible for various technical requirements of the DS and LS programs. Technical lead and geotechnical lead for multiple vegetation on levee design deviation and associated SQRAs. Technical lead for multiple risk screening projects for SPK & SPN. Supported embankment team of Isabella Dam raise/modification. Drafted multiple emergency action plans (EAPs), and risk communication plans and in charge of implementing and training dam safety and flood fight to various district staff.
Environmental Compliance	Eric Jolliffe	30 years of experience in environmental branch in the preparation and review of decision, environmental and biological documents.
Geotechnical	Fyodor Delyaei	Over 15 years of experience in Geotechnical and Construction Engineering, having worked on projects in both the private and public sectors. A registered Professional Civil Engineer with a master's degree in civil engineering. Began his USACE career with the San Francisco District (SPN) in 2020. Has worked on various flood reduction control projects as a geotechnical advisor and designer, and has held leadership roles in conducting levee inspections, as well as assisting with risk screening and risk-informed design. Also, holds several certifications, including ACI Certifications and a California General Building Contractor's License.
Legal	Jesse Anderson	Over 10 years of experience advising on all aspects of Civil Works projects.

Attachment 2

Project Risk Information (CUI)

Refer to section 3.0 and 7.1 for Project Risk Information.

Design Semi-Quantitative Risk Assessment Main Report, San Francisco South Bay Shoreline, In- Progress Draft Report Date: August 2020. South Bay Shoreline RID Report.pdf

Independent External Peer Review for the South Bay Shoreline Levee, Reach 1, Santa Clara County, California, IDIQ Contract No. W912QR-16-D-002, December 2018-November 2019

Final Design Review Report for Type II Independent External Peer Review (IEPR)/Safety Assurance Review (SAR) for South San Francisco Bay Shoreline Project – Reach 2+3 Design, Contract No W912AR-10-D-0002 Task Order F003, January 28, 2017

Safety Assurance Review (SAR) for South San Francisco Bay Shoreline Levees, Reach 1 Levees, Santa Clara County, California, Contract No. W912QR16D0002, Task Order No.W912P719F0013 SAR Midpoint Construction Site Visit Report: July 12, 2023

Attachment 3

Review Plan Revisions

Table 5 RP Revisions

Revision Date	Description of Change	Page/Paragraph Number

Attachment 4

Safety Assurance Review (SAR) Statement

I have assessed the conditions in the Review Plan for the South San Francisco Bay Shoreline 1, Interim Operations, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R) Manual, to verify if there is a significant threat to human life or public safety. I concur with the project delivery team's life safety and project performance risk assessment presented in this Review Plan. For this reason, I recommend that SAR not be part of the technical review for the interim OMRR&R manual. The district will perform a District Quality Control (DQC) review for all products.

Robin K. Inaba

Digitally Signed by Robin K. Inaba
Date: 2025.09.08 16:07:52 -07'00'

Robin Inaba, AIA, PMP
Chief Engineering and Construction Division
San Francisco District