



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
SOUTH PACIFIC DIVISION, CORPS OF ENGINEERS  
1455 MARKET STREET  
SAN FRANCISCO, CALIFORNIA 94103-1399

*21-Dec-2012*

CESPD-PDS-P

MEMORANDUM FOR Commander, San Francisco District, ATTN: CESPEN-ET-PA,  
Mr. Christopher Eng

Subject: Elkhorn Slough, Monterey County, CA, Estuary Habitat Restoration Program, Review  
Plan Approval

1. Elkhorn Slough, Monterey County, CA, Estuary Habitat Restoration Program, Review Plan that is enclosed is in accordance with Engineering Circular (EC) 1165-2-214, Review of Decision Documents, dated 15 Dec 2012. The South Pacific Division, Planning and Policy Division, Regional Business Technical Division, and San Francisco District Support Team have reviewed the Review Plan that has been submitted. The South Pacific Division approves the Elkhorn Slough, Monterey County, CA, Estuary Habitat Restoration Program, Review Plan.
2. With MSC approval the Review Plan will be made available for public comment via the internet and the comments received will be incorporated into future revisions of the Review Plans. The Review Plan excludes independent external peer review.
3. I hereby approve the Review Plan which is subject to change as study circumstances require. This is consistent with study development under the Project Management Business Process. Subsequent revisions to the Review Plan after public comment or during project execution will require new written approval from this office.
4. Point of contact for this action is Ms. Nedenia (Deanie) Kennedy, CESPD-PDS-P, 415-503-6585, [Nedenia.C.Kennedy@usace.army.mil](mailto:Nedenia.C.Kennedy@usace.army.mil).

***Building Strong From New Mexico All The Way To The Pacific!***

Encl  
Review Plan

  
MICHAEL C. WEHR  
BG, EN  
Commanding

**Estuary Restoration Act of 2000  
Estuary Habitat Restoration Program**

**REVIEW PLAN**

**Elkhorn Slough  
Monterey County, California**

**San Francisco District**



**South Pacific Division Approval Date:** December 21, 2012  
**Last Revision Date:** December 19, 2012



**US Army Corps  
of Engineers®**

**Elkhorn Slough Tidal Marsh Restoration Project**

**REVIEW PLAN**

**The Estuary Habitat Restoration Program (EHRP) is authorized by the Estuary Restoration Act of 2000, Title I of PL 106-457 of the Estuaries and Clean Waters Act of 2000, as amended (33 U.S.C. 2903)**

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## 1. PURPOSE AND REQUIREMENTS

- a. Purpose.** This Review Plan defines the scope and level of peer review for the Elkhorn Slough Tidal Marsh Restoration Project, Monterey County, California. The U.S. Army Corps of Engineers (USACE) HQ review needs to be completed on the Cooperative Agreement Package. There are eight documents in the Package:

- (1) Cooperative Agreement
- (2) Approved Proposal
- (3) Project Management Plan
- (4) Cooperative Agreement Standard Terms and Conditions
- (5) Certifications and Representations
- (6) Monitoring Plan
- (7) Operations and Maintenance Manual
- (8) Real Estate Report

This is a small federal grant/cost shared project that falls under the Estuary Restoration Act (ERA). The purpose of the ERA, as amended, is to promote the restoration of estuary habitat; to develop and implement a national estuary habitat restoration strategy for creating and maintaining effective partnerships within the Federal government and with the private sector; to provide Federal assistance for and promote efficient financing of estuary habitat restoration projects; and to develop and enhance monitoring, data sharing, and research capabilities.

The proposed action at Elkhorn Slough Tidal Marsh Restoration Project, Monterey County, California is a project under the Estuary Habitat Restoration Program (EHRP), which is authorized by the Estuary Restoration Act of 2000, Title I of PL 106-457 of the Estuaries and Clean Waters Act of 2000, as amended (33 U.S.C. 2903). The Estuary Restoration Act authorizes the Secretary of the Army to carry out estuary habitat restoration projects and establishes the Estuary Habitat Restoration Council (Council), comprised of the USACE, Department of the Interior (acting through the U.S. Fish and Wildlife Service), National Oceanic and Atmospheric Administration (NOAA), Environmental Protection Agency (EPA), and Department of Agriculture (DOA). The USACE or other agencies represented on the Council that have available funds may fund projects the Army approves. Costs of projects funded under the ERA must be shared with non-Federal parties. District offices, subject to USACE HQ and Major Subordinate Command (MSC) oversight, are responsible for carrying out approved projects funded by the USACE in cooperation with non-Federal interests.

- b. Applicability.** This Review Plan does not cover decision documents or implementation products as defined by EC 1165-2-209. The documents covered by this review plan are “other work products” as defined by EC 1165-2-209. It is a Review Plan for documents associated with the Cooperative Agreement Package, which includes the design and construction phases of the project. The documents associated with the Cooperative Agreement will be reviewed, edited, and approved by the San Francisco District Project Delivery Team and certified by the District Office of Counsel.

### c. References

- (1) Engineering Circular (EC) 1165-2-209, Civil Works Review Policy, 31 Jan 2010
- (2) EC 1105-2-412, Assuring Quality of Planning Models, 14 May 2010
- (3) Engineering Regulation (ER) 1110-1-12, Quality Management, 30 Sep 2006
- (4) Implementation Guidance for the Estuary Habitat Restoration Program (Cooperative Agreement), June 2011

**d. Requirements.** This Review Plan was developed in accordance with EC 1165-2-209, which outlines four general levels of review: District Quality Control /Quality Assurance (DQC), Agency Technical Review (ATR), Independent External Peer Review (IEPR), and Policy and Legal Compliance Review.

- (1) District Quality Control/Quality Assurance (DQC). All major documents associated with this project (Project Management Plan, Monitoring Plan, O&M Manual, Plans and Specifications, Real Estate) shall undergo DQC as provided in EC 1165-2-209, paragraph 8.

DQC is an internal review process of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). For this project, the USACE San Francisco District, QC/QA Manager will be responsible for DQC efforts. Project plans and specifications developed by the Recipient (Elkhorn Slough Foundation) or other non-federal parties will undergo DQC.

The PDT will be responsible for performing a technical review of the plans and specifications, cost engineering, real estate documents, coastal ecology, and environmental compliance. The DQC review will be completed prior to approval of the Cooperative Agreement. Duties of the DQC team include the following:

- Reviewing report contents for compliance with established principles and procedures, using clearly justified and valid assumptions.
- Reviewing plans and specification to ensure they are correct and reasonable.
- Providing documentation of comments, issues, and decisions arising out of the DQC review to the Project Manager. Comments and resolutions will be collected by the Project Manager and documented in the project file. Corrections will be made to the reviewed documents before construction begins.
- Additionally, the PDT is responsible for a complete reading of the recommendations before approval by the District Commander.

- (2) Agency Technical Review (ATR). The implementation guidance for the Estuary Habitat Restoration Program clarifies that the Risk Informed Decision process is

applied, as appropriate, to determine if an ATR will be required. The San Francisco District determined that an ATR was not appropriate or necessary for this project.

This project will be designed by non-federal agencies, environmental organizations and engineering firms which have prior experience with tidal-habitat restoration efforts in California.

The project is a relatively simple one. Project objectives will be accomplished through the addition of sediment to subsided historic marshes. The conceptual construction approach is as follows: Sediment will be placed on the land surface using low pressure earth moving equipment, long reach excavators or other heavy machinery. Sediment will be placed dry. Containment dikes, where required by regulatory agencies, will be constructed of the same sediment as the marsh and designed to be sacrificial where natural processes smooth them into the landscape over time. As Elkhorn Slough is generally sediment-poor, any sediment flushed into the greater estuary is anticipated to provide benefit to other habitats. The wetland-upland fringe will be vegetated with native grasses planted with a seed drill and by contractors.

Stressors to Elkhorn Slough have caused tidal scour which eroded habitat and caused a net decrease of sediment from the slough and have created a large tidal prism. This project is part of the stressor management plan and the sediment addition will displace 45,000 cubic yards of this prism and restore the project area with sustainable tidal marsh (ecosystem restoration). This will also have positive water quality impacts in the slough and the tidal marsh will be made more resilient to processes like sea-level rise. Subsidence and loss of sediment were primarily caused by historical diking, which have ceased.

There will be no flood or backwater issues for the project area or surrounding parcels, which are at a substantial higher elevation than the project area. The annual sediment rate is slightly negative but through the planning and design process, the sediment addition is not expected to scour out of the system.

In deciding whether to undertake ATR for this project EC 1165-2-209 sets forth guidance in Paragraph 15. The PDT answered a series of questions in the guidance that provided a basis for making a recommendation whether undertaking ATR is appropriate for this project. A “yes” answer does not necessarily indicate ATR is required, rather it indicates an area where reasoned thought and judgment should be applied and documented in the recommendation. The below questions were required to be considered in determining whether an ATR would be necessary:

- (1) Does it include any design (structural, mechanical, hydraulic, etc)? There are no structural, mechanical or hydraulic designs for this sediment addition project.
- (2) Does it evaluate alternatives? This project is in the planning phase and different alternatives would be where the sediment addition will be placed in defined project area.
- (3) Does it include a recommendation? No.
- (4) Does it have a formal cost estimate? Yes. The Planning, site assessment, regulatory fees, design and construction costs have been prepared and approved for this grant.
- (5) Does it have or will it require a NEPA document? Federal involvement requires a NEPA document, which is expected to be an EA and Finding of No Significant Impact to be signed by the District Engineer.

- (6) Does it impact a structure or feature of a structure whose performance involves potential life safety risks? No.
- (7) What are the consequences of non-performance? Non performance will be met with strategies outlined in the forthcoming adaptive management and O&M plan.
- (8) Does it support a significant investment of public monies? Yes. This project will be funded by grants from various trusts and public agencies.
- (9) Does it support a budget request? This project supports projects approved and authorized by USACEHQ under the Estuary Restoration Act.
- (10) Does it change the operation of the project? This is a new project and therefore this question is not applicable.
- (11) Does it involve ground disturbances? Disturbance of mudflats that will be restored and adjacent staging areas, if needed.
- (12) Does it affect any special features, such as cultural resources, historic properties, survey markers, etc, that should be protected or avoided? No.
- (13) Does it involve activities that trigger regulatory permitting such as Section 404 or stormwater/NPDES related actions? Yes. This project has been reviewed by local federal and state resource agencies and gone through a public review process during the permitting phase over the past two years. There have not been any significant public disputes over the size, nature, or environmental effects or benefits of the project. All questions and concerns have been thoroughly addressed and all outstanding issues have been resolved.
- (14) Does it involve activities that could potentially generate hazardous wastes and/or disposal of materials such as lead based paints or asbestos? No.
- (15) Does it reference use of or reliance on manufacturers' engineers and specifications for items such as prefabricated buildings, playground equipment, etc? No.
- (16) Does it reference reliance on local authorities for inspection/certification of utility systems like wastewater, storm water, electrical, etc? No.
- (17) Is there or is there expected to be any controversy surrounding the Federal action associated with the work product? No.

Therefore, based on the above analysis, technical review beyond the DQC review has been determined unnecessary after reviewing paragraph 15 of EC 1165-2-209.

- (3) Independent External Peer Review (IEPR). IEPR may be required for decision documents under certain circumstances. There are two types of IEPR: Type I is generally for decision documents and Type II is generally for implementation products.

A Type I IEPR is not required because this review plan does not cover any decisions documents. A Type II IEPR is not required because this project does not involve a significant threat to human life/safety assurance.

Based on the types of documents to be reviewed, the EHRP implementation guidance, and conclusion that for this project, all of the following specific criteria are met:

- The District's Engineering Chief has reviewed the project and affirms that this project does not involve a significant threat to human life/safety assurance;
- It does not impact any structure or features of a structure whose performance involves potential life safety risks.
- The total project cost is less than \$45 million;
- There is no request by the Governor of an affected state for a peer review by independent experts;
- The project does not require an Environmental Impact Statement (EIS);
- The project is not likely to have significant economic, environmental, and/or social effects to the Nation;
- The project/study is not likely to have significant interagency interest;
- The project/study is not likely highly controversial;

- The decision document is not likely to contain influential scientific information or be a highly influential scientific project;
  - The information in the decision document or proposed project design is not likely to be based on novel methods, involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices; and
- (4) Policy and Legal Compliance Review. Project documents will be reviewed for their compliance with applicable law and policy.
- (5) Cost Engineering Review and Certification. There are no decision documents requiring cost review. The basic material, labor and construction costs for this project were reviewed and certified by the San Francisco District Cost Engineering Section.
- (6) Value Engineering. The USACE ERA contribution to project funds is less than \$1M and the total project costs is approximately \$2.8M. For this specific project, SPN will consult with SPD on a waiver, as described in ER 11-2-321, to perform VE.
- (7) Model Certification/Approval. EC 1105-2-412 mandates the use of certified or approved models for all planning activities to ensure the models are technically and theoretically sound, compliant with USACE policy, computationally accurate, and based on reasonable assumptions. This estuary habitat restoration project does not require any modeling.

## **2. REVIEW MANAGEMENT ORGANIZATION COORDINATION**

The Review Management Organization (RMO) is responsible for managing the overall peer review effort described in this review plan. The RMO for EHRP projects is the South Pacific Division (SPD). SPD will coordinate and approve the Review Plan. The San Francisco District will post the approved Review Plan on its public website.

## **3. STUDY INFORMATION**

### **Background.**

The site to be restored historically hosted tidal marsh and grasslands in maps from the 1800s through the 1930s. The land was gradually drained for agriculture. During that time, the land subsided by 12 to 30 inches. The dikes eventually failed and when tidal waters returned the habitat converted to a high elevation intertidal mudflat, as the lowered landscape was too low in elevation and inundated too frequently to support tidal marsh. These mudflats do not serve the valuable ecologic function of other mudflats in the estuary: they lack the abundance and diversity of invertebrates, particularly shellfish, of nearby native mudflats. The mudflats also host expansive mats of green algae which drive nighttime hypoxia. The processes which resulted in degradation of the area, diking and subsidence, have ceased to operate. These processes have been abated by the acquisition of the land by the California Department of



Fish and Game. Now held in the public trust, the land will no longer be drained. The dikes have been breached by natural processes, and while this restoration of site hydrology is desirable, the land must be brought up to the correct elevation for tidal marsh. Restoration through sediment addition is required to create sustainable tidal marshes as ambient suspended sediment in Elkhorn Slough is too low for natural processes alone to restore all of the lost elevation. However, sediments are expensive to procure unless combined with other sediment management activities.

**a. Study/Project Description.**

This project will occur on the tidal wetlands and uplands of the Elkhorn Slough National Estuarine Research Reserve, which is owned by the California Department of Fish and Game (CDFG) and managed in partnership with the National Oceanic and Atmospheric Administration (NOAA). This project will occur on the Minhoto Marsh. A portion of a native grass buffer will also be established on ESNERR's Minhoto parcel, the site of a 105-acre cut flower farm, between the farmland and the estuary to intercept stormwater runoff and provide transitional habitat.

The estimated cost of the project, as originally proposed, is \$1,349,325.

**b. Factors Affecting the Scope and Level of Review.**

The project is not likely to have significant economic, environmental, or social effects to the Nation or involve a significant threat to human life/safety.

The project is an estuary habitat restoration project consisting of adding sediment into the project area. The project is designed to restore tidal marshes and enhance the biological productivity of the area. The project will also provide educational and research opportunities.

The project is not likely to have significant interagency interest, be highly controversial, contain influential scientific information or be a highly influential scientific assessment due to the relatively small footprint of the project (17 - 18 acres). The information in the Project Management Plan or proposed project design is not based on novel methods, nor does it involve the use of innovative materials or techniques, present complex challenges for interpretation, contain precedent-setting methods or models, or present conclusions that are likely to change prevailing practices.

**c. In-Kind Contributions.** Products and analyses provided by non-Federal sponsors as in-kind services are subject to peer review, similar to any products developed by USACE.

**4. PUBLIC PARTICIPATION**

This project is the outcome of an ecosystem based management initiative. Since 2004 the Elkhorn Slough Tidal Wetland Project has engaged over 100 scientists, agency staff, and elected officials. Local business owners and members of the public have participated in

forums and workshops. The process has included over 30 large group meetings and numerous opportunities for document review. A major product was the Elkhorn Slough Tidal Wetland Strategic Plan, which set as a top priority implementing sediment addition restoration projects. The proposed project includes collaboration between state federal and local agencies. Santa Cruz County will contribute over \$310,000 to reducing project construction costs by providing sediment to the project. In addition to this direct cost share, this project is the result of extensive partnership between federal, state and local agencies, and others, who participated in an intensive planning process that yielded this project as a top priority action. Monterey County Water Resources Agency is also a partner on the project through their technical leadership on the Pajaro River project. Key project partners include regulatory agencies, as the project will require close collaboration and coordination to efficiently execute the regulatory compliance process, described below. Most participate in the Elkhorn Slough Tidal Wetland Project as advisers on the project.

The San Francisco Regulatory Division has also determined that this type of restoration project is authorized by Department of Army Nationwide Permit No. 27, Aquatic Habitat Restoration, Establishment, and Enhancement, under Section 10 of the Rivers and Harbors Act. The permit review involved coordination with resource agencies and tribes as required by applicable laws and regulations. The public has had and will have the opportunity to comment on the project through the public notice process and notifications in the local news media. Many volunteers have already participated in working on the project.

The Review Plan will be made accessible to the public through the San Francisco District website link <http://www.spn.usace.army.mil/>. Public review of the review plan can begin after it is reviewed and approved by SPD and published by the San Francisco District. Comments made by the public will be available to the review team.

## **5. REVIEW PLAN APPROVAL AND UPDATES**

USACE South Pacific Division (SPD) is responsible for approving this Review Plan. It is a living document and will be revised when needed. The San Francisco District Project Manager is responsible for maintaining the Review Plan. After approval by SPD, minor changes to the Review Plan will be documented in Attachment 2 below. Significant changes such as changes to the scope and/or level of review should be re-approved by SPD following the process used for initially approving the Review Plan. The latest version of the review plan will be posted on the District's webpage.

## **6. REVIEW PLAN POINTS OF CONTACT**

Public questions and/or comments on this review plan can be directed to the following points of contact:

- Mr. Christopher Eng, San Francisco District Project Manager (CESPN-ET) 415-503-6868

- Ms. Deanie Kennedy, South Pacific Division Program Manager (CESPD-PDS-P) 415-503-6585

**ATTACHMENT 1: TEAM ROSTER**

<b>TABLE 1 TEAM ROSTER</b>			
<b>RESOURCE NAME</b>	<b>RESOURCE CODE</b>	<b>LEAD TEAM MEMBER</b>	<b>PHONE NUMBER</b>
Program Manager	CESPN-PM-A	Glen Mitchell	(415) 503 6731
Project Manager	CESPN-ET-PA	Christopher Eng	(415) 503-6868
Real Estate	CESPK-RE-B	Bonivee Delapaz	(415) 503-6745

<b>TABLE 2 DISTRICT QUALITY CONTROL TEAM (DQC)</b>			
<b>RESOURCE NAME</b>	<b>RESOURCE CODE</b>	<b>LEAD TEAM MEMBER</b>	<b>PHONE NUMBER</b>
Grants Officer	CESPL-CT-P	Maria Cisneros	(251) 452 3242
Legal Counsel	CESPN-OC	Ian Clunes-Ross	(415) 503-6758
Cost Engineer	CESPN-EC	Paul Mason	(415) 503-6880
District QC/QA	CESPN-ET	Syed Burney	(415) 503-6826
GIS	CESPN-ET-EI	Dan Specht	(415) 503-6914
Coastal Ecology	CESPN-ET-PB	Bill Brostoff	(415) 503-6867
Construction	CESPN-ET-C	TBD	
Flood Plain Manager	CESPN-ET-PF	Craig Conner	(415) 503-6903

**ATTACHMENT 2: REVIEW PLAN MINOR REVISIONS**

<b>Revision Date</b>	<b>Description of Change</b>	<b>Page / Paragraph Number</b>

**ATTACHMENT 3: ACRONYMS AND ABBREVIATIONS**

<b><u>Term</u></b>	<b><u>Definition</u></b>
ATR	Agency Technical Review
CAP	Continuing Authorities Program
DQC	District Quality Control/Quality Assurance
EA	Environmental Assessment
EC	Engineer Circular
EHRP	Estuary Habitat Restoration Program
HQ USACE	Headquarters, U.S. Army Corps of Engineers
IEPR	Independent External Peer Review
ITR	Independent Technical Review
MSC	Major Subordinate Command
NEPA	National Environmental Policy Act
OMRR&R	Operation, Maintenance, Repair, Replacement and Rehabilitation
PDT	Project Delivery Team
PMP	Project Management Plan
RMO	Review Management Organization
SPD	South Pacific Division
USACE	U.S. Army Corps of Engineers

Elkhorn Slough National Estuarine Research Reserve  
Tidal Marsh Restoration Areas

