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Upper Los Cerritos Mitigation Bank (LCW, LLC)

February 12, 2021

APPENDIX A

Table of Contents

MITIGATION BANK ENABLING INSTRUMENT

TABLE OF CONTENTS

BANK ENABLING INSTRUMENT
UPPER LOS CERRITOS WETLANDS MITIGATION BANK

This Bank Enabling Instrument ("BEI"), dated this _____ day of _____, 20__, is made by and among Los Cerritos Wetlands, LLC ("Bank Sponsor" and "Property Owner"), and the Los Angeles District of the U.S. Army Corps of Engineers ("USACE"), Region IX of the U.S. Environmental Protection Agency ("USEPA"), the U.S. Fish and Wildlife Service ("USFWS"), and the California Coastal Commission ("CCC"). These agencies comprise and are referred to jointly as the "Signatory Agencies." The Bank Sponsor/Property Owner and the Signatory Agencies are hereinafter referred to jointly as the "Parties." This BEI sets forth the agreement of the Parties regarding the establishment, use, operation and maintenance of the Upper Los Cerritos Wetlands Mitigation Bank (the "Bank").

RECITALS

I. The Bank Sponsor is responsible for establishing, operating, and maintaining the Bank according to this BEI.

II. The Property Owner is the owner of real property containing approximately 150 acres (the "Property"), located at 6433 E. 2nd Street, city of Long Beach, state of California, designated Assessor's Parcel No(s). 7237-017-010 through 7237-017-014 and 7237-017-019. The Property is generally shown on the Bank Location Maps (Exhibit A) and legally described in the Real Estate Records and Assurances (Exhibit E), attached to and made a part of this BEI.

III. Los Cerritos Wetlands, LLC, as Bank Sponsor and Property Owner, desires to create the Bank over a 68.740-acre portion of the Property (the "Bank Property"). The Bank Property is generally shown on the Bank Location Maps (Exhibit A) and legally described in the Real Estate Records and Assurances (Exhibit E) attached to and made a part of this BEI. The Bank Property is to be conserved and managed in perpetuity as provided in Sections V and VIII.

IV. USFWS, an agency within the U.S. Department of the Interior, has jurisdiction over the conservation, protection, restoration and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of these species within the U.S. pursuant to the Endangered Species Act, 16 U.S.C. § 1531, *et seq*., the Fish and Wildlife Coordination Act, 16 U.S.C. §§ 661-666c, the Fish and Wildlife Act of 1956, 16 U.S.C. § 742(f), *et seq*., and other provisions of Federal law.

V. USEPA and USACE have jurisdiction over Waters of the U.S. pursuant to the Clean Water Act, 33 U.S.C § 1251, *et seq*. and USACE has jurisdiction over navigable waters of the United States pursuant to the Rivers and Harbors Act of 1899, 33 U.S.C. § 401, *et seq*.

VI. CCC has jurisdiction over the California Coastal Zone pursuant to the California Coastal Act of 1976, California Public Resources Code § 30000, *et seq*. and the Coastal Zone Management Act, 16 U.S.C. § 1451, *et seq*.

VII. The Interagency Review Team ("IRT"), comprised of the Signatory Agencies and the National Marine Fisheries Service, California Department of Fish and Wildlife, and the Los Angeles Region of the California Regional Water Quality Control Board, is the interagency group which oversees the establishment, use, operation, and maintenance of the Bank.

VIII. The goals and objectives for the Bank are set forth in the Development Plan (Exhibit C) and the Bank Management and Operation Documents (Exhibit D) attached to and made a part of this BEI.

Initially-capitalized terms used and not defined elsewhere in this BEI are defined in Section II.

AGREEMENT

NOW, THEREFORE, the Parties agree as follows:

Section I: Purpose and Authorities

A. Purpose

The purpose of this BEI is to set forth the agreement of the Parties regarding the establishment, use, operation, and maintenance of the Bank. The purpose of the Bank is to compensate for unavoidable impacts to, and conserve and protect, Coastal Wetlands and Waters of the U.S. The Bank Sponsor shall preserve and/or restore and then manage and maintain the Coastal Wetlands, Waters of the U.S., and associated Buffers in accordance with this BEI, the Development Plan, and Interim Management Plan and the Property Owner shall manage and maintain the Coastal Wetlands, Waters of the U.S., and associated Buffers in accordance with the Long-term Management Plan.

B. Authorities

The establishment and use of the Bank for off-site compensatory mitigation or conservation is subject to one or more of the following Federal statutes, regulations, policies, and guidelines:

1. Federal

a. Clean Water Act (33 U.S.C. § 1251, *et seq*.)

b. Rivers and Harbors Act (33 U.S.C. § 401, *et seq*.)

c. National Environmental Policy Act (42 U.S.C. § 4321, *et seq*.)

d. Fish and Wildlife Coordination Act (16 U.S.C. § 661, *et seq*.)

e. National Historic Preservation Act (54 U.S.C. § 306101, *et seq*.)

f. Coastal Zone Management Act (16 U.S.C. § 1451, *et seq*.)

g. Regulatory Program of the U.S. Army Corps of Engineers (33 C.F.R. Parts 320-332)

h. Guidelines for Specification of Disposal Sites for Dredged and Fill Material (40 C.F.R. Part 230)

i. Executive Order 11990 - Protection of Wetlands

j. Executive Order 11988 - Floodplain Management

k. Memorandum of Agreement between the U.S. Environmental Protection Agency and the Department of the Army concerning the Determination of Mitigation Under the Clean Water Act, § 404(b)(1) Guidelines (February 6, 1990), as amended

l. Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 – 1891(d)

m. The Endangered Species Act (16 U.S.C. § 1531, *et seq.*)

2. State

a. California Coastal Act of 1976 (California Public Resources Code § 30000, et seq.)

b. California Environmental Quality Act (CEQA) (Public Resources Code § 21000, *et seq.*) and State CEQA Guidelines (Tit. 14 Cal. Code Regs., Ch. 3)

c. California Government Code, Title 7, Division 1, Chapter 4.6, §§ 65965-65968

d. California Probate Code, Division 9, Part 7, §§ 18501-18510

e. California State Office of Historical Preservation (Public Resources Code § 5020, et seq.) Archaeological, Paleontological and Historical Sites (Public Resources Code § 5097, et seq.) Native American Historical, Cultural and Sacred Sites (Public Resources Code § 5097.9); and Historical Resources (Public Resources Code § 21084.1)

Section II: Definitions

The initially-capitalized terms used and not defined elsewhere in this BEI are defined, for the purposes of this BEI, as set forth below.

"Adaptive Management" means an approach to natural resource management which incorporates changes to management practices, including corrective actions as determined to be appropriate by the IRT in discussion with the Bank Sponsor and/or the Property Owner, as appropriate, based upon Bank annual report results and IRT review of overall Bank performance and compliance.

"Bank Establishment Date" is the date determined pursuant to Section V, when the Bank is considered established and Transfer of Credits may begin.

"Buffer" means an upland area that protects and/or enhances aquatic resource functions associated with wetlands, rivers, streams, lakes, marine, and estuarine systems from disturbances associated with adjacent land uses.

"California Coastal Zone" means all areas over which the CCC is granted jurisdiction in the California Coastal Act of 1976 (California Public Resources Code § 30000, *et seq*.) and the Coastal Zone Management Act (16 U.S.C. § 1451, *et seq*.).

"California Rapid Assessment Method (CRAM") is a scientifically defensible rapid assessment method for monitoring the conditions of wetlands and for assessing ambient conditions within watersheds, regions, and throughout California. It can also be used to assess the performance of compensatory mitigation projects and restoration projects.

"Coastal Wetlands" means lands within the California Coastal Zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens, as defined in Section 30121 of the California Coastal Act.

"Conservation Easement" means a perpetual conservation easement, as defined by California Civil Code § 815.1, in the form of Exhibit E-4 attached to and made a part of this BEI.

"Construction Phase," means a phase of the Bank in which all components required by 33 C.F.R. § 332.4(c) are fully developed, beyond concept, and included within the exhibits of the BEI, but is implemented in stages over time. Implementation of a Construction Phase does not require an amendment of the BEI.

"Construction Security" means the financial assurance specified in Section VI.A and Exhibit C-2 to be provided by the Bank Sponsor to guarantee the completion of construction and planting to restore Waters of the U.S. and provide Buffers on the Bank Property in accordance with the Development Plan.

"Credits" are units of measure representing the accrual, attainment, or protection of aquatic functions on the Bank Property. One Credit is equivalent to one acre, or as otherwise defined in Exhibits F-1a and F-1b.

"Credit Release" means an action by the agency that has jurisdiction over specified Credits available for Transfer pursuant to this BEI, as set forth in Section VII.

"Development Plan" means the document attached as Exhibit C-1 that is the overall plan governing construction and restoration activities and Buffers required to be conducted on the Bank Property to establish Credits.

"Endowment Agreement" means the document attached as Exhibit D-3 [which may serve as a mitigation agreement pursuant to California Government Code § 65965(f)(1)], which establishes the terms and conditions pursuant to which the Endowment Holder will accept custody of and manage the Endowment Fund.

"Endowment Amount" is the amount Section VI.F requires the Bank Sponsor to provide as Endowment Deposits to the Endowment Holder to fund the Endowment Fund. The Endowment Amount is determined in Exhibit D-2.

"Endowment Deposit" is the deposit or series of deposits made or required to be made by the Bank Sponsor to the Endowment Holder to fund the Endowment Fund. Endowment Deposits received by the Endowment Holder shall be deposited into the Endowment Fund.

"Endowment Fund" is a financial account, held in trust for the benefit of the long-term stewardship of the Bank Property. The Endowment Fund is intended to be maintained and managed in perpetuity in accordance with Government Code §§ 65965-69568, Probate Code §§18501-18510, the BEI, and the Endowment Agreement. The Endowment Fund is intended to be invested in accordance with an investment policy statement that is designed to generate earnings and appreciation in value over the long-term. The Endowment Fund is to be used in funding perpetual management, maintenance, monitoring, and reporting pursuant to the Long-term Management Plan. The term "Endowment Fund" as used in this BEI shall include the Endowment Deposits and all interest, dividends, gains, other earnings, additions and appreciation thereon, as well as any additions thereto.

"Endowment Holder" means an entity qualified to hold the Endowment Fund pursuant to Government Code §§ 65965-65968 and is otherwise approved by the IRT.

"Extraordinary Circumstances" shall mean an event or circumstance that has a material and detrimental impact on the Bank Property or on the ability of Bank Sponsor to attain Performance Standards and: (1) was neither foreseen nor foreseeable by the Bank Sponsor, Property Owner, or Signatory Agencies; and (2) neither Bank Sponsor nor Property Owner (or anyone acting on behalf or under the control of either of them) caused or could have prevented; and (3) prevents Bank Sponsor or Property Owner from achieving an objective or undertaking an action required of it under this BEI. Extraordinary Circumstances excludes mere economic hardship. Measurable changes to water circulation are predicted to occur in Alamitos Bay upon cessation of power plant intake system. Given that these changes are reasonably foreseeable, the anticipated changes in water circulation would not qualify for consideration as an Extraordinary Circumstance.

"Grantee" means the entity authorized to hold the Conservation Easement pursuant to California Civil Code §815.3 and Government Code §§ 65966 and 65967 and is otherwise approved by the Signatory Agencies.

"Interim Management Period" means the period from the Bank Establishment Date until final Performance Standards have been met and the third anniversary of the full funding of the Endowment Amount has occurred.

"Interim Management Plan" means the document attached as Exhibit D-4 that describes the management, monitoring, Adaptive Management, reporting and other activities to be implemented by the Bank Sponsor during the Interim Management Period.

"Interim Management Security" is the financial assurance specified in Section VI.C and Exhibit D-1, to be provided by the Bank Sponsor to guarantee the implementation of the Interim Management Plan, and to guarantee all Remedial Action(s) required under Section VIII.F or Section XII.A are completed during the Interim Management Period.

"Long-term Management Period" means the period beginning upon conclusion of the Interim Management Period and continuing in perpetuity, during which the Bank Property is to be managed, monitored, and maintained pursuant to the Long-term Management Plan.

"Long-term Management Plan" means the document attached as Exhibit D-5 that provides measures intended to ensure the Bank Property is managed, monitored, and maintained in perpetuity to conserve and protect its Coastal Wetlands, Waters of the U.S., and associated Buffers.

"Partial Release and Reconveyance" of a deed of trust on real property in California means the lender releases only a portion of the real property from the deed of trust.

"Performance Security" means the financial assurance specified in Section VI.B and Exhibit C-3, to be provided by the Bank Sponsor to guarantee the Bank Sponsor's obligations under this BEI through Bank closure.

"Performance Standards" means the minimum standards set forth to define the successful development of Coastal Wetlands, Waters of the U.S., and associated Buffer Credits.

"Phase I Environmental Site Assessment" is an assessment of the environmental condition of the Property performed in accordance with the American Society of Testing and Materials (ASTM) Standard E1527-13 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process," or any successor to such ASTM Standard which is active at the time of the assessment.

"Property Assessment and Warranty" means the written property evaluation and assurance signed by the Property Owner and attached as Exhibit E-2.

"Property Owner" means the owner(s) of fee simple title to the Bank Property and grantor of the Conservation Easement.

"Remedial Action" means any measures needed to remedy any failure to achieve the Performance Standards or any injury or adverse impact to the Bank Property.

"Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS)" is a web-based application that provides information to the IRT, Bank Sponsors, agencies, and the general public on mitigation banks and in-lieu fee (ILF) programs, associated documents, credit availability, service areas, and information on policies and procedures that affect mitigation bank and ILF development and operation.

"Service Area" means the geographic area(s) within which impacts to Coastal Wetlands and Waters of the U.S. that occur may be mitigated or compensated through Transfer of Credits from the Bank.

"Subsequent Phase" means a phase of a bank that is either planned conceptually or added after the Bank Establishment Date and for which complete components required by 33 C.F.R. § 332.4(c) are not included in the exhibits and approved as part of the BEI. Subsequent Phases are added through an amendment of the BEI or developed as a new bank, as determined by the IRT.

"Subtidal" means the area below and up to the elevation of mean higher high water.

"Transfer" means the use, sale, or conveyance of Credits by the Bank Sponsor.

"Waters of the U.S." means all waters and wetlands over which the USACE and/or the USEPA are granted jurisdiction in the Clean Water Act, 33 U.S.C. § 1251, *et seq*., and the Rivers and Harbor Act of 1899, 33 U.S.C. § 401, *et seq*. This definition encompasses both the term "waters of the United States" as defined in 33 C.F.R. Part 328 and "navigable waters of the United States" as defined in 33 C.F.R. Part 329.

Section III: Stipulations

A. Baseline Condition

The current condition of the Bank Property is described in the Development Plan (Exhibit C-1) and the Biological Resources Survey (Exhibit H) attached to and made a part of this BEI.

B. Disclaimer

This BEI does not in any manner limit the legal authorities or responsibilities of the IRT, or of any IRT agency.

C. Exhibits

The following Exhibits are attached to and incorporated by this reference into this BEI:

1. "Exhibit A" - Bank Location Maps

   A-1 General Vicinity Map

   A-2 Map of Property including Bank Property

2. "Exhibit B" - Service Area Map and Descriptions

   B-1 Map of the Bank's Service Areas

   B-2 Narrative descriptions of the Bank's Service Areas

3. "Exhibit C" - Development Plan

   C-1 Development Plan

   C-2 Construction Security Analysis and Schedule

   C-3 Performance Security Analysis and Schedule

4. "Exhibit D" - Bank Management and Operation Documents

   D-1 Interim Management Security Analysis and Schedule

   D-2 Endowment Fund Analysis and Schedule

   D-3 Endowment Funding and Management Agreement

   D-4 Interim Management Plan

   D-5 Long-term Management Plan

   D-6 Bank Closure Plan

5. "Exhibit E" - Real Estate Records and Assurances

   E-1 Legal Description and Parcel Map(s)

   E-2 Property Assessment and Warranty

   E-3 Plat Map(s)

E-4 Approved-as-to-form Conservation Easement

E-5 Title Insurance [to be attached once received]

6. "Exhibit F" - Bank Credits and Credit Transfers

F-1 Credit Evaluation and Credit Table

F-2 Credit Purchase Agreement and Payment Receipt Templates

F-3 Credit Transfer Ledger Template

7. "Exhibit G" - Bank Property Assessment

G-1 Phase I Environmental Site Assessment

8. "Exhibit H" - Biological Resources Survey

9. "Exhibit I" - Jurisdictional Delineation of Waters of the U.S.

I-1 Update to the Jurisdictional Delineation Report

I-2 CRAM completed on Bank Property and Steamshovel Slough 2019 Baseline Vegetation Data

I-3 CRAM completed on Seal Beach National Wildlife Refuge

10. "Exhibit J" - Cultural, Historical, Archaeological, and Native American Resources.

J-1 Identification, Inventory, and Evaluation

J-2 Compliance Documentation

11. "Exhibit K" - Other Documentation, Permits, Amendments, or Revisions

K-1 Regulatory Agency Permits
K-1a - Clean Water Act Section 404 and Rivers and Harbors Act Section 10 permits, USACE
K-1b - 401 Water Quality Certification, California Regional Water Quality Control Board
K-1c - 1602 California Fish and Game Code, California Department of Fish and Wildlife
K-1d - Coastal Development Permit, California Coastal Commission

K-2 Sampling Description and Results and Mitigation Measures (Advanced Environmental Concepts, Inc., May 31, 2017)

K-3 Final Sampling and Analysis Plan Results Report (Moffatt & Nichol, March 2019)

K-4 Final Sampling and Analysis Plan Results Report (Moffatt & Nichol, Revised September 2019)

K-5 Covenant and Agreement for Preservation of the Upper Los Cerritos Wetlands Mitigation Bank

Section IV: Bank Evaluation and Development

A. Bank Site Assessment by the Signatory Agencies

Representatives of the Signatory Agencies have inspected the Bank Property and evaluated the Bank Sponsor's proposed development of Coastal Wetlands, Waters of the U.S., and associated Buffers in the Development Plan (Exhibit C-1) and have agreed upon the assignment of Credits set forth in Exhibit F-1.

B. Bank Sponsor's Responsibilities for Bank Development

The Bank Sponsor agrees to perform all necessary work, in accordance with the provisions of this BEI, to restore, monitor, and maintain the Coastal Wetlands, Waters of the U.S., and associated Buffers, as described in the Development Plan (Exhibit C-1), on the Bank Property until the Bank Sponsor has demonstrated to the satisfaction of the Signatory Agencies that the Bank complies in all respects with all requirements of this BEI.

C. Bank Property Assessment

Bank Sponsor has provided a Phase I Environmental Site Assessment of the Property (Exhibit G-1) along with 2016/2017 sampling results (Exhibit K-2) and 2019 Sampling and Analysis Plan Results Reports (March 2019 and revised September 2019) (Exhibits K-2 and K-3). The Bank Sponsor represents and warrants to the Signatory Agencies that all appropriate assessment, clean-up, remedial or removal action will be completed and the Bank Sponsor will provide an updated Phase I Environmental Site Assessment to the Signatory Agencies that concludes no recognized environmental conditions are present on the Property prior to the Bank Establishment Date.

D. Approvals

The Bank Sponsor will obtain all permits, authorizations and other approvals necessary or appropriate to construct, operate, and maintain the Bank, including those of any IRT agency. This BEI does not constitute or substitute for any such approval.

E. Phases

1. Subsequent Phases. Establishment of each Subsequent Phase is subject to approval by the Signatory Agencies. The Bank Sponsor may propose a Subsequent Phase by

submitting a written request to the Signatory Agencies, with a courtesy copy to the IRT. Subsequent Phases will need to comply with requirements in effect on the date of submission of the complete documentation for the proposed Subsequent Phase. Any Subsequent Phase will be considered as either an amendment of the BEI or a new bank, as determined by the Signatory Agencies. Approval of this BEI does not obligate any Signatory Agency to approve any Subsequent Phase

2. Construction Phases. The Bank Sponsor will establish the Bank in a single discreet Construction Phase. The Construction Phase is presented in full in this BEI and its Exhibits. Implementation of the Development Plan must be initiated no later than the first full growing season after the date of the first Credit Transfer. Construction of the Bank must be completed within 10 years of the date of this BEI.

   The Bank Sponsor shall notify the IRT 30 calendar days before beginning and within 30 calendar days after completing the Construction Phase.

   If construction of the Bank has not begun after 10 years, from when it was first approved by the Signatory Agencies (either in this BEI or in a written amendment to it), the Bank Sponsor must, prior to proceeding with any construction, demonstrate that site conditions affecting the feasibility of constructing the Bank as designed have not changed and obtain written concurrence from of the Signatory Agencies. The Signatory Agencies may require additional review of any such construction, or that it is evaluated as a Subsequent Phase.

F. Modification of the Development Plan

In the event that the Bank Sponsor and/or the Signatory Agencies determine that modifications must be made to the Development Plan (Exhibit C-1), the Parties, with invitation to the IRT, shall meet to discuss the modifications, and the Bank Sponsor shall submit a written request for approval of such modifications to each of the Signatory Agencies within 60 calendar days of the meeting, with a courtesy copy to the IRT agencies. Upon agreement of the Parties, the Bank Sponsor shall then implement all approved modifications. Modification of the Development Plan may constitute an amendment. If the Signatory Agencies elect to authorize modifications to the Development Plan, such authorization may be conditioned upon, among other things, a change in the number of Credits available for release. The Bank Sponsor shall revise the Credit Tables in Exhibits F-1a and F-1b as directed by the Signatory Agencies to reflect any change in the available Credits. The schedule for funding the Endowment Amount shall be amended to reflect the revised Credit Tables (Exhibits F-1a and F-1b).

G. Property Assessment and Warranty

The Property Owner is responsible to ensure the Property Assessment and Warranty (Exhibit E-2) is true, complete, and correct as of the date of this BEI. Should the Property Owner become aware of any errors or omissions in the Property Assessment and Warranty after the date of this BEI, the Property Owner shall notify the IRT agencies in writing within 30 days of discovery. The IRT shall evaluate any impacts of the errors or omissions on the Bank, Bank

Property and the Grantee's interest in the Conservation Easement or the Bank Property and the Signatory Agencies may find default pursuant to Section XII.E in such circumstances.

Section V: Bank Establishment Date

The Bank Establishment Date will occur and Transfer of Credits may begin only when the Signatory Agencies have received documentation confirming that all of the following actions have occurred:

A. The BEI has been fully executed by all of the Parties;

B. The Conservation Easement has been (1) accepted by a Grantee that has been approved by the Signatory Agencies and (2) recorded in the Official Records of the county in which the Bank Property is located;

C. The Bank Sponsor has complied with its obligation to furnish financial assurances in accordance with Section VI;

D. The Partial Release and Reconveyance(s) and mineral estate grant deed are executed and recorded. The Partial Release and Reconveyance, and mineral estate grant deed must be recorded prior to recordation of the Conservation Easement; and

E. No recognized environmental conditions are present on the Property as documented in an updated Phase 1 Environmental Site Assessment; this must be submitted to the Signatory Agencies, with a courtesy copy to each of the IRT Agencies, for review and confirmation of receipt to the Conservation Easement being executed and recorded.

F. Title insurance has been issued.

Section VI: Financial Assurances

The Bank Sponsor is responsible for providing financial assurances for the performance and completion of Bank construction, management, monitoring, and Remedial Action in accordance with this BEI, as set forth in this Section. The financial assurances shall be held in accordance with Section VIII.E. The Bank Sponsor shall provide written confirmation from the USACE or Endowment Holder, as applicable, that the requirement to provide financial assurances was completed to each of the Signatory Agencies in accordance with Section XII.K, with courtesy copies to each of the IRT agencies, upon furnishing each of the following financial assurances:

A. Construction Security

Prior to the first Credit Release, the Bank Sponsor shall furnish a Construction Security in the amount of a reasonable third-party estimate or contract to restore Coastal Wetlands, Waters of the U.S., and associated Buffers in accordance with the Development Plan in the amount specified in Exhibit C-2. The Construction Security shall collectively be in the form of an irrevocable standby letter of credit for construction of the habitat restoration and a performance bond for the construction of the sheetpile wall, berm, and tidal gates. The Bank Sponsor shall

ensure the Construction Security shall remain available in the full amount, until cancelled, in accordance with Section VIII.E.1.a. If all construction and planting activities are completed in accordance with the Development Plan prior to the Bank Establishment Date, then a construction security is not required.

B. Performance Security

Concurrent with the Transfer of the first Credit, Bank Sponsor shall furnish the Performance Security in the amount of 5% of the Construction Security in the amount specified in Exhibit C-3. The Performance Security shall be in the form of an irrevocable standby letter of credit. The Bank Sponsor shall ensure the Performance Security shall remain available in the full amount, until cancelled, in accordance with Section VIII.E.1.b.

C. Interim Management Security

Concurrent with the Transfer of the first Credit, Bank Sponsor shall furnish the Interim Management Security in the amount specified in Exhibit D-1. The amount of the Interim Management Security shall be equal to the estimated cost to implement the Interim Management Plan during three years of the Interim Management Period, as set forth in the Interim Management Security Analysis and Schedule (Exhibit D-1). The Interim Management Security shall be in the form of an irrevocable standby letter of credit. The Bank Sponsor shall ensure the Interim Management Security shall remain available in the full amount, until cancelled, in accordance with Section VIII.E.1.c.

D. Letters of Credit

Letters of credit shall be submitted to and approved by the USACE, in coordination with the other Signatory Agencies, before they satisfy any financial assurance requirement. The USACE shall be the beneficiary of the letter of credit. Any letter of credit shall be issued for a period of at least one year, and shall provide that the expiration date will be automatically extended for at least one year on each successive expiration date unless, at least 120 calendar days before the current expiration date, Bank Sponsor and the USACE have received notice from the issuing institution of its decision not to extend the expiration date, as evidenced by the return receipts. The letter of credit shall remain available for 120 calendar days after the date Bank Sponsor and the USACE have received such notice. If the issuer elects to not extend the expiration date of any letter of credit, Bank Sponsor shall provide the USACE with replacement security in the form of a letter of credit, as determined by the USACE within 60 calendar days after receiving notice of the issuer's decision not to extend the expiration date. If Bank Sponsor does not provide such replacement security on or before the expiration of the 60-day period, then the USACE shall have the right to immediately draw upon the letter of credit for which the replacement security was required.

E. Performance Bond

A performance bond shall be submitted to and approved by the USACE, in coordination with the other Signatory Agencies, before it satisfies the financial assurance requirement for

construction of the sheetpile wall, berm, and tidal gates. The USACE shall be the obligee of the performance bond. The Bank Sponsor shall be the principal on the performance bond. An authorized person for the principal shall sign the performance bond, and any person signing in a representative capacity must furnish to the USACE evidence of authority if that representative is not a member of the firm, partnership, or joint venture, or an officer of the corporation involved. Corporations executing the bond as sureties must appear on the U.S. Department of the Treasury's list of approved sureties and must act within the limitation listed therein. Where individual sureties are involved, a completed Affidavit of Individual Surety for each individual surety shall accompany the performance bond. The USACE may require the surety to furnish additional substantiating information concerning their financial capability. The USACE shall receive notification at least 120 calendar days in advance of any termination or revocation of the performance bond, and the Bank Sponsor shall provide the USACE with a replacement performance bond, in the same form and amount, within 60 calendar days after receiving notice of the surety's decision to terminate or revoke the performance bond. If Bank Sponsor does not provide such replacement performance on or before the expiration of the 60-day period, then the USACE shall have the right to immediately draw upon the performance bond for which the replacement security was required.

F. Endowment Fund

1. The Endowment Fund shall be held by the Endowment Holder, in an amount sufficient to fully provide for the financial requirements of the long-term management of the Bank in accordance with the Long-term Management Plan (Exhibit D-5) and the Endowment Fund Analysis and Schedule (Exhibit D-2). The Bank Sponsor shall fully fund the Endowment Amount through Endowment Deposits according to the schedule below. The Endowment Amount shall be 100% funded by the 10th anniversary of the first Credit Release.

    a. Funding schedule for Coastal Wetlands Credit Releases and Waters of the U.S. and associated Buffer Credit Releases will be as follows:

        i. No Endowment Funding is required prior to: (a) the first Waters of the U.S. and associated Buffer Credit Release; or (b) the first Coastal Wetlands Credit Release;

        ii. A minimum of 30% of the Endowment Amount shall be funded, through Endowment Deposit(s), prior to the earliest of: (a) the second Waters of the U.S. and associated Buffer Credit Release; or (b) the second Coastal Wetlands Credit Release;

        iii. A minimum of 55% of the Endowment Amount shall be funded, through Endowment Deposit(s), prior to the earliest of: (a)the third Waters of the U.S. and Buffer Credit Release; or (b) the third Coastal Wetlands Credit Release;

iv. A minimum of 70% of the Endowment Amount shall be funded, through Endowment Deposit(s), prior to the earliest of: (a) the fourth Waters of the U.S. and associated Buffer Credit Release; or (b) the fourth Coastal Wetlands Credit Release;

v. 100% of the Endowment Amount shall be funded, through Endowment Deposit(s), prior to the earliest of: (a) the fifth Waters of the U.S. and associated Buffer Credit Release; or (b) the fifth Coastal Wetlands Credit Release.

2. Each year the Endowment Amount is not 100% funded, the Endowment Amount in Exhibit D-2 shall be increased (but not decreased) to account for inflation. The Bank Sponsor must make this adjustment on or before April 1 of each year ("Adjustment Year"), based upon the change in the Consumer Price Index (CPI) in the Los Angeles Area (includes Los Angeles, Long Beach, and Anaheim) All Urban Consumers, All Items ("Index"), as published by the California Department of Industrial Relations ("DIR"), Division of Labor Statistics and Research (http://www.dir.ca.gov/OPRL/CAPriceIndex.htm). The Bank Sponsor shall determine the change in the Index by comparing the Index published in March of the Adjustment Year to the Index published in March of the year in which this BEI is fully executed. The DIR website also provides an adjustment calculator that may be used for this purpose. The Endowment Amount in Exhibit D-2 shall be increased by the percent change in the CPI and the product shall be the Endowment Amount for the Adjustment Year. If the percentage change in the CPI is less than or equal to zero for any Adjustment Year, then no adjustment will be made for that year.

3. Bank Sponsor shall provide each member of the Signatory Agencies a paper copy of the receipt for each Endowment Deposit and upload to RIBITS within 30 calendar days of such deposit.

Section VII: Credit Release

A. Waters of the U.S and associated Buffer Credit Releases

1. Upon receipt of Bank Sponsor's written request and accompanying documentation of compliance with all applicable requirements set forth in this Section, the USACE may release for Transfer Waters of the U.S. and associated Buffer Credits (Exhibit F-1a and F-1b), as described below. Performance Standards for Credit Releases will be monitored for a minimum of five years. Early achievement of Performance Standards will not accelerate Credit Release. The actual number of Credits Released shall be determined in writing by the USACE in consultation with the other members of the IRT, based upon as-built conditions of the Bank Property, extent of Waters of the U.S. delineated on the Bank Property, attainment of the Performance Standards, funding of the Endowment Fund in accordance with Section VI.F, and compliance with requirements of this BEI and any associated authorization. Upon each Credit Release, the USACE shall enter the number of Credits Released into RIBITS. The applicable

Credit Release shall occur prior to any Credit Transfer. Credits may be released as follows:

a. Credit Release 1.

   i. 15% of the total anticipated Tidal Waters of the U.S. and associated Buffer Credits as shown in Exhibit F-1a upon the Bank Establishment Date.

   ii. No Endowment Funding is required prior to the first Tidal Waters of the U.S. and associated Buffer Credit Release.

b. Credit Release 2. Up to an additional 25% of the total anticipated Tidal Waters of the U.S. and associated Buffer Credits as shown in Exhibit F-1a when all of the following have occurred:

   i. The Bank Sponsor has submitted as-built drawings to the Signatory Agencies, with courtesy copies to the IRT Agencies, pursuant to Section VII.A.2.

   ii. The USACE has approved the as-built condition in writing.

   iii. The Bank Sponsor has funded a minimum of 30% of the Endowment Amount per Section VI.F.1.a.ii.

   iv. Credit Release 1 has occurred.

c. Credit Release 3. Up to an additional 15% of the total anticipated Tidal Waters of the U.S. and associated Buffer Credits as shown in Exhibit F-1a when all of the following have occurred:

   i. The Bank Sponsor has submitted the annual report (Section IX.B).

   ii. Year 2 Performance Standards have been attained, as required by the Interim Management Plan.

   iii. The Bank Sponsor has funded a minimum of 55% of the Endowment Amount per Section VI.F.1.a.iii.

   iv. Credit Release 2 has occurred.

   v. A minimum of two years of monitoring have been conducted since all requirements for Credit Release 2 have been met.

d. Credit Release 4. Up to an additional 15% of the total anticipated Tidal Waters of the U.S. and associated Buffer Credits as shown in Exhibit F-1a and up to 33% of

the total anticipated Subtidal Waters of the U.S. and associated Buffer Credits as shown in Exhibit F-1b when all of the following have occurred:

i. The Bank Sponsor has submitted the annual report (Section IX.B).

ii. Year 3 Performance Standards have been attained.

iii. The Bank Sponsor has funded a minimum of 70% of the Endowment Amount per Section VI.F.1.a.iv.

iv. Credit Release 3 has occurred.

v. A minimum of one year of monitoring has been conducted since all requirements for Credit Release 3 have been met.

e. Credit Release 5. Up to an additional 15% of the total anticipated Tidal Waters of the U.S. and associated Buffer Credits as shown in Exhibit F-1a and up to 33% of the total anticipated Subtidal Waters of the U.S. and associated Buffer Credits as shown in Exhibit F-1b when all of the following have occurred:

i. The Bank Sponsor has submitted the annual report (Section IX.B).

ii. Year 4 Performance Standards have been attained.

iii. The Bank Sponsor has submitted a delineation of aquatic resources on the Bank Property.

iv. The Bank Sponsor has funded 100% of the Endowment Amount per Section VI.F.1.a.v.

v. Credit Release 4 has occurred.

vi. A minimum of one year of monitoring has been conducted since all requirements for Credit Release 4 have been met.

f. Final Credit Release. Any remaining balance of Waters of the U.S. and associated Buffer Credits as shown in Exhibit F-1a and Exhibit F-1b when all of the following have occurred:

i. The Bank Sponsor has submitted the annual report (Section IX.B), including the final Monitoring Report as required by the Interim Management Plan.

ii. Final Performance Standards have been attained.

iii. Any required Remedial Actions are completed.

iv. Any additional Performance Standards required as a result of required Remedial Actions have been attained.

v. Credit Release 5 has occurred.

vi. A minimum of one year of monitoring has been conducted since all requirements for Credit Release 5 have been met.

2. The Bank Sponsor shall submit as-built drawings of the Bank Property, with accurate maps of the restored Coastal Wetlands, Waters of the U.S., and associated Buffers, to the IRT no later than 90 calendar days following completion of construction associated with the restoration of the Waters of the U.S. and associated Buffers on the Bank Property. The as-built drawings shall consist of full size construction plans, with as-built conditions clearly shown. The as-built drawings and any attachments must describe in detail any deviation from the Development Plan.

3. Each Waters of the U.S. and associated Buffer Credit Release, with the exception of Credit Release 1 and Credit Release 2, is also contingent upon the Bank Sponsor's submission of the annual report for the current reporting period in accordance with Section IX.B, and a site inspection done by the IRT at the appropriate time of year, as determined by the IRT.

B. Coastal Wetlands Releases

1. The CCC may provide Credit Releases for Coastal Wetlands pursuant to the procedures set forth in Section VII.A. For purposes of this Section, any reference in Section VII.A to "Waters of the U.S." and "USACE" shall constitute a reference to "Coastal Wetlands" and "CCC."

2. The Bank Sponsor shall submit as-built drawings of the Bank Property, with accurate maps of the restored Coastal Wetlands, to the IRT no later than 90 calendar days following completion of construction associated with the restoration of the Coastal Wetlands on the Bank Property. The as-built drawings shall consist of full size construction plans, with as-built conditions clearly shown. The as-built drawings and any attachments must describe in detail any deviation from the Development Plan.

3. Each Coastal Wetlands Release, with the exception of Credit Release 1 and Credit Release 2, is also contingent upon the Bank Sponsor's submission of the annual report for the current reporting period in accordance with Section IX.B, and a site inspection done by the IRT at the appropriate time of year, as determined by the IRT.

Section VIII: Operation of the Bank

A. Service Areas

The Service Areas and their bases are described and shown in Exhibit B.

B. Transfer and Use of Credits

1. The Transfer of Credits may begin only upon the Bank Establishment Date. Bank Sponsor shall have the exclusive right to determine the price for any and all Bank Credits it offers for sale.

2. In no case shall the number of Credits of any particular type Transferred exceed the total number of Credits of that type which have been released for Transfer, as evidenced by written approval by the USACE and CCC, as applicable. Buffer Credits can only be Transferred in combination with Waters of the U.S. Credits.

3. Use of Credits from the Bank to compensate for unavoidable impacts to Waters of the U.S. and Coastal Wetlands under any permit issued by the USACE and/or CCC, can only occur after approval by the USACE and/or CCC. Approval is determined on a case-by-case basis to ensure the use is appropriate to compensate for the impacts of the specific project to which the Credits are proposed to be applied. Mitigation or compensation requirements for individual project impacts may or may not be compatible with the use of mitigation banks, generally, or any particular mitigation bank, specifically.

4. Bank Sponsor shall notify all members of the Signatory Agencies, with courtesy copies to each of the IRT agencies, upon any Credit Transfer in accordance with Section IX.C of this BEI. Upon Transfer of Credits, the Bank Sponsor shall enter the Credit Transfer into RIBITS.

5. If the Bank Property is damaged after the Bank Establishment Date and such damage materially impairs any or all Costal Wetlands, Waters of the U.S., and/or associated Buffers on such damaged Bank Property, the Bank Sponsor and/or Property Owner shall implement the provisions of Section VIII.F or Section XII.A. Failure to comply with either Section shall constitute a default, and the Signatory Agencies will take action accordingly.

6. Each Credit Transfer shall be made pursuant to a written purchase agreement, bill of sale and payment receipt in the form of Exhibit F-2.

7. This BEI applies only to those Credits released by the USACE and/or CCC and set forth in Exhibits F-1a and F-1b to be used to compensate for permanent losses of Waters of the U.S. authorized by the USACE and losses of Coastal Wetlands authorized by the CCC.

C. Interim and Long-term Management and Monitoring

1. Interim Management and Monitoring

Bank Sponsor shall be responsible for conducting management, monitoring, and maintenance activities according to the Interim Management Plan (Exhibit D-4) until the end of the Interim Management Period. The Bank Sponsor shall upload all reports into RIBITS and furnish a hard copy to each IRT member.

2. Long-term Management and Monitoring

At the end of the Interim Management Period, Property Owner shall be obligated to manage, monitor, and maintain the Bank Property in perpetuity to preserve its habitat and conservation values in accordance with this BEI, the Conservation Easement, and the Long-term Management Plan (Exhibit D-5). Such activities shall be funded with funds disbursed from the Endowment Fund according to Section VIII.E.2.b. Property Owner and the Signatory Agencies, with invitation to the IRT, shall meet and confer upon the request of any one of them, to consider revisions to the Long-term Management Plan and Endowment Analysis and Schedule (Exhibit D-2) which may be necessary or appropriate to better conserve the habitat and conservation values of the Bank Property. If either (a) the value of the Endowment Fund has decreased to levels that may threaten its continued existence as a source of perpetual funding for long-term management, whether due to unexpected investment performance or otherwise; or (b) if long-term management expenses exceed those estimated in the Endowment Fund Analysis and Schedule (Exhibit D-2), the Property Owner shall consult with the IRT in accordance with Section VIII.E.2.b.v. During the Long-term Management Period, the Property Owner shall be responsible for submitting annual reports to each member of the Signatory Agencies, in accordance with Section IX.B of this BEI. The Property Owner shall upload all reports into RIBITS and furnish a hard copy to each member of the IRT.

D. Bank Closure Plan

1. Upon Bank closure, no further Credit Transfers shall occur.

2. The Bank closure shall be deemed to take place upon written approval of the Signatory Agencies following occurrence of all of the following:

a. All Performance Standards have been met and all Remedial Action required under Section VIII.F has been completed as evidenced by:

i. Submission of all required annual reports in accordance with Section IX.B.

ii. The completion of all Remedial Action, if any, in accordance with the applicable Remedial Action plan(s).

iii. An on-site inspection by the IRT.

b. And either (1) The last authorized Credit has been Transferred; or (2) The Bank Sponsor requests Bank closure by written notice to the IRT and the Signatory Agencies provide written approval of the closure.

c. All financial responsibilities of the Bank Sponsor have been met, including 100% funding of the Endowment Amount for no less than three years.

E. Financial Operations

1. Securities

In the event USACE, as the holder of the Construction Security, Interim Management Security, and Performance Security, terminates its participation in this BEI, the Bank Sponsor shall provide replacement Construction Security, Interim Management Security, and Performance Security in the amount specified in this BEI within 20 calendar days after receiving written notice of termination from USACE. In the event one of the remaining Signatory Agencies are unable to hold the Construction Security, Interim Management Security, and Performance Security specified in Section VI, the remaining Parties agree to modify this BEI to name a third-party holder of each of these securities.

a. Construction Security

i. The USACE as the holder of the security, after coordination with the IRT, shall be entitled to draw upon the Construction Security for default, including but not limited to,

a) Any Transfer of Credits has been made; and either (1) after the Bank Establishment Date, but no later than the first full growing season after the date of the first Credit Transfer, the Signatory Agencies determine that the Bank Sponsor has not initiated construction and planting in accordance with the Development Plan, or (2) two years has elapsed since the Bank Sponsor has initiated implementation of the Development Plan, and construction and planting in accordance with the Development Plan is not complete.

ii. If any portion of the Construction Security is drawn upon pursuant to this Section, then the Bank Sponsor shall replenish the Construction Security to the amount specified in Exhibit C-2 within 90 calendar days after written notice from USACE.

iii. The Construction Security shall be cancelled by the USACE after coordination with the IRT, only after the Bank Sponsor completes the

construction and planting activities in accordance with the Development Plan, as demonstrated by:

a) Bank Sponsor's submission of as-built drawings in accordance with Section VII.A.2 and VII.B.2.

b) A site inspection by the IRT and confirmation by the Signatory Agencies of satisfactory completion of construction and planting activities in accordance with the Development Plan.

b. Performance Security

i. The USACE as the holder of the security, in coordination with the other members of the IRT, shall be entitled to draw upon the Performance Security for default.

ii. If any portion of the Performance Security is drawn upon pursuant to this Section, then the Bank Sponsor shall replenish the Performance Security to the amount specified in Exhibit C-3 within 90 calendar days after written notice from the USACE.

iii. The Performance Security shall be cancelled by the USACE upon Bank closure or termination in accordance with Section XII.D.2.a or the USACE terminates its participation in this BEI pursuant to Section XII.D.2.e.

c. Interim Management Security

i. The USACE as the holder of the security, in coordination with the other members of the IRT, shall be entitled to draw upon the Interim Management Security for default, including but not limited to, failure to perform all tasks as required under the Interim Management Plan or Remedial Action plan during the Interim Management Period.

ii. In the event that the Interim Management Security is drawn upon pursuant to this section, the Bank Sponsor shall restore the Interim Management Security to the amount specified in Exhibit D-1 within 90 calendar days after written notice from USACE.

iii. The Interim Management Security shall be cancelled by the USACE upon conclusion of the Interim Management Period or the USACE terminates its participation in this BEI pursuant to Section XII.D.2.e.

2. Endowment Fund

a. Endowment Deposits

i. The Endowment Deposits that the Endowment Holder receives are to be held in the Endowment Fund.

b. Endowment Fund Management

i. The Endowment Fund should be governed by an investment policy statement that is designed, over long periods of time, to generate investment returns sufficient to keep pace with inflation and pay the costs of long-term management, net of any financial investment and administrative fees. After the Endowment Amount is 100% funded, no additional Endowment Amount monies will be required from the Bank Sponsor.

ii. The Parties shall ensure that the Endowment Agreement (Exhibit D-3) includes a provision that disbursements will not be made from the Endowment Fund any earlier than three years after the Endowment Amount has been 100% funded.

iii. The Parties anticipate that disbursements from the Endowment Fund will be made available by the Endowment Holder to the Property Owner to fund annual long-term management of the Bank Property as anticipated in the Long-term Management Plan and estimate of costs in accordance with the Endowment Agreement.

iv. Notwithstanding Probate Code sections 18501-18510, in the event either (a) the value of the Endowment Fund has decreased to levels that may threaten its continued existence as a source of perpetual funding for long-term management, whether due to unexpected investment performance or otherwise; or (b) if long-term management expenses exceed those estimated in the Endowment Fund Analysis and Schedule (Exhibit D-2), the Property Owner shall consult with the IRT and the Grantee to identify the most effective means to implement the management measures and tasks with the resources available. Property Owner shall submit a proposed temporary revised Long-term Management Plan and Endowment Fund Analysis in writing to the IRT and Grantee within 60 calendar days after completion of Property Owner's consultation with the IRT and Grantee. Upon written approval of the temporary revised Long-term Management Plan and Endowment Fund Analysis by the Signatory Agencies and any required notification to the Endowment Holder, in accordance with the Endowment Agreement, the Property Owner shall implement the approved revised management measures and tasks. The original Long-term Management Plan shall be restored in full force and effect upon expiration of the temporary revised Long-term Management Plan or sooner if the

circumstances in subsections (a) or (b) above, as the case may be, cease to exist.

3. Financial Records and Auditing

a. Bank Sponsor and Property Owner are required to maintain complete and accurate financial records relating to the operation of the Bank for which it is responsible, using generally accepted accounting principles (GAAP), developed by the Federal Accounting Standards Advisory Board. At the request of the Signatory Agencies, no more frequently than annually, the Bank Sponsor and Property Owner shall each have its financial records relating to the operation of the Bank audited by an independent licensed Certified Public Accountant and shall submit the auditor's report to the Signatory Agencies, with courtesy copies to the IRT, upon completion.

b. The Signatory Agencies or their designated representatives shall also have the right to review and copy any records and supporting documentation pertaining to the performance of this BEI. Bank Sponsor and Property Owner agree to maintain such records for possible audit for a minimum of three years after Bank closure, or three years after the date of performance, whichever is later. Bank Sponsor and Property Owner agree to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employee or representative who might reasonably have information related to such records. Further, Bank Sponsor and Property Owner agree to include a similar right of State and federal auditors to audit records and interview employees and representatives in any contract related to the performance of this BEI.

F. Remedial Action Plan

1. Prior to Bank closure, if any Party discovers any failure to achieve the Performance Standards or any injury or adverse impact to the Bank Property as restored and the Signatory Agencies do not determine that such damage is a result of Extraordinary Circumstances, the Party making the discovery shall notify the other Parties. The Signatory Agencies may require the Bank Sponsor to develop and implement a Remedial Action plan to correct such condition, as described below. The annual report required under Section IX.B shall identify and describe any Remedial Action proposed, approved, or performed and, if the Remedial Action has been completed, evaluate its effectiveness.

2. Within 60 calendar days of the date of written notice from the Signatory Agencies, the Bank Sponsor shall develop a Remedial Action plan and submit it to each member of the Signatory Agencies for written approval, with courtesy copies provided to each IRT agency. The Remedial Action plan must identify and describe proposed actions to achieve the Performance Standards or remedy injury or adverse impact to the Bank Property and set forth a schedule within which the Bank Sponsor will implement those actions. The Bank Sponsor shall, at Bank Sponsor's cost, implement the necessary and

appropriate Remedial Action in accordance with the Remedial Action plan approved by the Signatory Agencies in consultation with the IRT.

3. If (a) the Bank Sponsor fails to develop a Remedial Action plan and submit it to each member of the Signatory Agencies or to implement Remedial Action identified by the Signatory Agencies, in accordance with this section, or (b) a Remedial Action plan is agreed upon and implemented, but the conditions do not satisfy the plan's objective and measurable Performance Standards by the dates specified in the plan, then the Signatory Agencies may find the Bank Sponsor in default pursuant to Section XII.E and take action accordingly.

4. If the Signatory Agencies determines that the Bank is operating at a Credit deficit (i.e., that Credit Transfers made exceed the Credits authorized for release, as adjusted in accordance with this BEI), the Signatory Agencies shall notify the Bank Sponsor of its default pursuant to Section XII.E and take action accordingly. Upon receipt of notification, Bank Sponsor shall cease Credit Transfers immediately and is not authorized to resume Credit Transfers until notified in writing by the Signatory Agencies.

5. If there is damage to the Bank Property as a result of Extraordinary Circumstances, the provisions of Section XII.A apply.

Section IX: Reporting

A. Annual Inflation Adjustments to Endowment Fund Report

By April 1st of each year following the Bank Establishment Date and until the Endowment Amount is 100% funded, the Bank Sponsor shall report to the Signatory Agencies, with courtesy copies to the IRT, and the Endowment Holder, in hard copy, in editable electronic format, and uploaded to RIBITS the following:

1. The adjusted Endowment Amount determined in accordance with Section VI.F.2.

2. The resulting adjusted Endowment Deposit amounts.

B. Annual Report

Bank Sponsor or Property Owner, as specified below, shall submit an annual report to the IRT, in hard copy, editable electronic format, and uploaded to RIBITS, on or before August 15th of each year following the Bank Establishment Date. Each annual report shall cover the period from July 1 of the preceding year (or if earlier, the Bank Establishment Date for the first annual report) through June 30th of the current year (the "Reporting Period"). Prior to Bank closure, the Bank Sponsor shall be responsible for reporting Bank development and interim management tasks described below, and Property Owner shall be responsible for reporting long-term management tasks described below. After Bank closure, the Property Owner shall

be responsible for annual reporting per the Long-term Management Plan. The annual report shall address the following:

1. Bank Development

   The Bank Sponsor shall submit an annual report that includes data, documentation, and discussion of the Bank's progress toward meeting Performance Standards described in this BEI and its Exhibits. The annual report shall describe any deficiencies in attaining and maintaining Performance Standards and any Remedial Action proposed, approved, or performed. If Remedial Action has been completed, the annual report shall also evaluate the effectiveness of that action.

2. Interim Management and Long-term Management

   The Interim and Long-term Management Plans contain reporting requirements that are separate from, and in addition to, the requirements listed below for the annual report.

   During the Interim Management Period, the Bank Sponsor shall submit an annual report that contains an itemized account of the management tasks in accordance with the Interim Management Plan and any Remedial Actions conducted during the Reporting Period. During the Long-term Management Period, the Property Owner shall submit an annual report that contains an itemized account of the management tasks in accordance with the Long-term Management Plan and any Remedial Actions conducted during the Reporting Period. Each annual report shall also include the following:

   a. The time period covered, i.e. the dates "from" and "to."

   b. A description of each management task conducted, the dollar amount expended and time required.

   c. The total dollar amount expended for management tasks conducted during the Reporting Period.

   d. A description of the management and maintenance activities proposed for the next reporting year.

   e. A description of the overall condition of the Bank, including photos documenting the status of the Bank Property during the Reporting Period and a map documenting the location of the photo points.

3. Transfer of Credits

   The Bank Sponsor shall submit an annual Credit ledger report showing the beginning and ending balance of available Credits and permitted impacts for each resource type,

all additions and subtractions of Credits, and any other changes in Credit availability (e.g., additional credits released, credit sales suspended).

C. Credit Transfer Reporting

Upon the Transfer of each and every Credit the Bank Sponsor shall enter the Credit Transfer into the RIBITS ledger, upload an electronic copy of the finalized Credit purchase agreement, bill of sale, and payment receipt into the appropriate RIBITS folder, and submit to each member of the IRT:

1. A copy of the fully executed Credit purchase agreement, bill of sale, and payment receipt in the form provided at Exhibit F-2.

2. An updated Credit Transfer ledger, in hard copy and in editable electronic format in the form provided at Exhibit F-3.

D. Reporting Compliance Measures

If Bank Sponsor fails to submit complete reports on time, the Bank Sponsor is in default.

1. Annual reports not received by the IRT will result in automatic Credit Transfer suspension effective the 30th day that the report is past due. The suspension will be lifted within 10 calendar days after the IRT receives a complete annual report.

2. If the Bank Sponsor has been notified by the Signatory Agencies of an incomplete report, the Signatory Agencies will then notify the Bank Sponsor of the date by which the report must be made complete.

Section X: Responsibilities of the Bank Sponsor and Property Owner

A. Without limiting any of its other obligations, including without limitation, under the Conservation Easement, the Bank Sponsor and Property Owner each hereby agrees and covenants that during the time the Bank is in operation, prior to Bank closure:

1. Bank Sponsor shall be responsible for all activities and costs associated with the establishment and operation of the Bank, including but not limited to construction, planting, Remedial Action, documentation, maintenance, management, monitoring, and reporting, until completion of the Interim Management Period.

2. Bank Sponsor shall assume responsibility for compensatory mitigation requirements of USACE and CCC permits for which it Transfers Credits once a permittee has secured the appropriate number and type of Credit(s) from the Bank Sponsor. The Bank Sponsor shall provide USACE and/or CCC with the written Credit purchase agreement, bill of sale and payment receipt (Exhibit F-2) confirming the Bank Sponsor has accepted

the responsibility for providing the required compensatory mitigation requirements of such USACE and/or CCC permit.

3. It shall not discharge or release on, to or from the Bank Property, or permit others to discharge or release on, to or from the Bank Property, any material, waste or substance designated as hazardous or toxic or as a pollutant or contaminant under any Federal, state, or local environmental law or regulation (each a "Hazardous Substance").

4. Property Owner shall not create or suffer any lien or encumbrance upon the Bank Property other than as set forth in the Property Assessment and Warranty approved by the Signatory Agencies. Property Owner shall not execute, renew, or extend any lien, lease, license, or similar recorded or unrecorded right or interest in the Bank Property without the prior written consent of the Signatory Agencies and the Grantee, if a Conservation Easement has been granted.

5. It shall not construct or install any structure or improvement on, or engage in any activity or use of, the Bank Property, including mineral exploration or development on the surface or within the upper 500 feet of the subsurface of the Bank Property and without entry, use or occupation of the surface of the Bank Property, excavation, draining, dredging, or other alteration of the Bank Property that is prohibited by, or not consistent and in accordance with this BEI and its Exhibits. Further, it shall not allow others to construct or install any structure or improvement on, or engage in any activity or use of, the Bank Property, including mineral exploration or development on the surface or within the upper 500 feet of the subsurface of the Bank Property and without entry, use, or occupation of the surface of the Bank Property, excavation, draining, dredging, or other alteration of the Bank Property that is prohibited by, or not consistent and in accordance with this BEI and its Exhibits.

6. Bank Sponsor shall ensure that the Bank Property is managed and maintained in accordance with the Interim Management Plan, this BEI and its Exhibits.

7. Property Owner shall allow, or otherwise provide for, access to the Bank Property by Bank Sponsor, Grantee, the IRT agencies and third parties, as described in the Conservation Easement.

8. Property Owner shall grant to Bank Sponsor all rights and authority necessary to carry out and shall not limit the Bank Sponsor in performing its responsibilities and obligations, on and affecting, the Bank Property in accordance with this BEI and its Exhibits.

9. Property Owner shall ensure that the Bank Property is managed and maintained in accordance with the Long-term Management Plan, this BEI, and its Exhibits.

B. Reasonably foreseeable technical problems, or unanticipated or increased costs or expenses associated with the implementation of actions called for by this BEI or changed financial or

business circumstances in and of themselves shall not serve as the basis for modifications of this BEI or extensions for the performance of the requirements of this BEI.

C. An extension of one compliance date based upon or related to a single incident shall not extend any subsequent compliance dates.

Section XI: Responsibilities of the Signatory Agencies

A. Signatory Agencies Oversight

Subject to the "Availability of Funds" provision of this BEI, the Signatory Agencies agree to oversee the performance of this BEI.

B. Signatory Agencies Review

The Signatory Agencies will make a good faith effort to review the annual reports and Remedial Action plans within 60 calendar days from the date of receipt of complete submittal. If the Signatory Agencies are unable to complete its review within the time specified in this section, this fact will be reflected in any schedule established for performance of Remedial Action and any evaluation of timely performance of Remedial Action by Bank Sponsor.

C. Compliance Inspections

The Signatory Agencies shall conduct compliance inspections for any purpose(s) it determines as necessary to assess compliance with this BEI.

Section XII: Other Provisions

A. Extraordinary Circumstances

1. The Bank Sponsor/Property Owner and IRT in its review of the BEI, have made a concerted effort to identify the preservation, restoration and management measures for the Bank Property, including Adaptive Management, necessary to qualify as compensatory mitigation for impacts to Waters of the U.S. and/or Coastal Wetlands, and to manage and maintain these resources in perpetuity. However, the Parties recognize that there may be a rare event (an Extraordinary Circumstance) in which the Bank can no longer serve its intended purpose as compensatory mitigation, in whole or in part, for the specific resources for which it was established. An Extraordinary Circumstance of this type may lead to Bank Sponsor and/or Property Owner being relieved of some or all of its obligations under this BEI. The Parties agree that the Signatory Agencies will consider whether it is appropriate to relieve any obligations under the process outlined below:

    a. If the Bank Sponsor or Property Owner believes that an Extraordinary Circumstances event has taken place that Party shall send written notification to the Signatory Agencies, with courtesy copies to the IRT agencies, as promptly as

possible, but no later than 14 calendar days following the date of discovery of the event. The Party sending the notification (invoking) will fully describe the nature of the Extraordinary Circumstances event, its effect on the Party's performance of the obligations under this BEI, the habitat values affected by the event, and any expected timeframe of non-performance attributable to the Extraordinary Circumstances event. As promptly as reasonably possible after providing notification, the Party invoking Extraordinary Circumstances shall meet with the Signatory Agencies, with invitation to the IRT Agencies, to discuss whether the event qualifies as an Extraordinary Circumstance. The Party invoking Extraordinary Circumstances shall bear the burden of demonstrating that Extraordinary Circumstances have occurred. Until such time, the Signatory Agencies determine whether the event qualifies as an Extraordinary Circumstance and whether it is appropriate to suspend performance pursuant to Section XII.A.1.d, the Property Owner or Bank Sponsor shall continue to manage and maintain the Bank Property to the fullest extent practicable consistent with this BEI and other applicable documents.

b. If the Signatory Agencies concur that an Extraordinary Circumstances event has taken place, such agencies will provide written notification to the Bank Sponsor or Property Owner. Within 14 calendar days of notification of concurrence from the Signatory Agencies that Extraordinary Circumstances have occurred, or on a date mutually agreed upon by all Parties, the Parties will meet, with invitation to the IRT, to discuss the course of potential action to be taken in response to such occurrence, including potential Remedial Action as defined in Section II and potential suspension of Performance Standards as described in Section XII.A.1.c. Remedial Action in such circumstances may include, but is not limited to, restoration of the Bank Property, out-of-kind improvements on the Bank Property, a smaller restoration on the Bank Property (taking into account the diminution of habitat values across the Service Area), improvements to another property, or the purchase of credits from another bank. Once approved by the Signatory Agencies, the Party invoking Extraordinary Circumstances shall carry out the Remedial Action within a mutually agreed upon timeframe.

c. If the Bank Sponsor or Property Owner is prevented from or delayed in performing an obligation under this BEI by Extraordinary Circumstances that commences after the Bank Establishment Date, the Signatory Agencies may suspend the Bank Sponsor and/or Property Owner's obligation to perform, as well as the ability of the Bank to provide any remaining Credits released, but not yet Transferred, as compensatory mitigation.

d. Following the meeting discussed in Section XII.A.1.b. to consider potential actions to be taken in response to the event, the Signatory Agencies will, in writing, (1) inform the Property Owner or Bank Sponsor as to what, if any, performance is suspended, and (2) direct the Property Owner or Bank Sponsor as to what specific Remedial Action is required. The Bank Sponsor or Property Owner will continue to perform all other obligations that are not suspended.

e. Within 60 calendar days of notification described in Section XII.1.d., or by a date mutually agreed upon by all Parties, the Party invoking Extraordinary Circumstances will submit to the Signatory Agencies, in writing, with courtesy copies to the IRT agencies, the implementation plan to meet the required Remedial Action. At a minimum, the Remedial Action will be sufficient to ensure that the habitat values which underlie all previously Transferred Credits will be supported.

f. If the Remedial Action agreed upon and implemented do not meet an agreed upon objective or standard within the agreed upon timeframe, the Bank Sponsor or Property Owner and the Signatory Agencies will reconvene to evaluate if alternative Remedial Action would be appropriate.

2. Failure to act in good faith to participate in the process outlined above in Section XII.A.1 or to implement any Remedial Actions approved by the Signatory Agencies shall be a default under this BEI.

3. In accordance with Section VIII.B.4 of this BEI, the Signatory Agencies may, at their discretion, direct Bank Sponsor to suspend the Transfer of Credits, prohibit the release of additional Credits, and/or reduce the number of Credits allocated to the Bank in proportion to such damaged area unless and until the Bank Sponsor has remedied the defect pursuant to the Remedial Action as described in Section XII.A.1.d.

4. Disputes over whether an event is a result of Extraordinary Circumstances, or any Remedial Action taken in response pursuant to this Section, shall be resolved in accordance with Section XII.B.

5. Bank Sponsor and Property Owner are not entitled to termination of this BEI under Section XII.D as a result of Extraordinary Circumstances.

B. Dispute Resolution

The Parties agree to work together in good faith to resolve disputes concerning this BEI. Unless a Party has initiated legal action in connection with the particular dispute, any Party may elect ("Electing Party") to employ an informal dispute resolution process whereby:

1. The Electing Party shall notify all other Parties to this BEI of the dispute through a Dispute Notice. The Dispute Notice shall identify the Parties against which the Electing Party is commencing the informal dispute resolution process ("Implicated Parties"), the position of the Electing Party (including, if applicable, the basis for contending that a violation has occurred), and the resolution the Electing Party proposes.

2. Each Implicated Party shall have 45 calendar days after receipt of the Dispute Notice (or such other time as the Parties may mutually agree) to respond to the electing Party.

During this time, any Party to this BEI that received the Dispute Notice may seek clarification of the Dispute Notice.

3. Within 45 calendar days after each Implicated Party's response was provided or due, whichever is later, the Electing Party and the Implicated Parties shall confer and negotiate in good faith toward a mutually satisfactory resolution or shall establish a specific process and timetable to seek such resolution.

4. The dispute resolution process may be terminated by the Electing Party or any Implicated Party upon written notice to all other Parties to this BEI.

C. Conveyance of Bank or Bank Property or Other Interests

1. All transfers of any interest in the Bank Property are subject to the applicable provisions of the Conservation Easement.

2. Property Owner shall have the right to sell, assign, transfer or convey (each a "transfer") its interest in the Bank Property at any time; provided, however, that any such transfer on or after the execution date of this BEI must be made in accordance with this BEI and the Conservation Easement, and shall be subject to prior written concurrence by the Signatory Agencies and Bank Sponsor. Such concurrence shall be subject to the requirement that the transferee assumes and agrees in writing to observe and perform all of the Property Owner's obligations pursuant to this BEI and the Conservation Easement. From and after the date of any transfer by Property Owner of its interest in the Bank Property in which the transferee has assumed and agreed in writing to observe and perform all of the transferor's obligations pursuant to this BEI, the transferor shall have no further obligations hereunder and all references to Property Owner in this BEI shall thereafter refer to such transferee, except that the transferor's liability for acts, omissions, or breaches occurring prior to the transfer shall survive the transfer. Any transfer of the Property Owner's interest in the Bank Property made without the prior written concurrence of the Signatory Agencies constitutes a default pursuant to Section XII.E and the Signatory Agencies may take action accordingly.

3. Bank Sponsor may sell or convey its interest in the Bank at any time, provided that no uncured event of default exists, Bank Sponsor is in full compliance with all requirements of this BEI (including all financial assurance requirements), and subject to the prior written approval of the Signatory Agencies. If any of the financial assurances required under this BEI are not completely funded at the time the Bank Sponsor requests the approval of the Signatory Agencies of a sale or conveyance, then the Signatory Agencies shall not approve such sale or conveyance unless and until either the current Bank Sponsor, or the proposed replacement Bank Sponsor, shall have provided all required financial assurances. In addition, prior to sale or conveyance, the Bank Sponsor shall provide to each IRT agency a written agreement signed by the replacement Bank Sponsor, acceptable to the Signatory Agencies in form and substance, in which the Bank Sponsor assigns to the replacement Bank Sponsor, and the replacement Bank Sponsor assumes and agrees to perform all of the responsibilities

and obligations of the Bank Sponsor under the BEI. Any such sale or conveyance made without the prior written concurrence of the Signatory Agencies constitutes default pursuant to Section XII.E and the Signatory Agencies may take action accordingly.

D. Modification and Termination of the BEI

1. Amendment and Modification

a. Prior to Bank closure, this BEI, including its Exhibits, may be amended or modified only with the written approval of the Parties, which approval may be withheld or denied. All amendments and modifications shall be fully set forth in a separate document signed by all Parties that shall be appended to this BEI.

b. After Bank closure, amendments or modifications to this BEI, including its Exhibits, which do not impact obligations of the Bank Sponsor under this BEI must be approved in writing by the Property Owner and the Signatory Agencies, which approval may be withheld or denied. All amendments and modifications shall be fully set forth in a separate document signed by all required parties that shall be appended to this BEI.

2. Termination

a. The Bank Sponsor and Property Owner may jointly withdraw the entire Bank Property and terminate this BEI at any time prior to the first Credit Transfer, provided that Coastal Wetlands, Waters of the U.S., and associated Buffers, and other habitat values existing on the Bank Property prior to the initiation of any efforts to restore the Bank Property shall be preserved in a condition at least equal to that which existed prior to initiation of Bank establishment efforts, and as the Conservation Easement may require.

b. In the event this BEI is terminated, or the Bank is closed prior to the Transfer of all authorized Credits, any remaining Credits under this BEI shall be extinguished and will no longer be available for Transfer.

c. The Signatory Agencies may terminate this BEI if the Bank Sponsor or Property Owner sells or conveys the Bank or the Bank Property without the prior written concurrence of the Signatory Agencies, as required by Section XII.C.

d. USEPA and USFWS may terminate its participation upon 30 calendar days' written notice to all other Parties. This BEI shall continue in full force and effect as to the remaining Parties.

e. The USACE and CCC may each terminate its participation in this BEI upon 30 calendar days' written notice to all other Parties, on the condition that each of the following has occurred:

i. Bank Sponsor or Property Owner has defaulted on one or more covenants, terms or conditions of this BEI.

ii. Bank Sponsor and Property Owner, has each received notice of such default from the terminating agency in accordance with Section XII.B, if applicable, and Section XII.K.

iii. Bank Sponsor or Property Owner, as applicable, has failed to cure its default to the satisfaction of the terminating agency.

f. If any Signatory Agency so requests, the Signatory Agency proposing to terminate participation in the BEI agrees to meet with the other Signatory Agencies to discuss the reason(s) for such termination, prior to the termination taking effect. Notice of a request for such meeting shall be made by the requesting Signatory Agency not later than 15 calendar days from receipt of the notice of termination.

g. Termination by any member of the Signatory Agencies of its participation in this BEI shall not terminate this BEI or affect the relationship between the remaining Signatory Agencies toward each other or the Bank Sponsor or Property Owner under this BEI. Remaining Credits under the authority of the terminating agency will no longer be available for Transfer, unless those credits are available for Transfer by the other Signatory Agency who is providing Credits. Consistent with Section VIII.E.1., in the event the USACE as the holder of the Construction Security, Interim Management Security, and Performance Security, terminates its participation in this BEI, the Bank Sponsor shall provide replacement Construction Security, Interim Management Security, and Performance Security in the amount specified in this BEI within 20 calendar days' after receiving written notice of termination from the USACE. In the event one of the remaining Signatory Agencies is unable to hold the Construction Security, Interim Management Security, and Performance Security specified in Section VI, the remaining Parties agree to modify the BEI to name a third party holder of each of these securities.

h. In the event termination is commenced, the Bank Sponsor agrees to fulfill its pre-existing obligations to perform all establishment, monitoring, maintenance, management, and remediation responsibilities that arise directly from Credits that were transferred at the time of termination.

i. Nothing in this Section is intended or shall be construed to limit the legal or equitable remedies (including specific performance and injunctive relief) available to the USACE or CCC in the event of default by Bank Sponsor and/or Property Owner.

E. Default

The Bank Sponsor and/or Property Owner shall be in default if that Party fails to observe or perform any obligations or responsibilities required of it by this BEI. In the event of default, the Signatory Agencies shall issue a notice of default to Bank Sponsor and/or Property Owner, which includes direction and specified time period to cure the default. If the Bank Sponsor and/or Property Owner fails to remedy the default within the allotted time, the Signatory Agencies will take appropriate action, which includes but is not limited to, suspending Credit Transfers, reducing available Credits, utilizing financial assurances, and terminating this BEI. This Section shall not be construed to modify or limit any specific right, remedy, or procedure in any Section of this BEI or any remedy available under applicable State and/or Federal Law.

F. Controlling Language; Headings

The Parties intend the provisions of this BEI and each of the documents incorporated by reference in it to be consistent with each other, and for each document to be binding in accordance with its terms. To the fullest extent possible, these documents shall be interpreted in a manner that avoids or limits any conflict between or among them. However, if and to the extent that specific language in this BEI conflicts with specific language in any document that is incorporated into this BEI by reference, the specific language within the BEI shall be controlling. The captions and headings of this BEI are for convenient reference only and shall not define or limit any of its terms or provisions.

G. Entire Agreement

This BEI, and all exhibits, appendices, schedules and agreements referred to in this BEI, constitute the final, complete, and exclusive statement of the terms of the agreement between and among the Parties pertaining to the Bank, and supersede all prior and contemporaneous discussions, negotiations, understandings or agreements of the Parties. No other agreement, statement, or promise made by the Parties, or to any employee, officer, or agent of the Parties, which is not contained in this BEI or incorporated herein by reference, shall be binding or valid, with respect to the subject matter hereof. No alteration or variation of this instrument shall be valid or binding unless contained in a written amendment in accordance with Section XII.D.1. Each of the Parties acknowledges that no representation, inducement, promise or agreement, oral or otherwise, has been made by any of the other Parties or anyone acting on behalf of any of the Parties unless the same has been embodied herein.

H. Reasonableness and Good Faith

Except as specifically limited elsewhere in this BEI, whenever this BEI requires a Party to give its consent or approval to any action on the part of the other, such consent or approval shall not be unreasonably withheld or delayed. If the Party disagrees with any determination covered by this provision and reasonably requests the reasons for that determination, the determining Party shall furnish its reasons in writing and in reasonable detail within 30 calendar days following the request.

I. Successors and Assigns

This BEI and each of its covenants and conditions shall be binding on and shall inure to the benefit of the Parties and their respective successors and assigns subject to the limitations on sale, assignment, transfer and conveyance set forth in this BEI.

J. Partial Invalidity

If a court of competent jurisdiction holds any term or provision of this BEI to be invalid or unenforceable, in whole or in part, for any reason or as to any Party, the validity and enforceability of the remaining terms and provisions, or portions of them, shall not be affected unless an essential purpose of this BEI would be defeated by loss of the invalid or unenforceable provision or its invalidity or unenforceability as to any Party.

K. Notices

1. Any notice, demand, approval, request, or other communication permitted or required by this BEI shall be in writing and deemed given when delivered personally, sent by receipt-confirmed facsimile, or sent by recognized overnight delivery service, addressed as set forth below, or five calendar days after deposit in the U.S. mail, postage prepaid, and addressed as set forth below.

2. Notice by any Party to any other Party shall be given to all Parties. Such notice shall not be effective until it is deemed to have been received by all Parties.

3. Any Party may change its notice address by giving notice of change of address to the other Parties in the manner specified in this Section XII.K.

Bank Sponsor and Property Owner:
Los Cerritos Wetlands, LLC
6433 E. 2nd Street
Long Beach, CA 90803
Telephone: (562) 234-1499
Attn: John McKeown

Signatory Agencies:
U.S. Army Corps of Engineers
Los Angeles District
915 Wilshire Blvd, Suite 930
Los Angeles, California 90017
Attn: Chief, Regulatory Division
Telephone: (213) 452-3425

U.S. Fish and Wildlife Service
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008
Attn: Field Supervisor
Telephone: (760) 431-9440

U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105
Attn: Supervisor, Wetlands Office
Telephone: 415-947-8707

California Coastal Commission
455 Market Street, Suite 228
San Francisco, CA 94105
Attn: Deputy Director, Energy Ocean Resources and Federal Consistency Division
Telephone: 415-904-5200

Non-Signatory IRT Agencies:
National Marine Fisheries Service
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, CA 90802
Attn: Director
Telephone: 562-980-4000

Los Angeles Regional Water Quality Control Board
320 West Fourth Street, Suite 200
Los Angeles, CA 90013
Attn: Director
Telephone: 213-576-6600

California Department of Fish and Wildlife
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
Attn: Regional Manager
Telephone: 858-467-4201

L. Counterparts

This BEI may be executed in multiple counterparts, each of which shall be deemed an original and all of which together shall constitute a single executed agreement.

M. No Third-Party Beneficiaries

This BEI shall not create any third-party beneficiary hereto, nor shall it authorize anyone not a Party hereto to maintain any action, suit or other proceeding, including without limitation, for personal injuries, property damage or enforcement pursuant to the provisions of this BEI. The duties, obligations, and responsibilities of the Parties to this BEI with respect to third parties shall remain as otherwise provided by law in the event this BEI had never been executed.

N. Availability of Funds

Implementation of this BEI by the Signatory Agencies is subject to the requirements of the Anti-Deficiency Act, 31 U.S.C. § 1341, and the availability of appropriated funds. Nothing in this BEI may be construed to require the obligation, appropriation, or expenditure of any money from the U.S. Treasury. No agency of the Signatory Agencies is required under this BEI to expend any appropriated funds unless and until an authorized official affirmatively acts to commit to such expenditures as evidenced in writing.

O. No Partnerships

This BEI shall not make or be deemed to make any Party to this BEI an agent for or the partner or joint venturer of any other Party.

P. Applicable Laws

Among the Bank Sponsor, Property Owner and the Signatory Agencies, the applicable statutes, regulations, policies, directives, and procedures of the United States will govern this BEI and all documents and actions pursuant to it.

Q. No Federal Contract or Monetary Damages

USACE approval of this BEI constitutes the regulatory approval required for the Mitigation Bank to be used to provide compensatory mitigation for Department of Army permits pursuant to 33 C.F.R. § 332.8(a)(1). This BEI is not a contract between the Bank Sponsor or Property Owner and USACE or any other agency of the Federal government. Any dispute arising under this BEI will not give rise to any claim by the Bank Sponsor or Property Owner for monetary damages. This provision is controlling notwithstanding any other provision or statement in the BEI to the contrary.

Section XIII: Execution

Each of the undersigned certifies that he or she has full authority to enter into this BEI. This BEI shall be deemed executed on the date of the last signature by the Parties. Within 30 calendar days of BEI execution, the Bank Sponsor shall upload the final signed BEI, including all of its Exhibits, to the appropriate folders in RIBITS and provide an electronic copy to each member of the IRT.

IN WITNESS WHEREOF, the Parties have executed this BEI as follows:

Bank Sponsor and Property Owner
Los Cerritos Wetlands, LLC

By: _____ _____
John McKeown Date
CEO

U.S. Army Corps of Engineers, Los Angeles District

By: _____ _____
David J. Castanon Date
Chief, Regulatory Division

U.S. Fish and Wildlife Service, Carlsbad Office

By: _____ _____
Name: Date
Field Supervisor

U.S. Environmental Protection Agency, Region IX

By: _____ _____
Name: Date
Supervisor, Wetlands Office

California Coastal Commission

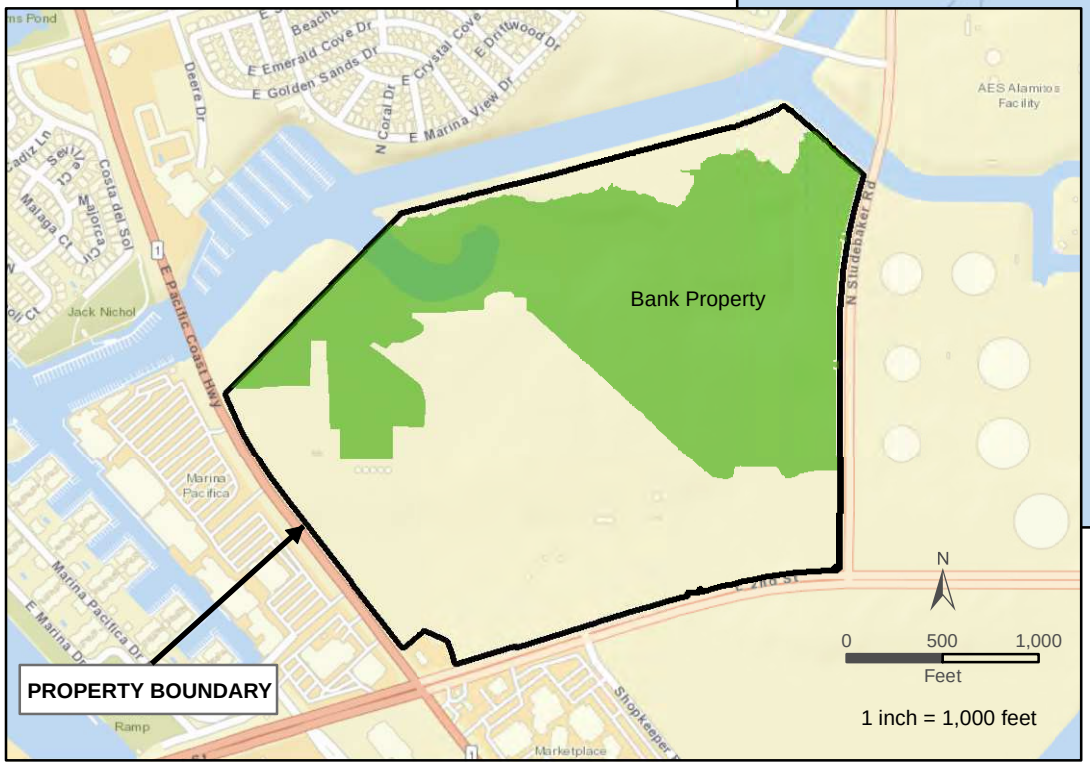
By: _____ _____
John Ainsworth Date
Executive Director

Exhibit A
Bank Location Maps

CONTENTS

Exhibit A-1

General Vicinity Map



UPPER LCW MITIGATION BANK
BANK ENABLING INSTRUMENT

General Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit A-1

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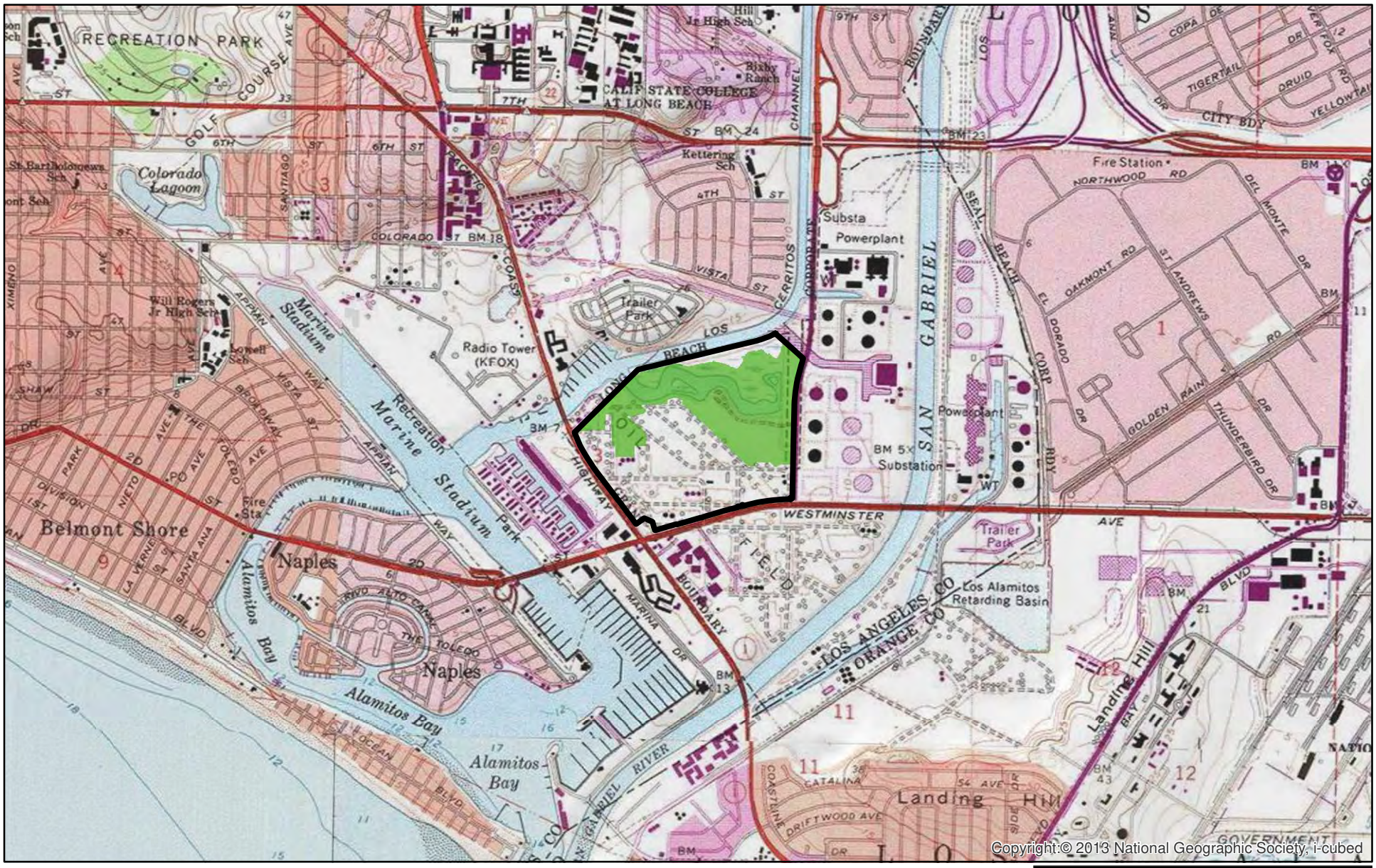
Exhibit A-2

Map of Property Including Bank Property



Adapted from USGS Los Alamitos, CA quadrangle

Property

Bank Property

N

0 1,000 2,000 4,000

Feet

1 inch = 2,000 feet

UPPER LCW MITIGATION BANK
BANK ENABLING INSTRUMENT

Map of Property including Bank Property

GLENN LUKOS ASSOCIATES

Exhibit A-2

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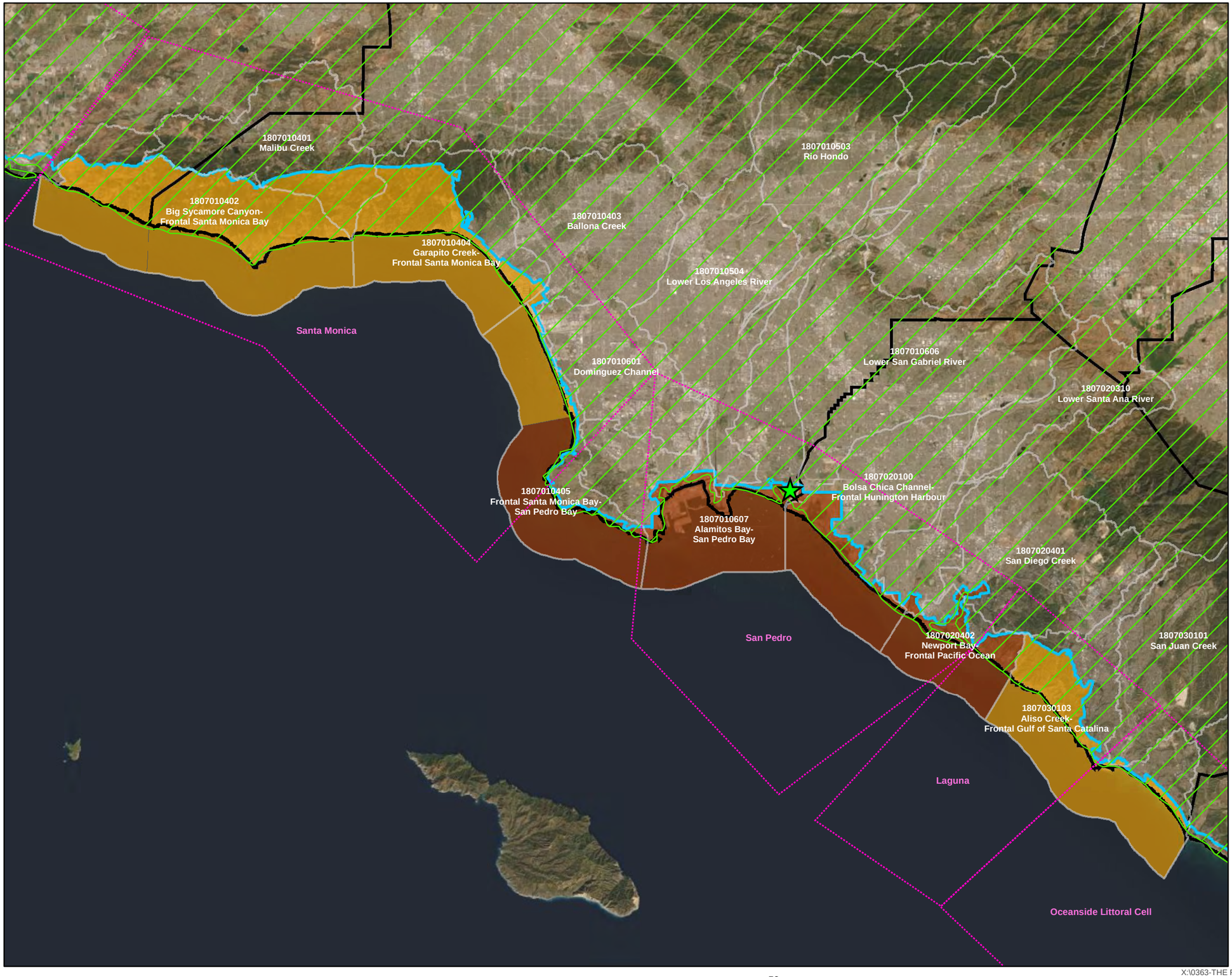
Exhibit B

Service Area Map and Descriptions

CONTENTS



Bank Property

County Line

Coastal Zone Boundary

HUC 10

Primary Service Area

Secondary Service Area

Littoral Cells*

Southern California Ecoregion**

*ArcGIS Online Feature Service by: CESPL
**Source: USFWS Ecosystem Regions

N

0 3.5 7 14
Miles

1 inch = 7 miles

UPPER LOS CERRITOS WETLANDS MITIGATION BANK

Service Area Map (HUC 10)

GLENN LUKOS ASSOCIATES

Exhibit B-1

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SERVICE AREA

Narrative Descriptions of the Bank's Service Areas

Service Area Overview

The Bank has a primary Service Area and a secondary Service Area for the sale of Waters of the U.S. Credits and associated Buffer Credits, and Coastal Wetland Credits, as depicted in Exhibit B-1. The primary Service Area is largely made up of four Hydrologic Unit Codes (HUC-10s), but also contains relatively small portions of five additional HUC-10s. The secondary Service Area contains six HUC-10s and portions of three additional HUC-10s, beyond what is already covered by the primary Service Area. Both the primary and secondary Service Areas are bound on the inland-side by the California Coastal Zone boundary.

The HUC-10s and corresponding acreages included in each Service Area are listed in the table below. More than 75% of the acreage included in the table below consists of open ocean, corresponding with HUC-10 boundaries.

HUC-10 Code	HUC-10 Name	Primary Service Area Acres	Secondary Service Area Acres
1807010405	Frontal Santa Monica Bay-San Pedro Bay	42,717	20,654
1807010504	Lower Los Angeles River	354	0
1807010601	Dominguez Channel	8	23
1807010606	Lower San Gabriel River	703	0
1807010607	Alamitos Bay-San Pedro Bay	47,918	0
1807020100	Bolsa Chica Channel-Frontal Huntington Harbor	33,270	0
1807020310	Lower Santa Ana River	1,187	0
1807020401	San Diego Creek	922	3
1807020402	Newport Bay-Frontal Pacific Ocean	30,446	0
1807030103	Aliso Creek-Frontal Gulf of Santa Catalina	0	61,967
1807010401	Malibu Creek	0	13,808
1807010402	Big Sycamore Canyon-Frontal Santa Monica Bay	0	112,720
1807010403	Ballona Creek	0	804
1807010404	Garapito Creek-Frontal Santa Monica Bay	0	57,444
1807030101	San Juan Creek	0	329
Total		157,525	267,752

Service Area Detailed Description

The Service Areas are defined according to the USACE South Pacific Division Final 2015 Regional Compensatory Mitigation and Monitoring Guidelines[1] and the 2008 Final Rule.[2] The 2015 Guidelines state that the HUC-10 watershed containing the mitigation bank is the minimum starting point for defining the

[1] U.S. Army Corps of Engineers Regional Compensatory Mitigation and Monitoring Guidelines for the South Pacific Division, dated January 12, 2015.

[2] Environmental Protection Agency, 40 CFR Part 230 and 33 CFR Part 332. Compensatory Mitigation for Losses of Aquatic Resources; Final Rule

Service Area. Areas that are adjacent to the initial HUC-10 and within the same HUC-8 sub-basin and the same U.S. Department of Agriculture's Major Land Resource Area (MLRA) may be added with minimal justification. Furthermore, it may be appropriate to expand the Service Area into an adjacent MLRA of the same HUC-8, or into portions of adjacent HUC-8s within the same MLRA, depending on the needs of the watershed. The 2008 Final Rule and the 2015 Guidelines also state that the economic viability of a mitigation bank may be taken into consideration when defining the Service Area.

Primary Service Area

The Bank is located within the California Coastal Zone portion of the Alamitos Bay-San Pedro Bay HUC-10. and the Southern California Coastal Plain MLRA. The California Coastal Zone extends inland generally 1,000 yards from the mean high tide line of the sea or, in significant coastal estuarine habitat and recreational areas, it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less[3]. The MLRA extends from Santa Monica south to San Diego along the coast. From this initial HUC-10, the primary Service Area is extended to include the California Coastal Zone portions of nine HUC-10s, to the north and the south, that are within this same Southern California Coastal Plain MLRA.

Two HUC-10s (Dominguez Channel and Lower San Gabriel River) are included that are adjacent to the initial HUC-10 and part of the same HUC-8 (the San Gabriel sub-basin). Two additional HUC-10s (Frontal Santa Monica Bay-San Pedro Bay and a very small portion of the Lower Los Angeles River) are adjacent to the initial HUC-10 and also within the same HUC-6 (the Ventura-San Gabriel Coastal Basin) and the same MLRA.

To the south, the primary Service Area includes the Bolsa Chica Channel-Frontal Huntington Harbour HUC-10, which is adjacent to the HUC-10 containing the Bank Property. The Bolsa Chica Channel-Frontal Huntington Harbour HUC-10 is part of a different HUC-6 (the Santa Ana Basin), but the two watersheds are abutting at Seal Beach (approximately 3-miles from the Bank Property) and are within the same MLRA. Extending south along the coast, the primary Service Area includes three additional HUC-10s (the Lower Santa Ana River, the Newport Bay-Frontal Pacific Ocean and San Diego Creek) that are part of the Santa Ana Basin HUC-6.

In summary, the primary Service Area includes the California Coastal Zone portions of nine HUC-10s. Six of these HUC-10s are immediately adjacent to or include the Bank. Two of the HUC-10s are within the same HUC-8 as the initial HUC-10, and four are within the same HUC-6 as the initial HUC-10. The remaining four are in a different HUC-6 (the Santa Ana Basin) from the initial HUC-10, but this HUC-6 is immediately adjacent to the Bank. All of the HUC-10s included in the primary Service Area are part of the Southern California Coastal Plain MLRA.

Secondary Service Area

The secondary Service Area extends further south past the Newport Bay-Frontal Pacific Ocean HUC-10 to include the next adjacent HUC-10, the Aliso Creek-Frontal Gulf of Santa Catalina and a very small portion of San Juan Creek HUC-10, which are part of the Laguna-San Diego Coastal HUC-6. These additional HUC-10s are still within the Southern California Coastal Plain MLRA. A small amount of the San Diego

[3] The US Fish and Wildlife User Group, Pacific Southwest Region. California Coastal Zone Map. Data Basin. https://databasin.org/datasets/ece6ae2d026b43959cfa11cceb2c07ac

Creek HUC-10 (3 acres) is also included in the secondary Service Area.

North of the Bank, the secondary Service Area includes the rest of the Frontal Santa Monica Bay-San Pedro Bay HUC-10 that exists within the California Coastal Zone and was not included in the primary Service Area. Another very small section (23 acres) of the Dominquez Channel HUC-10 is included as well. Adjacent to Frontal Santa Monica Bay-San Pedro Bay HUC-10, a small portion of Ballona Creek HUC-10 that lies within the California Coastal Zone is included.

Finally, the secondary Service Area includes portions of three additional HUC-10s north of the Frontal Santa Monica Bay-San Pedro Bay HUC-10: Garapito Creek-Frontal Santa Monica Bay, Malibu Creek, and Big Sycamore Canyon-Frontal Santa Monica Bay. The HUC-10s are part of the same HUC-8 (the Santa Monica Bay sub-basin) as the Frontal Santa Monica Bay-San Pedro Bay HUC-10. Half of Garapito Creek-Frontal Santa Monica Bay and all of Malibu Creek and Big Sycamore Canyon-Frontal Santa Monica Bay are part of the Southern California Mountains MLRA.

Service Area Justification

The Bank's Service Areas include multiple HUC-10 watersheds, as described above, because the Service Areas are limited to the California Coastal Zone and there are clear similarities and linkages between the coastal habitats across this region. Tidal and subtidal habitats contain similar vegetation and provide the same ecosystem functions and benefits to wildlife species as a result of their position on the shoreline and because of their interconnectedness through nearshore waters. Therefore, the Service Areas are justified based on their positioning along the coast, shared habitat characteristics, ecosystem function, and benefits for species, and connectivity across littoral cells.

South Coast Hydrologic Region

The watersheds within the Service Areas are located within the Los Angeles and Santa Ana Planning Areas of the South Coast Hydrologic Region as defined by the California Department of Water Resources. Topographically, most of the South Coast Hydrologic Region is composed of several large, undulating coastal and interior plains. Most of the rivers drain into the Pacific Ocean, and many terminate in lagoons or wetland areas that provide critical coastal habitat. The headwaters for many of the rivers are found in the relatively undeveloped coastal mountain ranges. The topographic and hydrological similarities and connectivity across the watersheds in this Region suggest that similar habitats and functions are likely to be found throughout the Service Areas.

California Coastal Zone Habitats

Both the primary and secondary Service Areas are limited on the inland side by the California Coastal Zone boundary. The coastal aquatic resources within this region include subtidal habitats, tidal wetlands, and ponds and associated vegetation. While sparsely located, and far below their historical levels, these remnant subtidal and tidal wetland habitats contain similar flora and fauna, and provide similar ecosystem functions as those preserved and restored on the Bank Property. Additionally, although much of this region has been urbanized and other non-tidal habitats exist within the Service Areas, credits from the Bank will only be allowed to mitigate for impacts to tidal resources, as discussed in the "Use of Waters of the U.S. and Coastal Wetlands Credits within Service Area" section below.

MLRA Ecoregion

The primary Service Area and all but a small portion of the secondary Service Area is contained within a single MLRA ecoregion, the Southern California Coastal Plain MLRA. The Los Angeles portion of this MLRA is characterized by gently to strongly sloping dissected coastal and alluvial plains bordered by steep hills. Elevation ranges from sea level to 1,970 feet. The coastal plains of this MLRA consist of thick layers of river-laid sediments and there is very coarse sediment on the colluvial slopes and alluvial fans on the inland border of the MLRA. The average annual precipitation is 10 to 29 inches and rainfall tends to occur in low to moderate intensity. The average annual temperature is 55 to 66 degrees. While there are variations across the MLRA, areas within this region are generally similar in terms of physiography, geology, climate, biological resources and soils[4]. Therefore, because the vast majority of watersheds within the Service Areas are within this ecoregion, we would expect similar coastal habitats and ecosystem functions across the Service Areas, justifying the use of credits from the Bank as mitigation for impacts to other tidal resources within the Service Areas.

Species Habitat

Fish and marine birds, among other wildlife, utilize habitat across the Service Areas. Based on species ranges, the Bank Property can provide important habitat to displaced species from impact sites and offer an important addition to the network of existing conserved coastal habitats within the Service Areas. Analysis of several species of juvenile predatory fish, including spotted sand bass (*Paralabrax maculatofasciatus*), shovelnose guitarfish (*Rhinobatos productus*), grey smooth-hound (*Mustelus californicus*), California halibut (*Paralichthys californicus*), and leopard shark (*Triakis semifasciata*), in southern California indicates that these species travel over 40 km (i.e. 25 miles) to other nearby estuaries.[5] These results indicate that the Bank's primary Service Area, which extends approximately 20 miles south from Bank Property and roughly 30 miles north from the Bank Property, may be able to provide high quality habitat for juvenile predatory fish displaced by impacts within this region. In addition, this same tagging survey found that restoration projects spaced further than 10 km from each other "function as part of [a] large network of nursery habitat for [juvenile predatory fish] rather than a single discrete system"[5]. Therefore, because the Bank Property is located near several additional restoration sites and protected areas, including Seal Beach National Wildlife Refuge and Jack Dunster Marine Biological Reserve, it is expected to provide additional benefit to species as an integrated part of a large nursery network as opposed to a single isolated restoration site.[6]

While juvenile fish have been tracked moving between reserves more than 40 km apart, fish larvae can disperse across much greater distances.[6] Larvae are often transported by ocean currents which can carry them large distances. Larvae for commonly fished coastal marine species can drift an average of up to 100 km[7]. As such, marine reserves up to 100 km apart from each other have been found to provide species benefit to coastal marine fish, as larvae can travel between them and replenish populations outside of a protected area[6]. The Bank Property can therefore support coastal marine fish species stocks within the primary and

[4] Natural Resources Conservation Service, United States Department of Agriculture. (2006) Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean and the Pacific Basin. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_050898.pdf

[5] RM Freedmand and CG Lowe. 2013. Estuary Predator Translocation Project: Final Report For California Fish And Wildlife

[6] Steven D. Gaines, Crow White, Mark H. Carr, and Stephen R. Palumbi. 2009. Designing Marine Reserve Networks for both Conservation and Fisheries Management.

[7] BP Kinlan and Steve D. Gaines. 2003. Propagule dispersal in marine and terrestrial environments: A community perspective. Ecology 84:2007–2020.

secondary Service Areas by providing suitable habitats for fish larvae to transition into juveniles and/or a source of larvae for other regional fisheries.

Shorebirds and a variety of other avifauna such as waterfowl and wading birds utilize the coastline included in the Service Areas, from the north at the Redondo Beach pier in Los Angeles County to the southern extent near the mid-way point of Orange County. As part of the Pacific Flyway, the southern California coastline includes several key wetland complexes that provide stopover foraging habitat for migratory shorebird populations on their annual migration routes, including several coastal and estuarine wetlands within the Service Areas.[8] Other species utilize southern Californian coastal wetlands as nesting or wintering habitat. While there is a recognized lack of robust geographic tracking of inter-wetland birds in coastal southern California, the region is known as important habitat for a variety of migratory and resident shorebirds and waterfowl.[9]

A myriad of bird species with recorded occurrences at the Bank Property[10] have distributions and recorded observations throughout the Service Areas, including special-status species such as California least tern (western sandpiper (*Calidris mauri*)[11], and more common species such as black-necked stilt (*Himantopus mexicanus*), short-billed dowitcher (*Limnodromus griseus*), and western grebe (*Aechmophorus occidentalis*),[12] among others. Based on the similarities across these habitats in terms of function and habitat use, and the significance of the Bank Property relative to a broader network of habitat, the restored Bank Property could provide mitigation for impacts occurring to other coastal salt marsh habitat within the Service Areas.

Littoral Cells

Littoral cells are geographically-distinct, self-contained sources and sinks of coarse sediment (sand and shingle) along coastlines. Sediment enters the nearshore environment from rivers, streams, and drainages, and exits through sinks – either dunes, beaches, within estuaries, or in offshore canyons. Longshore transport of sand is constrained to the boundaries of the littoral cells, either by natural (such as rocky headlands) or constructed barriers to longshore flow.[13,14,15] Sediment deposition and dispersal is an

[8] Hickey C, WD Shuford, GW Page, and S Warnock. 2003. Version 1.1. The Southern Pacific Shorebird Conservation Plan: A strategy for supporting California's Central Valley and coastal shorebird populations. PRBO Conservation Science, Stinson Beach, CA.

[9] Shuford WD (author and editor). 2014. Coastal California (BCR 32) Waterbird Conservation Plan: Encompassing the coastal slope and Coast Ranges of central and southern California and the Central Valley. A plan associated with the Waterbird Conservation for the Americas initiative. U.S. Fish and Wildlife Service, Region 8, 2800 Cottage Way, Sacramento, CA 95825.

[10] Glen Lukos Associates, Inc. 2017. Biological Technical Report for Los Cerritos Wetlands Oil Consolidation and Restoration Project, City of Long Beach, Los Angeles County, California. Prepared for the City of Long Beach Development Services, Planning Bureau. Included as Exhibit H of the Upper Los Cerritos Wetland Mitigation Bank Bank Enabling Instrument.

[11] USFWS. 2006. California least tern (*Sternula antillarum browni*) 5-Year Review: Summary and Evaluation. Prepared by U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, Carlsbad, California.

[12] Birds of the World. 2020. Cornell Lab of Ornithology, species accounts and distributions for black-necked stilt (Himantopus mexicanus), short-billed dowitcher (Limnodromus griseus), and western grebe (Aechmophorus occidentalis). Online at: https://birdsoftheworld.org/bow/home

[13] Motyka JM and AH Brampton. 1993. Coastal Management – Littoral Cells. HR Wallingford Report SR 328. Prepared for the United Kingdom Ministry of Agriculture, Fisheries and Food. Online at https://eprints.hrwallingford.com/339/1/SR328.pdf.

[14] Inman DL. 2003. Littoral cells. In: Encyclopedia of Coastal Science (M Schwartz, ed.). The Earth Sciences Encyclopedia Online. Online at https://escholarship.org/content/qt61p812hc/qt61p812hc.pdf.

[15] Patsch K and G Griggs. 2006. Littoral Cells, Sand Budgets, and Beaches: Understanding California's Shoreline. Prepared for the University of California, Santa Cruz, the California Department of Boating and Waterways, and the California Coastal

important abiotic component of coastal ecosystem function as it provides both nutrients and substrate to support diverse biotic coastal marine communities.[16] As discussed in earlier sections, the biological communities within the Service Areas have strong connectivity, and these biological communities are built upon the abiotic foundation of sediments deposited within the distinct littoral cells within the Service Areas. Most closely associated with marine sediments are benthic micro- and macrofauna, which play key roles in coastal nutrient cycling and other biogeochemical processes within deposited sediments and also serve as food sources for many of the fish and shorebird species that utilize the coastal habitats within the Service Areas.[17] Studies have shown a connection between the type and diversity of sediments across marine floors and the specific benthic macrofauna species assemblages,[18] suggesting that a complex matrix of diverse sediment patches across a larger coastal system may support complex and biodiverse coastal ecosystems. Improvements in sediment volume and quantity in one littoral cell may therefore improve the function and quality of habitat utilized by biotic communities across multiple nearby littoral cells.

As shown in Exhibit B-1, the primary Service Area includes portions of the Santa Monica and Laguna littoral cells and all of the San Pedro littoral cell. The secondary Service Area includes portions of the Santa Monica, Laguna, and Oceanside littoral cells. The proposed wetland restoration project will support sediment transport processes within the San Pedro littoral cell by reestablishing tidal connectivity to coastal salt marshes and employment of best management practices to promote natural sediment deposition processes and the micro and macro fauna that inhabit these sediments. Given the biotic connectivity across the Service Areas and the littoral cell studies referenced above, this improvement to the sediment flow functionality within the San Pedro littoral cell will provide benefits that extend to all four littoral cells within the Service Areas.

Use of Waters of the U.S. and Coastal Wetlands Credits within Service Area

The use of Waters of the U.S. and Coastal Wetlands Credits at the Bank for USACE and CCC-authorized impacts within the Service Areas shall be approved at the discretion of the USACE and CCC. The purchase of Credits for authorized impacts within the secondary Service Area requires a ratio adjustment upwards to account for the distance between the impact and the Bank Property, and that consideration would be made by the USACE and/or CCC on a project-by-project basis.

Within the primary and secondary Service Areas, the following types of projects/activities may be authorized to purchase Credits at the Bank for compensatory mitigation requirements determined through the USACE's and CCC's permitting processes:

1. Primary Service Area – Permitted impacts to Waters of the U.S. and/or Coastal Wetlands may be compensated through the purchase of Credits at the Bank authorized under the:

Sediment Management Workgroup. Online at: http://clarewormaldsteele.cikeys.com/wp-content/uploads/2016/05/2016-CSMWLittoralCells.pdf.

[16] SedNet. 2011. The importance of sediment for biodiversity. Session 4, 7th International SedNet Conference, Venice, Italy. Online at: https://sednet.org/download/SpecialSession4-Summary.pdf.

[17] Snelgrove PVR. 1997. The importance of marine sediment biodiversity in ecosystem processes. Ambio 26(8):578-583.

[18] Gammal et al. 2019. Environmental context mediates biodiversity-ecosystem functioning relationships in coastal soft-sediment habitats. Ecosystems 22:137-151.

a) Standard Individual Permit/Letter of Permission (SIP/LOP), Nationwide Permit (NWP), or other General Permit (GP) processes pursuant to Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act;

b) Water Quality Certification pursuant to Section 401 of the Clean Water Act attached to the permits in a) above; and

c) Coastal Development Permit, issued directly by the CCC or through a local government, pursuant to the policies of Chapter 3 of the Coastal Act and/or a certified Local Coastal Program.

Limitations:

i. Impacts to non-tidal freshwater habitats may not be mitigated using Credits from this Bank.
ii. Projects that receive any of the authorizations listed above that include impacts to freshwater wetland or riparian dependent federally listed threatened or endangered species (e.g., least Bell's vireo) may not use any Credits from the Bank to offset impacts to Waters of the U.S. or Coastal Wetlands to compensate for those impacts.
iii. Buffer Credits can only be transferred in combination with Waters of the U.S. Credits.

2. Secondary Service Area – Permitted impacts to Waters of the U.S. and/or Coastal Wetlands may be compensated through the purchase of Waters of the U.S. and/or Coastal Wetland Credits at the Bank authorized under the same permit processes and limitations as the primary Service Area, subject to the following additional limitations:

Limitations:

i. Impacts to non-tidal freshwater habitats may not be mitigated using Credits from this Bank.
ii. Pursuant to the Regional Compensatory Mitigation and Monitoring Guidelines for South Pacific Division (final January 12, 2015), a secondary service area, if authorized by the Corps as part of a mitigation bank, may be used if:
• The impact site is not within the primary service area of an approved mitigation bank or ILF with available credits;
• Permittee-responsible mitigation has been determined by the Corps to be impracticable and/or inconsistent with a watershed approach, and;
• The number of credits to be purchased would be greater to account for the increased distance from the impact site to the mitigation bank or ILF project site.

Exhibit C

Development Plan

CONTENTS

Exhibit C-1

Development Plan

DEVELOPMENT PLAN

UPPER LOS CERRITOS WETLANDS MITIGATION BANK

CITY OF LONG BEACH
LOS ANGELES COUNTY, CALIFORNIA

Prepared by Glenn Lukos Associates, Inc.
Revisions by WRA, Inc.

November 2020

TABLE OF CONTENTS

TABLES

EXHIBITS

UPPER LOS CERRITOS WETLANDS MITIGATION BANK DEVELOPMENT PLAN[1]

I. EXECUTIVE SUMMARY

This Development Plan (Development Plan) provides a framework for establishment of the Upper Los Cerritos Wetlands Mitigation Bank (Bank). The Los Cerritos Wetlands, LLC, is the owner of real property containing approximately 150 acres (the "Property"), located at 6433 E. 2nd Street, city of Long Beach, state of California, and designated Assessor's Parcel No(s). 7237-017-010 through 7237-017-014 and 7237-017-019. Los Cerritos Wetlands, LLC, as Bank Sponsor, desires to create a 67.90-acre Bank on 68.74-acres of the Property (the "Bank Property")") in the city of Long Beach (City). The 0.84-acre difference between the Bank Property and the Bank consists of the 6-foot-wide trail adjacent to Studebaker Road and the backslope of the earthen berm, both of which are contained within the Bank Property but are excluded from the Bank. Establishment of the Bank discussed herein is associated with the larger Los Cerritos Wetlands Oil Consolidation and Restoration Project (Project) that will occur on four properties including the Property, Pumpkin Patch site, Los Cerritos Wetlands Authority (LCWA) site, and a City-owned property. The Bank is located on the northern portion of the Property.

The focus of this Development Plan is the Bank Property; however, more information regarding the four surrounding properties is described below to provide the necessary context for this Development Plan. The Project involves the relocation of specific oil facilities currently located on the Property and City-owned properties to two off-site properties: the LCWA site and the Pumpkin Patch site, in proximity to the Property. Project components on the other properties will be referenced in this Development Plan, but will not be discussed at length.

The Property is owned and operated by Los Cerritos Wetlands, LLC. Los Cerritos Wetlands, LLC is the Bank Sponsor and the entity that will implement the Development Plan. The Property is situated within the historic floodplain of the San Gabriel River within a complex of wetlands, referenced as the Los Cerritos Wetland Complex (LCW Complex), that have been subject to various anthropogenic disturbances including urban development, oil extraction, farming, landfills, and burn dumps in the past century. At present, only remnant wetlands persist throughout the wetland network.

Prior to preparation of this Development Plan, a comprehensive conceptual development plan addressing the larger LCW Complex, *Los Cerritos Wetlands Final Conceptual Development Plan*[2] (LCW Final Conceptual Development Plan/LCWFCRP), was prepared for the LCWA site by Moffatt and Nichol in association with Tidal Influence, Everest International Consultants, Coastal Restoration Consultants, New West Land, Chambers Group, Inc., Kinnetic Laboratories, Inc., and Livable Communities, through extensive collaborative efforts with adjacent landowners, resource agencies, and the public. The LCWFCRP

[1] This Development Plan has been prepared in accordance with the following document: Federal Register, Volume 73, No. 70. April 10, 2008. Department of Defense: Department of the Army, Corps of Engineers, 33 CFR Parts 325 and 332, and Environmental Protection Agency, 40 CFR Part 230. *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* and U.S. Army Corps of Engineers *Regional Compensatory Mitigation and Monitoring Guidelines for the South Pacific Division*, dated January 12, 2015.

[2] Moffatt & Nichol. 2015. *Los Cerritos Wetlands Final Conceptual Development Plan*. Prepared in association with Tidal Influence, Everest International Consultants, Coastal Restoration Consultants, New West Land, Chambers Group, Inc., Kinnetic Laboratories, Inc., Livable Communities, for the Los Cerritos Wetlands Authority.

developed and analyzed several scenarios for large-scale restoration of the LCW Complex (nearly 565 acres), integrating numerous baseline studies on current and historical ecology of the area, regional and local needs, and potential future sea level rise (SLR) projections related to climate change, in addition to other opportunities and constraints analyses relating to the LCW Complex.

This Development Plan, while providing a focused work plan for the Bank Property on the northern portion of the Property, was prepared in keeping with the overarching approaches and strategies developed in the LCWFCRP for the larger LCW Complex, and incorporates underlying principles identified during extensive public/private collaboration and analysis. The design, goals, and objectives described herein are in alignment with goals and objectives previously outlined in the LCWFCRP.

II. LOCATION, PURPOSE, AND DESCRIPTION

A. Mitigation Bank Proponents/Interested Parties

Current Property Owner & Bank Sponsor:	Los Cerritos Wetlands, LLC Contact: John McKeown 6433 E. 2nd Street Long Beach, CA 90806 Telephone: (562) 234-1499
Restoration Engineer:	Moffatt & Nichol Contact: Chris Webb 3780 Kilroy Airport Way, Suite 600 Long Beach, CA 90806 Telephone: (562) 426-9551
Biological/Restoration Consultant:	Glenn Lukos Associates, Inc. Contact: Sheri Asgari, Tony Bomkamp, and Thienan Pfeiffer 1940 E. Deere Avenue, Suite 240 Santa Ana, CA 92705 Telephone: (949) 837-0404
Future Property Owner:	Los Cerritos Wetlands Authority c/o Rivers and Mountains Conservancy Contact: Mark Stanley, Executive Officer 100 N. Old San Gabriel Canyon Road Azusa, CA 91702

B. Location of Bank

The Bank is located in the city of Long Beach, Los Angeles County [Regional and Vicinity Maps – Exhibits 1 and 2]. Various aspects of the Project would be implemented on four properties: the Property, Pumpkin

Patch site, LCWA site, and City-owned property located in the southeast portion of the City [Exhibit 3 – Project Components]. The Bank will be located on the northern portion of the Property.

The Property, formerly known as the Bixby Oil Field, consists of a 150-acre property located at 6433 E. Second Street, in the city of Long Beach, Los Angeles County, California. The Property is bound by the Pacific Coast Highway to the west, East 2nd Street to the south, Studebaker Road to the east and the Los Cerritos Channel to the north – [Latitude: 33.762133°; Longitude: -118. 108956°]

The Bank is located on the northern portion of the Property [Exhibit 3]. The Property is situated within the historic floodplain of the San Gabriel River within a complex of wetlands, referenced as the "LCW Complex", that have been subject to various anthropogenic disturbances including urban development, oil extraction, farming, landfills, and burn dumps in the past century. Existing vegetation and land-use/land cover types are included on Exhibit 4A and special-status species are depicted on Exhibit 4B. Exhibits 5A – 5C depict wetlands and other jurisdictional aquatic features on the site by agency. At present, many areas contain remnant wetlands, which have been cut off from tidal influence but nevertheless continue to persist; albeit in a degraded state. Steamshovel Slough in the northerly portion of the Bank is the highest quality wetlands on the site. Exhibits 6A and 6B contain historic topographic maps of the Steamshovel Slough and surrounding wetlands. Exhibit 6C depicts a current aerial (2015) with topography for reference. It is evident on Exhibits 6A and 6B that Steamshovel Slough was historically a part of an extensive tidal channel network (as shown on the 1916 topographic map), which was later confined through the construction of an earthen berm to facilitate oil extraction operations (as shown on the 1942 topographic map).

C. Restoration Goals and Objectives

The Bank Sponsor, in collaboration with LCWA and the City, has prepared this Development Plan for the Bank, including preservation of the Steamshovel Slough and restoration of coastal salt marshes within degraded areas outside of Steamshovel Slough.

As discussed in detail throughout this document, areas to be preserved, reestablished and/or rehabilitated and Buffers are depicted on Exhibit 7.

The goals of Bank establishment described in this Development Plan are listed as follows:

- Reestablish tidal connection through strategic grading to restore hydrologic functions in disconnected and degraded uplands and wetlands to create a self-sustaining wetland ecosystem;
- Reestablish coastal salt marsh habitat and associated subtidal, intertidal, transitional, and upland habitats, taking into consideration potential sea level rise due to climate change;
- Rehabilitate areas of coastal salt marsh that currently exhibit limited tidal influence by reestablishing full tidal connections;

- Reestablish wetlands meeting three criteria in accordance with the U.S. Army Corps of Engineers methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual[3] (Wetland Manual) and the 2008 Regional Supplement to the Wetland Manual: Arid West Region Version 2.0[4] (AWS v2.0);
- Reestablish and enhance habitat for special-status plant and animal species, including no-net-loss of breeding habitat for Belding's savannah sparrow under the lower range of modeled sea level rise; and
- Establish an adaptive management approach that will maximize achievement of the above-mentioned goals in the context of various sea level rise scenarios.

The objectives outlined in this Development Plan are listed as follows:

- Remove all contaminated soil located within the Bank Property;
- Reestablish 20.66 acres of coastal salt marsh habitats through strategic grading and removal of segments of a constructed berm that currently restricts historic tidal connections between the Steamshovel Slough and the oil field portion of the Property;
- Provide 1.80 acres of non-tidal transitional habitat with high-marsh species Buffer;
- Rehabilitate 7.25 acres of coastal salt marsh habitat;
- Provide 7.44 acres of saltbush/goldenbush scrub in the Buffer;
- Provide 1.04 acres of mulefat scrub in the Buffer;
- Preserve 29.71 acres of coastal salt marsh within the Steamshovel Slough;
- Construct flood protection between the Bank Property and southerly portion of the Property;
- Construct the Studebaker trail adjacent to the Buffer near the eastern boundary of the Bank Property;
- Perform 5-year monitoring and reporting program for the Bank;

In the bullet points above, one of the goals of the Development Plan is described as "Reestablish coastal salt marsh". As provided in the glossary below, the term "Reestablishment" is defined as:

> *The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/ historic functions to a former aquatic resource. **Re-establishment results in rebuilding a former aquatic resource** and results in a gain in aquatic resource area and functions.* [Emphasis added].

This is compared with the definition of "Establishment" which is defined as:

> *The manipulation of the physical, chemical, or biological characteristics present **to develop an aquatic resource that did not previously exist at an upland site**.*

[3] Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, U.S. Army Engineer Waterways Experimental Station, Vicksburg, Mississippi.

[4] U.S. Army Corps of Engineers. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. Ed. J.S. Wakeley, R.W. Lichevar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center and Engineering Laboratory.

> *Establishment results in a gain in aquatic resource area and functions.* [Emphasis added]

Manipulation includes the following (either individually or in combination): grading to alter elevations to maximize tidal flows; planting of container stock and seed; remediation of any contaminated soil; and use of temporary irrigation in areas of upper marsh, transitional habitat, and Buffers to enhance establishment and survival of container stock and enhance seed germination and survival of plantings derived from seed.

Given that most, if not all, of the areas to be restored were previously part of the more expansive wetland ecosystem that historically occurred on the site, "reestablishment' is the more appropriate designation for these areas. Even areas such as roads and developed pads, previously were created by placement of fill in the aquatic ecosystems and therefore for purposes of this plan, are considered, Reestablishment and not Establishment given that none of the aquatic resources subject to reestablishment occurred in historic uplands.

D. Development Plan Context

Prior to preparation of this Development Plan, the LCWFCRP evaluated approaches for large-scale restoration of the LCW Complex, which was the result of significant collaboration and coordination among various interests, including landowners, resource agencies, environmental planners/scientists, and the public. The LCWFCRP developed various restoration scenarios based on historical ecology of the area, regional and local needs, baseline studies, potential sea level rise projections related to climate change, in addition to other opportunities and constraints associated with the LCW Complex.

This Development Plan, while focused on proposed wetlands restoration within the Bank Property, was prepared in accordance with the overarching approaches and strategies developed in the LCWFCRP for the larger LCW Complex, and in consideration of underlying principles identified during extensive public/private collaboration. Specifically, this Development Plan has been prepared with the following approaches, strategies, and principles in mind:

- Focus on reestablishment of tidal connections to provide for reestablishment of historic coastal salt marsh and related habitats including sub-tidal, intertidal, wetland-upland transitions, and uplands;
- Development planning in consideration in the context of larger-scale, complex-wide habitat values despite challenges associated with coordination between multiple land owners;
- Development planning strategies in consideration of lower projections of potential sea level rise associated with climate change;
- Restoration design based on appropriateness of habitat for the location rather than catering to specific or potential known sources of mitigation funding;
- Restoration design that emphasizes reestablishment of ecosystem processes to create self-sustaining coastal salt marsh habitats; and
- Incorporation of public access and educational opportunities as a part of development planning and process.

The above-stated overarching principles have been considered as a part of development and design of this Development Plan.

E. Coordinating Agencies

In order to develop this Bank, the Bank Sponsor is required to coordinate with the Interagency Review Team (IRT) and obtain approval from the USACE and CCC regarding the restoration approach. The process includes review of a prospectus by the IRT, followed by the review and approval of a bank enabling instrument (BEI) by the USACE and CCC in coordination with the other members of the IRT, the final approval of which allows the Bank Sponsor to establish, operate and maintain the Bank. The USACE and CCC in coordination with the other members of the IRT, will identify the amount and nature of Credits that will be available through this Bank. In addition to approval of the BEI, implementation of the Bank and restoration of the wetland habitat areas to obtain Credits may require permits and approvals from the agencies that are members of the IRT.

F. Glossary of Key Terms and Acronyms

Table 1 below includes definitions used in this Development Plan. This is important because many of the terms used in this plan have overlapping meaning and in some instances, certain agencies (e.g., the USACE) requires very specific terms be used for restoration activities.

Table 1
Glossary of Key Terms and Acronyms

Key Term	Definition
Buffer	An upland area that protects and/or enhances aquatic resource functions associated with wetlands, rivers, streams, lakes, marine, and estuarine systems from disturbances associated with adjacent land uses.
Compensatory Mitigation	The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.
Credit	A unit of measure (e.g., a functional or areal measure or other suitable metric) representing the accrual or attainment of aquatic functions at a compensatory mitigation site. The measure of aquatic functions is based on the resources restored, established, enhanced, or preserved.
CRAM	The California Rapid Assessment Method (CRAM) for wetlands and riparian areas is a tool for standardized and cost-effective assessment of wetland condition.
Debit	A unit of measure (e.g., a functional or areal measure or other suitable metric) representing the loss of aquatic functions at an impact or project site. The measure of aquatic functions is based on the resources impacted by the authorized activity.
Enhancement	The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.
Establishment	The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area and functions. Previously referred to as "creation."

FAC	An abbreviation for "Facultative" and a qualitative description of wetland indicator status rating used to determine if vegetation is hydrophytic during wetland delineations in the United States. FAC designates a hydrophyte that occurs in wetlands and non-wetlands.
FACU	An abbreviation for "Facultative Upland" and a qualitative description of wetland indicator status rating used to determine if vegetation is hydrophytic during wetland delineations in the United States. FACU designates a non-hydrophyte that usually occurs in non-wetlands, but may occur in wetlands.
FACW	An abbreviation for "Facultative Wetland" and a qualitative description of wetland indicator status rating used to determine if vegetation is hydrophytic during wetland delineations in the United States. FACW designates a hydrophyte that usually occurs in wetlands, but may occur in non-wetlands.
Functions	The physical, chemical, and biological processes that occur in ecosystems.
Functional Capacity	The degree to which an area of aquatic resource performs a specific function.
High Marsh	Coastal salt marsh vegetation zone that occurs at elevations ranging from +3.4 to +4.3 feet NGVD.[5]
IRT	Interagency Review Team. Currently comprised of the USACE, USFWS, EPA, NMFS, Regional Board, and CCC.
Low Marsh	Coastal salt marsh vegetation zone that occurs within +0.8 to +1.5 feet NGVD.
LCWA	Los Cerritos Wetlands Authority
LCW Complex	The LCW Complex includes approximately 565 acres evaluated as part of the Los Cerritos Wetlands Final Conceptual Development Plan
LCWFCRP	Los Cerritos Wetlands Final Conceptual Development Plan
Manipulation	Manipulation includes the following (either singly or in combination): grading to alter elevations to maximize tidal flows; planting of container stock and seed; and use of temporary irrigation in areas of upper marsh, transitional habitat, and Buffers to enhance establishment and survival of container stock and enhance seed germination and survival of plantings derived from seed.
Mid Marsh	Coastal salt marsh vegetation zone that occurs at elevations ranging from +1.5 to +3.4 feet NGVD.
Mitigation Bank (Bank)	A site, or suite of sites, where resources (e.g., wetlands, streams, riparian areas) are restored, established, enhanced, and/or preserved for the purpose of providing compensatory mitigation for impacts authorized by Department of the Army permits. In general, a mitigation bank sells compensatory mitigation Credits to permittees whose obligation to provide compensatory mitigation is then transferred to the mitigation bank sponsor. The operation and use of a mitigation bank are governed by a mitigation banking instrument. Use of this term in this document refers to the 67.90-acre Mitigation Bank.
MHW	Mean High Water. The MHW at the Mitigation is 2.12 ft. NGVD or 4.75 ft. MLLW.
MHHW	Mean Higher High Water. The MHHW at the Mitigation Bank is 2.86 ft. NGVD or 5.49 ft. MLLW.
MLLW	Mean Lower Low Water. The MLLW at the Mitigation Bank is -2.63 ft. NGVD or 0.00 ft. MLLW.
NGVD	National Geodetic Vertical Datum. The Sea Level Datum established in 1929 is the vertical control datum for surveying in the U.S. by the General Adjustment of 1929. The datum is used to measure elevation (altitude) above, and depression (depth) below, mean sea level (MSL).
OBL	An abbreviation for "Obligate" and a qualitative description of wetland indicator status rating used to determine if vegetation is hydrophytic during wetland delineations in the United States. OBL designates a hydrophyte that almost always occurs in wetlands.
Preservation	The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.
Re-establishment	The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/ historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

[5] Although NAVD 88 is a more commonly used datum, NGVD 29 was used as the datum in order to be consistent with sea level rise documents and the grading plan that were prepared for the Bank.

Rehabilitation	The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/ historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.
Reference Sites	For the purposes of compensatory mitigation, reference sites are used to help establish realistic objectives for compensatory mitigation projects.
Restoration	The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: reestablishment and rehabilitation.
Riparian Areas	Lands adjacent to streams, rivers, lakes, and estuarine-marine shorelines. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality.
Signatory Agencies	The agencies that will be signatory to the BEI.
SLR	Sea Level Rise
Bank Sponsor	Any public or private entity responsible for establishing, and in most circumstances, operating a mitigation bank or in-lieu fee program.
Transitional Habitat	Areas supporting high marsh plant species above the high marsh zone, occupying +4.3 feet to +6.1 NGVD. These areas are only inundated by tidal waters during the highest high tide, but serve important wetland habitat functions, providing nesting and foraging areas for special-status species such as the Belding's savannah sparrow.
UPL	An abbreviation for "Upland" and a qualitative description of wetland indicator status ratings used to determine if vegetation is hydrophytic during wetland delineations in the United States. UPL designates a non-hydrophyte that almost never occurs in wetlands.
Watershed	A land area that drains to a common waterway, such as a stream, lake, estuary, wetland, or ultimately the ocean.

III. ECOLOGICAL FRAMEWORK (EXISTING CONDITIONS)

A. Ecological Characteristics

The Property consists of flat, low-lying land generally between mean sea level (MSL) and approximately 5 feet above MSL.[6] The Property comprises the northwest limit of the LCW Complex encompassing a matrix of separately owned properties that may potentially be restored in the future to expand the San Gabriel River Estuary. Site photographs of existing conditions are located in the 2020 Update to the Jurisdictional Delineation Report, Exhibit I to the BEI.

A substantial portion of the Property is an active oil field with a network of roads, pipelines and other oil field-related amenities. The northern portion of the Property contains Steamshovel Slough, an area of tidally influenced southern coastal salt marsh, tidal channels, and mud flats which accounts for approximately 30 acres of the Bank Property (Exhibit 8, Photograph 1). Steamshovel Slough contains no oil operations and is separated from the oil operations areas by an earthen berm. A tide gate and series of pipes allow tidal water into limited western portions of the oil field. This earthen berm is proposed to be lowered or breached in strategic locations as a part of the proposed restoration program in the approximate locations of historic tidal channels (Exhibit 6A).

[6] All elevations in this plan are provided relative to National Geodetic Vertical Datum 1929 (NGVD 29). As sea level has risen since 1929, NGVD is slightly lower than existing MSL by approximately 0.18 feet.

With the exception of the Steamshovel Slough and limited areas that currently are subject to tidal influence south of the berm (maintained through a series of pipes), remaining portions of the Bank Property exhibit limited habitat value due to years of tidal disconnection. Nevertheless, the Bank Property supports a variety of wetland flora and fauna, including one special-status plant: southern tarplant (*Centromadia parryi australis*), and two special-status animals including the state endangered Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) and the wandering skipper butterfly (*Panoquina errans*). In addition to these species, Steamshovel Slough also supports two other special-status plants: woolly seablite (*Sueada taxifolia*) and estuary seablite (*Suaeda esteroa*), one special-status insect: the mudflat tiger beetle (*Cicindela trifasciata sigmoidea*), as well as foraging areas for the federally and state-listed California least tern (*Sterna antillarum browni*) and state fully protected California brown pelican (*Pelicanus occidnetalis*), which have been documented onsite as they both forage in the San Gabriel River and Alamitos Bay. Steamshovel Slough also represents potential habitat for two small mammals: the state species of special concern South coast marsh vole (*Microtus californicus stephensi*) and state species of special concern Southern California salt marsh shrew (*Sorex ornatus salicornicus*) and one reptile: the federally listed Pacific Green Sea Turtle (*Chelonia mydas*). Potential foraging habitat is also present for the federally listed and state species of concern western snowy plover (*Charadrius nivosus nivosus*), federally and state-listed light-footed Ridgway's rail (*Rallus obsoletus levipes*), and state fully protected White-tailed kite (*Elanus leucurus*), with the kite documented to forage onsite. Steamshovel Slough represents suitable wintering habitat for the state species of special concern short-eared owl (*Asio flammeus*), which has been observed on the berm at the southern edge of Steamshovel Slough[7] as well as for the state species of concern burrowing owl (*Athene cunicularia*).

In addition to the special-status avifauna that have been observed, or are expected to use the area on occasion, Steamshovel slough provides migration stopover and wintering habitat for broad range avifauna including (but not limited to) loons, grebes, wading birds (herons and egrets), waterfowl (ducks and geese), shorebirds (sandpipers and plovers), gulls and terns, birds of prey (owls and hawks), and songbirds. One important additional note regarding avifauna relates to Belding's savannah sparrow, a State-listed endangered year-round resident of the pickleweed dominated areas of coastal salt marsh. Savannah sparrow is common in Steamshovel Slough which includes high marsh area that is preferred for nesting by this species which typically builds its nests just above the limits of spring high tides to prevent inundation and damage.[8] As discussed in detail below, one of the primary goals of the Bank is to ensure no-net loss of upper marsh habitat needed by Belding's savannah sparrow for breeding. Given sea level rise (SLR projections, this becomes particularly important because it is expected that with SLR, high marsh habitats in other regional coastal salt marshes such as Anaheim Bay, Bolsa Chica, Upper Newport Bay, etc., would likely be reduced, resulting in associated reduction in breeding areas for this species. Restoration associated with the Bank provides a significant opportunity to ensure that there is no-net-loss of high marsh habitat.

In addition to avifauna, Steamshovel Slough and limited areas south of the berm provide important habitat for a variety of marine fish including: arrow goby (*Clevelandia ios*), *b*ay pipe fish (*Syngnathus griseolineatus*), California killifish (*Fundulus parvipinnis*), round sting ray (*Urobatis haleri*), staghorn sculpin (*Leptocottus armatus*), stripped mullet (*Mugil cephalus*), and topsmelt (*Atherinops affinis*). Expansion of

[7] Eric Zahn. August 2016. Personal Communication to Tony Bomkamp regarding observation of short-eared owl.
[8] Massey, Barbara. 1977. A Census of the Breeding Population of Belding's Savannah Sparrow in California. Prepared for the State of California Resources Agency, Department of Fish and Game, 8pp.

the tidal areas will establish areas that serve as nursery habitat as well as habitat for foraging and breeding. Similarly, Steamshovel Slough provides habitat for crustaceans, including purple shore crab (*Hemigrapsus nudus*), red ghost shrimp (*Callianassa californiensis*), striped shore crab (*Pachygrapsus crassipes*), and *y*ellow shore crab (*Hemigrapsus oregonensis*); gastropods including California horn snail (*Cerithidea californica*), cloudy bubble snail (*Bulla gouldiana*), green paper bubble snail (*Haminoea virescens*), *s*ea hare (*Aplysia californica*), striped sea hare (*Navanax inermis*); bivalves, including bay mussel (*Mytilus edulis*), California jackknife clam (*Tagelus californianus*), common littleneck clam (*Protothaca staminea*), *o*lympia oyster (*Ostrea lurida*), and ribbed horse mussel (*Modiolus demissus*); and cephalopods such as two-spot octopus (*Octopus bimaculoides*).

The areas of the Bank Property to be restored support a mosaic of native plant species that are often associated with coastal salt marshes, but which also occur in a variety of habitats including upland areas as most of these species are phreatophytes and are capable of reaching groundwater or soil with sufficient moisture, which allows them to occupy high marsh areas and above, up to 11 feet National Geodetic Vertical Datum (NGVD). These species include common pickleweed (*Salicornia pacifica*), saltwort (*Batis maritima*), alkali heath (*Frankenia salina*), Parish's glasswort (*Arthrocnemum subterminale*), saltgrass (*Distichlis spicata*), and shoregrass (*Distichlis littoralis*). Currently, large areas of these species exhibit high mortality on the site due to extended drought conditions in southern California (Exhibit 8, Photograph 2), while other areas are largely unvegetated (Exhibit 8, Photograph 3) and/or highly disturbed (Exhibit 8, Photograph 4). Reintroduction of tidal water to areas that are currently non-tidal will enable these species to thrive while allowing for introduction of additional species that can only survive under a reliable hydrological regime.

Other portions of the Bank Property currently support upland vegetation, most of which consists of non-native and invasive herbaceous species including crystalline iceplant (*Mesembryanthemum crystallinum*), small-flowered iceplant (*Mesembryanthemum nodiflorum)*, hottentot fig (*Carpobrotus edulis*), summer mustard (*Hirschfeldia incana*), tocalote (*Centaurea melitensis*), London rocket (*Sisymbrium irio*), red brome (*Bromus madritensis ssp. rubens*), castor bean (*Ricinus communis*), tree tobacco (*Nicotiana glauca*), curly dock (*Rumex crispus*), and five-horn smotherweed (*Bassia hyssopifolia*), among others.

Other portions are unvegetated, consisting of roads and areas disturbed or developed during past oil operations as well as areas best described as unvegetated flats. Some of these unvegetated flats exhibit occasional ponding; however, because these areas are devoid of vegetation, they exhibit very low function.

B. Vegetation Alliances[9]

Vegetation alliances described herein are based on *A Manual of California Vegetation, Second Edition* (MCV II)[10]. Land cover types lacking vegetation such as mud flats are not included in MCV II and thus descriptions for such areas have been included. Existing vegetation alliances within the Bank Property are described below and depicted on Exhibit 4A.

[9] Glenn Lukos Associates. Adapted from February 17, 2017 *Draft Biological Technical Report: Los Cerritos Wetlands Oil Consolidation and Restoration Project*.

[10] Sawyer, John O., Todd Keeler-Wolf, and Julie Evens. 2009. *A Manual of California Vegetation, Second Edition*, California Native Plant Society.

1. Upland Alliances and Land-Cover Types

Baccharis pilularis Shrubland Alliance (Coyote brush scrub) (G5S5) –This alliance consists of a few small scattered patches in upland areas. The patches are dominated by coyote brush (*Baccharis pilularis*) and the understory typically consists of non-native grasses and forbs.

Baccharis salicifolia Shrubland Alliance (Mulefat Scrub) (G5S4) – includes all mulefat scrub and disturbed mulefat within the site. This alliance consists of generally small thickets of mulefat (*Baccharis salicifolia*, FAC) with understory that varies from location to location but may include one or more of the following species: saltgrass, seaside heliotrope (*Heliotropum curassivicum*, FACU), small-flowered ice plant, five-horn smotherweed and upland non-native grasses.

Bassia hyssopifolia Semi-Natural Herbaceous Stands (Five-horn smotherweed thickets) – consist of locally dense thickets of the non-native five-horn smotherweed, which occur most commonly within the eastern portion of the site.

Bromus diandrus, rubens Semi-Natural Herbaceous Stands (Annual brome grasslands) (Non-Native Grasslands)[11] – The MCV II includes grasslands dominated by brome grasses and wild oats (*Avena* spp.); however, it does not include annual grasslands dominated by non-native barleys such as hare barley (*Hordeum murinum* ssp. *leporinum*) and which is common on the eastern upland portion of the site, forming dense stands mixed with London rocket and tocalote. In other scattered locations, non-native grasses that are predominant include red brome, rip gut (*Bromus diandrus*), slender wild oats (*Avena barbata*), smilo (*Stipa miliacea*), as well as locally dense patches of non-native forbs including small-flowered ice plant, five-horn smotherweed, Australia saltbush (*Atriplex semibaccata*), tocalote, London rocket, and summer mustard.

Carpobrotus edulis or Other Ice Plants Semi-Natural Herbaceous Stands (Ice plant mats) – are common as small patches throughout the Bank Property. This alliance is dominated by non-native small-flowered ice plant and occasionally by the non-native crystalline ice plant.

Centaurea (*solstitialis, melitensis*) Semi-Natural Herbaceous Stands (Yellow Star Thistle Fields) – are limited to a single location along the eastern portion of the Bank Property. This alliance is dominated by tocalote, a non-native invasive.

Disturbed/Developed – This land cover is most often associated with areas disturbed by historic oil operations, including existing roads, existing and former oil well sites and other types of infrastructure. Many of these areas are bare or sparsely vegetated soil whereas others are covered by gravels or asphalt-like material (ALM). Vegetation, where it is associated with these areas is essentially all non-native with species such as small flowered ice plant, tocalote and non-native grasses (*Bromus* spp.).

[11] Note that two categories of "brome grasslands" have been combined; however, because the MCV II does not include alliances dominated by non-native barley grasses (*Hordeum* spp.) these have been combined into a larger category of "Non-native grasses" as described.

Menziesii's Goldenbush Scrub (G4?S4?)[12] – While limited, Menzie's goldenbush (*Isocoma menziesii*) is scattered across much of the site and only lacking in the Steamshovel Slough. This alliance is dominated by Menzie's goldenbush, which is a native shrub that is highly opportunistic and adapted to disturbed areas. In some areas, this has invaded well pads and areas previously used for equipment storage and also along road edges. As it is typically in disturbed areas, there is often a non-native understory that includes small-flowered ice plant and non-native grasses.

Schinus (molle, terebinthifolius) Myoporum laetum Semi-Natural Woodland Stands (Pepper tree or Myoporum groves) (Ornamental)[13] - Because of the history of disturbance associated with the oil field operations, the Property supports substantial areas of non-native invasive or non-native, and in some cases, invasive trees. Areas mapped as "Ornamental" vary according to location and can include the following species:

- Myoporum (*Myoporum laetum*),
- Canary Island Palm (*Phoenix canariensis*)
- Mexican Fan Palm (*Washintonia robusta*),
- Shamel Ash (*Fraxinus uhdei*),
- Bluegum Eucalyptus (*Eucalyptus globulus*),
- Sydney golden wattle (*Acacia longifolia*), and
- Brazilian pepper (*Schinus terebinthifolius*)

Sisymbrium irio Semi-Natural Herbaceous Stands (London rocket fields) – occurs at a single location at the southeast corner of the Bank Property consisting of a near monoculture of the non-native London rocket.[14] This alliance intergrades with yellow-star thistle fields to the north and non-native grasses to the south.

Unvegetated Flats (Upland) – consist of areas with less than five-percent vegetative cover. Unvegetated Flats (Upland) are distinguished from Unvegetated Flats (Wetland), which at a minimum exhibit either wetland hydrology or hydric soils. The lack of wetland hydrology was determined through direct observations in the field during data collection associated with the wetland delineation or through review of historic aerial photographs for ponding.

2. Wetland Alliances and Land-Cover Types

As noted, the vegetation alliances follow the MCV II, which separates many of the components of coastal salt marsh into individual components based on species dominance. Nevertheless, southern coastal salt marsh is a widely-recognized vegetation association comprised of these components which is noted below under the common coastal salt marsh species.

[12] Please note, that for certain alliances, the authors of the MCV II have inserted "?" into the designation where the ranking is not certain based on existing information. As such, designations in this plan accurately represent the rankings in the MCV II.
[13] The diversity of non-native trees scattered across the Bank Property is substantially higher than captured by the MCV II alliance noted above; therefore, the description for this alliance has been expanded to accurately characterize the Bank Property.
[14] The MCV II does not have a description for this alliance, which has been created following the conventions set forth in the MCV II.

Arthrocnemum subterminale Herbaceous Alliance (Parish's Glasswort Patches)(G4S2) - Parish's glasswort is a plant that is most common in high marsh areas, and the patches dominated by Parish's glasswort are common on the berm that demarcates the southern edge of Steamshovel Slough as well as non-tidal areas south of Steamshovel Slough. Substantial areas exhibit low densities, sometimes as little as 10 or 15-percent absolute cover. Other areas exhibit significant amounts of mortality. While this species often forms monocultures (though sometimes very sparse), other species may be present including common pickleweed, alkali heath, saltgrass, shoregrass, and sea lavender (*Limonium californicum*, FACW).

Distichlis littoralis Herbaceous Alliance (Shoregrass flats) – like Parish's glasswort, shore grass is a species most common in high marsh areas with occasional tidal influence and is also common in areas above tidal influence such as on the berm that demarcates the limits of Steamshovel Slough. This species is also a common component of the pickleweed mat alliance described below, and most of the shoregrass on the site is included in the pickleweed mat and/or Parish's glasswort alliances.

Distichlis spicata Herbaceous Alliance (Saltgrass Flats)(G5S4) – While saltgrass is common in a variety of alliances, this alliance is most common in non-tidal areas south of Steamshovel Slough. Dominant plant species include saltgrass, common pickleweed, and shore grass and may also support non-native upland grasses and forbs such as the small-flowered ice plant and five-horn smotherweed. This species is also a common component of the pickleweed mat alliance described below, and most of the saltgrass on the site is included in the pickleweed mat and/or Parish's glasswort alliances.

Frankenia salina Herbaceous Alliance (Alkali heath marsh)(G4S3) – Alkali heath is common in a variety of alliances in the Bank Property and is most common with the pickleweed mat alliance described below. In some areas, this species forms unbroken stands that constitute a separate alliance. Alkali heath is the dominant species and both saltgrass and common pickleweed may also be present.

Mud Flats (Tidal) – Mudflats are associated with tidal areas and are unvegetated, lacking cover by emergent plants; however, they are often vegetated only by algal mats.

Sarcocornia Pacifica[15] Herbaceous Alliance (Pickleweed Mats)(G4S3) - the most common wetland alliance on the Bank Property, the majority of which is tidal and associated with Steamshovel Slough. Dominant plant species include common pickleweed, alkali heath, saltwort, fleshy jaumea (*Jaumea carnosa*, FACW), estuary seablite, shoregrass, sea lavender, FACW), Parish's glasswort, and salt grass. As noted above, common pickleweed is one of the most common species of southern coastal salt marsh.

Tidal areas within the Bank Property south of the berm, which separates Steamshovel Slough from the oil fields, are dominated by saltwort and Bigelow's pickleweed (*Salicornia bigelovii*, OBL), with occasional patches of common pickleweed and occasional individuals of sea lavender.

Sarcocornia Pacifica Herbaceous Alliance (Pickleweed Mats)/Ice Plant Mats – occurs at the eastern end of the Bank Property. The area supports a predominance of common pickleweed and small-flowered

[15] Since publication of MCV II, the 2012 Jepson Manual was published, which uses *Salicornia* rather than *Sarcocornia* and is followed throughout this report.

iceplant and as such, does not meet the threshold for wetland vegetation, as the area does not exhibit a predominance of wetland plants. The area also lacks hydric soils and wetland hydrology.

Spartina foliosa Herbaceous Alliance (California cordgrass[16] marsh)(G4S3.2) occur entirely within Steamshovel Slough. Cordgrass (*Spartina foliosa*, OBL) is dominant with other species including common pickleweed and saltwort and is typically one of the indicator species for low marsh habitat in southern California.

Tidal Channels (Tidal): occur within the Steamshovel Slough and area south of the berm, all of which is included in the Bank Property.

Unvegetated Flats – (Wetland): Unvegetated Flats (Wetland) are common south of the Steamshovel Slough berm. As noted above for Unvegetated Flats (Upland), Unvegetated Flats (Wetland) are distinguished from the upland areas in that at a minimum they exhibit either wetland hydrology or hydric soils. The presence of wetland hydrology was determined through observations in the field during visits associated with the wetland delineation or through review of historic aerial photographs for ponding.

C. Special Status Plant Species[17]

Three special-status plants were observed during focused surveys: Estuary seablite, southern tarplant, and wooly seablite. A description of the California Rare Plant Rank (CRPR) and location within the Property is provided below for each species.

Estuary Seablite (*Suaeda esteroa*)

Estuary seablite is a perennial shrub designated as a CRPR 1B.2 that is known from Santa Barbara, Ventura, Los Angeles, Orange, and San Diego counties as well as from Baja California. This species was detected on the Property, where it occurs primarily within Steamshovel Slough and is most common in the mid- to upper-marsh areas growing on berms and slopes. Exhibit 4B depicts the areas of the marsh where it occurs.

Southern tarplant (*Centromadia parryi* ssp. *australus*)

Southern tarplant is an annual herb designated as a CRPR 1B.1 that is known from Los Angeles, Orange, Santa Barbara, San Diego, and Ventura counties, Santa Catalina Island, and Baja California. Southern tarplant occurs at the margins of marshes and swamps, valley and foothill grasslands, and disturbed areas. The flowering period occurs from May to November. Because this species is an annual that occurs in mesic soils, populations vary dramatically from year to year based on timing and amount of rainfall, with population numbers varying by up to two orders of magnitude from year to year. For example, surveys and longitudinal monitoring conducted in the County of Orange Southern Subregion Habitat Conservation Plan (SSHCP) for plants within long-term conservation, show that population numbers have ranged from a high of 131,967

[16] Also known as “Pacific cordgrass”.
[17] Glenn Lukos Associates. April 2016. Draft Biological Technical Report: Los Cerritos Wetland Restoration and Oil Production Project.

during an El Niño year to lows of 10,842 and 2,848 during the recent drought.[18] As discussed in more detail below, similar ranges have been observed on the Property.

On the Property, southern tarplant is almost entirely restricted to disturbed areas, including road edges, existing and former oil-well pads, and other disturbed ground. Based on surveys on this site as well as other sites in southern California, the 2015 season exhibited large numbers, relative to other years, as seen on the Property where the population was estimated at approximately 279,000. However, it is important to note that this estimate was determined using a rapid sampling technique, wherein sampling was conducted within each polygon containing southern tarplant using a single one-meter square quadrat to obtain population estimates. These estimates were then used to extrapolate an approximate population size for the entire site. Because densities varied significantly within and among polygons with densities ranging from one plant per square meter up to 350 plants per square meter it is not appropriate to base impacts on these rough estimates. It is important to note that southern tarplant individuals that occupied the area to be impacted by grading was subject to a site-specific-counts, because based on preliminary plans, this was identified as an area subject to potential impacts.

Extensive work with southern tarplant during the last 22 years by GLA botanists indicate that populations tend to consist of two cohorts: 1) large "bushy" individuals and small individuals ranging from a few inches up to about 12 inches tall, wherein the smaller plants tend to have a single stem and one or two terminal flowers. Typically, these small plants comprise between 90- to 95-percent of any given population. During the 2015 surveys and sampling the number of large "bushy" plants were estimated at between 10,000 and 20,000 individuals of the estimated 279,000 plants. By way of contrast in 2016, numbers were substantially smaller by orders of magnitude. Based on sampling at representative locations, the population in 2016 on the site was estimated to range between 5,500 and 8,000 individuals, which is fully consistent with the types of ranges for other sites discussed above.

Woolly Seablite (*Suaeda taxifolia*)

Woolly seablite is a perennial shrub designated as a CRPR 4.2 that is known from San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Diego counties as well as from Baja California, the Channel Islands and the Central Valley. Woolly seablite occurs in upper zones of coastal salt marshes as well as on coastal bluffs, coastal sage scrub, and at the edge of alkali marshes. The flowering period occurs year-round. This species was detected on the Property, where it occurs in upper marsh areas or on berms associated with Steamshovel Slough. Exhibit 4B depicts the areas of the where it occurs.

D. Special Status Wildlife Species[19]

The following special-status animals have been documented as occurring or potentially occurring within the Bank Property.

[18] Glenn Lukos Associates. September 7, 2016. Memorandum Subject: 2016 Southern Tarplant Monitoring for 2014–2019 Management Action Plan, Rancho Mission Viejo, Orange County, California

[19] Glenn Lukos Associates. April 2016. Draft Biological Technical Report: Los Cerritos Wetland Restoration and Oil Production Project.

INVERTEBRATES

Mudflat Tiger Beetle (*Cicindela trifasciata sigmoidea*)
The mudflat tiger beetle is considered locally rare, though it has no state or federal status. It has been documented as occurring on mudflats in Steamshovel Slough.

Salt Marsh Wandering Skipper (*Panoquina errans*)
The wandering skipper is a small light brown butterfly that is listed on the International Union for the Conservation of Nature (ICUN) Red List as 2.3, which means "near threatened". The flight season extends from March to November and peaks during the summer. The Wandering Skipper's known range extends along the California coast from the cape region of Baja California to Santa Barbara County, but only in suitable localities within this range, which include areas with saltgrass, which is the larval host plant. Suitable habitat for this species occurs within Steamshovel Slough as well as areas to the south of the slough that support patches of saltgrass. Focused surveys were not performed; however, it is expected to occur throughout areas of the site depicted on Exhibit 4B.

REPTILES

Green Sea Turtle (*Chelonia mydas*)
The green sea turtle East Pacific Distinct Population Segment is a federally threatened species under the Endangered Species Act, and green sea turtles are listed on the International Union for the Conservation of Nature (IUCN) Red List as 4, which means "endangered." This species is generally found in fairly shallow water (except when migrating) inside reefs, bays, and inlets. The turtles are attracted to lagoons and shoals with an abundance of marine grass and algae. They have been documented immediately upstream of the Steamshovel Slough, within the Los Cerritos Channel (Tidal Influence, 2012), and have the potential to occur in the Slough.

BIRDS

American Peregrine Falcon (*Falco peregrinus anatum*)
The American peregrine falcon is a state endangered species, but was federally delisted in 1999. Habitat for prey occurs over much of the Property; however, the coastal saltmarsh areas associated with Steamshovel Slough exhibit the best foraging areas due to the highest levels of potential prey. No American peregrine falcons were observed on the Property during any surveys; however, transient individuals are expected to forage occasionally on the Property.

Belding's Savannah Sparrow (*Passerculus sandwichensis beldingi*)
The Belding's savannah sparrow is a State Endangered bird, and a candidate species for federal protection. This species is a non-migratory subspecies that occurs in coastal salt marshes between Goleta Slough, Santa Barbara County, and Bahia de San Quentin in Mexico. The Belding's savannah sparrow is entirely dependent on coastal salt marshes for nesting and foraging, and thus resides year-round in this habitat. This species nests preferentially in common pickleweed and/or Parish's glass wort. Exhibit 4B depicts areas of suitable habitat including areas where the species has been observed or is expected to occur at least for foraging. Focused surveys conducted by the Bank Sponsor in 2017 resulted in a range of approximately 30 to 42 territories occurring within the Bank Property. The survey results are included in the Biological Resources Report provided in Exhibit H of the BEI.

Black Skimmer (*Rynchops niger*)

The black skimmer is a California Species of Special Concern. It breeds in both North and South America. Black skimmers feed on small fish, insects, crustaceans and mollusks by dragging their longer mandible through the water. Black skimmers spend time during the day resting along sandbars along the coast, lagoons, and rivers. Black skimmers are colonial ground nesters that will nest on beaches, gravel bars, and saltmarshes. Black skimmers have been observed[20] foraging within the Steamshovel Slough.

Burrowing Owl (*Athene cunicularia*)

The burrowing owl is designated as a Federal and California Species of Special Concern. This ground nesting owl occurs North and South America in shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a year-long resident (Haug, et al. 1993). They require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows (e.g., ground squirrels, rabbits, etc.). As a critical habitat feature need, they require the use of rodent or other burrows for roosting and nesting cover. They may also dig their own burrow in soft, friable soil (as found in Florida) and may also use pipes, culverts, and nest boxes where burrows are scarce (Robertson 1929). The mammal burrows are modified and enlarged. In the case of nesting owls, one burrow is typically selected for use as the nest; however, satellite burrows are usually found within the immediate vicinity of the nest burrow within the defended territory of the owl. Focused breeding surveys for the burrowing owl were conducted in 2015,[21] resulting in a negative finding. However, potential wintering habitat exists for this species on the Property.

California Brown Pelican (*Pelecanus occidentalis*)

The California brown pelican was delisted as a federally endangered species in 2009, but is a state fully protected species. Brown pelicans roost communally usually in areas near sufficient food resources, and that provide some type of physical barrier to predation and disturbance. Brown pelicans use breakwaters, jetties, sand spits an offshore sand bars for nocturnal roosting and daily loafing. Brown pelicans nest in colonies on offshore islands that are free from human disturbance and mammalian predators. California brown pelicans have been observed on the Property as they both forage in the San Gabriel River and Alamitos Bay.

California least tern (*Sterna antillarum browni*)

The California least tern is listed under both the California and federal Endangered Species Acts as endangered and is also a California fully protected species. In southern California it breeds at scattered sites along the coast from San Diego to San Luis Obispo counties. This species has been observed foraging within Steamshovel Slough; however, there are no potential breeding areas on the Property.

Loggerhead Shrike (*Lanius ludovicianus*)

The loggerhead shrike is a California Species of Special Concern. This medium sized passerine is endemic to North America and has raptor like habits. Loggerhead shrikes prefer open habitats where they hunt a variety of prey including insects, reptiles, birds and small mammals from utility poles, fence posts, and other perches. These shrikes skewer their kills on thorns, spines or barbed wire. Loggerhead shrikes often nest

[20] Eric Zahn. August 2016. Personal Communication to Tony Bomkamp regarding observation of black skimmer.
[21] Glenn Lukos Associates performed focused surveys for burrowing owl on April 1, June 1, June 23, and July 14, 2015.

in thorny vegetation, but will also nest in trees, shrubs, brush piles and tumbleweeds. This species has not been observed on the Property, but there is potential for foraging within Steamshovel Slough.

Northern harrier (nesting) (*Circus cyaneus*)

The northern harrier is a California Species of Special Concern. This species ranges across all of North America, wintering across most of the southern United States and into Mexico. The northern harrier is now one of the rarest nesting raptors in southwestern California. Characteristically, this hawk inhabits marshlands, both coastal salt and freshwater, but often forages over grasslands and fields, requiring open habitats for foraging. Northern harriers have occasionally observed foraging on the Property. There have been no records of nesting on the Property.

Osprey (*Pandiohn haliaetus*)

The osprey is a Species of Special Concern, which breeds across most of North America, through Central America and over much of South America. This species also occurs throughout the Old World and Australia. The osprey breeds in habitats with shallow water and large fish, and winters along large bodies of water containing fish. Ospreys were observed regularly foraging immediately offsite and may occasionally forage on the Property. Ospreys were observed using telephone poles for perches after taking fish from areas of open water. There are no suitable breeding platforms on the Property and therefore breeding is not expected.

Light-footed Ridgway's Rail (*Rallus obsoletus levipes*)

Formerly referred to as the light-footed clapper rail (*Rallus longirostris levipes*), Ridgway's rail is a federal endangered, state endangered, and California fully protected species. In southern California, this rail is a year-round resident that prefers coastal salt marshes, but also inhabits freshwater marshes. Cordgrass (*Spartina* spp.) and bulrush (*Bolboshchoenus* spp. and *Schoenoplectus* spp.) are among the preferred species for nesting. Steamshovel Slough exhibits the highest potential for foraging for this species, however, it has not been observed on the Property and it potential for occurrence is low based on the quality of the cordgrass habitat. The nearest known location for this species is at the Seal Beach National Wildlife Refuge (NWR), where 49 pairs were detected in 2014.

Short-eared Owl (*Asio flammeus*)

The short-eared owl is a California Species of Special Concern. It prefers open habitats such as grasslands, prairie, agricultural fields, coastal salt marshes, estuaries, and mountain meadows. Breeding habitat must have sufficient ground cover to conceal nests and nearby sources of small mammals for food. This species roosts in disturbed areas such as thick hedgerows, overgrown rubble and abandoned fields. The Steamshovel Slough provides potentially suitable wintering habitat. This species has been observed on the berm on the southern edge of Steamshovel Slough.[22]

Western Snowy Plover (*Charadrius nivosus nivosus*)

The western snowy plover is listed as federally endangered and is a California Species of Special Concern that nests on coastal beaches from southern Washington to southern Baja California, Mexico. The breeding season extends from March through September. Nests occur in flat, open areas with sandy substrates without much vegetation. The western snowy plover forages on invertebrates along the shore and along the edges of coastal salt marshes. Habitats used by this species include sandy coastal beaches, saltpans,

[22] Eric Zahn. August 2016. Personal Communication to Tony Bomkamp regarding observation of short-eared owl.

coastal dredged spoils sites, dry salt ponds, salt pond levees, gravel bars, coastal salt marshes, and lagoons. Major threats are loss of suitable nesting habitat and where habitat remains, disturbance from human activity near nesting sites, including general maintenance practices necessary to maintain our beaches and recreational activity. The western snowy plover has not been observed foraging, and the Property contains no suitable breeding areas.

White-tailed kite (*Elanus leucurus*)
The white-tailed kite is a state fully protected species that occurs through much of California. In California, the white-tailed kite is a year-round resident in coastal and valley lowlands. It prefers open habitats including grasslands, open shrub, agricultural areas, wetlands dominated by grasses, fence rows and irrigation ditches adjacent to grazed lands, riparian, oak woodlands, coastal sage scrub, and coastal salt marsh. White-tailed kites were observed foraging on the Property; however, there is little suitable habitat for nesting and it is not expected to nest on the Property.

Yellow-breasted Chat (*Icteria virens*)
The yellow-breasted chat is a California Species of Special Concern, and is found in shrubby habitats throughout North American, from southern regions of Canada to central Mexico during the summer, and winters from Mexico to Central America. In southern California, the yellow-breasted chat is often found in dense areas of riparian vegetation and is omnivorous, feeding on insects and berries. Nests are places in thick shrubs often only 2.5 meters above the ground. This species and it is not expected to occur on the Property.

MAMMALS

South coast marsh vole (*Microtus californicus stephensi*)
The South coast marsh vole is a California Species of Special Concern, and ranges from southwestern Oregon through much of California. This species prefers grassy meadow habitats and feeds on grasses and other green vegetation when available; piles of cuttings are found along its runways. It breeds from September to December. In winter, it eats mostly roots and other underground parts of plants. Major threats are non-native plants that have replaced the plants it needs to survive and introduced non-native animals such as the common house mouse and other non-natives have displaced it through competition. This species was not observed on site during any general biological surveys; however, the coastal salt marsh areas within Steamshovel Slough may provide suitable habitat.

Southern California salt marsh shrew (*Sorex ornatus salicornicus*)

The southern California salt marsh shrew is a California Species of Special Concern that is endemic to southern California's coastal marshes in from Point Mugu, Ventura County to coastal salt marshes around Anaheim Bay and Newport Beach in Orange County, and appears to prefer coastal marshes. Based on studies of other similar shrews, the southern California salt marsh shrew likely requires fairly dense ground cover, nesting sites above mean high tide free from inundation, and fairly moist surroundings. Major threats are loss of habitat due to development along the coast, and lack of refuge sites above the marshes to escape from flooding during seasonal high tides and periodic storms. This species was not observed on the Property during any general biological surveys; however, the coastal salt marsh areas within Steamshovel Slough may provide suitable habitat.

E. Jurisdictional Delineation

A jurisdictional delineation was conducted for the entire Project, including the Bank Property in 2017. The October 2020 Update to the Jurisdictional Delineation Report is provided as Exhibit I to the BEI.

Potential wetland areas were evaluated using the methodology set forth in the Wetland Manual and the 2008 Regional Supplement to the Wetland Manual: Arid West Region Version 2.0[23] (AWS v2.0). While in the field, the limits of USACE jurisdiction and wetlands defined by the California Coastal Act were recorded using sub-meter GPS technology and/or the boundaries were recorded on a color aerial photograph using visible landmarks. Other data were recorded into field notebooks or on wetland data sheets, and the location of the point where data was collected was recorded using a GPS.

It is important to note an essential distinction between the USACE definition of wetlands and the definition set forth in the California Coastal Act, which results in potentially differing findings. Specifically, the USACE requires that for a positive wetland determination, a positive test for each of the wetland criteria (i.e., a predominance of wetland vegetation, hydric soils and wetland hydrology) must be present; whereas under the California Coastal Act, a positive determination for the presence of wetlands can rely on a single criterion (i.e., a predominance wetland vegetation, hydric soils, *or* wetland hydrology). Nevertheless, the CCC staff relies on the Arid West Supplement Version 2.0 and the National Wetland Plant List for making determinations relative to the presence of each criterion.

Table 2 below provides the conversion from MLLW to NGVD at the Bank Property.[24]

Table 2
Recorded Water Levels at Los Angeles Outer Harbor (1983-2001 Tidal Epoch)

Description	Elevation (feet, MLLW)	Elevation (feet, NGVD29)
Extreme High Water (1/10/2005)	7.92	5.29
Mean Higher High Water (MHHW)	5.49	2.86
Mean High Water (MHW)	4.75	2.12
Mean Tidal Level (MTL)	2.85	0.22
Mean Sea Level (MSL)	2.83	0.20
National Geodetic Vertical Datum 1929 (NGVD)	2.63	0.00
Mean Low Water (MLW)	0.94	-1.71
North America Vertical Datum 1988 (NAVD)	0.21	-2.42
Mean Lower Low Water (MLLW)	0.00	-2.63
Extreme Low Water (12/17/33)	-2.73	-5.36

[23] U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Ed. J.S. Wakeley, R.W. Lichevar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center and Engineering Laboratory.
[24] Moffatt & Nichol. Sea Level Rise Impact Analyses. Los Cerritos Wetlands Restoration and Oil Consolidation Project. June 2017.

Hydrophytic Vegetation

The presence of hydrophytic wetland indictor plant species was determined based on *The National Wetland Plant List*.[25] For each data collection point, vegetation data was collected in accordance with the Basic Dominance Test using the 50/20 rule.

Hydric Soils

The presence of hydric soils was determined in accordance with the AWS v2.0. At each data collection point, a soil pit was excavated using a "sharp-shooter" shovel to a minimum of 12 inches and the soil was evaluated for characteristics consistent with the presence of hydric soils such as, but not limited to, sulfidic odor, gleyed soils, and low-chroma matrix with redoximorphic features. In most instances, soil pits were excavated in areas such as drainage features or topographic depressions that exhibited at least some potential for wetland characteristics or in areas with a predominance of wetland indicator species.

Wetland Hydrology

The presence of wetland hydrology was determined in accordance with the AWS v2.0. Indicators typically observed in the field included: inundation, saturation, sediment deposits, drainage patterns, and secondary indicators FAC-Neutral test, dry season water table, and drainage patterns.

a) Potential USACE Jurisdiction (Section 404 of the Clean Water Act; Section 404)

Areas subject to potential USACE jurisdiction pursuant to Section 404 within the Bank Property total 36.70 acres of which 33.17 acres are wetlands. The limits of Section 404 Waters of the U.S. are determined using elevational data and three-parameter wetland criteria. Specifically, all areas falling below the elevation for Mean Higher High Water (MHHW), which is 2.86 feet NGVD or 5.49 MLLW at the Bank Property, would meet the USACE's definition of Section 404 Waters of the U.S. and would include any wetlands that extend beyond this elevation. The potential boundaries and location of the Section 404 Waters of the U.S. are depicted on the enclosed aerial photograph (Exhibit 5A). The majority of potential USACE jurisdiction is in the Steamshovel Slough area in the northern portion of the Bank Property.

b) Potential USACE Jurisdiction (Section 10 of the Rivers and Harbors Act; Section 10)

The limits of potential Section 10 navigable waters of the U.S. are depicted on Exhibit 5B as determined using elevational data. Specifically, all areas falling below the elevation for Mean High Water (MHW), which is 2.12 NGVD or 4.75 MLLW at the Bank Property, would meet the USACE's definition for navigable waters of the U.S. The potential navigable waters of the U.S. totals 55.53 acres.

c) Potential CCC Wetlands

Areas potentially defined as wetlands under the California Coastal Act within the Bank Property total 60.08 acres. The presence of a single criterion/parameter (i.e., wetland vegetation or hydric soils or wetland hydrology) is sufficient to make a presumptive finding for the presence of wetlands. As such, wetlands defined under the

[25] Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.

California Coastal Act are more extensive in the non-tidal areas of the site as compared to USACE wetlands. Coastal Wetlands occur in nearly all areas within the Bank Property, with the exception of existing access roads and the upland area surrounding the future trail.

F. Hydrological Conditions

The *Watershed Impacts Report for the Los Cerritos Wetlands Conceptual Development Plan*[26] provides a description of the local drainage conditions and water sources for the Property, describes the hydrological connections between the existing wetlands, and provides information on upstream activities that potentially impact water quality within the wetlands. As stated in the plan, water is discharged onto the Property primarily from the Los Cerritos Channel, which is a part of the Los Cerritos and Alamitos Bay Watershed. The Los Cerritos Channel is a concrete-lined channel that traverses the cities of Long Beach, Lakewood, Bellflower, Paramount, Downey, Signal Hill, and Cerritos, with a drainage area of 27.67 square miles. Virtually the entire freshwater portion of the watershed is associated with urban development including mixed-density residential, roads, commercial, and industrial land uses.

The Los Cerritos Channel receives tidal influence from Alamitos Bay. Tidal flows from Los Cerritos Channel are unrestricted from entering Steamshovel Slough; however, a man-made berm/levee (elevation ranging from approximately 5.5 to 8.0 NGVD) along the boundary of the oil drilling portion of the Property and the slough largely restricts these flows from accessing the oil drilling operation area. The one exception is a floodgate along the western portion of the levee, which provides for limited seawater flow in the northwestern portion of the oil drilling area through a series of pipes ranging from 36 inches to less than 12 inches.

Moffatt & Nichol, the Project Restoration Engineer, has conducted detailed hydrological modeling for the Bank Property under 1, 2, 3, 4, 5, and 5.5-foot SLR scenarios with a 50-year fluvial storm as provided by the county of Los Angeles. The numerical model area for the Bank Property included the nearshore ocean, all of Alamitos Bay (including Marine Stadium and the lower end of the Los Cerritos Channel), and the Project area below the +10 foot NGVD contour line. The ocean boundary is approximately 2.0 miles from the shoreline; this distance was deemed to be sufficient to minimize boundary effects within the Bank Property. Moffatt & Nichol's *Updated Sea Level Rise Impact Analysis* is a technical appendix to the Project Draft Environmental Impact Report (DEIR) prepared by the city of Long Beach.

Approximately 20 acres of the Bank Property have no tidal connections or influence and the only hydrological input is from direct rainfall and local runoff. Many of these areas are unvegetated or support a predominance of upland vegetation while other areas contain Parish's saltwort, most of which have died due to the drought conditions.

[26] *Los Cerritos Wetlands Conceptual Development Plan Watershed Impacts Report* dated February 2012, prepared by Everest Consultants. Sections 11.1-11.4.

G. Soil Characteristics

A revised September 2019 Sampling and Analysis Plan Results Report (SAPR Report) is included as Exhibit K-4 of the BEI. The Bank Sponsor represents and warrants that all appropriate assessment, clean-up, remedial or removal action will be completed in accordance with the remediation actions described in the SAPR Report, and the Bank Sponsor will provide an updated Phase I Environmental Site Assessment to the IRT that concludes no recognized environmental conditions are present on the Bank Property prior to the Bank Establishment Date.

IV. BASELINE WETLAND CONDITION ASSESSMENT

A. Wetland Condition Assessment

To supplement the baseline data collection that was collected as part of the detailed jurisdictional delineation and vegetation mapping, a wetland condition assessment of the Bank Property was performed using the California Rapid Assessment Method (CRAM). Exhibit 9 depicts the location of the assessment areas (AA). CRAM is considered a Level 2 assessment tool which consists of rapid assessment of wetland condition in relation to the broadest suite possible of ecological and social services and beneficial uses. The purpose of the CRAM was to quantify the current wetland condition of the preservation areas within Steamshovel Slough, as well as to establish baseline wetland condition scores for coastal salt marsh re-establishment and/or rehabilitation areas for use in monitoring the Bank Property. As stated above, CRAM is a Level 2 assessment tool, which is targeted at representing conditions at a landscape or reach scale and may not detect all increases in function. Level 3 monitoring methods (i.e., intensive assessments such as vegetation transects) provide more information about biotic conditions and will also be used to track the site's progression towards meeting Performance Standards. A summary of the CRAM analysis is provided below. The full report is included as Exhibit I-2 to the BEI.

Prior to beginning the CRAM analysis, a 40-meter (m)-scale color aerial photograph was examined to estimate the locations and boundaries of potential AAs and to identify surrounding land uses including the presence/absence of suitable habitat buffers. The AAs are depicted on Exhibit 9. As noted in the manuals cited below, the recommended CRAM assessment window is during the growing season, recognized in the manuals as generally March through September (although the season may begin earlier at lower latitudes). The assessments were conducted following the methods set forth in the *CRAM User's Manual Version 6.1* (CWMW 2013a[27]) and *CRAM Perennial Estuarine Wetlands Field Book Version 6.1* (CWMW 2013b[28]). The recommended size and shape for the estuarine wetland AA is a 1-hectare (ha) circle (radius of about 56 meters (m), but the shape can be non-circular if necessary to fit the wetland and to meet hydrogeomorphic criteria). The recommended minimum size is 0.1 ha (about 30 m x 30 m). CRAM analyses include field data collection and "office" work, which consists of review of aerial photographs and associated GIS analysis.

[27] California Wetlands Monitoring Workgroup (CWMW). 2013a. California Rapid Assessment Method (CRAM) for Wetlands and Riparian Areas, Version 6.1 pp.67.
[28] Ibid., p.38.

CRAM data sheets for field-scored metrics were completed in the field. After scoring office metrics, the four attribute scores (Buffer and Landscape Context, Hydrology, Physical Structure, and Biotic Structure) were calculated and averaged to generate an overall AA score, which provides an indication of wetland condition of the AA relative to the best achievable conditions for that wetland type (perennial estuarine) in the state of California. Final overall AA scores were based on a numerical value ranging from 25 (lowest possible CRAM score) to 100 (highest possible CRAM score).

GLA CRAM-certified practitioners Lesley Lokovic and Sheri Asgari initially conducted CRAM assessments on February 5 and 19, 2014. GLA CRAM trainer and certified practitioner Lexi Kessans conducted reviews of the CRAM assessments with GLA CRAM-certified practitioner Thienan Pfeiffer on February 5 and February 20, 2015, and with Sheri Asgari on March 5, 2015, and revised the CRAM analysis as appropriate. Methods for capturing site variability were followed as outlined in the "*Using CRAM to Assess Wetland Projects as an Element of Regulatory and Management Programs - Technical Bulletin"* (CWMW 2009[29]).

Ultimately, the AAs were placed into categories based on score variability: three AAs in the disturbed lowlands which are subject to tidal influence (AA-1 through AA-3), three AAs in Steamshovel Slough coastal salt marsh (AA-4 through AA-6), and two AAs in the disturbed lowlands in which tidal influence has been suppressed (AA-7 through AA-8). Although tidal influence has been suppressed in these two AAs, the areas are historically estuarine and will be restored with tidal influence. CRAM AAs are shown on Exhibit 9.

Baseline vegetation data was also collected in each AA category to further characterize the vegetative components within the wetlands. Additional vegetation data was collected on the berm separating the Steamshovel Slough coastal salt marsh from the existing oil operation within the Bank Property, and the scarp constructed from burn dump material east of the Steamshovel Slough which is currently occupied predominantly by an assemblage of annual and perennial invasive non-native species. This area is proposed to be restored as a Buffer/transition zone between the wetlands and future trail.

Baseline vegetation data is also used to provide a more detailed understanding of the wetlands subject to the CRAM assessment as well as surrounding Buffer areas and will be used in future comparison of wetland function following the implementation of restoration activities. The detailed methodology and results for baseline data collection are described in Exhibit I-2 to the BEI.

B. CRAM Results Summary

A total of eight AAs ranging in area from 0.22 to 1 hectare (ha) were scored within Phase 1. Overall AA scores ranged from 44% to 78% (Table 3). Table 3 below also provides Attribute scores for each AA. Tables containing metric scores and any score projections. An AA graphic is provided as Exhibit 9 and the CRAM report is provided as Exhibit I-2 to the BEI.

[29] California Wetlands Monitoring Workgroup (CWMW). 2009. Using CRAM to Assess Wetland Projects as an Element of Regulatory and Management Programs. 46 pp.

Table 3: CRAM Attribute Score Summary					
Assessment Area	Attribute 1: Buffer and Landscape Context	Attribute 2: Hydrology	Attribute 3: Physical Structure	Attribute 4: Biotic Structure	Overall AA Score
AA-1 (Disturbed Area with Tidal Influence)	70%	33%	38%	56%	49%
AA-2 (Disturbed Area with Tidal Influence)	60%	33%	38%	55%	47%
AA-3 (Disturbed Area with Tidal Influence)	60%	33%	25%	58%	44%
AA-4 (Steamshovel Slough)	81%	83%	63%	56%	70%
AA-5 (Steamshovel Slough)	81%	83%	63%	86%	78%
AA-6 (Steamshovel Slough)	81%	83%	63%	78%	76%
AA-7 (Disturbed Area with Suppressed Tidal Influence)	73%	33%	25%	47%	45%
AA-8 (Disturbed Area with Suppressed Tidal Influence)	73%	33%	25%	47%	45%

C. Summary of Protocol/Focused Species Surveys

Within the Bank Property, focused species surveys for plants and animals were conducted over a three-year period. Table 4 below provides a summary of surveys, along with a description of species that occur or have the potential to occur. This table is a truncated version of the summary of surveys table provided in the Biological Technical Report that covers the entire Project, within which the Bank Property are included.

Table 4: Summary of Surveys	
Survey Date	Survey Type
Property	
April 16, 2015	Focused Rare Plant Surveys
April 16, 2015	Focused Rare Plant Surveys
June 1, 2015	Burrowing Owl Survey, General Biology
June 23, 2015	Burrowing Owl Survey, General Biology
July 14, 2015	Burrowing Owl Survey, General Biology
July 31, 2015	Focused Rare Plant Surveys
February 4, 2016	Botanical Surveys, Jurisdictional Delineation
April 13, 2016	Vegetation Mapping and General Biological Surveys
April 25, 2016	Focused Rare Plant Surveys

Table 4: Summary of Surveys	
Survey Date	Survey Type
April 26, 2016	Focused Rare Plant Surveys
November 8, 2016,	Burrowing Owl Survey
December 28, 2016	Burrowing Owl Survey
January 18, 2017	Burrowing Owl Survey
February 15, 2017	Burrowing Owl Survey

A discussion of all plant and animal species observed during surveys or that have the potential to occur within the Bank Property are discussed in detail above in Section III.C. and III.D. Suitable habitat that would be expected to support the Federally listed animal species expected to occur in the analysis above would be expanded through the re-establishment and rehabilitated areas of coastal salt marsh adjacent to Steamshovel Slough. Preservation of Steamshovel Slough would also continue to provide high-quality foraging habitat for these species.

V. IMPACTS ASSOCIATED WITH GRADING AND CONSTRUCTION

As discussed in more detail in the Restoration Work Plan in the next section, a conceptual grading plan has been prepared by Moffatt & Nichol. Exhibits 10A and 10B depict the areas that would be affected by grading and construction of a system of berm and sheet pile wall necessary to sequester tidal flows within the Bank Property. The grading has been further broken down into the components listed below according to permanent and temporary impacts, which also includes the vegetation alliances and land cover types to be affected by grading and construction of the following components:

- Sheet Pile Wall
- Trail
- Tidal Channel Grading/Soil Remediation
- Earthen Berm
- Flat Terrace
- Berm/Road Removal

A. Summary of Impacts

Development of the grading concept has required a balancing of 1) temporary impacts to existing resources, which in most instances are moderately to substantially degraded, with 2) maximizing the long-term functions of the restored wetland areas. Table 5 summarizes permanent impacts which are only associated with the sheet pile wall, the trail, and the earthen berm. All impacts associated with the trail occur within upland areas and do not affect Section 404 or Coastal Wetlands. Although the trail is not creditable habitat within the Bank, it is discussed here due to its immediate adjacency to the Buffer and because the work to create the Buffer will be carried out concurrently with trail construction. It is important to note that the intent of this Development Plan is to result in no-net-loss of wetlands, including minimization of temporal loss, associated with installation of the sheet pile wall and grading activities, and as such, a vegetation salvage and translocation program will

be implemented to further minimize impacts to vegetated wetlands. It is important to note, that for some species, seeding or installation of container stock is more effective than translocation and as such, each species will be evaluated on its own to determine the most effective approach. Table 6 provides a summary of all other impacts, which are temporary in nature. Selection of sheet pile walls to protect areas outside of the Bank Property from flooding has been balanced with the use of earthern berms for two primary reasons. First, in some areas, due to the presence of existing wells and/or oil field infrastructure, sheet pile walls were necessary to accommodate the lack of space needed for an earthern berm, and second, use of sheet pile walls reduces potential impacts, both permanent and temporary, on wetlands. In either case, the sheet pile walls and berms have been designed to accommodate SLR.

Once detailed grading plans are produced, minor changes to the amount of permanent and temporary impacts to vegetation and USACE or CCC jurisdiction may occur. The final permanent and temporary impacts would be evaluated as part of the regulatory agency permitting. An update to this Development Plan may be required pursuant to Section IV.F. of the BEI. All permanent impacts resulting from implementation of the Development Plan would be mitigated through the deduction of Credits from the Bank. Since those ratios are not known at this time, the amount of available Credits within the Bank remains whole, and the appropriate number of Credits required to offset construction of the Bank will be deducted following issuance of the USACE and/or CCC permits for Bank construction.

1. Permanent Impacts

As noted, permanent wetland impacts are associated with installation of a sheet pile wall and the earthen berm along portions of the perimeter of the Bank Property necessary to retain tidal water within the restored areas. Tidal exchange will continue to be provided between the Bank Property and two areas immediately south of the Bank Property; in one located near Pacific Coast Highway where a small tidal flap gate will be installed within the sheet pile wall and the second located approximately 700 feet to the east where a second small tidal flap gate will be installed within the sheet pile wall. The minimum interior diameter of the new flap gates will be no less than the existing flap gates to ensure existing wetlands receive similar tidal exchange as the current condition. In the current condition, these two areas receive muted tidal exchange through 8-12" culverts beneath the oil field access roads.

Impacts to wetland vegetation alliances are limited to 0.49 acre of Parish's glasswort patches, 0.19 acre of pickleweed mats, 0.75 acre of saltgrass flat, and 0.33 acre of unvegetated flats. It is estimated that approximately 2,632 of 6,000 southern tarplant[30] would potentially be affected by grading with additional impacts associated with berm construction. A vegetation salvage and translocation program has been developed[31] which includes additional details on additional surveys and impacts that will be implemented to further minimize impacts to southern tarplant.

[30] Of the 279,000 southern tarplant individuals on the Bank Property, an estimated 2,632 if approximately 6,000 would potentially be affected by grading. This estimate was not based on sampling; rather, plants across the polygon were counted, resulting in the estimate of 6,000 individuals.

[31] Glenn Lukos Associates. February 2017. *Southern Tarplant Development Plan: Upper Los Cerritos Wetland Mitigation Bank.*

Table 5: Permanent Vegetation Impacts
Associated with Grading and Construction of Restoration Areas
(Acres)

Upland Alliances	*Sheet pile Wall*	*Earthen Berm*	*Trail*
Bassia Thicket	0.00	0.06	0.00
Coyote Brush Scrub	0.0	0.00	0.00
Disturbed	0.05	0.05	0.00
Ice Plant Mats	0.002	0.00	0.01
Five-Horn Smotherweed Thickets	0.0	0.00	0.001
London Rocket Fields	0.0	0.00	0.23
Menzie's goldenbush scrub	0.0	0.02	0.00
Mulefat Scrub	0.0	0.00	0.05
Non-Native Grassland	0.007	0.07	0.40
Ornamental	0.001	0.01	0.003
Unvegetated Flats	0.00	0.00	0.00
Yellow Star Thistle Fields (tocalote)	0.00	0.00	0.03
Upland Alliances Subtotal	0.06	0.21	0.75
Wetland Alliances			
Alkali Heath Flats (Non-Tidal)	0.00	0.00	0.00
Alkali Weed-Saltgrass Flats	0.00	0.00	0.00
Black Willow Forest	0.00	0.00	0.00
California Cordgrass Marsh	0.00	0.00	0.00
Cattail Marshes	0.00	0.00	0.00
Mudflats	0.00	0.00	0.00
Parish's Glasswort Patches	0.001	0.49	0.00
Pickleweed Mats	0.01	0.18	0.00
Saltgrass Flats	0.01	0.74	0.00
Shoregrass Flats	0.00	0.00	0.00
Unvegetated Flat (Non-Tidal)	0.02	0.31	0.00
Tidal Channel	0.00	0.00	0.00
*Wetland Alliances Subtotal**	0.04	1.72	0.00
Grand Total	0.10	1.93	0.75

* While all 1.76 acres of impacts to wetland alliances are to Coastal Wetlands, only 0.004 acre of these impacts are to USACE wetlands.

2. Temporary Impacts

Temporary wetland impacts are associated with grading of transitional areas and tidal channels, and removal of soils requiring remediation. The areas requiring soils remediation occur in the same location as areas that would be graded for tidal channels and thus do not represent an additional impact. Staging and construction access areas (not included in Exhibit 10A) will be limited to existing access roads. In the

wetland alliances, the largest impact of 1.78 acres will be to non-tidal unvegetated flats with no loss of wetland vegetation. Impacts to vegetated wetlands have been avoided to the extent feasible and where impacts are necessary, they have been located within areas of degraded habitat. For example, 1.49 acres of Parish's glasswort patches will be affected; however, most of these areas exhibit sparse cover by Parish's pickleweed, often less than 20- or 25-percent absolute cover, much of which has suffered mortality as depicted on Photograph 2 of Exhibit 8. Similarly, impacts to pickleweed mats totaling 0.62 acre are within non-tidal areas where the pickleweed fails to thrive due to less than optimal hydrologic regime (e.g., regular tidal exchange). Other temporary impacts include 0.04 acre of saltgrass flats. Impacts to 0.11 acre of tidal channel or 0.02 acre of mudflat will not result in the loss or conversion of tidal channel or mudflat.

Table 6: Temporary Vegetation Impacts
Associated with Grading and Construction of Restoration Areas
(Acres)

Upland Alliances	*Tidal Channel Grading/Soil Remediation*	*Flat Terrace*	*Berm/Road Removal*
Coyote Brush Scrub	0.01	0.08	0.00
Disturbed/Developed	0.25	0.00	0.42
Five-Horn Smotherweed Thickets	0.00	0.00	0.00
Ice Plant Mats	0.05	0.00	0.08
Ice Plant/Pickleweed	0.12	0.00	0.00
London Rocket Fields	0.00	0.00	0.00
Menzie's goldenbush scrub	0.00	0.00	0.02
Mulefat Scrub	0.00	0.09	0.00
Non-Native Grassland	0.51	0.00	0.02
Ornamental	0.02	0.01	0.00
Unvegetated Flats	0.21	0.00	0.18
Yellow Star Thistle Fields	0.00	1.21	0.00
Upland Alliances Subtotal by Category	*1.17*	*1.39*	*0.72*
Upland Alliances Subtotal	3.28		
Wetland Alliances	*Tidal Channel Grading/Soil Remediation*	*Flat Terrace*	*Berm/Road Removal*
Alkali Heath Flats (Non-Tidal)	0.00	0.00	0.00
California Cordgrass Marsh	0.00	0.00	0.02
Mudflats	0.02	0.00	0.00
Parish's Glasswort Patches	1.14	0.00	0.35
Pickleweed Mats	0.47	0.00	0.15
Saltgrass Flats	0.04	0.00	0.00
Shoregrass Flats	0.00	0.00	0.00
Unvegetated Flats	1.78	0.00	0.00

Tidal Channel	0.08	0.00	0.03
Wetland Alliances Subtotal by Category	*3.53*	*0.00*	*0.55*
Wetland Alliances Subtotal	4.08*		
Grand Total by Category	*4.70*	*1.39*	*1.27*
Grand Total	7.36		

*Acreages are rounded to the nearest 1/100th, where possible. Acreages not registering to the thousandths place are not included in this table. Total acreage may not equal sum of individual fields due to rounding.
While all 4.08 acres of impacts to wetland alliances are to Coastal Wetlands, only 0.26 acre of these impacts are to USACE wetlands.

VI. Target Jurisdictional and Non-jurisdictional Acreages

A. Target Jurisdictional Acreages to be Reestablished, Rehabilitated, and/or Preserved and Non-Jurisdictional Buffer Acreages

Upon completion of the "Work Plan" described below, the Bank Property will include the components set forth in Table 7 below, each of which is described below. These areas are depicted on Exhibit 7 and detailed on Exhibits 11A and 11B. Exhibit 10B includes the grading plan and cross sections of berms and channels relevant to the planned grading. The smooth transition into the channel illustrated in Section 4 on Exhibit 10B is representative of the planned grading of all berm breaches from the slough into the eastern tidal complex.

Table 7: Preservation, Reestablishment, Rehabilitation, and Buffers

Habitat Type	Acreage	Restoration Type	Jurisdiction
Tidal			
Coastal Salt Marsh (Steamshovel Slough)	29.71	Preservation	USACE, CCC
Coastal Salt Marsh	7.25	Rehabilitation	USACE, CCC
Coastal Salt Marsh	20.66	Reestablishment	USACE, CCC
Coastal Salt Marsh Habitat Subtotal	*57.62*		
Buffer			
Transitional Habitat	1.80	Re-establishment	USACE
Saltbush/Goldenbush	7.44	Establishment	USACE
Mulefat Scrub	1.04	Enhancement	USACE
Buffer Habitat Subtotal	*10.28*		
Total Bank Habitat	67.90		

1. Coastal Salt Marsh – Steamshovel Slough (Preservation)

The Steamshovel Slough (29.71 acres, including 2.9 acres of subtidal habitat) will be preserved as a part of this Development Plan, and will be subject to trash and debris removal and implementation of an Early Detection and Rapid Response (EDRR) program for non-native and invasive species. The removal of trash and debris that is regularly carried into the area and deposited along the high-water line on the edges of the

Steamshovel Slough is vital to the biological health of the slough as trash and debris represent a source of possible injury or harm to wildlife. Implementation of an EDRR program will enable identification and prompt removal of invasive species that do not currently occur on the Bank Property, but have been noted within the region by natural resource managers and biologists, or are considered an "alert" species by the California Invasive Plant Council (Cal-IPC). Examples of these species include smooth cordgrass (*Spartina alterniflora*), Algerian sealavender (*Limonium ramosissimum*), brass buttons (*Cotula coronipifolia*), stinkwort (*Dittrichia graveolens*), and stinknet **(***Oncosiphon piluliferum*). The EDRR program will be implemented as a part of routine qualitative monitoring, described in Section III.A.1 of the Interim Management Plan (Exhibit D-4 of the BEI).). When invasive species are detected, they will be removed promptly under the direction of the Project Biologist. Table 8 below, provides a breakdown by elevation for the Preservation areas:

Table 8: Summary of Preservation by Elevation

Elevation (NGVD)	Acres
Subtidal (-5.0 - -1.6 feet)	2.9
Mudflats (-1.6 – 0.8)	8.56
Low Marsh (+0.8 to +1.6 feet)	4.13
Mid Marsh (+1.6 to +3.4 feet)	10.65
High Marsh (+3.4 to 4.3 feet)	3.47
Total	29.71

2. Coastal Salt Marsh – South of Slough (Rehabilitation) (CRAM AAs 1, 2, and 3)

The approximately 7.25-acre wetland area that is south of Steamshovel Slough currently receives tidal water through a series of pipes and culverts, which were repaired in the late 2000s, providing more substantial tidal exchange for this area. Since that time, the area has been colonized by mostly saltwort (*Batis maritima*) and Bigelow's pickleweed (*Salicornia bigelovii*), with local clumps of cordgrass, and exhibits limited diversity. Rehabilitation of this area includes restoration of a full tidal regime through removal of the western and secondary berm segments, removal of roads and recontouring to appropriate elevations, as well as installation of low marsh plants such as cordgrass. Removal of the berm segments and roads (as depicted on Exhibit 10A) will restore a full tidal regime to this area resulting in enhanced biological functions. In addition to increasing the biodiversity through plantings and introduction of greater tidal flows, the EDRR approach (as described above) will be applied through monitoring for non-native invasive plant species. When such species are discovered, they will be removed immediately under the direction of the Project Biologist. Table 9 below, provides a breakdown by elevation for the rehabilitation areas:

Table 9: Summary of Rehabilitation by Elevation	
Elevation (NGVD)	Acres
Subtidal (-1.5 - -0.9)	0.16
Mudflats (-0.9 - +0.8 feet)	1.82
Low Marsh (+0.8 to +1.5 feet)	3.62
Mid Marsh (+1.5 to +3.4 feet)	1.38
High Marsh (+3.4 to 4.3 feet)	0.27
Total	7.25

3. Coastal Salt Marsh – South of Slough (Reestablishment) (CRAM AAs 7 & 8)

An approximately 20.66-acre area, south of Steamshovel Slough, none of which meets the USACE definition of wetlands or Waters of the U.S., will be restored to coastal salt marsh with full tidal exchange. This area consists of a variety of vegetation alliances/land cover types including disturbed and developed areas, unvegetated flats, Parish's glasswort patches which are highly degraded and many of which exhibit very low cover; pickleweed mats and saltgrass flats; none of which receive tidal water. Breaching of the berm that demarcates the southern limits of Steamshovel Slough and grading of tidal channels and basins will result in the reestablishment of tidal exchange for this area that currently lacks tidal water. The grading will reestablish tidal channels in areas where tidal channels historically occurred. Grading will result in the reestablishment of tidal channels, low-, mid-, and high-marsh areas that contain a full suite of elevation-appropriate plants as set forth in the Planting Plan (Section VII.G) below. Table 10 summarizes the areas of reestablishment by elevation. Reestablishment of tidal exchange in conjunction with planting of low-, mid-, and high-marsh species will result in a substantial functional lift for this reestablishment area.

Table 10: Summary of Reestablishment by Elevation	
Elevation (NGVD)	Acres
Subtidal (-5.0 - -1.6 feet)	0.00
Mudflats (-1.6 feet to +0.8 feet)	4.06
Low Marsh (+0.8 to +1.5 feet)	3.48
Mid Marsh (+1.5 to +3.4 feet)	12.70
High Marsh (+3.4 to +4.3 feet)	0.42
Total	20.66

4. Buffer - Transitional Habitat (Reestablishment)

Approximately 1.80 acres of transitional habitat will be re-established on the Bank Property. It will be located between the saltbush/golden bush scrub and coastal salt marsh habitats. Transitional habitat will be restored with Parish's glasswort, Southern tarplant, alkali weed (*Cressa truxillensis*), shoregrass, saltgrass, saltmarsh heliotrope (Heliotropium *curassavicum*), Coulter's goldfields (*Lasthenia glabrata coulteri*), California boxthorn (*Lycium californicum*), saltmarsh sand spurrey (*Spergularia marina*), and woolly seablite.

5. Buffer – Saltbush/Goldenbush Scrub (Establishment)

Buffer areas along primarily the northern and eastern edges of the property will be established with upland scrub, consisting of a mosaic of Menzies Goldenbush Scrub and saltbush scrub that will provide buffer functions as well as important habitat functions. This area will cover 7.44 acres and will be adjacent to 1.03 acres of mulefat scrub that will be subject to enhancement, consisting of removal of non-native grasses and forbs and planting of understory components listed in the saltbush/goldenbush scrub plant palette below.

6. Buffer - Mulefat Scrub (Enhancement)

Approximately 1.04 acres of the Buffers will be enhanced mulefat scrub. The mulefat scrub habitat will be on the remnant berms that separate the coastal salt marsh re-establishment area from Steamshovel Slough and will also be present in the Buffer area along the trail and in a very small area in the southwest corner of the Bank property adjacent tothe western coastal salt marsh Re-establishment area. This alliance consists of generally small thickets of mulefat (*Baccharis salicifolia*) with understory that varies from location to location but may include one or more of the following species: saltgrass (*Distichlis spicata*), seaside heliotrope (*Heliotropum curassavicum*), small-flowered ice plant, five-horn smotherweed and upland non-native grasses.

7. Belding's Savannah Sparrow Habitat

Although the Bank will not offer special-status species Credits, one of the goals of this Development Plan is to reestablish and enhance habitat for special-status animal species, including the Belding's savannah sparrow. Within the Bank Property, the Belding's savannah sparrow occupies approximately 41.16 acres of habitat consisting primarily of areas within Steamshovel Slough and in the western portion of the Bank Property where the existing tide gate allows muted tidal exchange into areas south of the Slough. Implementation of this Development Plan will establish and restore an additional 18.26 acres of habitat consisting of reestablished coastal salt marsh and transitional habitat that could become occupied by the Belding's savannah sparrow, both as breeding and foraging habitat.

VII. RESTORATION WORK PLAN

As noted above, a comprehensive conceptual development plan addressing the LCW Complex, *Los Cerritos Wetlands Final Conceptual Development Plan*[32] (LCWFCRP), was prepared for the LCWA by Moffatt and Nichol in association with Tidal Influence, Everest International Consultants, Coastal Restoration Consultants, New West Land, Chambers Group, Inc., Kinnetic Laboratories, Inc., and Livable Communities, through collaborative efforts with adjacent landowners, resource agencies and the public. The LCWFCRP developed and analyzed several scenarios for large-scale restoration of the LCW Complex, integrating numerous baseline studies on current and historical ecology of the area, regional and local

[32] Moffatt & Nichol. 2015. *Los Cerritos Wetlands Final Conceptual Development Plan*. Prepared in association with Tidal Influence, Everest International Consultants, Coastal Restoration Consultants, New West Land, Chambers Group, Inc., Kinnetic Laboratories, Inc., Livable Communities, for the Los Cerritos Wetlands Authority.

needs, potential future SLR projections related to climate change, in addition to other opportunities and constraints analyses relating to the LCW Complex.

This Development Plan, while providing a focused, detailed work plan prepared in accordance with the guidelines[33] provided by the USACE, incorporates the overarching approaches and strategies developed in the LCWFCRP for the LCW Complex, and is in accord with the underlying principles identified during extensive public/private collaboration. The design, goals, and objectives described herein are in alignment with goals and objectives previously outlined in the LCWFCRP.

This section of the Development Plan follows the USACE's guidelines[34] for developing mitigation banks and includes the components listed below, each of which is discussed in detail and supported by a variety of site exhibits.

A. Geographic Boundaries of the Bank Property

The Bank Property is located on the northern half of the Property [Latitude: 33.753930°; Longitude: -118.105765°]. The Property, formerly known as the Bixby Oil Field, consists of a 150-acre property located at 6433 East Second Street, Long Beach, Los Angeles County, California. The Bank Property is bound by the Pacific Coast Highway to the west, 2nd Street to the south, Studebaker Road to the east and the Los Cerritos Channel to the north. The Bank Property is depicted on Exhibit 3.

B. USACE, Coastal Wetlands, and other Special Aquatic Sites within the Bank Property

As noted above, the Bank Property includes 33.17 acres of Section 404 wetlands and 3.53 acres of Section 404 non-wetland waters. It also contains 60.08 acres of wetlands meeting the definition of wetlands under the Coastal Act. The primary goal of the Development Plan is to restore the 3.53 acres of non-wetland waters that currently lack all three wetland criteria to areas that meet the definition of wetlands or other special aquatic sites (e.g., mudflats), as defined at 40 CFR Part 230, Subpart E. Introduction of tidal exchange at appropriate elevations, ensures that all three criteria will be present in the restored areas, which will concurrently enhance the Coastal Wetlands since these areas are generally one-parameter wetlands only.

[33] Federal Register, Volume 73, No. 70. April 10, 2008. Department of Defense: Department of the Army, Corps of Engineers, 33 CFR Parts 325 and 332, and Environmental Protection Agency, 40 CFR Part 230. *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* and U.S. Army Corps of Engineers *Regional Compensatory Mitigation and Monitoring Guidelines for the South Pacific Division*, dated January 12, 2015.

[34] Federal Register, Volume 73, No. 70. April 10, 2008. Department of Defense: Department of the Army, Corps of Engineers, 33 CFR Parts 325 and 332, and Environmental Protection Agency, 40 CFR Part 230. *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* and U.S. Army Corps of Engineers *Regional Compensatory Mitigation and Monitoring Guidelines for the South Pacific Division*, dated January 12, 2015.

C. Impact Minimization Measures during Construction

1. Contractor Education

Prior to the commencement of grading or any construction work, the Bank Sponsor will review all aspects of the Development Plan that concern all contractors including permit requirements, site protection, maintenance inspections, landscape procedures, and monitoring.

The Project Biologist shall make all contractors, subcontractors, and the project supervisors aware of the requirements and conditions set forth in the USACE authorization, the Regional Board Water Quality Certification, the California Department of Fish and Wildlife Streambed Alteration Agreement, CCC Coastal Development Permit, and any other applicable authorizations to perform work within the Bank Property. Copies of the permits shall be kept on-site, at all times, during periods of active work and must be presented to any agency personnel upon demand.

2. Nesting Birds

Vegetation clearing, grading and other earth-moving activities will not take place during the Belding's savannah sparrow nesting season, which is from February 15 to July 15. For all other activities during this period the Project Biologist will conduct a survey for nesting birds (including Belding's savannah sparrow) within three days prior to initiation of work and ensure no nesting birds shall be impacted by the Bank construction. These surveys shall include the areas within 500 feet of proposed activities.

If active Belding's savannah sparrow nests are found, a minimum 500-foot (and 200 feet for raptors) clearly visible barrier fencing (such as snow fencing or rope) shall be erected around the nest site. No habitat removal or any other work shall occur within the fenced nest zone until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the Bank construction. The Bank Sponsor shall submit the mapped survey results to California Department of Fish and Wildlife for review and approval prior to vegetation removal to ensure full avoidance measures are in place. The Bank Sponsor will adhere to all applicable requirements of federal and state codes (e.g., Migratory Bird Treaty Act and California Fish and Game Code 3503.5).

3. Native Plant Salvage and Translocation

Impacts to wetland vegetation associated with installation of the sheet pile wall and grading activities are expected to be minimal, however, salvage and translocation of native wetland vegetation will be incorporated, as feasible, to further minimize impacts to vegetated wetlands. Vegetation salvage and translocation will occur only in areas where soils are deemed clean and free from contaminants in accordance with the soils study for the Bank. Vegetation salvage is favored as soil microbes, bacteria, viable seeds, roots, and stalks of wetland vegetation can be easily transported and would lead to better revegetation. Salvaged plants will be translocated and placed in adjacent unvegetated areas outside the grading limit or stockpiled and reestablished within the newly established channels following grading.

Plant salvage will occur prior to start of sheet pile wall construction and other grading. The Project Biologist will identify and flag plants to be salvaged, as well as flagging the receptor sites outside the grading footprint, or if stockpiled, temporary stockpile locations will be identified and marked in the field, to be

avoided by equipment during channel grading. Plant salvage will entail excavation of entire plants and soil from the impact areas using a front loader or small bobcat and transport using the same equipment to receptor or stockpile sites. The translocated plant material will be watered in using a water truck and left in place to establish naturally following the restoration activities and reestablishment of tidal flows into the Bank Property.

D. Construction Methods

The goal of the Bank is to expand tidal connection such that areas south of Steamshovel Slough that currently lack tidal connection and associated hydrology, will receive tidal flows, providing conditions necessary for reestablishment of coastal salt marsh habitat and associated hydrologic, biogeochemical and habitat functions. To expand tidal flow into areas where it is currently lacking, it will be necessary to:

- Construct a new barrier consisting of sheet piles and earthen berms along the southern boundary of the Bank Property;
- Establish tidal channels, by means of grading, to convey tidal water to areas that currently lack tidal flows;
- Install best management practices (BMPs) that are aimed at preventing sediment from the newly graded channels from entering Steamshovel Slough; and
- Remove segments of the existing berm and roads that currently separate Steamshovel Slough from non-tidal portions of the Bank Property.

An additional component associated with the Bank but not directly related to the wetland restoration components is grading for the trail which is described below.

The earthwork necessary to complete each of these tasks will be accomplished through standard earth-moving equipment including excavators, bulldozers, front-end loaders and trucks for hauling material. Staging areas will be in upland areas and to the extent feasible, access will be through upland areas. Activities such as refueling and maintenance will occur within staging areas in uplands in a manner that avoids spills. Removal of the berm segments with an excavator will be staged from adjacent upland areas to the extent feasible, considering safety and logistics.

Sequencing will be important in reestablishing the tidal connection and ultimate revegetation of the areas to be reestablished. The tasks set forth below follow the sequence that will be followed to complete the restoration of the Bank Property. While soil remediation may be necessary based on the results of the Phase I Environmental Site Assessment, that work would be carried out prior to the Bank Establishment Date. All elevations described in this section are in NGVD.

1. Install Sheet Pile and Earthen Berm Barriers

To keep tidal waters contained within the Bank Property, a combination of sheet pile wall and earthen berm will be constructed along the perimeter of the southern edge, as depicted on Exhibit 10A – Restoration Work Plan. The sheet pile wall has been located such that there will be extremely limited to no impacts to wetlands from the installation. Equipment to breach the existing berm and roads would travel from the eastern part of the complex and therefore no temporary earthen ramps would need to be constructed over the sheet pile wall.

Temporary impacts will be restored in place as a part of proposed restoration with high marsh and transitional habitats.

Once the sheet pile wall and berms that will provide containment of tidal flows are completed, and construction of the temporary berms at the breach points are completed, the next tasks are grading of the tidal channels and contouring of the adjacent areas.

2. Establish Tidal Channels and Final Elevations

Tidal channels will be graded to connect the breached berm segments with the restored areas, as depicted on Exhibit 10B – Grading Plan. For purposes of this Development Plan, these areas are referred to as the western tidal channel complex and the eastern tidal channel complex. Both complexes of tidal channels will expand tidal influence and convert areas from non-tidal areas to coastal salt marsh. Grading for the tidal channels has required a balancing of 1) temporary impacts to existing resources, which in most instances are moderately to substantially degraded, with 2) maximizing the long-term functions of the areas receiving tidal exchange. To the maximum extent feasible, construction of new tidal channels will avoid existing areas of pickleweed mats, Parish's glasswort patches, and saltgrass flats and be located in unvegetated flats. In some areas, it was not possible to fully avoid existing vegetation while establishing the necessary elevations for the tidal channels, but this vegetation will be salvaged (where possible and determined to be most effective method) and translocated into unvegetated areas or stockpiled and reestablished in the newly graded tidal channels following grading completion.

Exhibit 11A depicts the eastern tidal channel complex, which will substantially expand areas subject to tidal exchange. As noted above, in this area, the tidal channels have been located to the maximum extent feasible within areas that are currently unvegetated. The tidal channel elevations will range from 0.5 feet at the berm breach to approximately 1.0 foot at the upper ends of the channels. Portions of the area that will be fed by the tidal channel complex will be lowered from elevations ranging from approximately 3.5 to 11 feet to elevations ranging from approximately 1.5 to 4.3 feet.

Exhibit 11B depicts the western tidal channel complex, which will take advantage of an existing drainage channel to carry water from tidal areas that currently are connected by means of culverts and which will be significantly enhanced through removal of the large berm segment and roads described below. Two existing small culverts will be removed and replaced with tidal flap gates constructed within the sheet pile wall to maintain similar tidal circulation patterns to the existing conditions. The area of coastal salt marsh in this area is vegetated by saltwort, Bigelow's pickleweed, and common pickleweed. This will be extended to the south through the tidal channels that will establish tidal exchange to areas at elevations ranging from 1.0 feet (low marsh) up to 3.4 feet (mid marsh).

Once the tidal channels are graded, it will be necessary to ensure that the slopes of adjacent areas are contoured to ensure drainage back to the tidal channels as the tide recedes, thereby preventing localized pooling over large areas. Because the area is very flat, slopes will generally be less than two-percent and in many areas less than one-percent. This will be accomplished through detailed elevation measurements (one-inch increments) by survey crews. During the final grading, the Project Restoration Specialist will work closely with the survey and grading personnel to ensure that proper grades are established adjacent to the tidal channels.

3. Removal of Berm Segments and Lower Elevation of Road Segments

As noted, the berm that demarcates the southern edge of Steamshovel Slough will be lowered/breached at four locations to allow above-ground discharge of tidal waters to the areas of the Bank that currently lack tidal exchange. The largest segment ("Western Breach") to be removed is near the western boundary of the site consisting of an approximately 440-long foot segment that ranges in elevation from 6.1 to 6.7 feet. Upon removal, the final elevation of the segment will range from 0.5 to 1.0 feet, ensuring unrestricted tidal exchange. A smaller secondary berm ("Secondary Berm") that currently exhibits elevations ranging from 4.4 to 4.8 feet will also be lowered to elevations of 1.5 to 2.0 feet and an existing pipe that currently carries tidal flows to areas south of the secondary berm will be removed, creating an open connection between two tidal channels currently connected by pipe.

Three road segments ("Road Segments") and a disturbed upland area immediately south of the berm segments described above will be lowered to allow tidal connection from the area of the lowered 440-foot long berm segment and areas to the south. Currently the roads are at elevations ranging from 2.6 to 3.6 feet and will be lowered to an average elevation of 1.0 foot.

An additional berm segment ("Central Breach") will be breached and will provide direct tidal connection to the eastern portion of the Bank Property. This segment is approximately 80 feet long, and currently at an elevation of approximately 6.5 feet. This area will be lowered to approximately 0.5 feet. Finally, near the easternmost segment ("Eastern Breach") of the berm, two small segments will be breached to provide an additional tidal connection. Current elevations are approximately 6.6 and 5.7 feet respectively and final elevations will be at about 1.0 foot.

Prior to breaching any of the berm segments to introduce tidal flow into newly graded channels, BMPs will be installed to limit sediment from entering Steamshovel Slough. These BMPs will be temporary in nature and would include but not be limited to silt fencing and sandbags. Care will be taken to avoid any impacts to existing vegetated areas during installation and removal of the BMPs. Minor sediment movement and adjustment immediately post construction should be expected while these breaches evolve to equilibrium conditions. However, these small berm breaches would not cause sedimentation and no dredging in the future is expected to be needed based on sea level rise analyses. The berm breaches and tidal channels were sized properly to avoid erosive high tidal velocity. The tidal velocity through these tidal connections are very low, less than two feet per second (fps).

4. Flat Terrace

A flat terrace consisting of upland scrub species will be created through grading at the northern terminus of the trail addressed below and depicted on Exhibit 10A.

5. Trail

A pedestrian trail, parallel to Studebaker Road, will be created that will connect to the trail extending from the future Visitor Center parking lot located south of the Bank Property.

6. Ongoing Non-Native and Invasive Plant Removal

The Bank Property supports varying populations of a suite of non-native and invasive species including lollypop tree, Pampas grass, Australian saltbush, Bermuda grass, iceplant mats (small-flowered, crystalline, and hottentot fig), London rocket, five horn smotherweed, tocalote, sweet clover, Sydney golden wattle, Brazilian pepper, Canary Island palm, Mexican fan palm, and a variety of annual non-native grasses including bromes, oats, barley, and smilo grass. Removal of invasive Mexican fan palms was initiated in November and December of 2014, outside the avian nesting season. Approximately 50-percent of the non-native Mexican fan palms on the property have been removed. As a component of the Restoration Work Plan, all remaining Mexican fan palms, as well as all other non-native invasive species on the Bank Property will be removed as a part of the Development Plan implementation described herein.

E. Best Management Practices

BMPs will be implemented during the construction portion of this Restoration Work Plan. All locations of soil-disturbing activities will be identified, surveyed, and staked prior to initiation of work. The location and type of BMPs will be determined by a qualified Storm Water Pollution Prevention Plan (SWPPP) practitioner and applied as appropriate. The following is a list of potential BMPs that may be applicable:

- Regular water application to newly graded areas and exposed dirt stockpiles (if any);
- Protection of stockpiled dirt with plastic sheeting, sandbags, and/or swaddles prior to a storm event;
- Protection and stabilization of areas of bare soil with sandbags, swaddles, strawbales, and/or other BMPs to reduce runoff velocities and to prevent sediment from entering the Steamshovel Slough or causing erosion;
- Proper containment and disposal of construction waste, including food waste;
- Inspection and maintenance of construction equipment and vehicles to prevent fluid leaks;
- Specification of appropriate areas for storage and equipment maintenance (i.e., away from wetlands or exposed soils);
- Ingress/egress areas will be defined with brightly colored fencing or signs to limit compaction by heavy equipment.
- Stabilization and re-vegetation of disturbed areas impacted during work; and
- Application of a fiber binder to hydroseed mix on the Buffers to reduce erosion potential prior to seed germination.

A qualified SWPPP practitioner will confirm effectiveness of the BMPs and make recommendations, as necessary, to ensure effectiveness throughout the construction period.

F. Schedule/Phasing

Work is anticipated to begin following issuance of all necessary authorizations. Because of the nesting season for the Belding's savannah sparrow, which is from February 15 to July 15, grading and other earthmoving work will be scheduled to occur in late summer and fall/winter months to minimize impacts to the Belding's savannah sparrow, as well as other nesting birds. Grading and associated construction is expected to take 6 months and would be completed before the beginning of the next nesting season.

Restoration activities within the Bank Property will occur in a single discreet phase with construction lasting approximately 6 months, which would be immediately followed by planting.

G. Planting Plans, Plant Palette, Vegetation Establishment, and Weed Control

1. Planting Plan

Areas to be planted include the coastal salt marsh, which is divided into four areas based on elevation, as shown in Tables 11-13 below and depicted in Exhibit 12. All saltmarsh species are native to the LCW Complex and are therefore appropriate for the site. Placement within the appropriate zones is based on Joy Zedler's Figure 9 in *The Ecology of Southern California Salt Marshes: A Community Profile*[35] and Figure 2-17 in Chapter 2 of *Handbook for Restoring Tidal Wetlands*, edited by Joy Zedler[36], with additional hydrological modeling data provided by Moffatt & Nichol. The planting zones are based on current sea levels.

With appreciable SLR, there will be an upward shift in the vegetation with larger areas inundated such that over time, subtidal and low marsh area would expand, and mid marsh and high marsh areas would likely decrease. A modest sea level rise of +0.5 feet would have much less effect on habitat types than would a rise of +2.6 feet. Under any SLR scenario evaluated by Moffatt & Nichol[37], the plants would have adequate time to shift in response to gradual SLR. It is important to note that the coastal salt marsh species listed in Table 12 can tolerate a range of conditions.

[35] Joy B. Zedler. 1982. *The Ecology of Southren California Salt Marshes: A Community Profile*. U.S. Fish and Wildlife Service, Biological Program, Washington D.C. FWS/OBS-81/54.
[36] Joy B. Zedler. 2001. *Handbook for Restoring Tidal Wetlands*. CRC Press.
[37] Moffat & Nichol. 2017. Updated Sea Level Rise Impact Analyses for Phase 1.

Table 11
Habitat Elevations Relative to Tides
(Existing Sea Level)

Habitat Type	% Inundation Frequency		Elevation Range at Pt1 (ft. NGVD)		Elevation Range at Pt2, Pt3, & Pt4 (ft. NGVD)		Elevation Range at Pt5 (ft. NGVD)	
	Max	Min	Low	High	Low	High	Low	High
Subtidal	100		Lower limit of bathymetry	-1.6	Lower limit of bathymetry	-1.6*	Lower limit of bathymetry	0.0
Low Intertidal, Unvegetated (Mudflat)	100	40	-1.6	0.8	-0.3	0.8	0.9	1
Low Marsh, Vegetated (Cordgrass)	40	20	0.8	1.5	0.8	1.5	1	1.5
Mid-marsh (Pickleweed)	20	4	1.5	3.4	1.5	3.4	1.5	3.4
High Marsh (Pickleweed)	4	0	3.4	4.3	3.4	4.3	3.4	4.3
Transitional Habitat	0		4.3	7.1	4.3	7.1	4.3	7.1

* Elevation taken from Pt3. High elevation for subtidal at Pt2 is -0.5 ft. NGVD, and at Pt4 is 0 ft. NGVD[38]
*PT1 – 5 are virtual locations used in modeling as indicated on page 59 and Figure 4-24 of the SLR report.

2. Coastal Salt Marsh Plant Palette

The zonation shown in Figure 9 of Zedler's *The Ecology of Southern California Salt Marshes* is based on 70-percent of occurrences during quantitative sampling, meaning that for each species, 30-percent of occurrences are outside the indicated zones/elevations. This is important as many of the species in Table 12 can occur in multiple zones (and beyond). As such, the plant palette below shows some plants in two zones, as it is expected that there will be significant overlap based on microsite conditions. It is also important to note that the upper range for high marsh in this Development Plan is defined as 4.3 feet and is based on hydrological modeling developed by Moffatt & Nichol and associated inundation frequencies. However, the 4.3 feet does not represent the upper range for many of the plant species designated as high-marsh taxa. This is based on existing conditions on the site. For example, the top of the berm that demarcates the Steamshovel Slough from the oil field generally ranges from about 6.0 to 7.5 feet and many of the high marsh species such as Parish's glasswort and shoregrass grow on the top of the berm as depicted on Exhibit 8, Photograph 7. Similarly, the scarp that defines the northern edge of Steamshovel Slough and adjacent flat area supports Parish's glasswort, shoregrass, saltgrass, common pickleweed and alkali heath at elevations ranging from 7.5 feet up to 9.0 feet (Exhibit 8, Photographs 5, 6 and 8).

The reason that many of the high-marsh species can occupy areas well above the areas of high water is because most of these species are phreatophytes, meaning plants that can send roots to significant depths to reach groundwater or moist soils. For example, saltgrass roots have been documented to extend 11 feet

[38] Moffat & Nichol. 2017. Updated Sea Level Rise Impact Analyses for Phase 1.

below ground-level to reach groundwater.[39] In a handout for his "Arid Saline Wetlands Field Tour (January 2012), wetland scientist Jim Teaford lists (among others) the following genera as phreatophytic: *Salicornia*, *Suaeda*, *Distichlis*, and *Atriplex*.[40]

As such, plants at an elevation of 7.1 feet, the proposed upper limit for the transitional habitat, are approximately 5.6 feet above the low-marsh which is inundated twice daily, providing sufficient soil moisture for these species to easily access. Patches of Parish's glasswort are common on the berm between elevations of 4.3 and 7.1 feet and regularly used by Belding's savannah sparrow. As such, the transitional habitat areas will provide important habitat for both the saltmarsh plants in the transitional habitat palette in Table 12 below and animals such as Belding's savannah sparrow, which relies on these species. These areas also will be important to the Belding's savannah sparrow under the lower range of SLR scenarios modeled for the site.

Table 12
Coastal Salt Marsh Plant Palette

Low Marsh (+0.8 feet to +1.6 feet NGVD)			
Botanic name	Common name	Stock Type	No. per Acre
Spartina foliosa	California cordgrass	Liner/cutting	500/acre
Mid Marsh (+1.6 feet to +3.4 feet NGVD)			
Batis maritima	saltwort	Liner/cutting	300/acre
Distichlis spicata	saltgrass	Liner/cutting	300/acre
Frankenia salina	alkali heath	1 gallon	75/acre
Jaumea carnosa	fleshy jaumea	Liner/cutting	150/acre
Limonium californicum	saltmarsh rosemary	Liner/cutting	50/acre
Salicornia bigelovii	Bigelow's pickleweed	seed	150 lbs/acre
Salicornia pacifica	pacific pickleweed	Liner/cutting	200/acre
Suaeda calceoliformis	Pursh's seepweed or Horned seablite	seed	1 lb/acre
Suaeda esteroa	estuary seablite	seed	150 lbs/acre
Triglocin concinna	round-leaved arrow grass	Liner/cutting	500/acre
High Marsh (+3.4 feet to +4.3 feet NGVD)			
Arthrocnemum subterminale	Parish's glasswort	Liner/cutting	150/acre
Atriplex watsonii	Watson's atriplex	1 gallon	75/acre
Cressa truxillensis	alkali weed	seed	150 lbs/acre
Distichis littoralis	shoregrass	Liner/cutting	300/acre
Distichlis spicata	saltgrass	Liner/cutting	300/acre
Suaeda calceoliformis	Pursh's seablite	seed	1 lb/acre
Suaeda esteroa	estuary seablite	Liner/cutting/Seed	150/acre

[39] State of California Department of Public Works, Division of Water resources. 1942. Use of Water by Native Vegetation. Bulletin No. 50.

[40] Teaford, James. 2012. Arid Saline Wetlands Field Tour (January 2012). http://wetlandnotes.com/training-and-consulting/arid-saline-wetland-course-coachella-valley-california

Suaeda taxifolia	woolly seablite	Liner/cutting/Seed	150/acre
Transitional Habitat (+4.3 feet to +7.1 feet NGVD)			
Arthrocnemum subterminale	Parish's glasswort	Liner/cutting	150/acre
Centromadia parryi australis	Southern tarplant	seed	1 lbs/acre
Cressa truxillensis	alkali weed	Liner/cutting	150/acre
Distichis littoralis	shoregrass	Liner/cutting	300/acre
Distichlis spicata	saltgrass	Liner/cutting	300/acre
Heliotropium curassavicum	saltmarsh heliotrope	seed	1.5 lbs/acre
Lasthenia glabrata coulteri	Coulter's goldfields	seed	1 lb/acre
Lycium californicum	California boxthorn	4-inch pot	75/acre
Spergularia marina	saltmarsh sand spurrey	seed	2 lbs/acre
Suaeda taxifolia	woolly seablite	Liner/cutting	150/acre
Planting Note 1: Planting densities and distribution will be modeled after reference areas within the Steamshovel Slough.			
Planting Note 2: Plant liners/cuttings natural clusters of 20-50 liners spaced 1-2 feet part in mosaic pattern per direction of the Project Biologist.			
Planting Note 3: Container plants will be planted in patterns mimicking natural distribution in the reference site within the Steamshovel Slough, per Project Biologist direction. The size of containers may be modified per the Project Biologist.			

3. Buffer Plant Palette

The Buffer plantings will consist of native upland species, all of which occur within the LCW Complex. The plantings will provide habitat for native wildlife thereby enhancing the functions of the restored wetlands. Table 13 below provides the plant palette for the Buffer areas:

Table 13
Buffer Plant Palette

Botanic name	Common name	Stock Type	Plant Spacing (ft. on center)	No. per Acre
Container Stock				
Atriplex canescens	Fourwing saltbush	1 gallon	15	80
Baccharis pilularis	Coyote brush	1 gallon	8	80
Baccharis salicina	Willow baccharis	1 gallon	12	25
Cylindropuntia prolifera	Coast cholla	1 gallon/pads	3	250
Elymus condensatus	Giant wild rye	1 gallon	5	100
Elymus triticoides	Creeping wild rye	1 gallon	3	300
Encelia californica	Bush sunflower	1 gallon	5	300
Eriogonum fasciculatum	California buckwheat	1 gallon	5	300
Frankenia salina	Alkali heath	1 gallon	5	20
Lycium californicum	California boxthorn	1 gallon	5	50

Malosma laurina	Laurel sumac	1 gallon	18	20
Isocoma menziesii	Menzie's goldenbush	1 gallon	6	140
Opuntia littoralis	Prickly pear cactus	1 gallon/pads	5	150
Peritoma arborea	Bladderpod	1 gallon	5	100
Rhus integrifolia	Lemonade berry	1 gallon	10	40
Seed				Lbs/Acre
Acmispon glaber	Deerweed	seed		2
Amsinckia menziesii	Menzie's fiddleneck	seed		1
Elymus triticoides	Creeping wild rye	seed		5
Encelia californica	Bush sunflower	seed		2
Isocoma menziesii	Menzie's goldenbush	seed		1
Lasthenia glabrata coulteri	Coulter's goldfields	seed		2
Malvella leprosa	Alkali mallow	Seed		1
Sporobolus airoides	Alkali sacaton	seed		5
Planting Note: Plants will be planted in patterns mimicking natural distribution per Project Biologist direction.				

4. Site Preparation - Soils

As noted above, a major component of the site preparation is grading to expand the areas under tidal influence, including removal of berm segments, establishment of new tidal channels and lower elevations for areas currently above the high marsh zone.

The SAPR Report describes the locations in and around HA-9 and HA-12 containing elevated contaminant concentrations that would undergo removals. Within the proximities of HA-9 and HA-12, the estimated total removal volume is 5,000 cubic yards and extends from the existing grade to two feet below the proposed grade. All removal areas will be backfilled with two feet of onsite sediment from tidal channel grading and berm removal areas that have been tested and confirmed to be clean. The removed sediment will be disposed of offsite.

The Bank Sponsor represents and warrants that all appropriate assessment, clean-up, remedial or removal action will be completed in accordance with the remediation actions described in the SAPR Report, and the Bank Sponsor will provide an updated Phase I Environmental Site Assessment to the IRT that concludes no recognized environmental conditions are present on the Bank Property prior to the Bank Establishment Date.

5. Exotic Plant Control: Coastal Salt Marsh Areas

Areas of coastal salt marsh within Steamshovel Slough, which will function as one of the reference sites for the Bank areas, exhibit essentially no non-native species. Disturbed areas above the high water line support such non-native species such as five-horn smotherweed, small-flowered iceplant, crystalline iceplant, and a variety of non-native grasses. The combination of grading and introduction of tidal water into the areas to be established and re-established is expected to substantially limit the potential for invasion by non-native species.

All undesirable exotic plants will be eradicated either during initial site grading or during initial site preparation. If grading precedes planting by more than a few months, tidal flows are expected to eradicate all undesirable exotic plants before they can establish and proliferate. Though not expected, if deemed necessary, a "grow-and-kill" cycle will be established during that period. "Grow and kill" is a cycle of applying water, germinating the non-native, invasive species, and conducting hand removal. This allows a large portion of the seed load currently present in the soil to be removed. Removing the competition early in the life cycle of native plants helps to ensure more rapid growth and cover of the native species.

The initial eradication of pest plants shall be performed by hand or by other methods approved by the Project Biologist. Herbicides will not be used in aquatic areas. The Project Biologist will direct the contractor regarding the selection of target weed species, their location, and the timing of weed control operations to ensure that native plants are avoided to the extent possible.

6. Exotic Plant Control: Buffers

Unlike the areas subject to tidal influence that are not expected to support substantial numbers of non-native species, the Buffer areas currently support dense stands of non-native species. The former burn dump site that parallels Studebaker Road support dense stands of tocalote, London rocket, five-hook smotherweed, hare barley, ice plant mats mixed throughout along with other non-natives such as Australian saltbush, castor bean, tree tobacco, Sydney golden wattle, lollypop tree, and Mexican fan palm.

All undesirable exotic plants will be eradicated either during initial site grading or prior to site preparation. If grading precedes planting by more than a few months in these areas, it will be necessary to eradicate all undesirable exotic plants that have become established prior to planting and seeding of the mitigation site. If deemed necessary, a "grow-and-kill" cycle will be established during that period. "Grow and kill" is a cycle of applying water, germinating the non-native, invasive species, and spraying with the appropriate chemical. Use of herbicides is allowed in the Buffers areas but not in aquatic areas (i.e., any areas below 7.1 feet NGVD). This allows a large portion of the seed load currently present in the soil to be removed. Removing the competition early in the life cycle of native plants helps to ensure more rapid growth and cover of the native species.

The initial eradication of pest plants shall be performed by hand, by the use of herbicides, or by other methods approved by the Project Biologist. It is important to note that herbicides can only be used in the Buffers areas but not in aquatic areas (i.e., any areas below 7.1 feet NGVD). The type, quantity, and method of herbicide application will be determined by a California licensed Pest Control Advisor (PCA) who will inspect the site, write project recommendations and submit same to the Project Biologist for approval. Herbicides recommendations shall include, but are not limited to, the chemicals to be used, rates of application, methods of application, and areas to which herbicides are to be applied. A licensed Pest Control Operator (PCO) may work under the supervision of the PCA who will employ BMPs regarding the timing, quantity, and type of herbicide for each species. The PCA will determine both immediate and follow-up herbicide application for each species.

The Project Biologist will direct the contractor regarding the selection of target weed species, their location, and the timing of weed control operations to ensure that native plants are avoided to the extent possible.

H. Planting Plan Specifications

1. Wetland Planting

With tidal flows reestablished within the newly graded channels, it is expected that propagules from the existing saltwater marsh plant community in the Steamshovel Slough will naturally recruit into the newly established wetlands. To expedite this process, additional plantings will occur within the reestablishment and rehabilitation areas through several methods including wild cuttings, nursery grown container stock, and direct seeding.

Plant Material Source[41]

It is anticipated that most of the plantings within the proposed costal salt marsh will be in the form of wild cuttings from the Bank Property or adjacent wetlands within the LCW Complex and seed collected from the Bank Property and direct seeded into the newly established wetlands. All species listed in Table 12 ("Salt Marsh Plant Palette") occur within the LCW Complex. Supplemental container stock may be propagated at a local nursery (e.g., Tree of Life Nursery) with propagules from wild sources within coastal Orange County or coastal Los Angeles County, ranging between the Santa Ana River and the Los Angeles River. The Signatory Agencies will be provided a list of local nursery(ies) where container stock may be propagated and the source of seeds. The IRT will have an opportunity to confirm that the seeds were obtained from appropriate local coastal sources prior to planting, if sourced from locations other than the LCW Complex.

Planting from Wild Cuttings

Cuttings will be taken from donor plants at a size of approximately 4-inches wide and 4 to 6 inches deep to collect enough root and shoot mass to translocate into restoration areas. Cuttings will be placed into a hole that can accept the diameter and height of the plant and backfilled with native soil/mud. This will be performed at low tide so that plants will be inundated with water at the next incoming tide following translocation.

Planting Method for Rose Pot and/or Liner Plant Stock

Rose pot and/or liner plant stock will be placed in a hole measuring at least twice the diameter and depth of the container. The root structure will be examined and excess root material removed. The top of the rootball will be set slightly above finish grade. The planting hole will be backfilled with native soil/mud. This will be performed at low tide so that plants will be inundated with water at the next incoming tide following planting.

Onsite Seed Collection and Direct Seeding

Seed collected from sources on the Bank Property will be stored at a seed storage facility until ready to be direct seeded into the newly restored wetlands. Seed will also be collected from special status species including estuary seablite, southern tarplant, and woolly seablite and dispersed into appropriate locations within the restoration area.

[41] To the maximum extent practicable, seed and propagules to be planted in the re-establishment areas will be sourced from the LCW Complex to maintain local genetic integrity. Any seed sourced from offsite shall be approved by the IRT.

2. Buffer Planting

The following specifications apply primarily to upland plantings within the Buffer zone on the eastern portion of the Bank Property.

Flagging of Plant Locations
Container stock will be laid out in such a manner that mimics natural plant distribution (i.e., in clusters and islands) to emulate regional reference sites. Prior to container stock installation, the Project Biologist will flag individual plant locations in the field with pin-flags that will be color coded as to plant species. A list of species with their appropriate color code will be provided to the contractor prior to plant installation.

Contract Growing
Contract growing of all container plants shall be by a local experienced native plant nursery. Because the plant palette contains the full suite of species native to coastal salt marsh and transitional saltbush scrub habitats in Orange and Los Angeles County, there is no need for substitution.

Mycorrhizal Fungi
Mycorrhizae are specialized fungi found on plant roots. A symbiotic relationship exists between plant roots and mycorrhizae wherein the plants benefit from the increased ability to take up nutrients and withstand drought when mycorrhizae are present. This relationship is essential to the growth rate, well-being, and longevity of native plant communities. Plant utilization of mycorrhizal fungi markedly increases the success of revegetation on disturbed or degraded lands. All appropriate container-grown plants, except those know to be non-host species, shall be inoculated with mycorrhizal fungi prior to delivery to the job site.

Planting Method for 1-Gallon Container Stock
All plant materials will be inspected by the Project Biologist and approved as healthy, disease free, and of proper size prior to planting. Overgrown, root-bound container stock will be rejected. Container stock will be thoroughly watered the day before planting for the Buffer areas. One-gallon container stock will be planted in a hole measuring at least twice the diameter of the container and twice the depth. Backfill the hole with native soil to a proper planting depth for placement of the plant within the hole so the top of the root ball will be set one inch above finish grade. The container will be upended into the palm of the hand to avoid damage to the root structure and placed in the planting hole. The planting hole will be backfilled with native soil. Container stock will be watered immediately after installation.

Mulch
Mulch is not required for wetland plantings, but may be applied to Buffer areas, as recommended by the Project Biologist. If recommended, mulch will be applied as a top dressing, 2 to 3 inches thick and up to 36 inches wide around woody shrub species. Mulch will not be required for grasses.

Hydroseeding
The Buffers are the only areas within the Bank Property in which hydroseeding is recommended. All wetland areas will be direct seeded by hand, or naturally through tidal exchange with the Steamshovel Slough following grading. Seeding will proceed after the Project Biologist has certified that all site invasive species removal and follow-up treatments have been completed. Seed will be collected from wild sources within coastal Orange County or coastal Los Angeles County, ranging between the Santa Ana River and the Los Angeles River. Due to the presence of a copious quantity of invasive and non-native species within

the proposed Buffer planting areas, the Project Biologist may recommend at least one growing season of weed abatement prior to hydroseed application to the Buffer areas to exhaust the existing weed seed bank.

I. Restoration Landscape Contractor

Native plant revegetation and restoration efforts require specialized knowledge of implementation and maintenance procedures, particularly water requirements for native plants and knowledge of native and non-native plant species. Landscape contractors who perform residential and commercial landscaping in southern California generally do not have the expertise to perform this work.

Restoration and maintenance of the reestablished wetlands on the Bank Property shall be performed by a qualified landscape contractor with a minimum of five years of experience in similar restoration projects. The landscape contractor will be required to demonstrate experience in this field to the Project Biologist prior to contracting with the Bank Sponsor. The contractor also shall possess a California Contractor's License C27 and PCA license.

J. Irrigation Plan

Supplemental irrigation is to be used solely for establishing the plants within high marsh, transitional, and the Buffer areas and is of a temporary nature. The goal of the irrigation program is to obtain germination and growth with the least amount of irrigation. Frequent irrigation encourages weed invasion and leaches nutrients from the soil; however, in the transitional and high marsh areas the freshwater input would increase establishment by seedlings, adding to cover for areas that only receive limited periods of tidal inundation or soil saturation in the soil column.

As such, high marsh, transitional, and Buffer areas will initially be supported by a short-term automatic irrigation system as well as rainfall. The container stock in these areas will be irrigated as long as necessary to establish the root systems in the native soils but will not receive any irrigation during the final two years of the Interim Management Period. The main line will be installed below-grade. All lateral lines will be installed above-grade for ease of removal and inspection.

The critical period for irrigation is during the first winter and early spring following planting. During this time, roots are not well established and an unseasonable drought can cause high mortality. During dry periods after plant installation, the Project Biologist and the contractor will regularly inspect soil moisture. Watering during the summer dry season will occur as frequently as required.

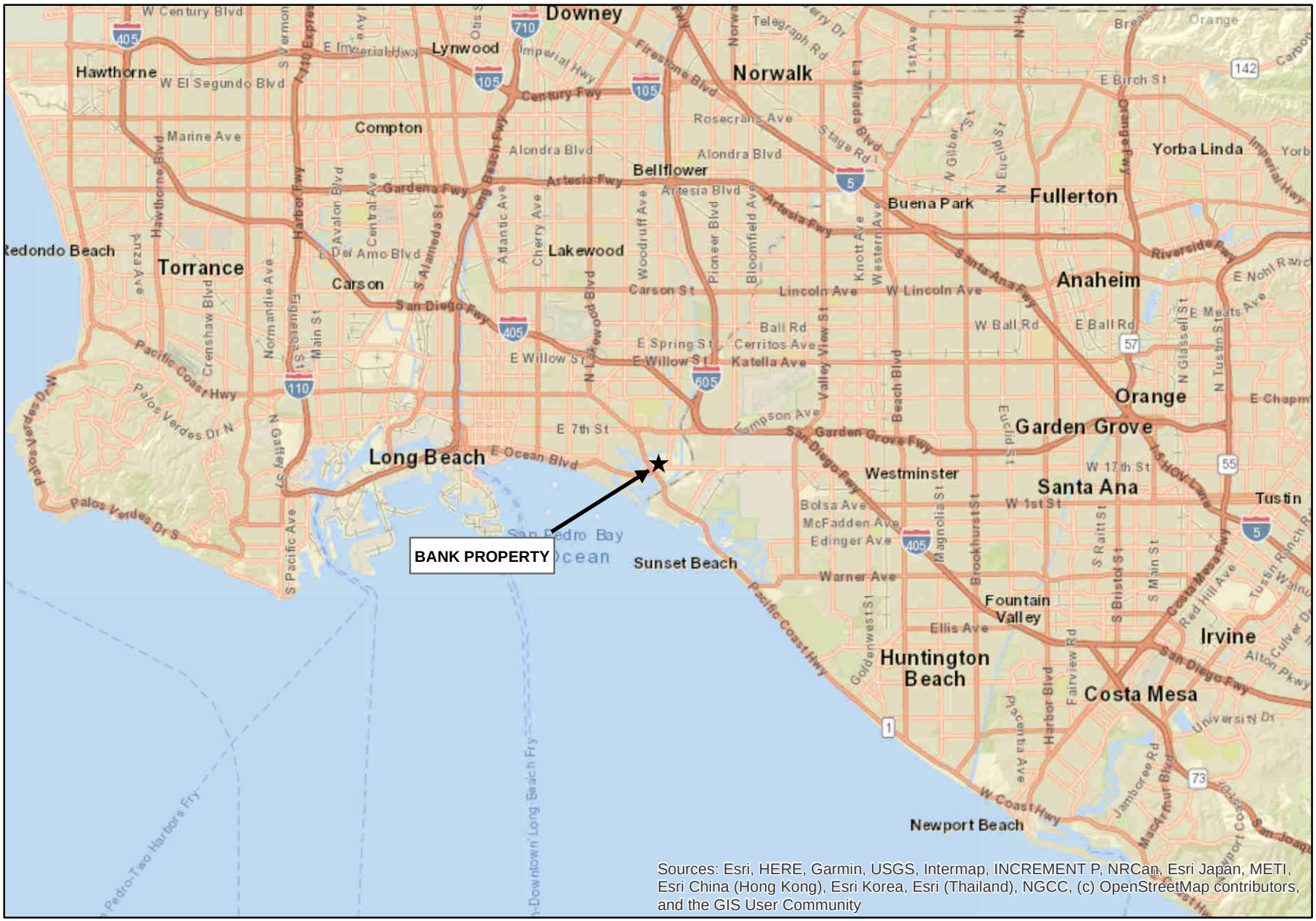
After the initial plant establishment period, water will be applied infrequently and only as required to prevent the mortality of plants and seedlings. The irrigation methods employed will attempt to mimic wet rainfall years by incorporating evenly spaced, infrequent, deep applications of water. When the plantings are sufficiently established and no longer require supplemental irrigation, the Project Biologist shall request the contractor to cut and cap the main line and remove all above-grade irrigation system components from the Bank Property.

K. As-Built Conditions

The Bank Sponsor shall submit as-built drawings of the Bank Property, with accurate maps of the restored Coastal Wetlands, Waters of the U.S., and associated Buffers, to the IRT no later than 90 calendar days following completion of construction associated with the restoration of the Coastal Wetlands, Waters of the U.S., and associated Buffers, on the Bank Property. The as-built drawings shall consist of full-size construction plans, with as-built conditions clearly shown. The as-built drawings and any attachments must describe in detail any deviation from the Development Plan.

EXHIBITS

Source: ESRI World Street Map



N

0 2 4 8 Miles

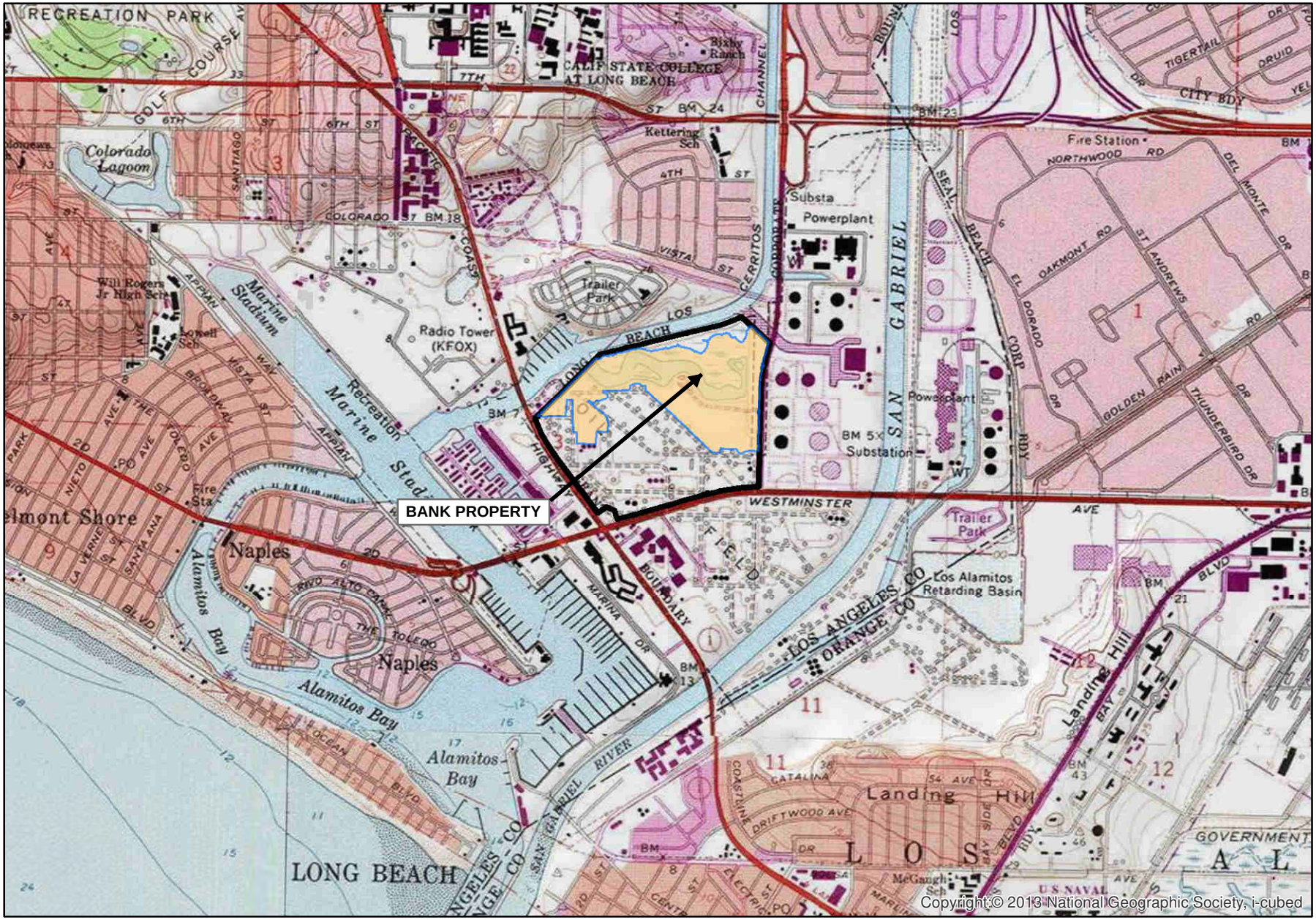
UPPER LOS CERRITOS WETLANDS MITIGATION BANK

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1

Adapted from USGS Los Alamitos, CA quadrangle



N

0 1,000 2,000 4,000 Feet

UPPER LOS CERRITOS WETLANDS MITIGATION BANK

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Property
Other Sites
Bank Property
Existing Oil Operations
Trail

N

0 275 550 1,100
Feet

1 inch = 550 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 23, 2020

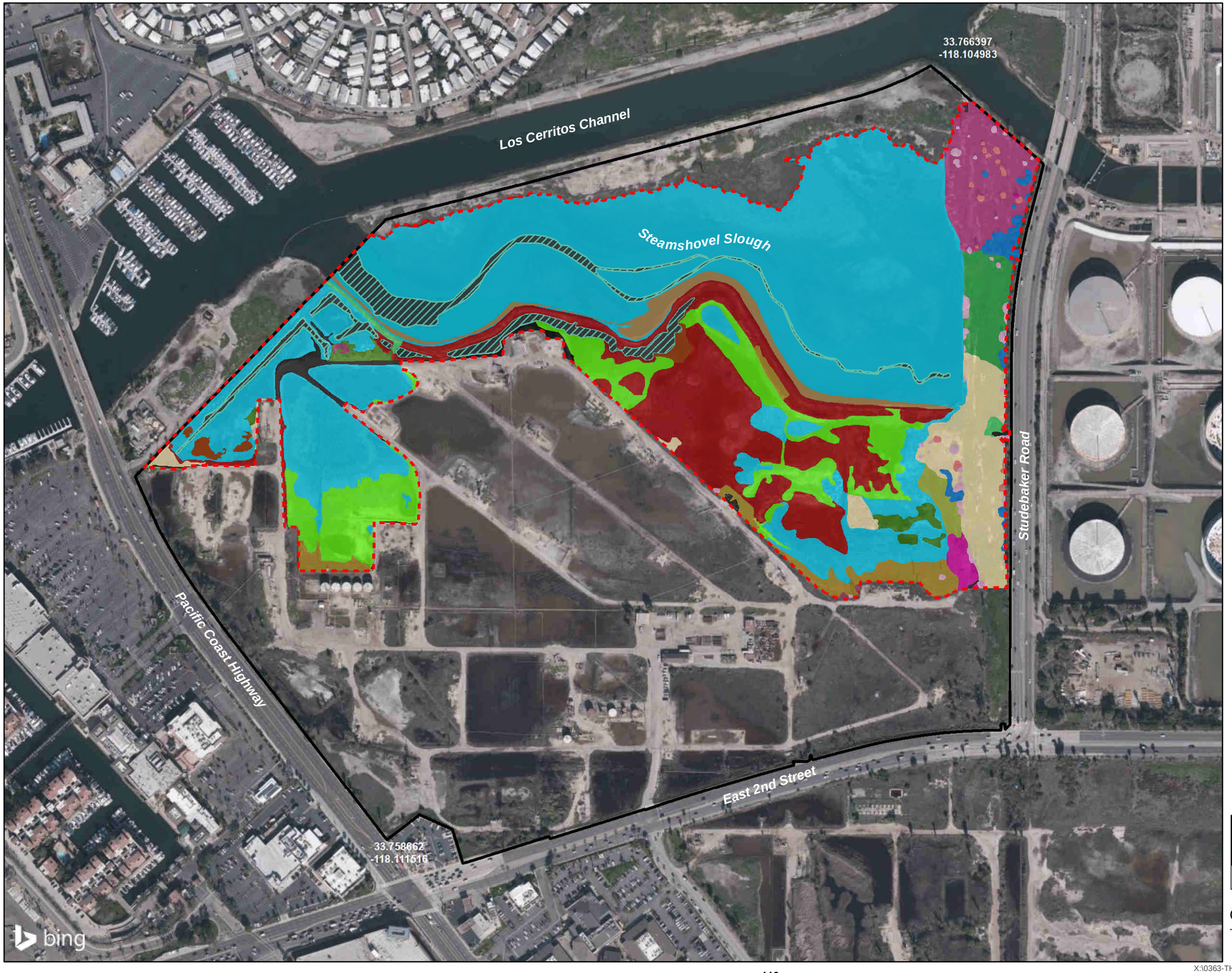
UPPER LOS CERRITOS WETLANDS MITIGATION BANK

Project Components Map

GLENN LUKOS ASSOCIATES

Exhibit 3

X:\0363-THE REST\1032-02MITI\Report_Development Plan\REV5\Exhibit 3 ProjectComponentsREV3.mxd



- Property
- Bank Property
- Bassia Thicket
- California Cordgrass Marsh
- Coyote Brush Scrub
- Disturbed
- Ice Plant Mats
- Iceplant/Pickleweed
- London Rocket Fields
- Menzie's Golden Bush Scrub
- Mudflats - Tidal
- Mulefat Scrub
- Non-Native Grassland
- Ornamental
- Parish's Glasswort Patches
- Pickleweed Mats
- Saltgrass Flats
- Shoregrass Flats
- Tidal Channel
- Unvegetated Flats-Upland
- Unvegetated Flats-Wetland
- Yellow Star-Thistle Fields

N

0 175 350 700

Feet

1 inch = 350 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 23, 2020

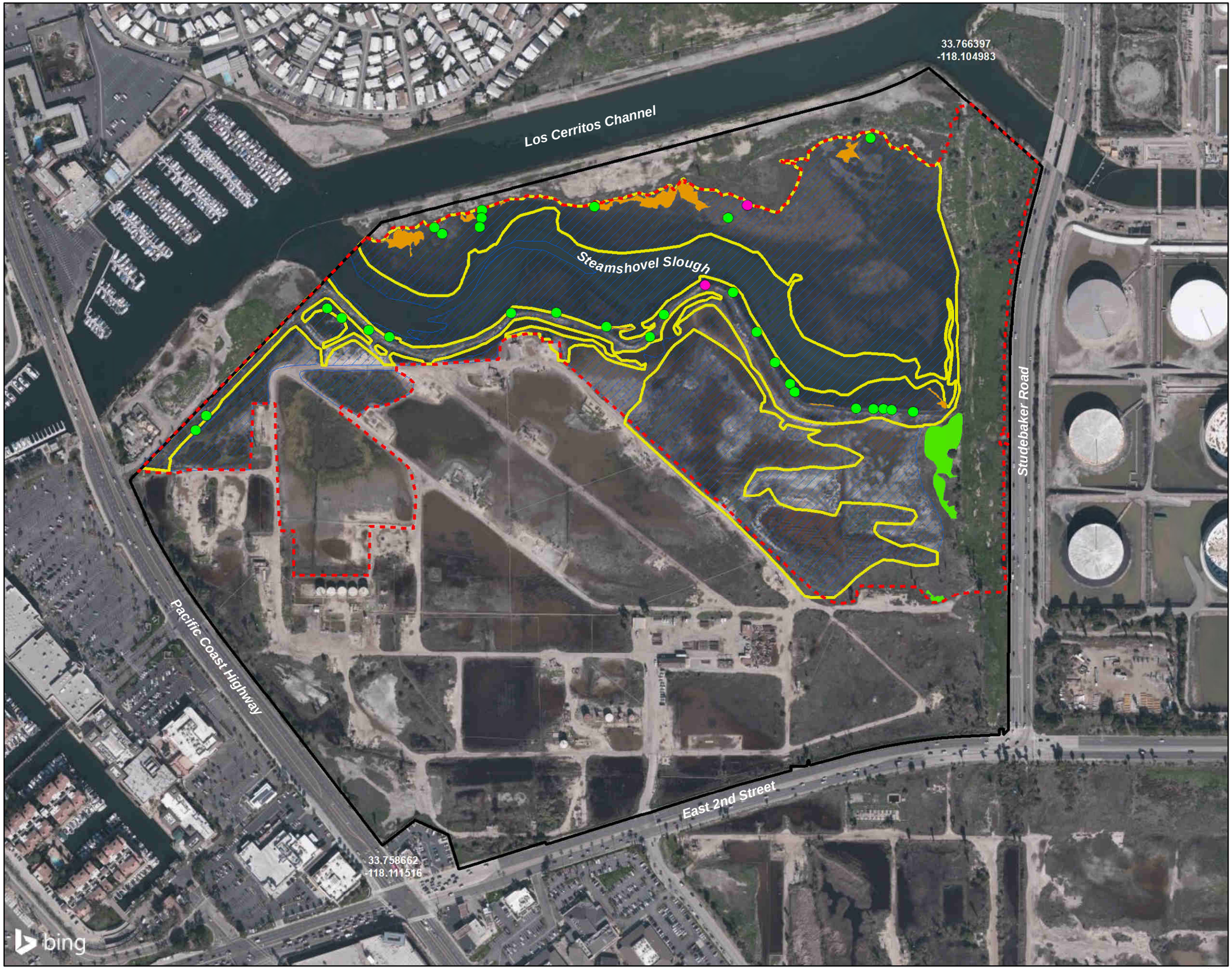
UPPER LOS CERRITOS WETLANDS MITIGATION BANK

Existing Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 4A

X:\0363-THE REST\1032-02MITI\Report_Development Plan\REV5\Exhibit 4 VegetationMap.mxd



- Property
- Bank Property
- Saltmarsh Wandering Skipper Habitat
- Belding's Savannah Sparrow Habitat
- Estuary Seablight
- Southern Tarplant
- Estuary Seablite
- Wooly Seablite

N

0 175 350 700
Feet

1 inch = 350 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 23, 2020

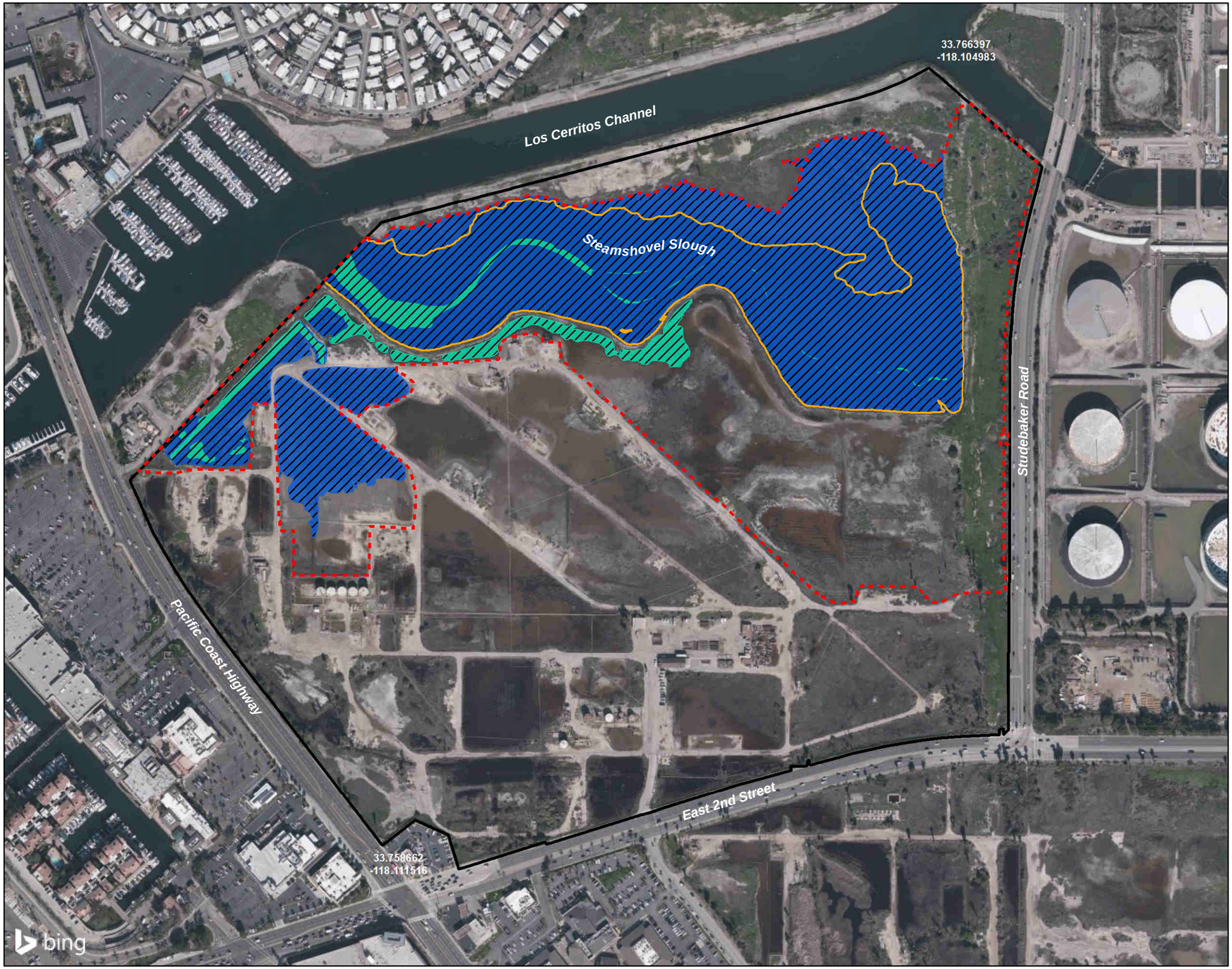
UPPER LOS CERRITOS WETLANDS MITIGATION BANK

Synergy Oil Field – Special Status Species Map

GLENN LUKOS ASSOCIATES

Exhibit 4B

X:\0363-THE REST\1032-02MITI\Report_Development Plan\REV5\Exhibit 4BSpecialStatus.mxd



Property
Bank Property
MHHW = 2.86 ft. NGVD
Section 404 Waters
Non-Wetland Waters
Wetlands

N

0 175 350 700
Feet

1 inch = 350 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: k. Kartunen, GLA
Date Prepared: March 23, 2020

UPPER LOS CERRITOS WETLANDS MITIGATION BANK

Synergy Oil Field – Corps Section 404 Waters & Wetlands/RWQCB Jurisdiction

GLENN LUKOS ASSOCIATES

Exhibit 5A

X:\0363-THE REST\1032-02MITI\Report_Development Plan\REV5\Exhibit 5A Corps404.mxd

Property

Bank Property

Section 10 Waters
MHW = 2.12 FT NGVD

N

0 175 350 700

Feet

1 inch = 350 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: k. Kartunen, GLA
Date Prepared: March 23, 2020

UPPER LOS CERRITOS WETLANDS MITIGATION BANK

Synergy Oil Field – Corps Section 10 Waters/ RWQCB Jurisdiction

GLENN LUKOS ASSOCIATES

Exhibit 5B

X:\0363-THE REST\1032-02MITI\Report_Development Plan\REV5\Exhibit 5B Corps10.mxd

Property
Bank Property
CCC Wetlands

N

0 175 350 700
Feet

1 inch = 350 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 23, 2020

UPPER LOS CERRITOS WETLANDS MITIGATION BANK

Synergy Oil Field – CCC Wetlands

GLENN LUKOS ASSOCIATES

Exhibit 5C

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Property
Bank Property

Historical Wetlands and Streams

- Dune
- Salt/Unvegetated Flat
- Ocean
- Beach
- Open Water
- River Island/Bar
- Vegetated Wetland
- Vegetated, Woody
- Subtidal Water
- River/Stream
- Vegetated, Upland
- Gully
- Intertidal Flat

http://www.caltsheets.org/socal/

N

0 750 1,500 3,000

Feet

1 inch = 1,500 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 23, 2020

UPPER LOS CERRITOS WETLANDS MITIGATION BANK

Southern California Coast T-Sheets (1851-1889)

GLENN LUKOS ASSOCIATES

Exhibit 6A

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Property

Bank Property

Historical Wetlands and Streams

Intertidal Flat

Open Water

Subtidal Water

Vegetated Wetland

http://www.caltsheets.org/socal/

N

0 175 350 700

Feet

1 inch = 350 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 23, 2020

UPPER LOS CERRITOS WETLANDS MITIGATION BANK

Southern California Coast T-Sheets (1851-1889)

GLENN LUKOS ASSOCIATES

Exhibit 6B

X:\0363-THE REST\1032-02MITI\Report_Development Plan\REV5\Exhibit 6BTSheet.mxd

Property

Bank Property

Current Topo

N

0 175 350 700

Feet

1 inch = 350 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 23, 2020

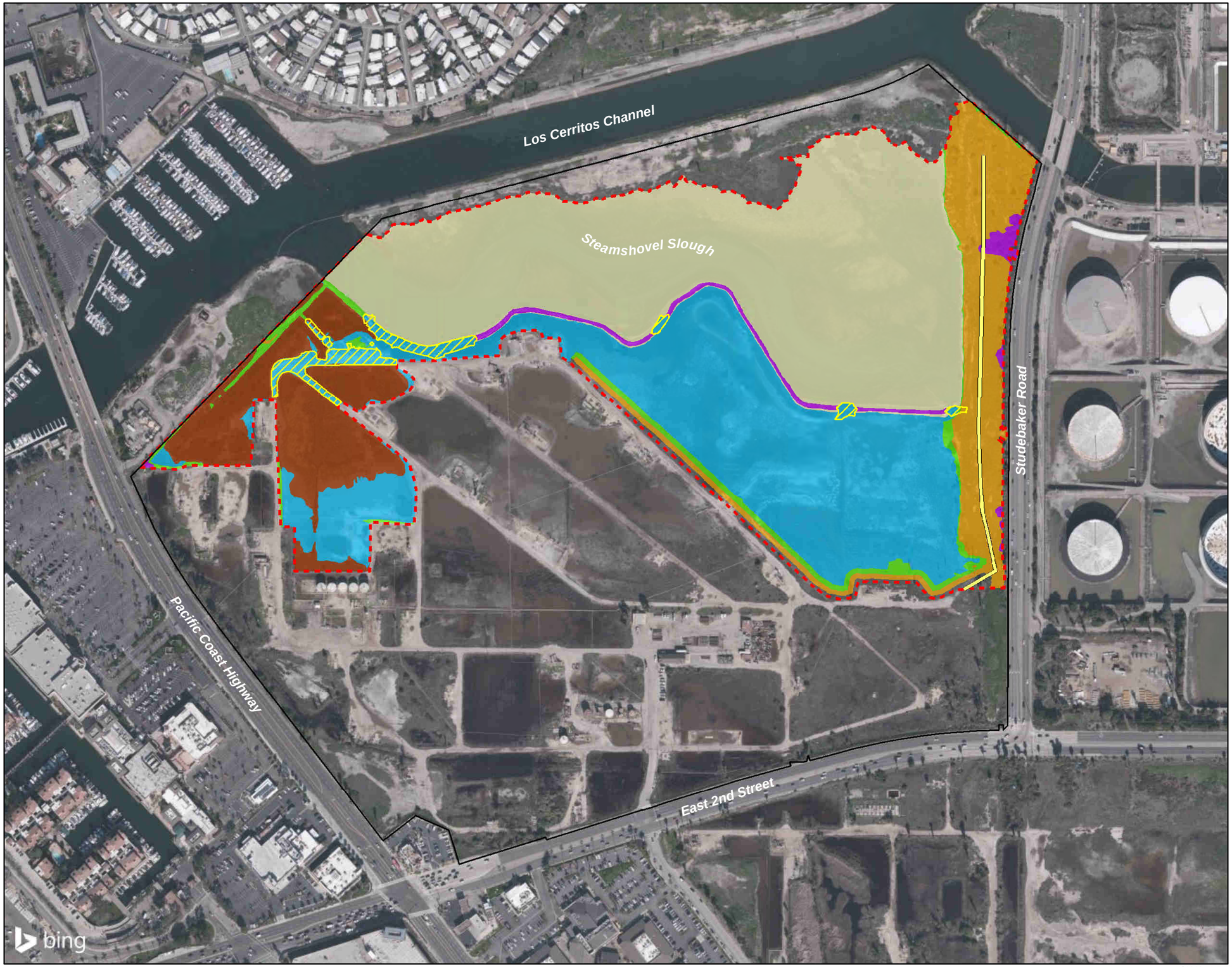
UPPER LOS CERRITOS WETLANDS MITIGATION BANK

Current Aerial (2020)

GLENN LUKOS ASSOCIATES

Exhibit 6C

X:\0363-THE REST\1032-02MITI\Report_Development Plan\REV5\Exhibit 6CCurrentCondition.mxd



- Property
- Bank Property
- Berm Road Removal
- Coastal Salt Marsh Steamshovel Slough Preservation (Tidal 29 71 ac)
- Coastal Salt Marsh Re-establishment (Tidal 20 66 ac)
- Coastal Salt Marsh Rehabilitation (Tidal 7 25 ac)
- Transitional abitat Re-establishment (Buffer 1 80 ac)
- Mulefat Scrub Enhancement (Buffer 1 04 ac)
- Saltbush oldenbush Establishment (Buffer 7 44 ac)
- Trail

N

0 175 350 700

Feet

1 inch = 350 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: k. Kartunen, GLA
Date Prepared: March 23, 2020

UPPER LOS CERRITOS WETLANDS MITIGATION BANK

Synergy Oil Field - Proposed Restoration

GLENN LUKOS ASSOCIATES

Exhibit 7

X:\0363-THE REST\1032-02MITI\Report_Development Plan\REV5\Exhibit 7 ProposedRestoration.mxd

Property

Bank Property

⑧ Photo Location

N

0 175 350 700

Feet

1 inch = 350 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 23, 2020

UPPER LCW WETLANDS MITIGATION BANK

Photo Location Map

GLENN LUKOS ASSOCIATES

Exhibit 8A

X:\0363-THE REST\1032-02MITI\Report_Development Plan\REV5\Exhibit 8APhotoLocation.mxd

Exhibit 8B
May 2016
Photograph 1: View of Steamshovel Slough at low tide depicting tidal channel and adjacent salt marsh.

Exhibit 8B
May 2016
Photograph 2: View of Parish's glasswort that has suffered mortality due to ongoing drought conditions.

Exhibit 8B
May 2016
Photograph 3: View of typical unvegetated area that will be subject to reintroduced tidal exchange.

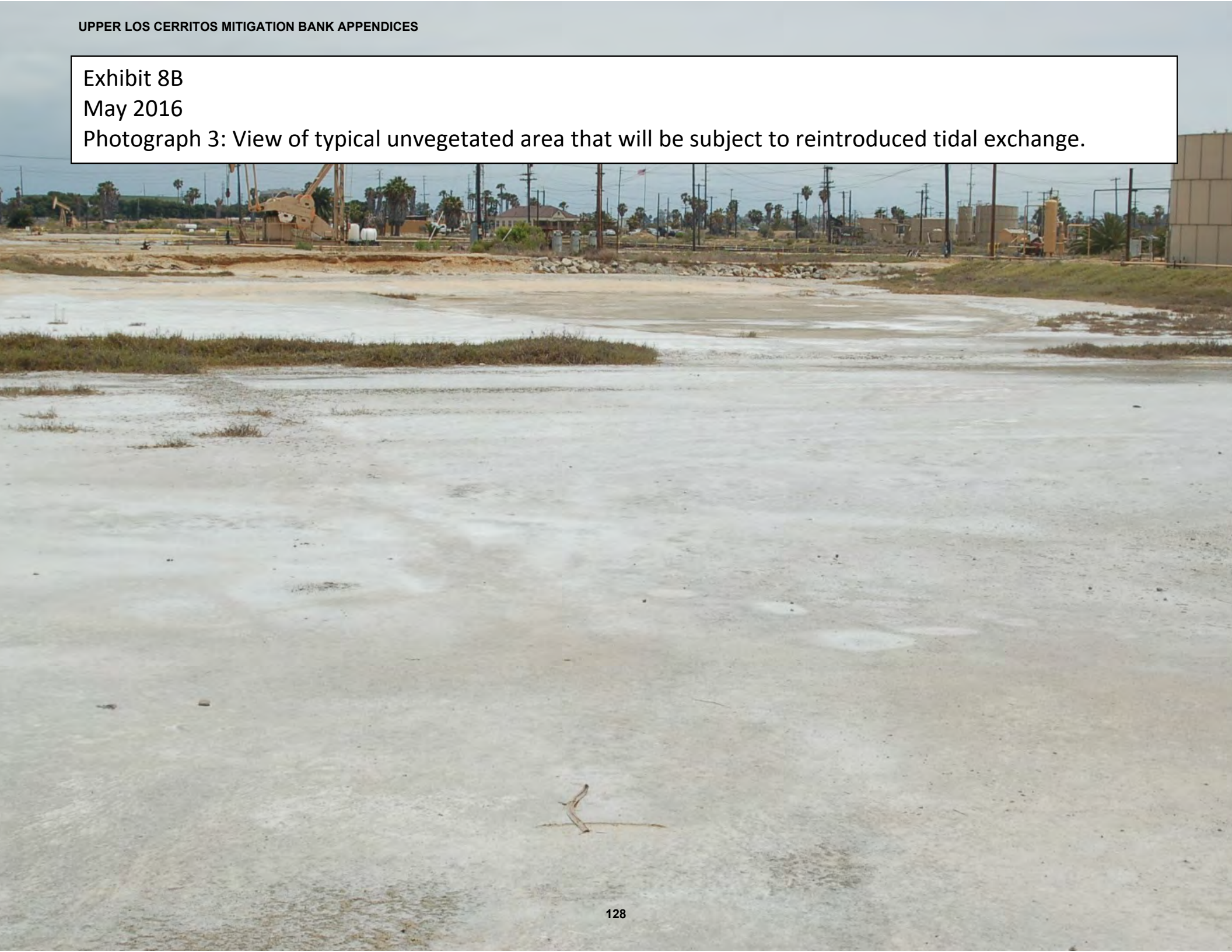


Exhibit 8B
May 2016
Photograph 4: Disturbed area with dead vegetation to be restored including introduction of tidal exchange.

Exhibit 8B
May 2016
Photograph 5: Parish's glasswort (center) growing at elevation ranging from approximately 6.0 to 7.5 feet. Shoregrass in right foreground growing at elevations up to 7.0 feet.

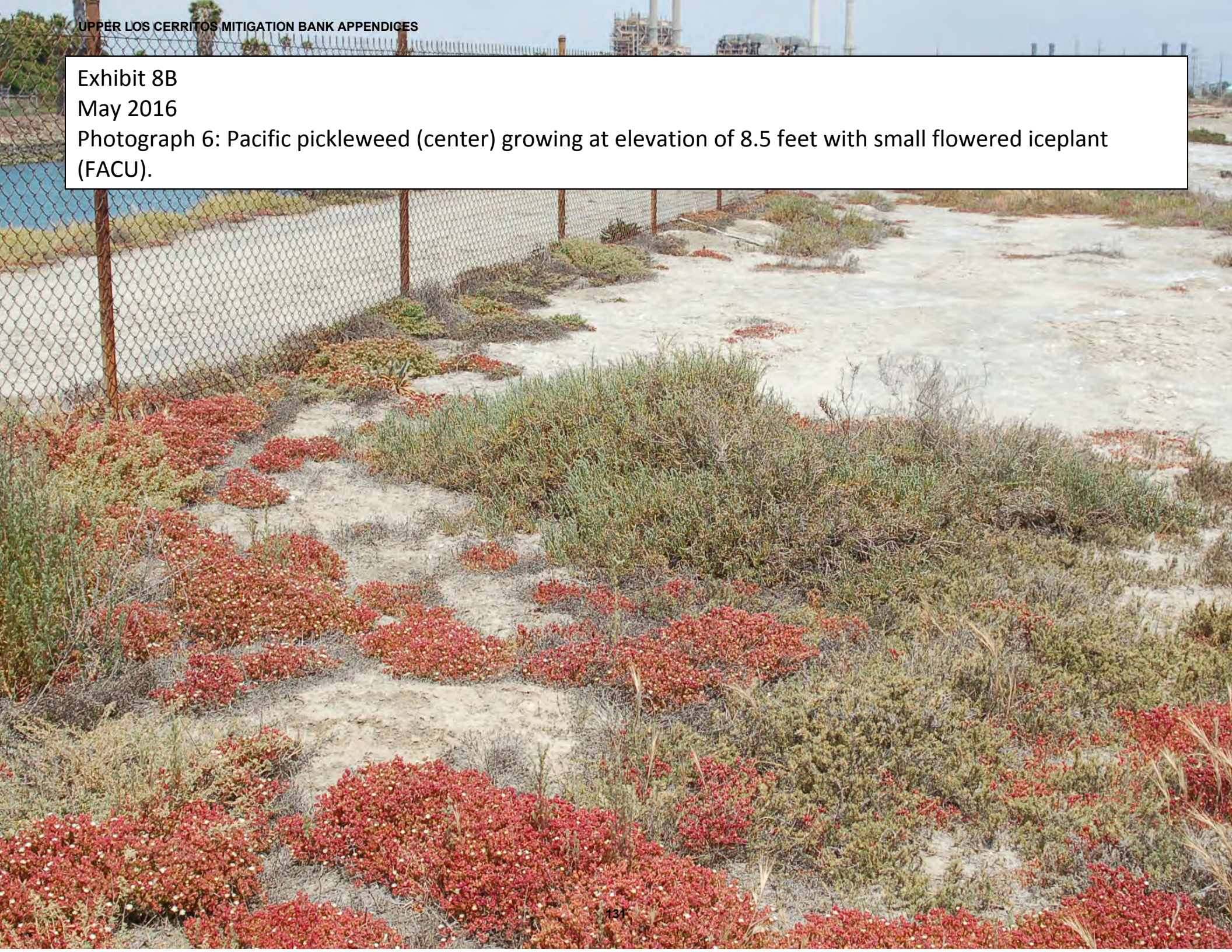
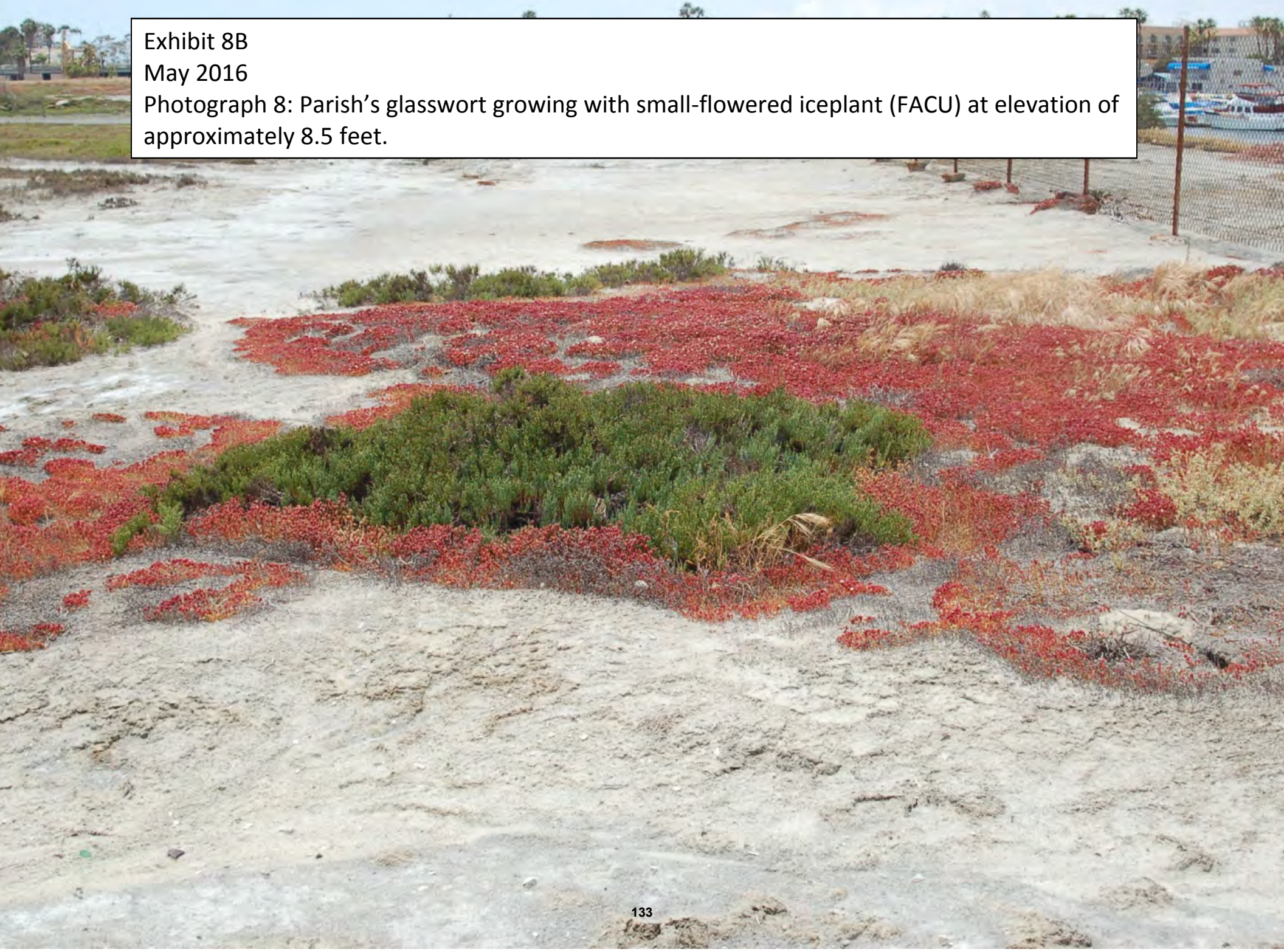


Exhibit 8B
May 2016
Photograph 6: Pacific pickleweed (center) growing at elevation of 8.5 feet with small flowered iceplant (FACU).

Exhibit 8B
May 2016
Photograph 7: Parish's glasswort growing on top of berm at elevation ranging from 5.7 to 6.4 feet.

Exhibit 8B
May 2016
Photograph 8: Parish's glasswort growing with small-flowered iceplant (FACU) at elevation of approximately 8.5 feet.



Property

CRAM Assessment Area

N

0 175 350 700

Feet

1 inch = 350 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 23, 2020

UPPER LCW WETLANDS MITIGATION BANK

Synergy Oil Field – Assessment Area

GLENN LUKOS ASSOCIATES

Exhibit 9

X:\0363-THE REST\1032-02MITI\Report_Development Plan\REV5\Exhibit 9CRAMAA.mxd

- Project Boundary
- Bank Property
- Berm/Road Removal
- Trail Terminus
- Seawall Berm
- Sheetpile Wall
- Tidal Channel Grading
- Trail - NAP
- Hydraulic Modeling Points

N

0 175 350 700
Feet

1 inch = 350 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 23, 2020

UPPER LCW WETLANDS MITIGATION BANK

Synergy Oil Field - Restoration Work Plan

GLENN LUKOS ASSOCIATES

Exhibit 10A

X:\0363-THE REST\1032-02MITI\Report_Development Plan\REV5\Exhibit 10A RestorationWorkplanREV4.mxd

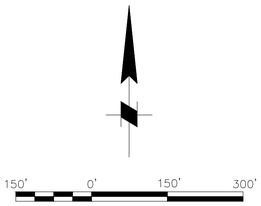
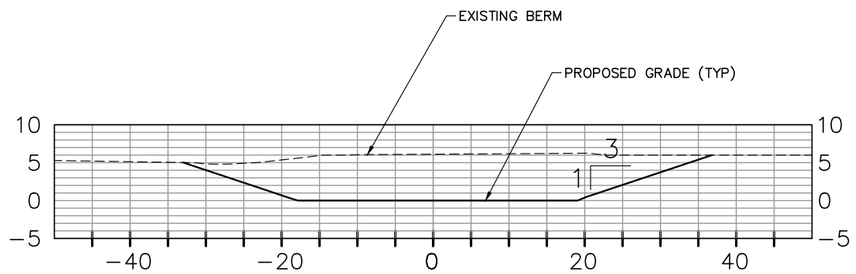
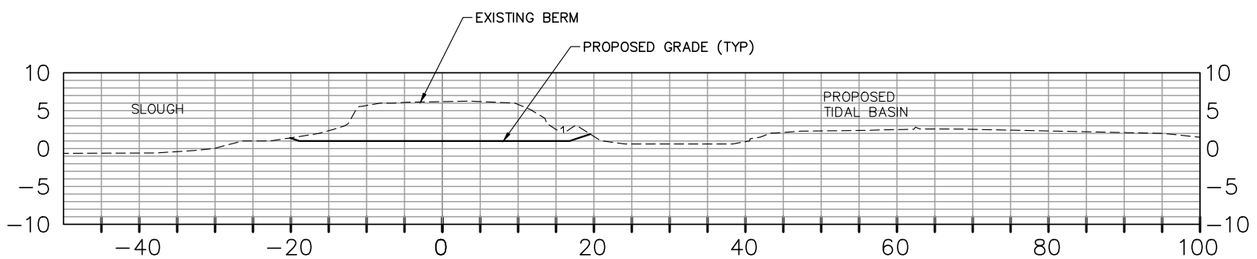


Exhibit 10B

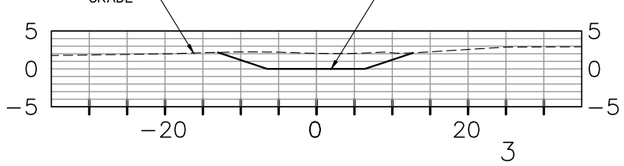
CONCEPTUAL GRADING
NOT FOR CONSTRUCTION
DATE: 10/13/20



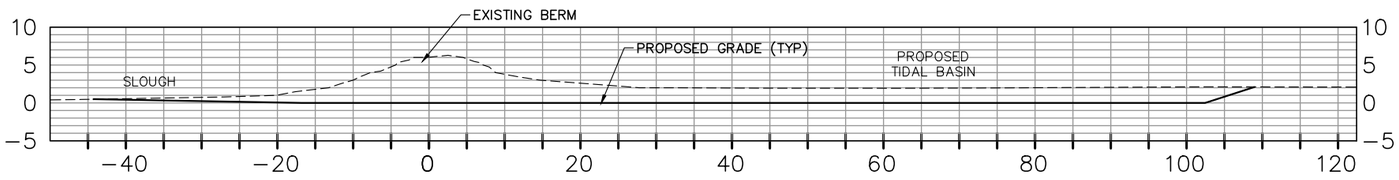
SECTION 3
TYPICAL OPEN CHANNEL SECTION



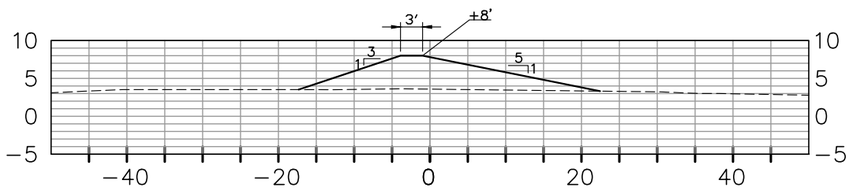
SECTION 5
WEST MARSH BERM SECTION



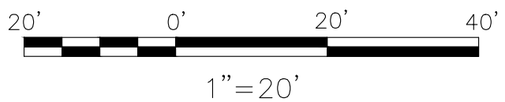
SECTION 2
FINGER CHANNEL SECTION



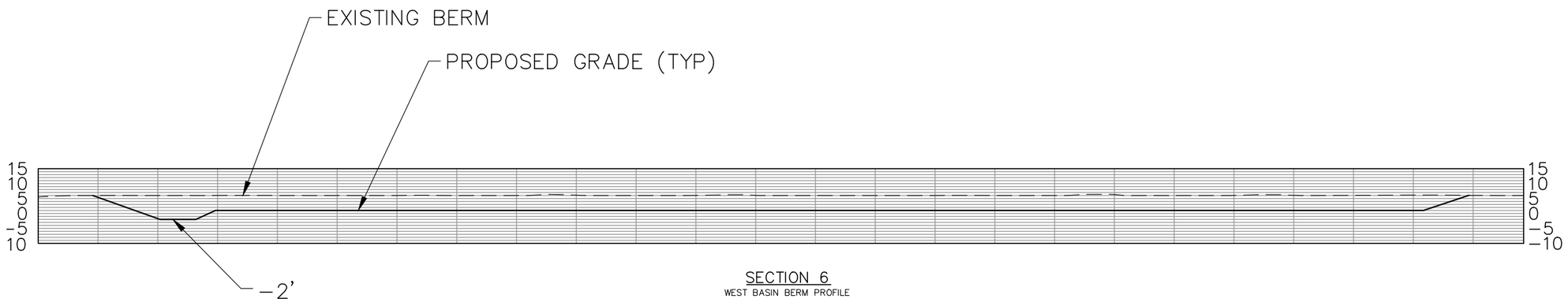
SECTION 4T
TIDAL BASIN BERM OPENING



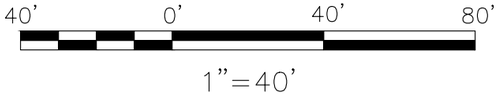
SECTION 1
PHASE 1 BERM (+8 FT)

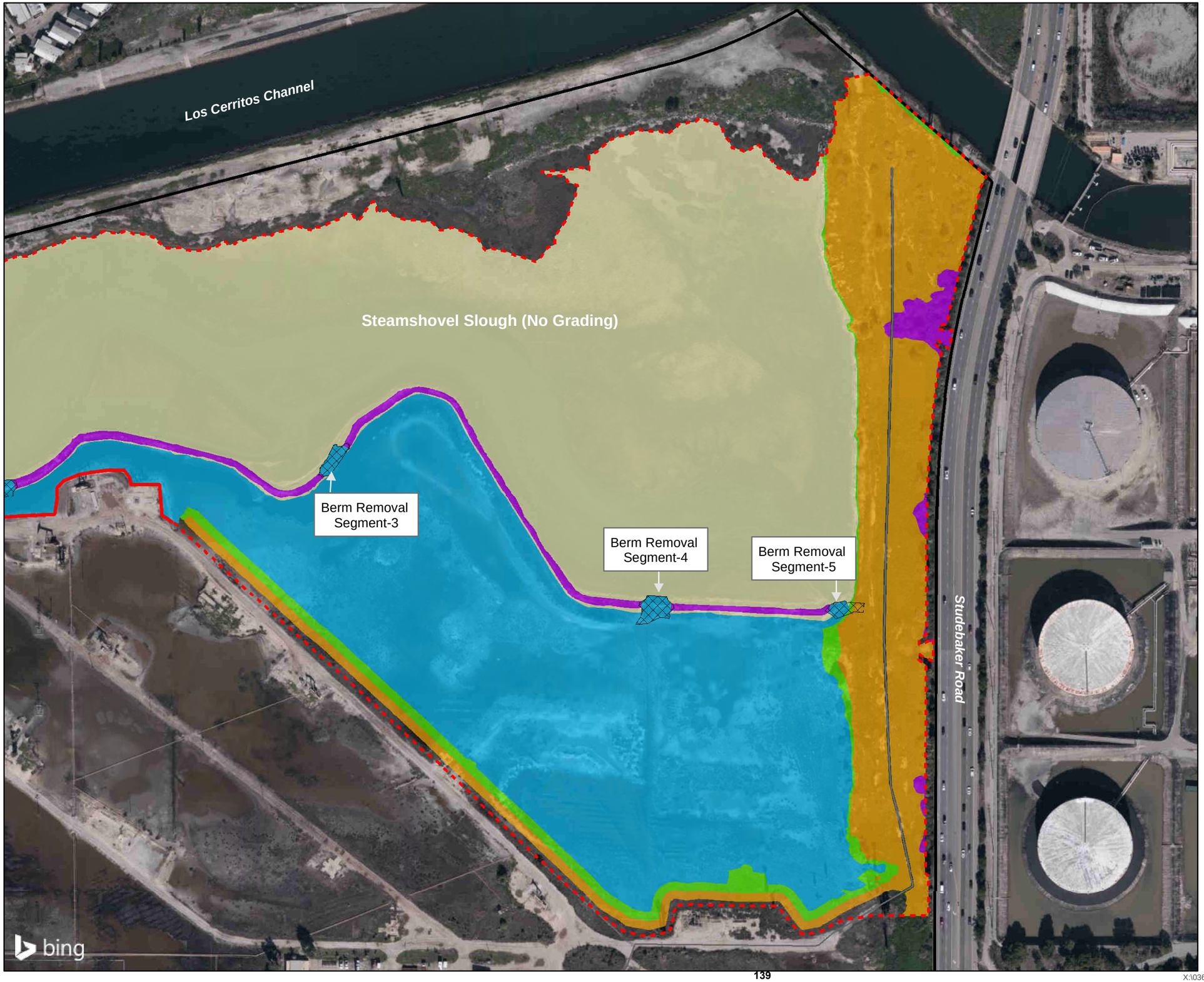


1"=20'



SECTION 6
WEST BASIN BERM PROFILE





- Bank Property
- Property
- Berm Road Removal
- Sheetpile all
- Coastal Sal Marsh Steamshovel Slough Preservation (Tidal)
- Coastal Salt Marsh Re-establishment (Tidal)
- Coastal Salt Marsh Rehabilitation (Tidal)
- Transitional 2 Re-establishment (Buffer)
- Transitional Re-establishment (Buffer)
- Mulefat Scrub Enhancement (Buffer)
- Saltbush oldenbush Establishment (Buffer)

N

0 100 200 400
Feet

1 inch = 200 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 23, 2020

UPPER LCW WETLANDS MITIGATION BANK

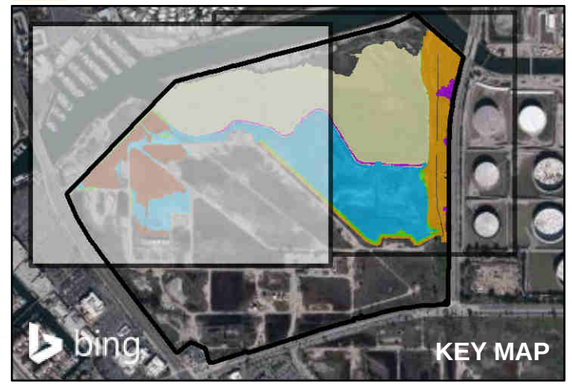
Synergy Oil Field - Proposed Restoration

GLENN LUKOS ASSOCIATES

Exhibit 11A

X:\0363-THE REST\1032-02MITI\Report_Development Plan\REV5\Exhibit 11ADetailsREV4.mxd

Bank Property
Property
Berm Road Removal
Sheetpile all
Coastal Sal Marsh Steamshovel Slough Preservation (Tidal)
Coastal Salt Marsh Re-establishment (Tidal)
Coastal Salt Marsh Rehabilitation (Tidal)
Transitional 2 Re-establishment (Buffer)
Transitional Re-establishment (Buffer)
Mulefat Scrub Enhancement (Buffer)
Saltbush oldenbush Establishment (Buffer)



N

0 100 200 400
Feet

1 inch = 200 feet

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 23, 2020

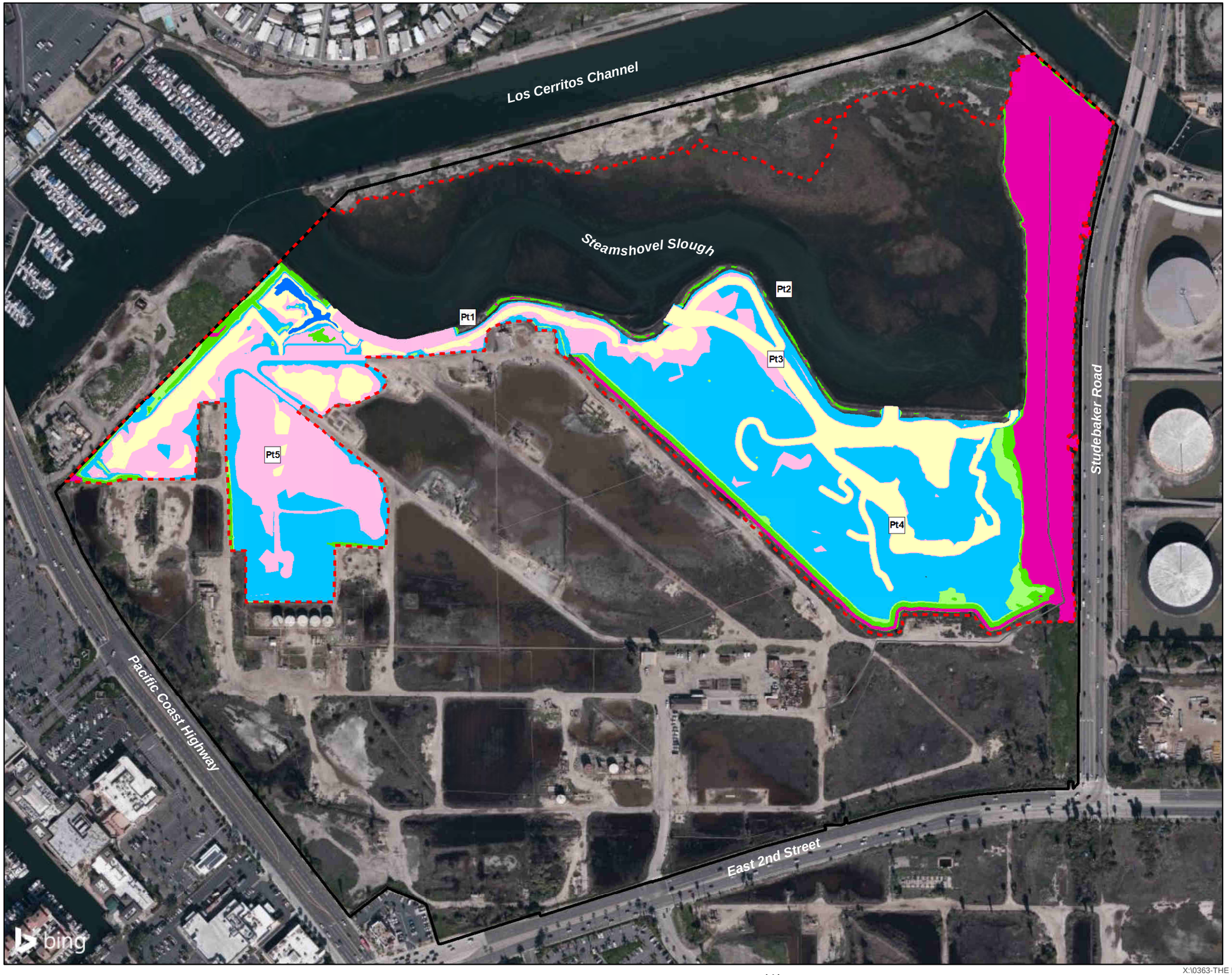
UPPER LCW WETLANDS MITIGATION BANK

Synergy Oil Field - Proposed Restoration

GLENN LUKOS ASSOCIATES

Exhibit 11B

X:\0363-THE REST\1032-02MITI\Report_Development Plan\REV5\Exhibit 11BDetailsB.mxd



Property
Bank Property
High Marsh
Low Marsh
Mid Marsh
Mud Flats
Subtidal
Transitional
Buffer
Hydraulic Modeling Points

Low Marsh (+0.8 feet to +1.5 feet NGVD)	
Botanic name	**Common name**
Batis maritima	saltwort
Spartina foliosa	California cordgrass
Mid Marsh (+1.5 feet to +3.4 feet NGVD)	
Batis maritima	saltwort
Cuscuta salina	saltmarsh dodder
Distichlis spicata	saltgrass
Frankenia salina	alkali heath
Jaumea carnosa	fleshy jaumea
Limonium californicum	saltmarsh rosemary
Salicornia bigelovii	Bigelow's pickleweed
Salicornia pacifica	pacific pickleweed
Suaeda calceoliformis	Pursh's seablite
Suaeda esteroa	estuary seablite
Triglocin concinna	round-leaved arrow grass
High Marsh (+3.4 feet to +4.1 feet NGVD)	
Arthrocnemum subterminale	Parish's glasswort
Atriplex watsonii	Watson's atriplex
Centromadia parryi australis	Southern tarplant
Distichis littoralis	shoregrass
Distichlis spicata	saltgrass
Lasthenia glabrata coulteri	Coulter's goldfields
Suaeda esteroa	estuary seablite
Suaeda taxifolia	wooly seablite
Transitional Marsh (+4.1 feet to +6.1 feet NGVD)	
Arthrocnemum subterminale	Parish's glasswort
Centromadia parryi australis	Southern tarplant
Cressa truxillensis	alkali weed
Distichis littoralis	shoregrass
Distichlis spicata	saltgrass
Heliotropium curassavicum	saltmarsh heliotrope
Lycium californicum	California boxthorn
Spergularia marina	saltmarsh sand Spurrey
Suaeda taxifolia	wooly seablite

0 150 300 600
Feet

1 inch = 300 feet

N

Coordinate System: State Plane 5 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD83
Map Prepared by: K. Kartunen, GLA
Date Prepared: March 23, 2020

UPPER LCW WETLANDS MITIGATION BANK

Synergy Oil Field - Planting Plan

GLENN LUKOS ASSOCIATES

Exhibit 12

X:\0363-THE REST\1032-02MITI\Report_Development Plan\REV5\Exhibit 12PlantingMapREV4.mxd