Meeting Date: 08/21/25
Lease Number: 9005
Staff: K. Connor

Staff Report 46

APPLICANT:

Los Cerritos Wetlands Authority

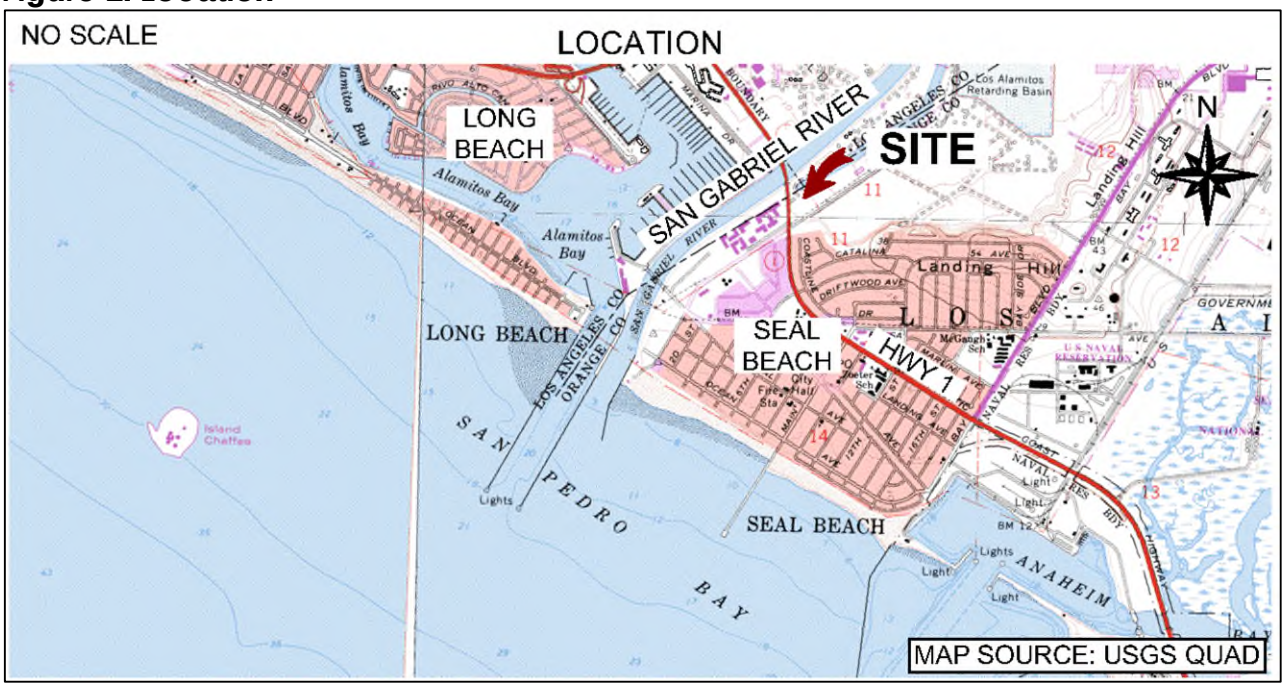
PROPOSED ACTION:

Amendment of General Lease – Public Agency Use.

AREA, LAND TYPE, AND LOCATION:

Sovereign land in and adjacent to the former bed of the San Gabriel River, Seal Beach, Orange County (as shown in Figure 1).

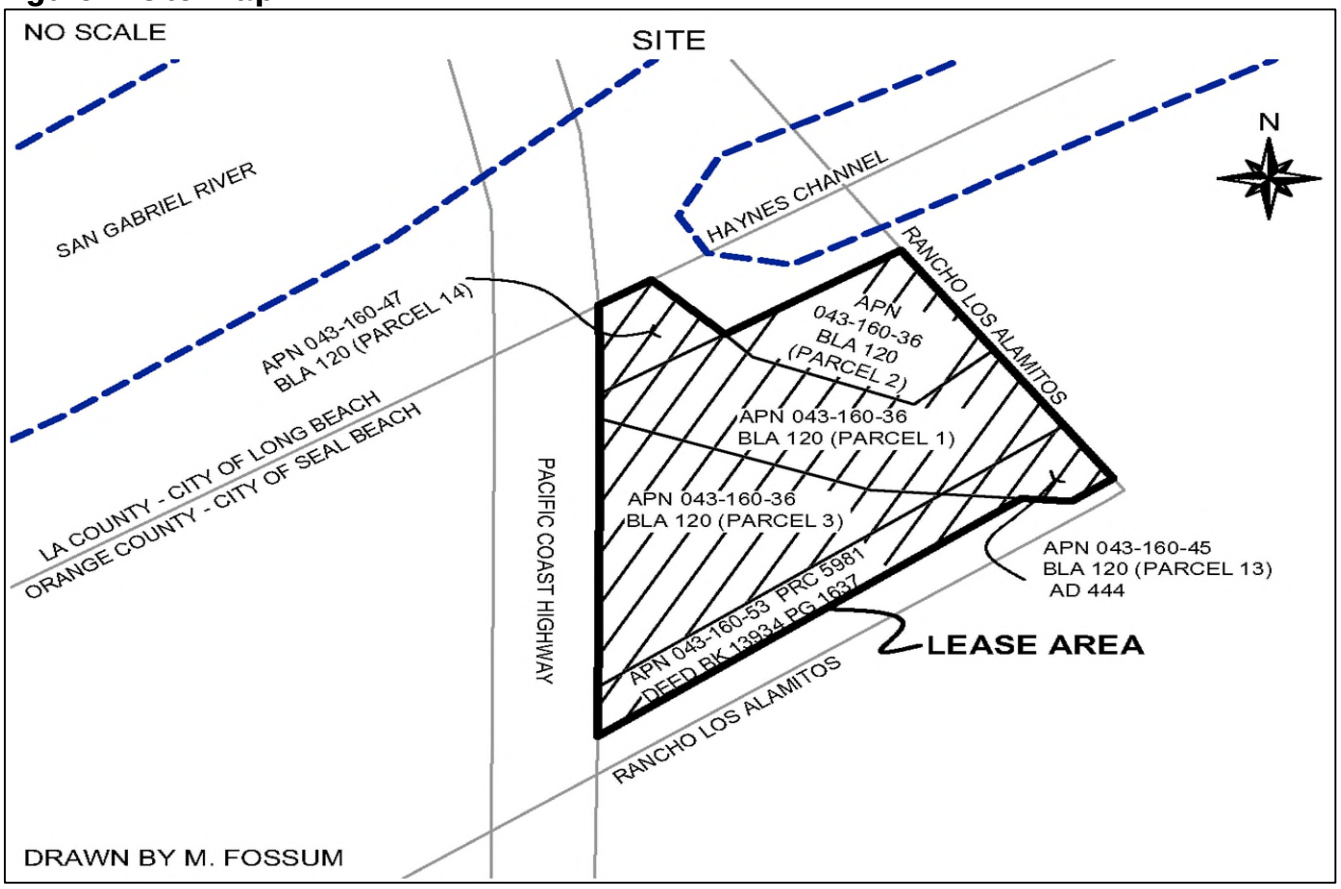
Figure 1. Location



AUTHORIZED USE:

Debris clean-up, invasive species abatement, and access for escorted and supervised public education programs and volunteer restoration work conducted by the Los Cerritos Wetlands Stewardship Program as part of wetlands habitat restoration proposed in the Los Cerritos Wetlands Conceptual Restoration Plan, and other ancillary maintenance activities (as shown in Figure 2).

Figure 2. Site Map



NOTE: This depiction of the lease premises is based on unverified information provided by the Applicant or other parties and is not a waiver or limitation of any State interest in the subject or any other property.

TERM:

10 years, beginning August 14, 2022.

CONSIDERATION:

The public use and benefit, with the State reserving the right at any time to set a monetary rent if the Commission finds such action to be in the State's best interests.

PROPOSED AMENDMENT:

- Section 1, Land Use or Purpose, is amended to authorize the implementation and construction of the Southern Los Cerritos Wetlands Restoration Project (Project) Phases 1 and 2, public access, debris clean-up, invasive species abatement, and access for escorted and supervised public education programs conducted by the Los Cerritos Wetlands Stewardship Program, and other ancillary maintenance activities.
- Section 1, Term, ending date is amended from August 13, 2032, to August 13, 2050.
- Section 1, Authorized Improvements To be Constructed, is amended to authorize the construction and use of an earthen berm, construction and use of educational/interpretive improvements, construction and use of public access trails, construction and use of public parking, and construction and use of any other ancillary components of the Southern Los Cerritos Wetlands Restoration Project's Phase 1 and Phase 2.
- Section 2, Special Provision 1 is amended to authorize the Lessee to conduct Project activities and require the Lessee to fully carry out, implement, and comply with all mitigation measures and reporting obligations applicable to the Lessee as set forth in the Mitigation Monitoring Program (MMP), prepared and adopted by Lessor for this Agreement or as modified by Lessor as permitted by law.
- Section 2, Special Provision 2, is deleted in its entirety.
- Section 2, Special Provision 6 is amended to require the Lessee to acknowledge that a portion of the Lease Premises identified as APN 043-160-53 is encumbered with a permanent Right-of-Way Easement to the Southern California Edison Company, and agrees that any activities within such parcel that will conflict with such Easement or Southern California Edison Company's rights associated therewith, shall have the Southern California Edison Company's review and concurrence.
- Section 2, Special Provision 7 is amended to require the Lessee to limit any vehicles, equipment, or machinery to be used on the Lease Premises to those which are directly required to perform the authorized use.
- Section 2, Special Provision 15 is added to require that within 60 days of completing the construction of authorized improvements in Phase 1 and Phase

2 of the Project, Lessee will provide Lessor with photographs and a set of "as-built" plans that will show where the improvements have been placed. Lessor shall then replace Exhibit A (Land Description) and Exhibit B (Site and Location Map) to the Lease as necessary to accurately reflect the final location of the authorized improvements. Once approved by Lessor's Executive Officer or designee and Lessee, the revised Exhibits shall replace the Exhibits incorporated in the Lease at the time of Lease execution.

- Section 2, Special Provision 17 is added to require that the Lessee shall promptly and completely remove all waste material and debris created by Lessee or its contractors from the Lease Premises and lands subject to Lessor's jurisdiction.
- Section 2, Special Provision 18 is added to require the Lessee to ensure its employees, agents, contractors, and invitees (collectively, Lessee's Agents) comply with all applicable provisions of this Lease. Any breach or default by Lessee's Agents of any applicable provision of the Lease shall be considered a breach or default of the Lease by Lessee.

All other terms and conditions of the lease to remain in effect without amendment.

STAFF ANALYSIS AND RECOMMENDATION:

AUTHORITY:

Public Resources Code sections 6005, 6216, 6301, 6501.1, and 6503; California Code of Regulations, title 2, sections 2000 and 2003.

PUBLIC TRUST AND STATE'S BEST INTERESTS:

On December 9, 2022, the Commission authorized a 10-year General Lease – Public Agency Use to the Los Cerritos Wetlands Authority for debris clean-up, invasive species abatement, and access for escorted and supervised public education programs and volunteer restoration work conducted by the Los Cerritos Wetlands Stewardship Program (Stewardship Program) as part of wetlands habitat restoration proposed in the Los Cerritos Wetlands Conceptual Restoration Plan (Restoration Plan) (Item 46, December 9, 2022). The lease expires on August 13, 2032. The Los Cerritos Wetlands Authority (Applicant) is a Joint Powers Authority comprised of the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy, the State Coastal Conservancy, the city of Seal Beach, and the city of Long Beach. The Applicant is now applying for an amendment to the lease to authorize the

implementation and construction of portions of the Southern Los Cerritos Wetlands Restoration Project (Project) Phases 1 and 2 that involve the existing lease premises.

The Applicant's purpose is to acquire, restore, and maintain lands that are or were part of the Los Cerritos Wetlands habitat complex straddling the San Gabriel River, including portions of land located in Los Angeles and Orange Counties, and in the cities of Long Beach and Seal Beach.

The Los Cerritos Wetlands Complex once covered approximately 2,400 acres, but today, approximately 503 acres of the wetlands area remain undeveloped, and even they are in a degraded condition. The surrounding areas are a mix of residential, commercial, and industrial uses, and parts of the wetlands area itself were historically used for oil production. The Applicant has acquired direct ownership of 172 acres within the remaining undeveloped area, and approximately 83 additional acres are in public ownership separate from the Applicant's holdings. The balance of the wetland's acreage is privately held.

The Project Site, known as the Southern Los Cerritos Wetland, consists of 103.5 acres of the total 503-acre Los Cerritos Wetlands Complex, and is composed of two parcels: a 100-acre site owned by the Applicant and a 3.5-acre parcel of sovereign land under the jurisdiction of the Commission. The Commission has no jurisdiction over the 100-acre parcel; only the 3.5-acre parcel is the subject of this lease.

The proposed Project includes multiple activities within the lease premises. In addition to the construction of an earthen berm, educational/interpretive improvements, public access trails, and public parking, it also includes ancillary activities such as remediation or containment of contaminated soil, grading, habitat restoration, replacement of an existing culvert along the Hellman Channel with a larger culvert, creation of new secondary tidal channels through the Project Site, construction of flood management elements, raising of an existing road through the Project Site, and undergrounding an existing Southern California Edison Company transmission line along 1st Street, the side road adjacent to the lease premises. The Project would occur in two phases. Phase 1 of the Project would include restoration activities that would enhance existing habitat areas in close proximity to the existing Hellman Channel. Phase 2 would include restoration activities that would expand the tidal wetlands to the eastern portion of the Project Site by creating a full tidal connection with the Haynes Cooling Channel. The Project would also expand new public access opportunities supported by public parking and trails. The Project would provide increased access to local Native American Tribes' ancestral lands by constructing a harvest garden, gathering

spaces, and a monument that have been developed with local tribal representation during the Project's planning process.

Phase 1 of the Project is focused on enhancing the existing habitat areas that are closest to the tidal channel connection along the Haynes Cooling Channel and San Gabriel River. Phase 1 covers approximately 53 acres, and includes grading activities, excavation of tidal channels, replacement of an existing culvert, soil remediation, construction of earth berms, construction of educational and interpretive improvements such as parking and connector trails, construction of public trails, the building of Tribal Cultural Resource improvements, the raising of an existing road, and the reconfiguration of associated utilities. For all of the Phase 1 work, the Lessee will require the use of sovereign land within the lease premises for staging purposes. Staging at the lease premises would occur outside the existing concrete pads and only on vacant grounds to avoid wetlands. Staging areas will be clearly demarcated and used in a manner that avoids existing sensitive habitats and maintains existing levels of public access.

Parts of Phase 1 and Phase 2 include the construction of enhanced public access and recreation for the Project Site. The proposed Project will greatly improve and expand the existing public access at this location, which includes a connection to the Pacific Ocean. The construction of Phase 1 includes the building of an interpretive site that would include seating, shade structures, storage, and a location where volunteers of the Stewardship Program can gather for events. Parking and bike storage are also included for this interpretive site. The interpretive area will encompass a majority of the lease area and will provide a public benefit. The lease premises will also include the creation of a trail connection from the San Gabriel River in the west and through the lease premises to the rest of the Project Site. The public would be able to access the new parking, trails, and interpretive center from sunrise to sunset, with parking areas closed after hours.

Part of the lease premises is required for road work proposed in Phase 1 of the Project. An existing road, 1st Street, will be raised approximately three feet above its existing elevation and out of the floodplain by using soil excavated from the proposed onsite tidal channel or marsh plain grading. A portion of the existing road encroaches onto sovereign land and is included in the existing lease premises. During the road work, the proposed Project would also reconfigure associated utilities. Southern California Edison Company's power poles and overhead transmission lines running along 1st Street will be relocated. The existing power poles within the Project Site will be removed, and the overhead transmission lines will be undergrounded. Prior to 1st Street being raised, a trench will be graded under or

along 1st Street, and the transmission lines will be placed in and backfilled. The transmission lines and ancillary improvements will remain in the same easement location.

Phase 2 of the proposed Project would expand the tidal wetlands throughout the Project Site by creating a full tidal connection with the Haynes Cooling Channel. Additional area in the Project Site would be graded and lowered to create a new salt marsh habitat, and the previously created subtidal channel graded in Phase 1 would be extended further during Phase 2. The Haynes Channel would be breached after all channel excavation activities are concluded to connect the portions constructed in Phase 1. The new salt marsh habitat created in Phase 1 and Phase 2 will become fully tidal wetlands. The breaching of the Haynes Channel portion of Phase 2 of the Project is not subject to Commission jurisdiction and is not part of this action. Only a small amount of work in Phase 2 involves sovereign land. The majority of Phase 2 is on lands outside the Commission's jurisdiction.

The Haynes Generating Station currently uses the Haynes Cooling Channel to supply water from the Pacific Ocean through seven culverts in the Alamitos Bay Marina to cool the natural gas power plant. This method is called once-through cooling. The Haynes Generating Station, owned and operated by the City of Los Angeles Department of Water and Power (LADWP) is being modernized and will eliminate the use of ocean water to cool the power plant by 2029. Once the modernization is complete, the Haynes Cooling Channel will be decommissioned and no longer required for use by the power station. The Lessee proposes to enter into an agreement with LADWP for use of the Haynes Cooling Channel as the main source of seawater for the Project Site during Phase 2 of the Project. Phase 2 of the Project would commence when the Haynes Cooling Channel is available, after 2029. Only a very small portion of the Haynes Cooling Channel is subject to Commission jurisdiction under Lease 3154 described below. Any actions associated with this lease will be considered by the Commission at a future meeting.

The parcels shown in Figure 2 are subject to four existing leases and uses, as follows:

- Lease PRC 3154, a General Permit – Public Agency Use to the City of Los Angeles Department of Water and Power for a water intake structure.
- Lease PRC 5283, a General Permit – Public Agency Use to the City of Seal Beach for a bicycle trail and transportation corridor, a 6-foot-tall chain link fence, paved ramps, and a 4-foot-tall gate with motorcycle barrier.

- Lease PRC 5981, a Right-of-Way Easement to the Southern California Edison Company for an overhead transmission line.
- Lease PRC 8726, a General Lease – Public Agency Use to the Orange County Flood Control District for access to the Los Alamitos Retention Basin.

To avoid potential conflicts between the Applicant and existing Lessees, the Applicant will obtain a letter of concurrence from each Lessee listed above acknowledging the Project and stipulating their non-objection to it prior to the Applicant's commencement of any restoration activities on the lease premises. Any modifications required to the above leases resulting from this Project will be considered at a future meeting.

Public Trust uses are generally limited to those that are water dependent or related, and include commerce, navigation, fisheries, environmental preservation, and recreation. Public Trust lands may also be kept in their natural state for habitat, wildlife refuges, scientific study, or open space. Ancillary or incidental uses that directly promote Public Trust uses, or that accommodate the public's enjoyment of trust lands, are also permitted. The use of the lease premises is consistent with the common law Public Trust Doctrine as it supports and facilitates habitat, wildlife refuges, scientific studies, and open space, and enhances the public enjoyment of and education about the Stewardship Program and proposed Project.

The proposed lease amendment contains revised special lease provisions that provide for the Commission's continuing supervisory control over the leased Public Trust lands. The proposed lease term extension to August 13, 2050, does not alienate the State's fee simple interest and does not grant the Lessee exclusive rights to the lease premises. The lease requires the Lessee to insure and indemnify the State for any liability incurred as a result of the Lessee's activities thereon.

CLIMATE CHANGE:

INTRODUCTION:

The climate crisis and rising sea levels are impacting California's coastal and inland waterways now. Likely impacts to the lease premises include, but are not limited to, sea level rise, saltwater intrusion, prolonged drought, extreme heat, and changes to the intensity and timing of precipitation events. These impacts can exacerbate natural hydrological processes such as erosion, scour, and sedimentation. These impacts may affect the proposed lease area, which is a parcel of land located adjacent to the Los Cerritos Wetlands and the Haynes Cooling Channel, on the

border of Los Angeles and Orange counties, in a tidally influenced site vulnerable to flooding at current sea levels and at a higher risk of flood exposure given projected scenarios of sea level rise.

DATA & PROJECTIONS:

Water levels in tidally-influenced rivers will rise as sea levels rise. The California Ocean Protection Council updated the State of California Sea Level Rise Guidance in 2024 to provide a synthesis of the best available science on sea level rise projections and rates for multiple emissions scenarios. Commission staff evaluated the Intermediate scenario ("high emissions," "low risk aversion") because the project was designed to be adapted to sea level rise and the consequences would be low if flooding occurs. The Los Angeles tide gauge was used for the projected sea level rise scenario for the region as listed in Table 1.

Table 1. Projected Sea Level Rise for Los Angeles

Year	Projection (feet)
2040	0.3
2050	0.4
2070	0.5
2100	0.6

Source: Table 12, State of California Sea Level Rise Guidance: 2024 Update
Note: Projections are with respect to a 2000 baseline.

In addition to rising seas, warmer temperatures have led California and the Southwest region to experience a megadrought from 2000 to 2022, measured as the driest 22 years in the past 1,200 years, and more megadroughts are projected through the end of the century (U.S. Global Change Research Program, Ch. 28. Southwest). Despite the region's increasing aridity, flooding from extreme precipitation events is projected to increase, attributed to earlier snowmelt, sea level rise, and more intense and frequent atmospheric rivers. Minor and moderate flooding (flooding events defined as disruptive to damaging), attributed to higher water levels, is expected to increase five to ten orders of magnitude by 2100, according NOAA's 2022 Sea Level Rise Technical Report.

ANALYSIS:

The proposed Project covers an area of approximately 3.5 acres and is a mix of upland, tidal wetland, and development in the form of an existing 0.83-acre concrete pad; and is a small part of a larger Project site which covers a total of

103.5 acres. The Los Cerritos Wetlands Complex is a system of wetlands that has been historically impacted by agriculture, population growth, and oil extraction in the region. The Project activities are designed and intended to restore tidal wetland processes and functions, maximize contiguous habitat areas and the buffer between habitat and human disturbance, and create public access and provide a public interpretative program for the area. The project considers future climate change projections for sea level rise and flooding in its design. The site restoration would allow mid-marsh habitat to exist at current sea level and accommodate up 1.3 feet of sea level rise. The Project will construct a small earthen berm to protect the lease area from potential flooding associated with forecasted sea level rise until 2100. If the lease premises do flood, the consequences of the impacts are low since the rest of the lease area will include a concrete visitor plaza and upland vegetation. Collectively, the project elements planned for the lease area such as the installation of the earthen berm, the partial removal of the concrete pad, and planting of native vegetation are intended to improve and increase the region's adaptability and resiliency to climate change through improving hydrologic, wetland, and habitat function which is connected to the surrounding San Gabriel River and associated waterways.

Pursuant to the proposed lease, the Applicant acknowledges that the lease premises and adjacent upland are located in an area that may be subject to the effects of climate change, including sea level rise.

CONCLUSION:

For all the reasons above, staff believes issuance of this lease amendment will not substantially interfere with the Public Trust needs and values at this location, at this time, and for the term of the proposed lease term extension; and is in the best interests of the State.

OTHER PERTINENT INFORMATION:

1. Approval or denial of the application is a discretionary action by the Commission. Each time the Commission approves or rejects a use of sovereign land, it exercises legislatively delegated authority and responsibility as trustee of the State's Public Trust lands as authorized by law. If the Commission denies the amendment, the Applicant has no right to occupy the lease premises beyond August 13, 2032. The lessee has no right to a new lease or to renewal of any previous lease.

2. This action is consistent with the "Leading Climate Activism," "Meeting Evolving Public Trust Needs," and "Committing to Collaborative Leadership" Strategic Focus Areas of the Commission's 2021- 2025 Strategic Plan.

3. A Program Environmental Impact Report (PEIR), State Clearinghouse No. 2019039050, was prepared by the Los Cerritos Wetland Authority (LCWA) and certified on January 7, 2021, for the Los Cerritos Wetlands Restoration Plan (Plan). As part of its approval, LCWA made a Statement of Facts and Findings, a Statement of Overriding Considerations, and adopted a Mitigation Monitoring and Reporting Program (MMRP). LCWA then adopted a Mitigated Negative Declaration for this Project, State Clearinghouse No. 2023040250, on August 24, 2023, which utilized the PEIR MMRP. The Project is a part of the Plan, and LCWA determined that the Project would not result in any impacts that are significant and unavoidable.

   Staff has reviewed these documents and prepared an independent Mitigation Monitoring Program (MMP) (attached, Exhibit A) that incorporates LCWA's documents. Staff recommends the adoption of Exhibit A by the Commission.

   Staff also prepared Findings made in conformance with the State California Environmental Quality Act (CEQA) Guidelines (Cal. Code Regs., tit. 14, §§ 15091, 15096) contained in the attached Exhibit B. Because the LCWA approved the Project with a Mitigated Negative Declaration and incorporated the already-adopted PEIR MMRP, the CSLC Findings have determined that all potential impacts within the Commission's leasing jurisdiction would be less than significant or less than significant with mitigation. Staff recommends the Commission adopt the Findings contained in the attached Exhibit B.

4. This activity involves lands which have NOT been identified as possessing significant environmental values pursuant to Public Resources Code section 6370 et seq.; however, the Commission has declared that all lands are "significant" by nature of their public ownership (as opposed to "environmentally significant"). Since such declaration of significance is not based upon the requirements and criteria of Public Resources Code section 6370 et seq., use classifications for such lands have not been designated. Therefore, the finding of the project's consistency with the use classification as required by California Code of Regulations, title 2, section 2954 is not applicable.

APPROVALS OBTAINED:

- United States Army Corps of Engineers
- California Coastal Commission
- California Department of Fish and Wildlife
- California State Coastal Conservancy
- South Coast Air Quality Management District
- City of Seal Beach

EXHIBITS:

A. Mitigation Monitoring Program

B. Statement of Findings

RECOMMENDED ACTION:

It is recommended that the Commission:

CEQA FINDING:

Find that a PEIR, State Clearinghouse No. 2019039050, was prepared by the Los Cerritos Wetlands Authority (LCWA) for the Los Cerritos Wetlands Restoration Plan and certified on January 7, 2021, and that a Mitigated Negative Declaration, State Clearinghouse No. 2023042050, was prepared by LCWA for this project and adopted on August 24, 2023, and that the Commission has reviewed and considered the information contained therein; that in the Commission's independent judgment, the scope of activities to be carried out under the lease to be issued by this authorization have been adequately analyzed; that none of the events specified in Public Resources Code section 21166 or the State CEQA Guidelines section 15162 resulting in any new or substantially more severe significant impact has occurred; and, therefore no additional CEQA analysis is required.

Adopt the Mitigation Monitoring Program, as contained in the attached Exhibit A.

Adopt the Findings, made in conformance with California Code of Regulations, title 14, sections 15091 and 15096, subdivision (h), as contained in the attached Exhibit B.

Determine that the project, as approved, will not have a significant effect on the environment.

PUBLIC TRUST AND STATE'S BEST INTERESTS:

Find that the proposed lease amendment will not substantially interfere with the Public Trust needs and values at this location, at this time, and for the foreseeable term of the lease; and is in the best interests of the State.

AUTHORIZATION:

Authorize the amendment of Lease Number 9005, a General Lease – Public Agency Use, effective August 21, 2025, to authorize the implementation and construction of the Southern Los Cerritos Wetlands Restoration Project Phases 1 and 2; to extend the lease term to August 13, 2050; and modify the Lease Special Provisions substantially in the form described in the Amendment and the "Proposed Amendment" portion of this Staff Report, concerning the lands described in Figure 2 (for reference purposes only); all other terms and conditions of the lease will remain in effect without amendment.

EXHIBIT A
CALIFORNIA STATE LANDS COMMISSION
MITIGATION MONITORING PROGRAM
SOUTHERN LOS CERRITOS WETLANDS RESTORATION PROJECT
(A4759, State Clearinghouse No. 2023040250)

The California State Lands Commission (Commission or CSLC) is a responsible agency under the California Environmental Quality Act (CEQA) for the Southern Los Cerritos Wetland Restoration (Project). The CEQA lead agency for the Project is the Los Cerritos Wetland Authority (LCWA).

In conjunction with approval of this Project, the Commission adopts this Mitigation Monitoring and Reporting Program (MMRP) for the implementation of mitigation measures for the portion(s) of the Project located on State lands. The purpose of an MMRP is to impose feasible measures to avoid or substantially reduce the significant environmental impacts from a project identified in an Environmental Impact Report (EIR) or a Mitigated Negative Declaration (MND). State CEQA Guidelines section 15097, subdivision (a), states in part:

> *In order to ensure that the mitigation measures and project revisions identified in the EIR or negative declaration are implemented, the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.*

The lead agency certified a Final Programmatic Environmental Impact Report for the Los Cerritos Wetlands Restoration Plan (Plan) (State Clearinghouse [SCH] No. 2019039050) and adopted an MMRP for the Plan. LCWA later adopted an Initial Study/Mitigated Negative Declaration (MND) for the Southern Los Cerritos Wetlands Restoration Project (Project) (SCH No. 2023040250), herein referred to as the SLCWRP MND, and MMRP (see Exhibit A, Attachment A-1) and remains responsible for ensuring that implementation of the measures occurs in accordance with its program. The Commission's action and authority as a responsible agency apply only to the measures listed in Table A-1 below. The full text of each measure, as set forth in the MMRP prepared by the CEQA lead

agency and provided in Attachment A-1, is incorporated by reference in this Exhibit A.

Table A-1. Project Impacts and Applicable Measures

Potential Impact	Mitigation Measure (MM)[1] and/or Applicant Mitigation Measure (AMM)
AES-4	MM AES-1
AQ-1a	MM AQ-1
AQ-2a	MM AQ-1
AQ-3a	MM AQ-1
BIO-1	MMs BIO-1 through BIO-11
BIO-2	MMs BIO-1 through BIO-11
BIO-3	MMs BIO-1 through BIO-11
CUL-1	MMs CUL-1 through CUL-18
CUL-2	MMs CUL-1 through CUL-18
CUL-3	MMs CUL-1 through CUL-18
HAZ-1	MMs HAZ-1 and HAZ-2
HYD-1	MM HYD-1
HYD-3a	MM HYD-1
HYD-5	MM HYD-1
NOI-1	AMMs NOI-1, NOI-2, and NO1-3
PS-1a	MM PS-1
TRI-1	MMs BIO-1 through BIO-11; MMs CUL-1 and CUL-4 through CUL-17
TRI-2	MMs BIO-1 through BIO-11; MMs CUL-1 and CUL-4 through CUL-17

[1] See Attachment A-1 for the full text of each measure taken from the MMRP prepared by the CEQA lead agency.

ATTACHMENT A-1

MITIGATION MONITORING AND REPORTING PROGRAM ADOPTED BY THE LOS CERRITOS WETLAND AUTHORITY

APPENDICES

Appendix A: Mitigation Monitoring and Reporting Program

Introduction to the Mitigation Monitoring and Reporting Program

This environmental document is tiered off the Program Environmental Impact Report (PEIR) for the Los Cerritos Wetlands Restoration Plan. As previously stated, the mitigation measures from that PEIR applicable to this portion of the Program Area are included as part of the background for this Southern Los Cerritos Wetlands Restoration Project.

Pursuant to Public Resources Code (PRC) Section 21081.6 and CEQA Guidelines Section 15097, a lead agency is required to adopt a mitigation monitoring and reporting program (MMRP) for assessing and ensuring compliance with the required mitigation measures applied to a proposed project for which an EIR has been prepared. As stated in PRC Section 21081.6(a):

> *… the public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment.*

Section 21081.6 provides general guidelines for implementing mitigation monitoring programs and indicates that specific reporting and/or monitoring requirements, to be enforced during project implementation, which were defined prior to PEIR certification. The lead agency, Los Cerritos Wetlands Authority, may delegate reporting or monitoring responsibilities to another public agency or a private entity that accepts such delegation. LCWA, however, remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the overall program and specifically for this project.

The Mitigation Monitoring and Reporting Program, lists mitigation measures and project design features that are required to reduce the significant effects of the proposed project. These measures correspond to those discussed in Draft EIR Sections 3.1 through 3.16, and those revised in this Final EIR (see Chapter 9, Draft EIR Revisions). To ensure that the mitigation measures are properly implemented, a monitoring program has been devised that identifies the timing and responsible entity for monitoring each measure. LCWA will have the responsibility for implementing the measures, and various public agencies will have the primary responsibility for enforcing, monitoring, and reporting the implementation of the mitigation measures.

The mitigation measures are included exactly as written in the PEIR. Please note that the overall restoration program area is located not only within the City of Seal Beach (Orange County) but extends into the City of Long Beach (Los Angeles County). For this project, no work will be completed within the City of Long Beach (or Los Angeles County), hence, mitigation will not extend into these jurisdictions.

MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
Aesthetics			
Mitigation Measure AES-1: Lighting Plan. Prior to issuance of a grading permit for each individual site that requires construction, a Lighting Plan for the individual site shall be developed and implemented that requires all exterior lighting to be directed downward and focused away from adjacent sensitive uses and habitats to encourage wayfinding and provide security and safety for individuals walking to and from parking areas.	Written verification; visual inspection.	By LCWA prior to issuance of grading permit and continuously during construction.	City of Long Beach City of Seal Beach
Air Quality			
Mitigation Measure AQ-1: Construction NO_X Reduction Measures. The Applicant for the proposed program shall be responsible for the implementation of the following construction-related NO_X reduction measures: • Require all off-road diesel-powered construction equipment greater than 50 hp (e.g., excavators, graders, dozers, scrappers, tractors, loaders, etc.) to comply with EPA-Certified Tier IV emission controls where commercially available. Documentation of all off-road diesel equipment used for this proposed program including Tier IV certification, or lack of commercial availability if applicable, shall be maintained and made available by the contractor to the local permitting agency (City of Seal Beach and City of Long Beach) for inspection upon request. In addition, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB such as certified Level 3 Diesel Particulate Filter or equivalent. A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment. If Tier IV construction equipment is not available, LCWA shall require the contractor to implement other feasible alternative measures, such as reducing the number and/or hp rating of construction equipment, and/or limiting the number of individual construction subphases occurring simultaneously. The determination of commercial availability of Tier IV construction equipment shall be made by the City prior to issuance of grading or building permits based on applicant-provided evidence of the availability or unavailability of Tier IV equipment and/or evidence obtained by the City from expert sources such as construction contractors in the region. • Require all main engines for tugboats to comply with EPA- Certified Tier IV emission controls. • Eliminate the use of all portable generators. Require the use of electricity from power poles rather than temporary diesel or gasoline power generators. • Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow, including during the transportation of oversized equipment and vehicles. • Provide dedicated turn lanes for movement of construction trucks and equipment on site and off site. The location of these dedicated lanes shall be addressed in the Construction Trip Management Plan.	Included in contractor's scope of work; written verification	By LCWA continuously during construction.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
• Reroute construction trucks away from congested streets or sensitive receptor areas. • Prohibit the idling of on-road trucks and off-road equipment in excess of 5 continuous minutes, except for trucks and equipment where idling is a necessary function of the activity, such as concrete pour trucks. The Applicant or construction contractor(s) shall post signs at the entry/exit gate(s), storage/lay down areas, and at highly visible areas throughout the active portions of the construction site of the idling limit. • On-road heavy-duty diesel haul trucks with a gross vehicle weight rating of 19,500 pounds or greater used to transport construction materials and soil to and from the program area shall be engine model year 2010 or later or shall comply with the USEPA 2007 on-road emissions standards.			
Biological Resources			
Mitigation Measure BIO-1: Avoidance of Special-Status Plants. Prior to LCWA's approval of project plans or publication of subsequent CEQA documents, a qualified botanist/biologist shall conduct a habitat assessment to determine the presence or absence of suitable habitat for special-status plant species. If suitable habitat is determined to be present, focused plant surveys should be conducted in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW, March 20, 2018). Consistent with the CDFW protocol, such focused special- status plant surveys will be conducted during the appropriate blooming period for these species, with May and June likely having the highest number of species in flower. The results of focused special-status plant species will be incorporated into restoration design plans. The locations of any special-status plants within 25 feet of proposed disturbance areas shall be identified and mapped. Individual plants shall be flagged for avoidance and an avoidance buffer of at least 10 feet shall be established around the plant(s). If special-status plants cannot be avoided, they shall be incorporated into the proposed program's restoration design at a minimum ratio of 1:1 (one plant planted for every one plant removed, or 1 square foot of absolute cover planted for every 1 square foot of absolute cover removed). For special- status plant species with small population numbers (less than 50 individuals), higher mitigation ratios up to 7:1 will be incorporated, where on-site seed sources are available. Higher mitigation ratios of up to 3:1 will be incorporated where suitable habitat area can support populations of large individual numbers. Special-status plants that cannot be avoided shall be salvaged prior to impacts using species- specific propagation methods, such as transplanting, seed and cuttings. Seed collection shall occur during the appropriate time of year for each species. Seeds shall be propagated by a qualified horticulturalist or in a local nursery, and shall be incorporated into habitat-specific seed mixes that will be used for revegetation of the restoration areas. Plant transplantation of perennial species is a potential mitigation technique but must be used sparingly and only when receiving site parameters are a suitable match from the donor location. Performance standard for the success of propagated or transplanted species will be achieved with the survival of the appropriate number of individuals meeting the mitigation ratio (1:1 for most species) after five years of growth and the establishment of a self-propagating population for annual	Written verification.	Prior to LCWA's approval of project plans or publication of subsequent CEQA documents	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
species for a minimum of three years after revegetation completion for a specific area.			
Mitigation Measure BIO-2: Environmental Awareness Training and Biological Monitoring. Prior to commencement of activities within the program area, a qualified biologist shall prepare a Worker Environmental Awareness Program (WEAP) that provides a description of potentially occurring special-status species and methods for avoiding inadvertent impacts. The WEAP training shall be provided to all construction personnel. Attendees shall be documented on a WEAP training sign-in sheet. Initial grading and vegetation removal activities shall be supervised by a qualified monitoring biologist, who will be present during all construction activities. The biologist shall ensure that impacts to special-status plants and wildlife, including wetland vegetation, are minimized to the greatest extent feasible during implementation of program activities on the South, Isthmus, Central and North Areas. If any special- status wildlife species are encountered during construction and cannot be avoided, the monitoring biologist shall have the authority to temporarily halt construction activities until a plan for avoidance has been prepared and approved by CDFW, and implemented by the monitoring biologist. Relocation of a federal- or state-listed species shall not be allowed without first obtaining take authorization from USFWS and/or CDFW.	Included in construction contractor's scope of work and agreements; written verification	Prior to commencement of construction activities	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife
Mitigation Measure BIO-3: Belding's Savannah Sparrow Breeding Habitat. Prior to LCWA's approval of project plans or publication of subsequent CEQA documents, a qualified biologist shall map suitable Belding's savannah sparrow habitat as the location and amount of suitable habitat is anticipated to change over time. The results of habitat mapping will be incorporated into restoration design plans Project activities shall be limited to July 16 through February 14 within suitable costal marsh habitat to avoid impacts to breeding Belding's savannah sparrow. Suitable Belding's savannah sparrow breeding habitat that will be impacted by the proposed program shall be created within the program area at a minimum ratio of 1:1 (area created:area impacted). Restored breeding habitat shall consist of a minimum 60 percent absolute cover of salt marsh vegetation, and shall consist of a hydrologic regime similar to that currently present in the North Area or South Area, respectively. Other unique conditions within coastal salt marsh communities shall exist as well, such as, similar slope, aspect, elevation, soil, and salinity. A Mitigation, Maintenance and Monitoring Program shall be prepared and approved by CDFW prior to implementation. The proposed program shall be implemented by a qualified restoration ecologist, and at a minimum, shall include success criteria and performance standards for measuring the establishment of Belding's savannah sparrow breeding habitat, responsible parties, maintenance techniques and schedule, 5-year monitoring and reporting schedule, adaptive management strategies, and contingencies. Moreover, in accordance the CESA, an Incidental Take Permit (or other mitigation options identified in accordance with Fish & Game Code, §§ 2080.1, 2081, subds. (b) and (c)) shall be obtained from CDFW if any Belding's savannah sparrow may be impacted during construction or operations of the program. The amount of potential take shall be determined prior to design approval of each restoration area based on consultation with CDFW. Lastly, take authorization shall be obtained prior to commencement of any ground disturbing activities.	Written verification	Prior to LCWA's approval of project plans or publication of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
Mitigation Measure BIO-4: Nesting Bird and Raptor Avoidance. A qualified biologist shall identify areas where nesting habitat for birds and raptors is present prior to LCWA's approval of project plans or publication of subsequent CEQA documents. To ensure the avoidance of impacts to nesting avian species, the following measures shall be implemented: • Construction and maintenance activities shall be limited to the non-breeding season (September 1 through December 31) to the extent feasible. If construction or maintenance activities will occur during the avian nesting season (January 1 through August 31), a qualified biologist shall conduct pre-construction nesting avian surveys within no more than 5 days prior to the initiation of construction activities to identify any active nests. If a lapse in work of 5 days or longer occurs, another survey shall be conducted to verify if any new nests have been constructed prior to work being reinitiated. • If active nests are observed, an avoidance buffer shall be demarcated by a qualified biologist with exclusion fencing and shall be maintained until the biologist determines that the young have fledged and the nest is no longer active.	Written verification	Prior to LCWA's approval of project plans or subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure BIO-5: Habitat Assessment and Pre- Construction Surveys for Burrowing Owl. A qualified biologist shall conduct a pre-construction burrowing owl survey of each restoration area (including required survey buffer areas) prior to LCWA's approval of project plans or publication of subsequent CEQA documents. If burrowing owls are detected, the habitat will be avoided ad /or enhanced by the restoration design. In addition, a Burrowing Owl Management Plan shall be prepared and approved by CDFW, and implemented, prior to commencement of construction. The Burrowing Owl Management Plan shall be prepared in accordance with the CDFW 2012 Staff Report on Burrowing Owl Mitigation and shall address specific minimization and avoidance measures for burrowing owls, such as avoidance of occupied habitat, translocation of individuals, and on site revegetation.	Written verification; submittal of Burrowing Owl Management Plan	Prior to LCWA's approval of project plans or publication of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife
Mitigation Measure BIO-6: Minimization of Light Spillage. A Program Lighting Plan shall be designed to minimize light trespass and glare into adjacent habitat areas prior to the commencement of activities within the program area. Nighttime lighting associated with the visitor center, parking lot, and trails shall be shielded downward and/or directed away from habitat areas to minimize impacts to nocturnal species, including breeding birds.	Submittal of Program Lighting Plan	Prior to commencement of construction activities	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure BIO-7: Pre-Construction Bat Surveys. A qualified biologist shall conduct a pre-construction bat survey of each restoration area prior to final approval of the area's restoration plan. If suitable bat roosting habitat is determined to be present, a presence/absence survey shall be conducted prior to commencement of construction activities. A qualified biologist shall conduct the preconstruction clearance survey of suitable bat roosting habitat, such as mature palm trees. If bats are determined to be roosting, the biologist will determine whether it is a day roost (non-breeding) or maternity roost (lactating females and dependent young). If a day roost is determined, the biologist shall ensure that direct mortality to roosting individuals will not occur by requiring that trees	Written verification; submittal of Bat Exclusion Plan (if needed)	Prior to final approval of the area's restoration plan.	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
with roosts are not directly impacted (e.g., removed) until after the roosting period. If a maternity roost is determined to be present, the biologist shall determine a suitable buffer distance between construction activities and the roosting site. If direct disturbance to the maternity roost could occur, a Bat Exclusion Plan shall be prepared and approved by CDFW, and implemented, prior to impacting the roost. At a minimum, the Plan shall include avoidance and minimization measures to reduce potential impacts to breeding bats during construction activities and prescribed methods to safely and humanely evict bats from the roost to avoid mortality.			
Mitigation Measure BIO-8: Focused Surveys for Special- Status Wildlife Species. Should suitable habitat occur for terrestrial or aquatic special-status species, a qualified biologist shall conduct focused habitat assessments and focused surveys to determine presence, absence and/or abundance for special-status wildlife species listed in Table 3.3-5. Both habitat assessments and focused surveys shall occur prior to LCWA's approval of the project plans or the publication of subsequent CEQA documents for any project site that potentially contains special-status species. Agency-approved protocols shall be used for specific species where appropriate during the required or recommended time of year. For all other target (special-status) species, prior to initiating surveys, survey methods shall be verified and approved in writing by CDFW and USFWS or NMFS for all state- and/or federally-protected species, respectively. If special-status species are detected, the project-specific restoration plan should be designed to minimize impacts to special-status wildlife to the greatest extent feasible and a Wildlife Avoidance Plan shall be prepared and approved by CDFW and USFWS or NMFS prior to commencement of construction. The Wildlife Avoidance Plan shall include specific species minimization and avoidance measures, measures to minimize impacts to occupied habitat, such as avoidance and revegetation, as well as relocation/translocation protocols. The plan shall require that a qualified biological monitor approved by CDFW be onsite prior to and during ground and habitat disturbing activities to move special status species or other wildlife of low mobility out of harm's way that could be injured or killed by ground disturbing activities. If special-status species cannot be avoided, Incidental Take Permits from the National Marine Fisheries Service or United States Fish and Wildlife Service and California Department of Fish and Wildlife will be required. The amount of potential take shall be determined prior to design approval of each restoration area based on consultation with NMFS or USFWS and CDFW and take authorization shall be obtained prior to commencement of any ground disturbing activities. If an incidental take permit is being obtained, compensatory mitigation for the loss of occupied habitat shall be provided through purchase of credit from an existing mitigation bank, private purchase of mitigation lands, or on-site preservation, as approved by the resource agencies. Compensatory mitigation shall be provided at a minimum 1:1 ratio to reduce potential effects to less-than-significant levels.	Written verification; submittal of Wildlife Avoidance Plan (if needed)	Prior to LCWA's approval of the project plans or publication of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife United States Fish and Wildlife Service National Marine Fisheries Service
Mitigation Measure BIO-9: Revegetation of Sensitive Natural Communities. Sensitive natural communities located on the program area include: *Anemopsis californica – Helianthus nuttallii – Solidago spectabilis* Herbaceous Alliance, *Arthrocnemum subterminale* Herbaceous Alliance, *Baccharis salicina* Provisional Shrubland Alliance, *Cressa truxillensis – Distichlis spicata* Herbaceous Alliance, *Frankenia salina* Herbaceous Alliance, *Isocoma*	Written verification; submittal of a Mitigation, Maintenance and Monitoring Program	Prior to LCWA's approval of project plans or publication of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
menziesii Shrubland Alliance, *Leymus cinereus – Leymus triticoides* Herbaceous Alliance, *Salicornia pacifica* Herbaceous Alliance, *Salix gooddingii* Woodland Alliance, *Schoenoplectus californicus – Typha (angustifolia, domingensis, latifolia)* Herbaceous Alliance and *Spartina foliosa* Herbaceous Alliance. Prior to LCWA's approval of project plans or publication of subsequent CEQA documents, the area(s) that will be impacted shall be delineated and quantified using current Global Information System (ArcGIS) mapping software. Sensitive Natural Communities that will be impacted by the proposed program shall be created within the program area at a minimum ratio of 1:1 (area created:area impacted). A mitigation ratio of a minimum 2:1 for natural communities with a rarity ranking of S3 or higher will be incorporated into the restoration designs. Restored Sensitive Natural Communities shall consist of a minimum 60 percent absolute vegetation cover and shall include community-specific growing conditions, such as, similar slope, aspect, elevation, soil, and salinity. Moreover, soils within mudflat areas shall be salvaged (where feasible) for areas that are proposed for activities such as grading, and reintroduced in new mudflat and/or wetland areas that will be created. A Mitigation, Maintenance and Monitoring Program shall be prepared and approved by CDFW prior to implementation. The Program shall be implemented by a qualified restoration ecologist, and at a minimum, shall include success criteria and performance standards for measuring the establishment of Sensitive Natural Communities, responsible parties, maintenance techniques and schedule, 5-year monitoring and reporting schedule, adaptive management strategies, and contingencies.			and Wildlife
Mitigation Measure BIO-10: Jurisdictional Resources Permitting. Prior to LCWA's approval of project plans or publication of subsequent CEQA documents, a jurisdictional delineation report shall be prepared that describes these jurisdictional resources and the extent of jurisdiction under the USACE, RWQCB, CDFW, and CCC. If it is determined during final siting that jurisdictional resources cannot be avoided, the project applicant shall be subject to provisions as identified below: 1. If avoidance is not feasible, prior to ground disturbance activities that could impact these aquatic features, the project applicant shall file the required documentation and receive the following. a. Nationwide Permit or equivalent permit issued from USACE; b. Water Quality Certification issued from the Los Angeles RWQCB; c. Streambed Alteration Agreement issued from CDFW; and d. Coastal Development Permit issued from CCC. 2. Compensatory mitigation for impacts to jurisdictional resources is not anticipated as the proposed program's goal is the restoration and expansion of coastal salt marsh within the proposed program. 3. The project proponent shall comply with the mitigation measures detailed in permits issued from the USACE, RWQCB, CDFW, and CCC.	Written verification	Prior to LCWA's approval of project plans or publication of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife United States Army Corps of Engineers Regional Water Quality Control Board
Mitigation Measure BIO-11: Monitoring and Adaptive Management Plan. In conjunction with Section 3.8, *Hydrology and Water Quality*, a Monitoring and Adaptive Management Plan (MAMP) shall be prepared and implemented prior to commencement of construction	Written verification; submittal of Monitoring and Adaptive	Prior to commencement of construction activities	City of Long Beach City of Seal Beach

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
or restoration activities. The MAMP shall provide a framework for monitoring site conditions in response to the proposed program implementation. The MAMP shall include provisions for conducting a pre-construction survey to collect baseline data for existing wetland function. The MAMP shall require that monitoring focus on the functional wetland values as well as sediment quality in areas subject to the greatest deposition from storm events and that are also not subject to regular tidal flushing, (e.g., the southwestern corner of the Long Beach Property site). The MAMP shall identify habitat functions, such as biotic structure and hydrology, that shall be monitored as part of the proposed program's monitoring and reporting requirements. The MAMP shall identify sediment quality monitoring requirements that shall be performed at a frequency that would capture the potential build-up of contaminants in the deposited sediment before concentration are reached that would impact benthic macro-invertebrates and other sensitive species. The MAMP shall require that the findings of the monitoring efforts be used to identify any source of functional loss of wetlands and water quality impairment, and if discovered, provide measures to improve wetland function and for remediation of the sediment source area(s). Upon completion of restoration activities, the proposed program shall demonstrate a no net loss of aquatic resource functions and demonstrate an increase in wetland functions and values throughout the entire site. The MAMP shall be submitted for review and approval to responsible permitting agencies prior to commencement of construction or restoration activities.	Management Plan		California Coastal Commission
Cultural Resources			
Mitigation Measure CUL-1: Cultural Resources Personnel Professional Qualifications Standards. Cultural resources consulting staff shall meet, or be under the direct supervision of an individual meeting, the minimum professional qualifications standards (PQS) set forth by the Secretary of the Interior (SOI) (codified in 36 Code of Federal Regulations [CFR] Part 61; 48 FR 44738-44739).	Included in construction contractor's scope of work and agreements; written verification	By LCWA prior to the commencement of construction.	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL-2: Historic Resources Assessment. For each near-term, mid-term, and long-term project, LCWA shall retain an SOI-qualified architectural historian (Qualified Architectural Historian) to conduct a historic resources assessment including: a records search at the South Central Coastal Information Center; a review of pertinent archives and sources; a pedestrian field survey; recordation of all identified historic resources on California Department of Parks and Recreation 523 forms; and preparation of a technical report documenting the methods and results of the assessment. The report(s) shall be submitted to LCWA for review and approval prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Architectural Historian shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its completion. A Historic Resources Assessment shall not be required for any project site that has already undergone the same or similar assessment as part of the program as long as the assessment is deemed adequate by the Qualified Architectural Historian for the purposes of the project currently under consideration.	Written verification, submittal of assessment	By LCWA prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL-3: Historic Resources Evaluation. Prior to LCWA's approval of project plans or the publication of subsequent CEQA documents for any project site containing unevaluated historic resources, a Qualified Architectural Historian shall	Written verification, submittal of evaluation	By the LCWA prior to approval of project plans or preparation	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
determine if the project has the potential to result in adverse impacts to identified historic resources. For any historic resource that may be adversely impacted, the Qualified Architectural Historian shall evaluate the resource for listing in the California Register under Criteria 1-4 in order to determine if the resource qualifies as a historical resource. If a historic resource is found eligible, the Qualified Architectural Historian shall determine if the project would cause a substantial adverse change in the significance of the resource. If a substantial adverse change would occur (i.e., the project would demolish the resource or materially alter it in an adverse manner), the Qualified Architectural Historian shall develop appropriate mitigation measures to be incorporated into subsequent CEQA documents. These measures may include, but would not be limited to, relocation, HABS/HAER/HALS documentation, development and implementation of an interpretative and commemorative program, or development and implementation of a salvage plan. All evaluations and resulting technical reports shall be completed and approved by LWCA prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Architectural Historian shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its acceptance by LCWA.		of subsequent CEQA documents.	
Mitigation Measure CUL-4: Archaeological Resources Assessment. For each near-term, mid-term, and long-term project that involves ground disturbance, LCWA shall retain an SOI-qualified archaeologist (Qualified Archaeologist) to conduct an archaeological resources assessment including: a records search at the South Central Coastal Information Center; a Sacred Lands File search at the Native American Heritage Commission; updated geoarchaeological review incorporating previously unavailable data (such as geotechnical studies); a pedestrian field survey; recordation of all identified archaeological resources on California Department of Parks and Recreation 523 forms; and preparation of a technical report. The technical report shall: document the methods and results of the study; provide an assessment of the project's potential to encounter subsurface archaeological resources and human remains based on a review of the project plans, depth of proposed ground disturbance, and available project-specific geotechnical reports; and provide recommendations as to whether additional studies are warranted (i.e., Extended Phase I presence/absence testing or resource boundary delineation, Phase II testing and evaluation). The report(s) shall be submitted to LCWA for review and approval prior to approval of project plans or publication of subsequent CEQA documents. The Qualified Archaeologist shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its completion. An Archaeological Resources Assessment shall not be required for any project site that has already undergone the same or similar assessment as part of the program as long as the assessment is deemed adequate by the Qualified Archaeologist for the purposes of the project currently under consideration.	Written verification, submittal of report	By LCWA, prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL-5: Extended Phase I Archaeological Investigation. Prior to LCWA's approval of project plans or the publication of subsequent CEQA documents for any project with a high potential to encounter subsurface archaeological resources as determined by the project-specific archaeological resources assessment conducted under Mitigation Measure CUL-4: Archaeological Resources Assessment, a Qualified Archaeologist shall conduct an Extended Phase I investigation to identify the presence/absence of subsurface archaeological resources. Prior to the initiation of field	Written verification, submittal of report	By LCWA, prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
work for any Extended Phase I investigation, the Qualified Archaeologist shall prepare a work plan outlining the investigation's objectives, goals, and methodology (e.g., field and lab procedures, collection protocols, curation and reporting requirements, Native American input/monitoring, schedule, security measures). For investigations related to Native American archaeological resources, monitoring shall be required in accordance with Mitigation Measures CUL-13: Native American Monitoring. All work plans shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects or grave goods (i.e., artifacts associated with human remains) are encountered in accordance with Mitigation Measure CUL-18: Human Remains Discoveries. Disposition of archaeological materials recovered during Extended Phase I investigations shall be in accordance with Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials. Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with Mitigation Measure CUL-18: Human Remains Discoveries. Projects occurring within the same timeframe may be covered by one overarching work plan. All investigations and resulting technical reports shall be completed and approved by LCWA prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Archaeologist shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its acceptance by LCWA. An Extended Phase I investigation shall not be required for any project site or resource that has already undergone the same or similar investigation as part of the program as long as the investigation is deemed adequate by the Qualified Archaeologist for the purposes of the project currently under consideration.			
Mitigation Measure CUL-6: Phase II Archaeological Investigation. Prior to LCWA's approval of project plans or the publication of subsequent CEQA documents for any project site containing known unevaluated archaeological resources as identified by the project-specific archaeological resources assessment conducted under Mitigation Measure CUL-4: Archaeological Resources Assessment, a Qualified Archaeologist shall determine if the project has the potential to result in adverse impacts to identified archaeological resources (this may include initial Extended Phase I testing to identify the boundaries of resources, if necessary to properly assess potential impacts, following the procedures outlined under Mitigation Measure CUL-5: Extended Phase I Archaeological Investigation). For any archaeological resource that may be adversely impacted, the Qualified Archaeologist shall conduct Phase II testing and shall evaluate the resource for listing in the California Register under Criteria 1-4 in order to determine if the resource qualifies as a historical resource. LCWA shall consider the significance of the resource to Native American groups prior to requiring any Phase II subsurface testing. If the resource does not qualify as a historical resource, it shall then be considered for qualification as a unique archaeological resource. Native American or prehistoric archaeological resources shall also be considered as contributors to the tribal landscape to determine if they contribute to the significance of the landscape. Prior to the initiation of field work for any Phase II investigation, the Qualified Archaeologist shall prepare a work plan outlining the investigation's objectives, goals, and methodology (e.g., research design, field and lab procedures, collection protocols, data requirements/thresholds, evaluation criteria, curation and reporting requirements, Native American input/monitoring, schedule, security measures). The Qualified Archaeologist and LCWA shall coordinate with participating Native American Tribes during preparation of Phase II work plans related to Native American archaeological resources to ensure cultural	Written verification, submittal of report	By LCWA, prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
values ascribed to the resources, beyond those that are scientifically important, are considered in the evaluation, including those related to the tribal cultural landscape. For investigations related to Native American archaeological resources, Native American Tribal coordination and monitoring shall be required in accordance with Mitigation Measures CUL-12: Native American Coordination and CUL-13: Native American Monitoring. All work plans shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects or grave goods (i.e., artifacts associated with human remains) are encountered in accordance with Mitigation Measure CUL-18: Human Remains Discoveries. Disposition of archaeological materials recovered during Extended Phase I or Phase II investigations shall be in accordance with Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials. Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with Mitigation Measure CUL-18: Human Remains Discoveries. Projects occurring within the same timeframe may be covered by one overarching work plan. All investigations and resulting technical reports shall be completed and approved by LWCA prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Archaeologist shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its acceptance by LCWA.			
Mitigation Measure CUL-7: Avoidance and Preservation in Place of Archaeological Resources. In the event historical resources or unique archaeological resources or resources that contribute to the significance of the tribal cultural landscape are identified, avoidance and preservation in place shall be the preferred manner of mitigating impacts to such resources. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. If avoidance is determined by the LCWA to be infeasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations, then that resource shall be subject to Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**.** If avoidance and preservation in place of a resource is determined by LCWA to be feasible, then that resource shall be subject to Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan.	Field verification, written report	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan. A Qualified Archaeologist shall prepare a Phase III Archaeological Resources Data Recovery and Treatment Plan for significant archaeological resources (i.e., resources that qualify as historical resources or unique archaeological resources or that contribute to the significance of the tribal cultural landscape) that will be adversely impacted by a project. Consistent with *CEQA Guidelines* Section 15126.4, data recovery shall not be required for a historical resource if LCWA determines that testing or studies already completed have adequately recovered the scientifically consequential information for resources eligible under California Register Criterion 4. The Qualified Archaeologist and LCWA shall consult	Written verification, submittal of plan	By LCWA, prior to the start of field work for data recovery efforts for resources that are eligible under California Register Criterion 4 (data potential).	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
with interested Native American Tribes for recovery/treatment of Native American archaeological resources during preparation of the plan(s) to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered in assessing treatment, including those related to the tribal cultural landscape. Projects occurring within the same timeframe may be covered by one overarching plan. The plan(s) shall be submitted to LCWA for review and approval prior to the start of field work for data recovery efforts for resources that are eligible under California Register Criterion 4 (data potential). Data recovery field work shall be completed prior to the start of any project-related ground disturbance. Treatment for archaeological resources that are eligible under California Register Criterion 1 (events), Criterion 2 (persons), or Criterion 3 (design/workmanship) shall be completed within 3 years of completion of the project. Each plan shall include: a. *Research Design.* The plan shall outline the applicable cultural context(s) for the region, identify research goals and questions that are applicable to each resource or class of resources, and list the data needs (types, quantities, quality) required to answer each research question. The research design shall address all four California Register Criteria (1–4) and identify the methods that will be required to inform treatment, such as subsurface investigation, documentary/archival research, and/or oral history, depending on the nature of the resource. The research design shall also include consideration of Native American or prehistoric archaeological resources as contributors to the tribal cultural landscape. b. *Data Recovery for Resources Eligible under Criterion 4.* The plan shall outline the field and laboratory methods to be employed, and any specialized studies that will be conducted, as part of the data recovery effort for resources that are eligible under California Register Criterion 4 (data potential). If a resource is eligible under additional criteria, treatment beyond data recovery shall be implemented (see CUL-6c). c. *Treatment for Resources Eligible under Criteria 1, 2, or 3.* In the event a resource is eligible under California Register Criterion 1 (events), Criterion 2 (persons), or Criterion 3 (design/workmanship), then resource-specific treatment shall be developed to mitigate project-related impacts to the degree feasible. This could include forms of documentation, interpretation, public outreach, ethnographic and language studies, publications, and educational programs, depending on the nature of the resource, and may require the retention of additional technical specialists. Treatment measures shall be generally outlined in the plan based on existing information on the resource. Once data recovery is completed and the results are available to better inform resource-specific treatment, the treatment measures shall be formalized and implemented. Treatment shall be developed by the Qualified Archaeologist in consultation with LCWA and Native American Tribal representatives for resources that are Native American in origin, including those related to the tribal cultural landscape. d. *Security Measures.* The plan shall include recommended security measures to protect archaeological resources from vandalism, looting, and non-intentionally damaging activities during field work. e. *Procedures for Discovery of Human Remains and Associated Funerary Objects or Grave Goods.* The plan shall outline the protocols and procedures to be followed in the event *that* human remains and associated funerary objects or grave goods are			

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
uncovered. Protocols and procedures shall be in accordance with Mitigation Measure CUL-18: Human Remains Discoveries. f. *Reporting Requirements.* Upon completion of data recovery for resources eligible under Criterion 4, the Qualified Archaeologist shall document the findings in an Archaeological Data Recovery Report. The draft Archaeological Data Recovery Report shall be submitted to the LCWA within 360 days after completion of data recovery, and the final Archaeological Data Recovery Report shall be submitted to LCWA within 60 days after the receipt of LCWA comments. The Qualified Archaeologist shall submit the final Archaeological Data Recovery Report to the South Central Coastal Information Center within 30 days of its acceptance by LCWA. Upon completion of all other treatment for resources eligible under Criteria 1, 2, or 3, the Qualified Archaeologist shall document the resource-specific treatment that was implemented for each resource and verification that treatment has been completed in a technical document (report or memorandum). The document shall be provided to LCWA within 30 days after completion of treatment. g. *Curation or Disposition of Cultural Materials.* The plan shall outline the requirements for final *disposition* of all cultural materials collected during data recovery. Disposition of all archaeological materials shall be in accordance with Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials**.** Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with Mitigation Measure CUL-18: Human Remains Discoveries**.**			
h. *Protocols for Native American Coordination and Monitoring.* The plan shall outline the role and responsibilities of Native American Tribal representatives in *accordance* with Mitigation Measure CUL-12: Native American Coordination**.** It shall outline communication protocols, timelines for review of archaeological resources documents, and provisions for Native American monitoring. The plan shall include provisions for full-time Native American monitoring of all data recovery field work for resources that are Native American in origin, including those related to the tribal cultural landscape, in accordance with Mitigation Measure CUL-13: Native American Monitoring**.**			
Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan. For each near-term, mid- term, and long-term project that involves ground disturbance, a Qualified Archaeologist shall prepare an Archaeological Resources Mitigation and Monitoring Plan taking into account the final LCWA-approved project design plans, depths/locations of ground disturbance, proximity to known archaeological resources, and potential to encounter subsurface archaeological resources. Projects occurring within the same timeframe may be covered by one overarching plan. The Qualified Archaeologist and LCWA shall coordinate with participating Native American Tribes during preparation of the plan(s). Each plan shall include: a. *Establishment of Environmentally Sensitive Areas.* The plan shall outline areas that will be designated Environmentally Sensitive Areas (including maps), if needed. Significant or unevaluated *archaeological* resources that are being avoided and are within 50 feet of the construction zone shall be designated as Environmentally Sensitive Areas. The resources shall be *delineated* with exclusion markers to ensure avoidance. These	Written verification, submittal of plan	By the LCWA, prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
areas shall not be marked as archaeological resources, but shall be designated as "exclusion zones" on project plans and protective fencing in order to discourage unauthorized disturbance or collection of artifacts. b. *Provisions for Archaeological Monitoring.* The plan shall outline requirements for archaeological monitoring and the archaeological monitor(s) role and responsibilities in accordance with Mitigation Measure CUL-11: Archaeological Resources Monitoring. Ground disturbance in locations/depths that have been previously monitored as part of the program shall not be subject to additional monitoring. c. *Procedures for Discovery of Archaeological Resources.* Procedures to be implemented in the event of an archaeological discovery shall be fully defined in the plan and shall be in accordance with Mitigation Measure CUL- 14: Archaeological Resources Discoveries. Procedures outlined shall include stop-work and protective measures, notification protocols, procedures for significance assessments, and appropriate treatment measures. The plan shall state avoidance or preservation in place is the preferred manner of mitigating impacts to historical resources, unique archaeological resources, and contributors to the significance of the tribal cultural landscape, but shall provide procedures to follow should avoidance be infeasible in light of factors such as the nature of the find, project design, costs, and other considerations. If, based on the recommendation of a Qualified Archaeologist, it is determined that a discovered archaeological resource constitutes a historical resource or unique archaeological resource or is a contributor to the significance of the tribal cultural *landscape*, then *avoidance* and preservation in place shall be the preferred manner of mitigating impacts to such a resource in accordance with Mitigation Measure CUL-7: Avoidance and Preservation in Place of Archaeological Resources. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Data Recovery and Treatment Plan shall be prepared and implemented following the procedures outlined in Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan. LCWA shall consult with appropriate Native American representatives in determining treatment of resources that are Native American in origin to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered, including those related to the tribal cultural landscape.			
d. *Procedures for Discovery of Human Remains and Associated Funerary Objects or Grave Goods.* The plan shall outline the protocols *and* procedures to be followed in the event that *human* remains and associated funerary objects or grave goods are uncovered. Protocols and procedures shall be in accordance with Mitigation Measure CUL-18: Human Remains Discoveries. e. *Reporting Requirements.* The plan shall outline provisions for weekly and final reporting. The Qualified Archaeologist shall prepare weekly status reports detailing activities and locations observed (including maps) and summarizing any discoveries for the duration of monitoring to be submitted to LCWA via email for each week in which monitoring activities occur. The Qualified Archaeologist shall prepare a draft Archaeological Resources Monitoring Report and submit it to LCWA within 180 days after completion of the monitoring program or treatment for significant discoveries should treatment extend			

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
beyond the cessation of monitoring. The final Archaeological Resources Monitoring Report shall be submitted to LCWA within 60 days after receipt of LCWA comments. The Qualified Archaeologist shall also submit the final Archaeological Resources Monitoring Report to the South Central Coastal Information Center. f. *Curation or Disposition of Cultural Materials.* The plan shall outline the requirements for final disposition of all cultural materials collected during data recovery. Disposition of all archaeological materials shall be in accordance with Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials. Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with Mitigation Measure CUL-18: Human Remains Discoveries. g. *Protocols for Native American Coordination and Monitoring.* The plan shall outline requirements for Native American coordination and monitoring, and the Native American monitor(s) role and responsibilities in accordance with Mitigation Measures CUL-12: Native American Coordination and CUL-13: Native American Monitoring**.**			
Mitigation Measure CUL-10: Construction Worker Cultural Resources Sensitivity Training. For each near- term, mid-term, and long-term project that involves ground disturbance, LCWA shall retain a Qualified Archaeologist to implement a cultural resources sensitivity training program. The Qualified Archaeologist, or their designee, and a Native American representative shall instruct all construction personnel of the importance and significance of the area as a tribal cultural landscape, the types of archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains, confidentiality of discoveries, and safety precautions to be taken when working with cultural resources monitors. In the event that construction crews are phased, additional trainings shall be conducted for new construction personnel. LCWA or their contractors shall ensure construction personnel are made available for and attend the training. LCWA shall retain documentation demonstrating attendance.	Included in construction contractor's scope of work; written verification	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL-11: Archaeological Resources Monitoring. For each near-term, mid-term, and long-term project, full-time archaeological monitoring of ground disturbance (i.e., demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) shall be conducted in areas and at depths where there is a potential to encounter archaeological materials or human remains, including excavations into existing artificial fill and native soils, based on the project-specific archaeological resources assessment prepared under Mitigation Measure CUL-4: Archaeological Resources Assessment. Ground disturbance in locations/depths that have been previously monitored as part of the program shall not be subject to additional monitoring. The archaeological monitor(s) shall be familiar with the types of resources that could be encountered and shall work under the direct supervision of a Qualified Archaeologist. The number of archaeological monitors required to be on site during ground-disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed.	Field verification	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
Generally, work areas more than 500 feet from one another will require additional monitors. The archaeological monitor(s) shall keep daily logs detailing the types of activities and soils observed, and any discoveries. Archaeological monitor(s) shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance and treatment implemented, if necessary, based on the recommendations of the Qualified Archaeologist in coordination with LCWA, and the Native American representatives in the event the resource is Native American in origin, and in accordance with the protocols and procedures outlined in Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**.** Reporting of archaeological monitoring shall be conducted in accordance with the provisions outlined in Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan.			
Mitigation Measure CUL-12: Native American Coordination. LCWA shall seek input from participating Native American Tribes during the preparation of documents required under Mitigation Measures CUL-5: Extended Phase I Archaeological Investigation**,** CUL-6: Phase II Archaeological Investigation**,** CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**,** Mitigation Measure CUL 9: Archaeological Resources Monitoring and Mitigation Plan, and CUL-14: Archaeological Resources Discoveries**,** including but not limited to work plans, research designs, treatment plans, and associated technical reports. LCWA shall provide participating Native American Tribes with electronic copies of draft documents and afford them 30 days from receipt of a document to review and comment on the document. Native American comments will be provided in writing for consideration by LCWA. LCWA shall document comments and how the comments were/were not addressed in a tracking log.	Written verification	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL-13: Native American Monitoring. For each near-term, mid-term, and long-term project, full-time Native American monitoring of ground disturbance (i.e., demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) shall be conducted in areas and at depths where there is a potential to encounter archaeological materials or human remains, including excavations into existing artificial fill and native soils, based on the project-specific study prepared under Mitigation Measure CUL-4: Archaeological Resources Assessment. LCWA shall retain a Native American monitor(s) from a California Native American Tribe that is culturally and geographically affiliated with the program area (according to the California Native American Heritage Commission) to conduct the monitoring. If more than one Tribe is interested in monitoring, LCWA shall contract with each Tribe that expresses interest and prepare a monitoring rotation schedule. LCWA shall rotate monitors on an equal and regular basis to ensure that each Tribal group has the same opportunity to participate in the monitoring program. If a Tribe cannot participate when their rotation comes up, they shall forfeit that rotation unless LCWA can make other arrangements to accommodate their schedule. The number of Native American monitors required to be on site during ground disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another require additional monitors. Native	Written verification, field verification	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
American monitors shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance. The Native American monitor(s) shall also monitor all ground disturbance related to subsurface investigations and data recovery efforts conducted under Mitigation Measures CUL-5: Extended Phase I Archaeological Investigation**,** CUL-6: Phase II Archaeological Investigation**,** and CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan for any resources that are Native American in origin, according to the rotation schedule, including those related to the tribal cultural landscape.			
Mitigation Measure CUL-14: Archaeological Resources Discoveries. In the event archaeological resources are encountered during construction of the proposed program, all activity in the vicinity of the find shall cease (within 100 feet), and the protocols and procedures for discoveries outlined in Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan shall be implemented. The discovery shall be evaluated for potential significance by the Qualified Archaeologist. If the Qualified Archaeologist determines that the resource may be significant (i.e., meets the definition for historical resource in *CEQA Guidelines* subdivision 15064.5(a) or for unique archaeological resource in PRC subdivision 21083.2(g) or is a contributor to the tribal cultural landscape), the Qualified Archaeologist shall develop an Archaeological Resources Data Recovery and Treatment Plan for the resource following the procedures outlined in Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**.** When assessing significance and developing treatment for resources that are Native American in origin, including those related to the tribal cultural landscape, the Qualified Archaeologist and LCWA shall consult with the appropriate Native American representatives. The Qualified Archaeologist shall also determine if work may proceed in other parts of the project site while data recovery and treatment is being carried out. LCWA shall consult with the State Lands Commission Staff Attorney regarding any cultural resources discoveries on state lands. The final disposition of archaeological, historical, and paleontological resources recovered on State land under the jurisdiction of the California State Lands Commission must be approved by the Commission.	Field verification	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL 15: Curation and Disposition of Cultural Materials. LCWA shall curate all Native American archaeological materials, with the exception of funerary objects or grave goods (i.e., artifacts associated with Native American human remains). LCWA shall consult with Native American representatives regarding the final disposition of Native American archaeological materials and on the selection of the curation facility, with preference given to tribal museums. LCWA shall first consider repositories that are accredited by the American Association of Museums and that meet the standards outlined in 36 CFR 79.9. If a suitable accredited repository is not identified, then LCWA shall consider non-accredited repositories as long as they meet the minimum standards set forth by 36 CFR 79.9. If a suitable non-accredited repository is not identified, then LCWA shall donate the collection to a local California Native American Tribe(s) (Gabrielino or Juañeno) for educational purposes. Disposition of Native American human remains and associated funerary objects or grave goods shall be determined by the landowner in consultation with LCWA and the Most Likely Descendant in accordance with Mitigation Measure CUL 18: Human Remains Discoveries.	Written verification, submittal of curation agreement	By LCWA prior to the start of each project	City of Long Beach City of Seal Beach California Coastal Commission California State Lands Commission

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
LCWA shall curate all historic-period archaeological materials that are not Native American in origin at a repository accredited by the American Association of Museums that meets the standards outlined in 36 CFR 79.9. If no accredited repository accepts the collection, then LCWA may curate it at a non-accredited repository as long as it meets the minimum standards set forth by 36 CFR 79.9. If neither an accredited nor a non-accredited repository accepts the collection, then LCWA shall offer the collection to a public, non-profit institution with a research interest in the materials, or to a local school or historical society in the area for educational purposes. If no institution, school, or historical society accepts the collection, LCWA may retain it for on-site display as part of its interpretation and educational elements. The final disposition of cultural resources recovered on state lands under the jurisdiction of the California State Lands Commission must be approved by the Commission. Prior to start of each project, LCWA shall obtain a curation agreement and shall be responsible for payment of fees associated with curation for the duration of the program.			
Mitigation Measure CUL16: Future Native American Input. LCWA shall consult with participating California Native American Tribes, to the extent that they wish to participate, during future design of project-level components, plant and native plant selections or palettes, and development of content for educational and interpretative elements, such as signage and Visitors Center displays.	Written verification	By LCWA prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL17: Tribal Access Plan. Prior to the start of construction, LCWA shall develop a written access plan to preserve and enhance tribal members' access to, and use of, the restoration project area for religious, spiritual, or other cultural purposes. This plan will allow access to the extent LCWA has the authority to facilitate such access, and be consistent with existing laws, regulations, and agreements governing property within the program area. The access plan may place restrictions on access into certain areas, such as oil operations and other exclusive easements the LCWA does not have access rights to. This access plan shall be developed in coordination with participating California Native American Tribes, to the extent that they wish to participate.	Written verification, submittal of access plan	By LCWA prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL-18: Human Remains Discoveries: If human remains are encountered, then LCWA or its contractor shall halt work in the vicinity (within 100 feet) of the discovery and contact the appropriate County Coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5, which requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the County Coroner determines the remains are Native American, then the Coroner will notify the California Native American Heritage Commission (NAHC) within 24 hours in accordance with Health and Safety Code subdivision 7050.5(c), and Public Resources Code Section 5097.98. The California Native American Heritage Commission shall then identify the person(s) thought to be the Most Likely Descendant (MLD). The MLD may, with the permission of the land owner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted	Field verification; written verification	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. LCWA and the landowner shall discuss and confer with the MLD on all reasonable options regarding the MLD's preferences for treatment. Until LCWA and the landowner have conferred with the MLD, the contractor shall ensure that the immediate vicinity where the discovery occurred is not disturbed by further activity and is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials. If the NAHC is unable to identify an MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the facility property in a location not subject to further and future subsurface disturbance.			
Geology and Soils			
Mitigation Measure GEO-1: Retention of a Qualified Professional Paleontologist. Prior to the start of construction of any near-term, mid-term, or long-term project, LCWA shall retain a Qualified Professional Paleontologist as defined by the Society of Vertebrate Paleontology to carry out all mitigation related to paleontological resources including: project-level review (Mitigation Measure GEO-2); paleontological resources sensitivity training (GEO-3); oversight of paleontological resources monitoring (Mitigation Measure GEO-4); and recovery, treatment, analysis, curation, and reporting (Mitigation Measures GEO-5**,** GEO-6**,** and GEO-7).	Included in construction contractor's scope of work; written verification	By LCWA prior to the commencement of construction.	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure GEO-2: Project-Level Paleontological Resources Review and Monitoring Recommendations. Prior to LCWA approval of any near-term, mid-term, and long- term project, the Qualified Professional Paleontologist shall review the *Los Cerritos Wetlands Program Paleontological Resources Assessment* (ESA, 2019), grading plans, and any available geotechnical reports/data to determine the potential for ground disturbance to occur within older alluvium and old shallow marine deposits. If available data is sufficient to accurately determine the depth of older alluvium and old shallow marine deposits within a project site, monitoring shall be required beginning at or just above that depth. If available data is insufficient to determine the depth of older alluvium and old shallow marine deposits, monitoring shall be required beginning at 5 feet below surface (consistent with the accepted depth at which high sensitivity sediments could occur based on regional evidence). The results of the reviews shall be documented in technical memoranda to be submitted to LCWA prior to the start of ground disturbance, along with recommendations specifying the locations, depths, duration, and timing of any required monitoring. The technical memoranda shall include map figures that outline where monitoring is required and at what depths, and shall stipulate whether screen washing is necessary to recover small specimens. Any required screen washing shall follow SVP Guidelines.	Written verification, submittal of technical memoranda	By LCWA, prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
Mitigation Measure GEO-3: Paleontological Resources Sensitivity Training. Prior to the start of ground disturbance for any near-term, mid-term, or long-term project, the Qualified Professional Paleontologist shall conduct paleontological resources sensitivity training. The training shall focus on the recognition of the types of paleontological resources that could be encountered within the program area, the procedures to be followed if they are found, confidentiality of discoveries, and safety precautions to be taken when working with paleontological monitors. LCWA shall ensure that construction personnel are made available for and attend the training, and retain documentation demonstrating attendance. The training should be repeated as necessary for incoming construction personnel.	Written verification	By LCWA prior to commencement of ground disturbance and continuously during construction.	City of Long Beach City of Seal Beach and/or California Coastal Commission
Mitigation Measure GEO-4: Paleontological Resources Monitoring. A qualified paleontological monitor, as defined by the Society of Vertebrate Paleontology, shall monitor all ground-disturbing activities occurring in the older alluvium and old shallow marine deposits for each near term, mid-term, or long-term project. Monitoring shall be implemented consistent with the locations, depths, duration, and timing recommendations specified in the technical memorandum for the project. Monitors shall work under the direction of the Qualified Professional Paleontologist. The number of monitors required to be on site during ground-disturbing activities shall be determined by the Qualified Professional Paleontologist and shall be based on the construction scenario – specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working – with the goal of monitors being able to effectively observe sediments as they are exposed. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens, and to request assistance from construction equipment operators to recover samples for screen washing as necessary. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The Qualified Professional Paleontologist, in consultation with LCWA, shall have the ability to modify (i.e., increase, reduce, or discontinue) monitoring requirements based on observations of soil types and frequency of discoveries. Requests for modifications shall be submitted in writing to LCWA for approval prior to implementation.	Written verification	By LCWA, prior to the commencement of ground disturbing activities and continuously during construction.	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure GEO-5: Paleontological Discoveries. If any potential fossils are discovered by paleontological resources monitors or construction personnel, all work shall cease at that location (within 100 feet) until the Qualified Professional Paleontologist has assessed the discovery and made recommendations as to the appropriate treatment. The paleontological resources monitor (if one is present) or construction personnel (if a monitor is not present) shall flag the fossiliferous area for avoidance until the Qualified Professional Paleontologist can evaluate the discovery and develop plans for avoidance or removal/salvage of the specimen(s), if deemed significant. Significant discoveries shall be salvaged following SVP Guidelines. LCWA shall consult with the State Lands Commission Staff Attorney regarding any paleontological resources discoveries on state lands.	Field verification; written verification	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission California State Lands Commission
Mitigation Measure GEO-6: Preparation, Identification, Cataloging, and Curation Requirements. All significant fossil discoveries shall be prepared to the point of	Field verification; written verification, signed	By LCWA continuously	City of Long Beach City of Seal Beach

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
identification to the lowest taxonomic level possible, cataloged, and curated into a certified repository with retrievable storage (such as a museum or university). All GPS data, field notes, photographs, locality forms, stratigraphic sections, and other data associated with the recovery of the specimens shall be deposited with the institution receiving the specimens. The Qualified Professional Paleontologist shall be responsible for obtaining a signed curation agreement from a certified repository in southern California prior to the start of the program. Given the length of the program, multiple agreements may be necessary due to changing capacities of repositories. The final disposition of paleontological resources recovered on state lands under the jurisdiction of the California State Lands Commission must be approved by the Commission.	curation agreement	throughout construction	California Coastal Commission California State Lands Commission
Mitigation Measure GEO-7: Reporting Requirements. The Qualified Professional Paleontologist shall prepare weekly status reports detailing activities and locations observed (with maps) and summarizing any discoveries to be submitted to LCWA via email for each week in which monitoring activities occur. Monthly progress reports summarizing monitoring efforts shall be prepared and submitted to LCWA for the duration of monitored ground disturbance. Reports detailing the results of monitoring for any near-term, mid-term, or long- term project and treatment of significant discoveries shall be submitted to LCWA within 120 days of completion of treatment, or within 30 days of completion of monitoring if no significant discoveries occurred. If significant fossils are recovered, the Qualified Professional Paleontologist shall file the final report with the Natural History Museum of Los Angeles County and the certified repository.	Written verification, submittal of weekly reports	By LCWA throughout the construction period in which monitoring is required.	City of Long Beach City of Seal Beach California Coastal Commission
Hazards and Hazardous Materials			
Mitigation Measure HAZ-1: Health and Safety Plan. The contractor(s) shall prepare and implement site-specific Health and Safety Plans as required by and in accordance with 29 CFR 1910.120 to protect construction workers and the public during all excavation and grading activities. This Plan shall be submitted to LCWA, the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area), or Long Beach/Signal Hill Joint Powers Authority (the CUPA for the Long Beach area), for review prior to commencement of construction. The Health and Safety Plans shall include, but are not limited to, the following elements:	Written verification, submittal of plans.	Prior to the issuance of a grading permit	City of Long Beach City of Seal Beach Orange County Environmental Health Division Long Beach/Signal Hill Joint Powers Authority
• Designation of a trained, experienced site safety and health supervisor who has the responsibility and authority to develop and implement the site Health and Safety Plan;			
• A summary of all potential risks to construction workers and maximum exposure limits for all known and reasonably foreseeable site chemicals;			
• Specified personal protective equipment and decontamination procedures, if needed;			
• Emergency procedures, including route to the nearest hospital; and			
Procedures to be followed in the event that evidence of potential soil or groundwater contamination (such as soil staining, noxious odors, debris or buried storage containers) is encountered. These procedures shall be in accordance with hazardous waste operations			

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
regulations and specifically include, but are not limited to, the following: immediately stopping work in the vicinity of the unknown hazardous materials release, notifying the LCWA, and the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area), or the Long Beach/Signal Hill Joint Powers Authority (the CUPA for the Long Beach area), the LARWQCB, or CalGEM, as appropriate, and retaining a qualified environmental firm to perform sampling and remediation.			
Mitigation Measure HAZ-2: Soil, Landfill Materials, and Groundwater Management Plan. In support of the Health and Safety Plan described in Mitigation Measure HAZ-1, the contractor(s) shall develop and implement a Soil, Landfilled Materials, and Groundwater Management Plan that includes a materials disposal plan specifying how the contractor will remove, handle, transport, and dispose of all excavated material in a safe, appropriate, and lawful manner. The Plan shall identify protocols for soil and landfilled materials testing and disposal, identify the approved disposal site, and include written documentation that the disposal site can accept the waste. Contract specifications shall mandate full compliance with all applicable federal, state, and local regulations related to the identification, transportation, and disposal of hazardous materials, including those encountered in excavated soil, landfilled materials, or dewatering effluent. As part of the Soil, Landfill Materials, and Groundwater Management Plan, the contractor shall develop a groundwater dewatering control and disposal plan specifying how groundwater (dewatering effluent), if encountered, will be handled and disposed of in a safe, appropriate and lawful manner. The Plan shall identify the locations at which groundwater dewatering is likely to be required, the test methods to analyze groundwater for hazardous materials, the appropriate treatment and/or disposal methods, and approved disposal site(s), including written documentation that the disposal site can accept the waste. The contractor may also discharge the effluent under an approved permit to a publicly owned treatment works, in accordance with any requirements the treatment works may have. The Plan will include information to address the following: In the event that any debris are encountered during excavation that could be associated with the FUDS, including but not limited to munitions and explosives of concern (MEC), material potentially presenting an explosive hazard (MPPEH), and munitions constituents (MC), follow the 3Rs of Explosives Safety; Recognize, Retreat and Report: Recognize, when you have encountered munitions; Retreat, note your location as you are backing away. Do not approach, touch, or disturb a suspect munitions, safely leave the area; and Report, immediately what was found to state and or local law enforcement – call 911. Please then notify DTSC. This Plan shall be submitted to the LCWA, and the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area), or the Long Beach/Signal Hill Joint Powers Authority (the CUPA for the Long Beach area), or the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area) for review and approval prior to commencement of construction.	Written verification, submittal of report	By the LCWA prior to the issuance of a grading permit	City of Long Beach City of Seal Beach Orange County Environmental Health Division Long Beach/Signal Hill Joint Powers Authority
Hydrology and Water Quality			
Mitigation Measure HYD-1: A Monitoring and Adaptive Management Plan (MAMP) shall be prepared and implemented prior to commencement of construction or restoration	Written verification, submittal of report	By the LCWA prior to the commencement	City of Long Beach City of Seal Beach

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
activities. The MAMP shall provide a framework for monitoring site conditions in response to the program implementation. The monitoring shall focus on sediment quality in areas subject to the greatest deposition from storm events and that are also not subject to regular tidal flushing, (e.g., the southwestern corner of the Long Beach Property site). The sediment quality monitoring shall be performed at a frequency that would capture the potential build-up of contaminants in the deposited sediment before concentration are reached that would impact benthic macro-invertebrates and other sensitive species. The findings of the monitoring efforts shall be used to identify any source of impairment, and if discovered, provide measures for remediation of the sediment source area(s). The MAMP shall be submitted for review and approval to permitting agencies prior to commencement of construction or restoration activities.		of construction	California Coastal Commission
Noise			
Noise Reduction Measure NOISE-1: Staging Areas and Mufflers. Staging areas for construction shall be located away from existing off-site residences. All construction equipment shall use properly operating mufflers. These requirements shall be included in construction contracts.	Included in construction contractor's agreements	By the LCWA prior to the commencement of construction	City of Long Beach City of Seal Beach California Coastal Commission
Noise Reduction Measure NOISE-2: Limit Grading. All grading activities shall be conducted outside of the nesting season for sensitive bird species. The nesting season has been identified as extending from March 1 to August 15. (Refer to Section 3.3 Biological Resources for more information on potential impacts to bird species and the corresponding mitigation).	Included in construction contractor's agreements	By the LCWA prior to the commencement of construction	City of Long Beach City of Seal Beach California Coastal Commission
Noise Reduction Measure NOISE-3: Noise Barriers. Where feasible, grading plans and specifications shall include temporary noise barriers for all grading, hauling, and other heavy equipment operations that would occur within 300 feet of sensitive off-site receptors and occur for more than 20 working days. The noise barriers shall be 12-feet high, but may be shorter if the top of the barrier is at least one foot above the line of sight between the equipment and the receptors. The barriers shall be solid from the ground to the top of the barrier, and have a weight of at least 2.5 pounds per square foot, which is equivalent to ¾ inch thick plywood. The barrier design shall optimize the following requirements: (1) the barrier shall be located to maximize the interruption of line-of-sight between the equipment and the receptor, which is normally at the top-of- slope when the grading area and receptor are at different elevations. However, a top-of-slope location may not be feasible if the top-of-slope is not on the project site; (2) the length and height of the barrier shall be selected to block the line-of-sight between the grading area and the receptors; (3) the barrier shall be located as close as feasible to the receptor or as close as feasible to the grading area; a barrier is least effective when it is at the midpoint between noise source and receptor.	Written verification, submittal of plans	By the LCWA prior to the issuance of a grading permit.	City of Long Beach City of Seal Beach California Coastal Commission
Public Services			
Mitigation Measure PS-1: Fire Prevention and Protection Training. Prior to the start of construction activities, the Applicant shall prepare and conduct a fire prevention and protection training for all construction personnel associated with the proposed program. Topics shall include general fire prevention practices such as avoiding smoking on the program area as well as specific preventative measures pertaining to high-fire-risk activities	Written verification	By the LCWA prior to the commencement of construction activities.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
including handling of oil and welding and cutting. Personal protection measures including the locations of fire extinguishers on the program area and site exit routes should also be disclosed to ensure construction worker safety in the event of a fire. The material for the training shall be obtained in consultation with the Orange County Fire Authority and the Long Beach Fire Department.			
Transportation			
Mitigation Measure TRA-1: Prior to the start of construction of the program component(s) that require a full or partial roadway closure, LCWA shall require the construction contractor(s) to prepare a traffic control plan. The traffic control plan will show all signage, striping, delineated detours, flagging operations and any other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the cities of Seal Beach and Long Beach and Orange and Los Angeles Counties, as applicable. The traffic control plan shall be prepared in accordance with the applicable jurisdiction's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the traffic control plan will ensure that congestion and traffic delays are not substantially increased as a result of the construction activities. Furthermore, the traffic control plan will include detours or alternative routes for bicyclists using on- street bicycle lanes as well as for pedestrians using adjacent sidewalks. LCWA shall provide written notice at least two weeks prior to the start of construction to owners/occupants along streets to be affected during construction. During construction, LCWA will maintain continuous vehicular and pedestrian access to any affected residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, LCWA shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure. The traffic control plan shall include provisions to ensure that the construction of the proposed program does not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services. LCWA shall also notify local emergency responders of any planned partial or full lane closures or blocked access to roadways or driveways required for program construction. Emergency responders include fire departments, police departments, and ambulances that have jurisdiction within the program area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow emergency response providers adequate time to prepare for lane closures.	Written verification, submittal of plan	By the LCWA construction contractor prior to the commencement of construction.	City of Long Beach City of Seal Beach California Coastal Commission
Utilities and Service Systems			
Mitigation Measure UTL-1: Water Will Serve Letter. Prior to issuance of a certificate of occupancy of the visitor center, a will serve letter will be obtained to verify that the water mains surrounding the program boundary have the capacity to serve the visitor center.	Written verification.	By the LCWA prior to issuance of a certificate of occupancy.	City of Seal Beach

Mitigation Measure	Method of Verification	Responsibility / Timing of Implementation	Enforcement Agency
Mitigation Measure UTL-2: Sewer Capacity Study. Prior to issuance of a certificate of occupancy of the visitor center, a sewer capacity study will be performed to verify that the sewer lines surrounding the program boundary have the capacity to serve the visitor center.	Written verification.	By the LCWA prior to issuance of a certificate of occupancy.	City of Seal Beach

Appendix B: Southern Los Cerritos Wetlands Restoration Project Basis of Design Components

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MEMORANDUM

To:	Eric Zahn
Cc:	Sally Gee
From:	The M&N Design Team (M&N, CRC, Anchor)
Date:	1/31/23
Subject:	Basis of Design Components
M&N Job No.:	210644

Introduction

This memorandum represents the 65% Draft Basis of Design (BOD) document. It presents the project design and its rationale for the record and for clarification of project design components. The BOD is also intended for stimulating input from the LCWA and the Technical Advisory Committee.

One over-arching goal of the design is to create a project that is self-sustaining and resilient with minimal maintenance over time. Project-specific goals are listed below.

1. Restore tidal wetland processes and functions to the maximum extent possible.

2. Maximize contiguous habitat areas and maximize the buffer between habitat and sources of human disturbance.

3. Create a public access and interpretive program that is practical, protective of sensitive habitat and ongoing oil operations, economically feasible, and will ensure a memorable visitor experience.

4. Incorporate phasing of implementation to accommodate existing and future potential changes in land ownership and usage, and as funding becomes available.

5. Strive for long-term restoration success.

6. Integrate experimental actions and research into the project, where appropriate, to inform restoration and management actions for this project.

The philosophy in the design is to minimize structures and dependence on features (mechanical items) that require active operation, maintenance and/or replacement.

Draft Basis of Design Components

1. Sources of Seawater – The project is proposed to be phased to capitalize on two sources of seawater that are available at different points in time. An existing 42-inch culvert with an invert elevation of -1.0 foot NGVD connects the site to the San Gabriel River and can serve as the seawater source in the near-term timeframe. The second seawater source is the Haynes Cooling Channel (HCC) immediately adjacent to the project site and it is assumed to be available on or after 2029. The project will be connected to the 42-inch culvert in Phase 1 and then be connected to the Haynes Cooling Channel in Phase 2. It is also assumed at this time that the existing culvert will not be relied upon as the primary tidal connection and could be closed but not permanently sealed. It could be left in place to become functional in the future if needed for any reason as a back-up water source. If the HCC cannot be obtained as a water source in the future, then the phase 2 footprint may have to be redesigned and the phasing may need to be revised (Coastal Restoration Consultants, or CRC 2021).

Different tidal conditions will exist in Phases 1 and 2 because the 42-inch culvert does not convey as much seawater as efficiently to and from the site as will the Phase 2 open channel connection. Modeling conducted for prior work (Moffatt & Nichol, or M&N 2015) and for this specific effort (M&N 2022) indicates that the existing tide range is 2.8 feet with a culvert-only connection to the SGR as Phase 1. Tidal elevations range from a high of +2.9 feet and a low of +0.1 feet. The modeling also indicates a potential tide range of nearly 8 feet with a connection to the Haynes Cooling Channel as Phase 2. This suggests that low tides in Phase 1 are limited to an elevation of approximately +0.1 foot NGVD, while it drops to nearly -3.7 feet NGVD in Phase 2.

For Phase 1, the existing culvert connection to the San Gabriel River is assumed to be used. The culvert would likely need to be cleaned out, and the gate is either:

A. Left as is – to simplify permitting and is assumed to be the most likely scenario at this point;

B. Removed entirely – could trigger extra permitting from USACE under section 408 or,

C. Replaced with a new automated device for controlling water levels such as a Self-Regulating Tide gate (SRT) – This action may also require a USACE 408 permit.

For Phase 2, it is assumed that an open channel connection to the Haynes Cooling Channel exists. Full ocean tides will be provided by this connection.

2. Tidal Channels – The current plan is based on ultimate implementation of Phase 2 with a full tide range. With the uncertainty of Phase 2 occurring, if the tide range remains constricted 2.8 feet, then the design of Phase 1 and the bed elevation of the tidal channels could be reconsidered. Low marsh habitat elevations may need to be revised if this is to be the case, but other habitat elevations should function successfully as presently designed. The tidal channel layout and sources of seawater are shown in Figure 1.

Tidal channels provide important habitat and are crucial for distributing tidal flows throughout the marsh. The smallest channels, first-order tidal creeks, are typically found throughout mid-marsh plains and are generally less than a few feet wide and deep and typically drain completely on most low tides. First-order creeks merge to form second-order tidal creeks, which are larger and deeper and may drain only on lower low tides. Second-order creeks merge to form larger third-order creeks and so on. Third-order and higher order creeks typically contain sub-tidal habitat, which is important especially for fish. Natural tidal creeks tend to be meandering due to the generally flat nature of most natural marsh plains.

The 65% engineering drawings show the largest sub-tidal channel proposed through the site to be deepened to an elevation of -4.5 feet NGVD to provide 1 foot of water in the channel at the lowest low tide in the future Phase 2. This same channel will hold nearly 4.5 feet of water in the channel at low tide in Phase 1. The goal is to keep the water in the channel cool and oxygenated in prolonged dry weather conditions. In Phase 1, tidal creeks in the areas that are set aside for minimal to no grading will generally be left to develop on their own around existing small ditches that were dug by vector control to help minimize ponding of tidal waters. These are expected to develop after the full tidal connection allows greater tidal dynamics and thus flows with more potential to cut channels. Except where the new main sub-tidal channel intersects it, the existing tidal channel through the site will remain undisturbed except where culverts will be removed, and also potentially within the experimental area. The lower part of this channel contains a diversity of native invertebrates that if preserved, will help populate the newly restored habitats more quickly than if they had to colonize from neighboring systems such as Steamshovel Slough.

3. Habitat Areas and Elevations – This project is designed to provide a diversity of quality wetland, transitional, and upland habitats on this site, considering opportunities and constraints. The layout of the habitat distribution and size of the areas was prepared to optimize the habitat function on-site. The proposed habitat plan for Phases 1 and 2 is shown in Figure 2. The entire grading plan for the site is designed for fully tidal conditions, which will occur in Phase 2. This is

done so that most areas of Phase 1 will not need to be graded twice, causing additional disturbance to developing habitats.

The result of the ultimate Phase 2 design approach is that lower elevation habitats will experience a relatively high tidal inundation frequency (wetted more often than needed) until Phase 2 is implemented. The cordgrass marsh area for instance will likely be too wet for cordgrass establishment and the entire sub-tidal channel will remain inundated in the near-term. These areas will provide mudflat and sub-tidal habitat in the near-term. At mid-marsh and high-marsh elevations, tidal muting in Phase 1 is less so it is expected that these habitats will function more or less naturally in Phases 1 and 2. The highest high tides will be muted in Phase 1 so the upper limit of the high-marsh and the transition zone will move higher between phases, but both of these habitats will still be in the establishment phase when Phase 2 is implemented. Therefore their elevation ranges will be more a product of revegetation efforts (planting and irrigating) than natural processes. Limited areas at the interface between Phases 1 and 2 will need to be graded in both phases, mainly to connect the Phase 1 sub-tidal channel with both the Haynes Channel and with the upstream extension of the main sub-tidal channel on-site..

Grading shall be done in such a way as to provide for naturalized surfaces with uneven terrain rather than artificially smooth and flat marsh plains. The contractor will be required to create uneven terrain with “micro-topography” or “lumps and bumps” in the areas for mid-marsh, high marsh, transitional habitat, and filled upland habitats. This can be achieved by several methods including ripping graded surfaces, and by “side-casting” earth material when excavating micro-channels to form a low berm parallel to the channels, and then creating gaps in the new berm to result in mounds spaced at random intervals along the channel banks. It can also be achieved by leaving relatively higher existing mounds in place during the grading of the marsh plain to provide more natural unevenness. The Los Cerritos Wetlands Restoration plan by Coastal Restoration Consultants (CRC) dated May 26, 2021 provides examples of the uneven terrain concept.

See details below for each sub-habitat area. The habitat ranges indicated below are all assuming current sea level. The relationship between elevation and inundation frequency will change as sea level rises. The relationship between inundation frequency and habitat type will generally not change.

A. Sub-tidal habitats occur below the lowest tide levels (-3.9 ft NGVD) in fully-tidal systems (Phase 2) or where drainage is limited resulting in permanent ponding in muted-tidal systems (Phase 1). Sub-tidal habitats have an inundation frequency of 100%.

B. Unvegetated low intertidal habitats will occur below the lowest areas of vegetation and have an inundation frequency of 100% to 40%. This inundation range is often referred to as mudflat, but this project is not designed to have any mudflats at current sea level for Phase 2. There will be unvegetated low intertidal habitats in tidal channels, and in Phase 1 mudflat will exist in the future low marsh (cordgrass) area where hydrologic conditions will not yet be suitable for cordgrass until the Phase 2 connection to the HCC. This is described in item C below.

C. Cordgrass marsh areas can occur in along tidal and sub-tidal creeks and on flats that are inundated between about 20% and 40% of the time. The cordgrass marsh area within the project is designed to be inundated 20% of the time once the Phase 2 connection to the Haynes Cooling Channel is made to maximize the time before it converts to mudflat with SLR. This elevation is expected to be +1.9 feet NGVD. During Phase 1, however, when tides are muted the vertical position of the 20%-40% inundation elevation range will be higher compared to Phase 2. Therefore, the low marsh (cordgrass) area is expected to temporarily be mudflat habitat until Phase 2 is implemented.

D. Areas that are graded to mid-marsh elevation are designed to be at +3.3 feet NGVD, which is the upper limit of the 2.0 – 3.3 feet NGVD range for this habitat (and an inundation frequency of 4% to 20%). This will allow mid-marsh habitat to exist at current sea level and with about 1.3 feet of sea level rise. Without beneficial

sediment additions, these habitats will convert to cordgrass marsh with further sea level rise and eventually to unvegetated low intertidal habitat (mudflats) with about 2.6 feet of sea level rise. Much of the areas labeled as "minimal- to no-grading" in Phase 1 fall within the elevation range for mid-marsh and are expected to function as such. It is expected that in Phase 1 the elevation range for mid-marsh will be lower by nearly 0.8 feet than the Phase 2 elevations. The graded mid-marsh areas will include tidal creeks and microtopographic variation that will create mud panne habitat in depressions and small patches of high marsh on small mounds. This topographic heterogeneity increases the overall habitat value of the mid-marsh plain.

E. Areas that are graded to high marsh elevation are designed to be at +4.7 feet NGVD, which is the upper limit of the 3.4 – 4.7 foot NGVD range for this habitat (and an inundation frequency of 0.05 % to 4%). This will allow high-marsh habitat to persist with about 1.3 feet of sea level rise. As with graded mid-marsh habitats, high-marsh will convert with every 1.3 feet of sea level rise to mid-marsh, cordgrass marsh, and unvegetated low intertidal (mudflats). Some of the "minimal- to no-grading areas in Phase 1 will be high marsh and fall into this elevation range. As with mid-marsh, the inundation frequency of high-marsh areas is not expected to change between Phase 1 and 2. High marsh areas will not have tidal creeks but should have topographic heterogeneity like the mid-marsh, mainly in the form of small mounds that can support transition zone shrubs such as California boxthorn (*Lycium californica*). This habitat heterogeneity increases the overall habitat value of the high marsh habitat.

F. Salt panne habitat will be restored in large depressional areas between about +4.1 and +4.7 feet NGVD. Salt pannes flood with a combination of rainfall and/or when extreme high tides overtop the low point surrounding the depression. The ponded water evaporates over time, concentrating salts, often leaving a salt crust on the soil surface when not flooded. The high soil salinity and prolonged flooding exclude most vegetation from salt pannes; however, the upper edges can support the rare annual plant Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*). When not flooded, salt pannes can provide habitat for rare invertebrates such as tiger beetles and nesting for western snowy plovers. The sill elevation for tidal flooding of the salt panne areas should be set at +4.7 feet NGVD.

G. The transition zone habitat areas occur between the high-marsh and upland areas in a zone that is not flooded by the highest typical annual tides but is flooded during anomalous high tides (e.g., in El Nino years) and when high tides coincide with significant rainfall. These rare flooding events leave soils that are too salty for most upland plants and too dry for most salt marsh plants. The width of the transition zone varies between marshes; systems with significant riverine inputs can have more extreme water levels during fluvial flooding events. For this project, which has minimal fluvial connections, the transition zones are designed to be at between +4.8 feet and +5.7 feet NGVD, or about one foot above the highest high tide. This elevation range is expected to be appropriate during both Phases 1 and 2.

H. Non-tidal areas above 5.7 feet NGVD will be restored using native upland species. In areas that have relatively well-drained soils (sandy loams or on 3:1 or steeper slopes), coastal sage scrub can be restored. Heavier soils that are not well drained might support less diverse scrub communities and native grasslands.

I. A non-tidal strip of area between Area 18 and the northern and eastern property lines is expected to support native riparian trees, which are thriving in a bioswale setting immediately east of the project area. Excavation in this area is not required. Non-native vegetation and weeds will be removed and the area will be replanted with native vegetation.

4. Flood Protection – A combination of earthen berms and natural high terrain will protect neighboring properties from potentially increased flooding risk due to improved connection to the SGR culvert in Phase 1 and future connection to the Haynes Cooling Channel in Phase 2. A berm will be installed up to an elevation of +7.5 feet NGVD along the northern boundary of the site with the active Hellman oil field. It will provide a 6-foot width across the crest for pedestrian access. That berm will "tie-into" higher existing elevations at the western end of Area 18. Area 18 and natural high

ground protect neighbors to the east and south of the site except near the eastern end of the existing tidal channel where there is currently regular tidal flooding of a small wetland on City of Seal Beach property. The future hydrology of this area under project conditions is being assessed. The existing First Street roadway through the site will be elevated up to +10.0 feet NGVD and out of the reach of future high water for safe travel by vehicular traffic to the Hellman (oil field) site. Finally, the levee along the Haynes Cooling Channel will remain in place in Phase 1 to keep the water bodies of the wetland and channel separated, but will be partially removed in Phase 2 to allow full connection between water bodies. This is not shown on the 65% design drawings because the levee is not on LCWA property. Flood protection features area shown on Figure 3.

5. Earthwork Balance – A significant amount of excavation is proposed in the project. Each phase results in lowering of areas on the site and generation of surplus soils. Soil disposal offsite is costly. The eastern high ground at Area 18 may be able to be raised significantly to serve as a spoil area for excess earth fill. The grading plan shows it being raised to between +20 and 22 feet NGVD in Phase 1. The other area that may be able to be raised is the former City landfill site at the southwest portion of the site. The raising of that site is shown in the drawings and has been factored into the earthwork quantities. Any fill in the landfill area needs to be kept low enough to not block views from the neighborhood in Seal Beach. In contrast however, blocking views of the nearby oil operations from Heron Point may be desirable. These fill areas would be restored with native upland plant communities.

Additionally, there may be a future need for soil on-site that could be used for beneficial sedimentation in the restored intertidal habitats, which will be needed as sea level rise triggers habitat conversion. Soil for this use could be stockpiled somewhere on site and vegetated to control erosion but not to necessarily create habitat. Generally, the soil volume produced by the project will be a surplus of nearly 274,000 cubic yards (cy). Grading for this project is designed such that the cut and fill quantities balance. Due to the amount of artificial fill and high topographic elevations already present on the site, importing material will not be needed. Advance planning should occur with LCWA members to plan for beneficial soil re-use to reduce future project costs and impacts from material disposal. An example would be providing fill to the Port of Long Beach if it were suitable for project development. The preliminary earthwork quantities are shown in Table 1 below. These quantities may change as the project is further designed. A cut and fill graphic is shown in Figure 4.

Table 1: Table of Material Quantities

Item	Cut Quantity (cy)	Fill Quantity (cy)	Net Quantity (cy)
Phase 1 Grading	97,263	71,371	25,892 Cut
Phase 2 Grading	176,671	199,352	<22,681> Fill
Totals	273,934	270,723	3,211 Cut

6. Soil Preparation – Information in this section is provided by CRC (2021). Topsoil (3-6 inches) should be grubbed from graded and filled areas. This soil and plant material, which will contain a significant amount of weed propagules, should be buried at least 12 inches deep in fill areas or hauled off site in order to limit weed infestations in restored uplands. After intertidal areas are graded to the proper elevation, the soil should be ripped to a depth of 12 inches in order to create small-scale topographic heterogeneity and assure soils are not overly compacted. High marsh and transition zones should also be disked to break up large clods of soil. Low marsh and tidal and sub-tidal channels should not be ripped or disked. Low ground pressure equipment should be used in restored marsh areas to avoid soil compaction.

Upland areas that are graded or receive fill should be ripped to 18 inches and then disked. Selective placing of fill based on soil salinity should assure that at least the top 36 inches of soil has a salinity less than 3 parts per thousand. Saltier soil should be placed as deeply as possible in fill areas or hauled off site. Salty soil can also be stockpiled for future use in beneficial sedimentation of the restored marsh. Regular soil testing will be conducted during grading to assure soils in the fill areas are appropriate for supporting target plant communities. A soil amendment plan will be developed in final engineering design.

7. Preservation of Sensitive Plants On-Site – Information in this section is also provided by CRC (2021). Two rare plants that are known to occur on the project site have the potential to constrain certain restoration actions. Lewis' evening primrose (*Camissoniopsis lewisii*), a small annual plant, is a California Native Plant Society (CNPS) Rank 3 species, which means it may be in need of protection but a lack of sufficient data on its distribution exists to make this determination. This somewhat ambiguous listing makes it difficult to determine how the agencies will view potential impacts to this species. This is a species normally found on very sandy soils in dune systems or on bars along creeks and rivers. It occurs in two areas on imported sand at the project site; in Area 18 and just north of the landfill area on soil that likely has less than 5% silt and clay (i.e., beach sand). Relatively little is known about propagation of this species though it seems to sprout readily from its seedbank with very limited rainfall at the site. Southern tarplant (*Centromadia parryi* ssp. *australis*) is an annual species tolerant of salty clayey soils that is scattered throughout the project site. It is a CNPS Rank 1b, meaning it is rare throughout its range and therefore given a high level of protection, especially in the coastal zone. Propagation of this species is relatively easy where non-native annual species can be controlled. Since both species are annuals, their distribution and population size vary from year to year based on the amount of rainfall. Both species have been mapped in at least two years so there is reasonabe confidence of their distribution at the site. There will inevitably be some impacts to one or both of these species that will trigger the need for some mitigation. There will be many opportunities to establish new areas that support southern tarplant in upland areas with good weed control. Preserving Lewis' evening primrose will require protecting or expanding the area of sand where this species occurs. The mitigation ratio for any impacts to either species is still to be determined with the agencies.

8. Riparian Swale – A riparian area shown in the Conceptual Restoration Plan (CRC 2021) was proposed at the east end of the site. However, due to topographic constraints the project team has decided to simply maintain the existing function along the eastern project boundary rather than create a new swale.-An existing riparian area is being sustained by fresh groundwater shallow enough for trees to reach. The project proposes no changes to the site other than non-native vegetation removal and planting of native species.

9. Contaminated Sump Sites – Certain sites within the project area listed as former oil sumps will need to be removed and backfilled. Contamination left in twelve sumps was commonly placed next to oil wells to collect and circulate drilling muds. The project investigated potential oil contamination in near-surface soils (down to 6 feet below ground surface) and made determinations about their handling. Five sumps that exist on-site will require excavation and removal. The sumps are numbered as 1, 2, 3, 7 and 11. It is assumed they are entirely removed to 6 feet below grade with 2:1 side slopes within their entire outlines and hauled off to a municipal landfill. The volume of material estimated to be hauled away is 26,600 cy. The contractor will stockpile the material on-site, test it for contamination levels, and then haul it off to a landfill. Surplus sediment from grading will be used to backfill the excavation footprints of these sumps. Seven other sumps on-site do not require removal due to the relatively low level of contamination in

each. The sumps to remain are numbers 4, 5, 6, 8, 9, 10 and 12. Figure 5 shows the sumps to be removed and those to remain. This excavation and backfill activity is factored into the earthwork quantities. There are several sumps in the minimal to no grading areas in Phase 1. Sump 11 is within this area and will require clean up, so there will be a short-term disturbance to areas supporting Belding's savanna sparrow breeding habitat during the clean-up. Removing these contaminants will likely be a long-term benefit to this species at the site as the presence of the contaminants may be detrimental to the health of the birds and their reproductive success. Agencies will determine what mitigation will be needed, but the project is expected to greatly expand habitat for this species overall.

10. Contaminated Non-Sump Sites – Sites that are generally labeled as potentially contaminated but are not specifically categorized as sumps will generally be left unaltered. However, there are small areas that may be graded in shallow lifts to create intertidal habitat. Areas that are currently supporting salt marsh habitat will remain unaltered.

11. Construction Staging and Access – Construction staging includes activities such as equipment and material storage, may serve as the contractor field office location, and may provide construction access points. Staging is proposed at the existing State Lands Commission site, along the southern shoulder of First Street outside of the fence line, and at the site of the existing shipping container off of First Street currently used for stewardship programs. Staging at the State Lands parcel is proposed to occur outside of the existing concrete pads and to only occur on existing vacant ground, and will avoid wetlands. Staging along First Street is only to be located along the southern shoulder of the road and outside of the fence line to provide continued passage of vehicles into and out of the site, as needed. Staging at the location of the existing shipping container is on a small site and may only be suitable for the construction trailer or other small-scale storage needs. Southern tarplant has been observed at or near all of these areas, and is especially widespread at the State Lands Commission site. Potential impacts to this species will need to be considered in choosing a preferred footprint for one or more staging areas. An additional construction staging area is proposed at the midpoint of the northern project boundary.

Construction access points are at 1st Street off Pacific Coast Highway, and at Adolfo Lopez Street. Figure 6 shows construction staging and access sites.

12. Road Surface Removal – The existing road surface at the eastern end of the site near Area 18 and paralleling the existing drainage ditch will be removed and the site lowered to be the elevation of mid-marsh; much of that road is currently at or near the elevation of mid-marsh. This shall be done to provide colonization by wetland plant species and to provide for research plots as addressed below. Disposal of the asphalt or concrete will be addressed in the construction documents.

13. Research Plots – Wetland research test plots will be created along the existing eastern relic roadway alignment once the road is removed. The research plots will allow for quantitative evaluation of sea level rise effects and perhaps adaptive management approaches. This area is labeled in the design and details have been developed in the 65% design stage. Discussion of this item is found in CRC 2021.

14. Channel Under First Street – The specifics of the channel connection under First Street have been determined in the 65% design stage. The channel underneath the road will remain relatively large in cross-section using either a large span pre-cast concrete box structure with three sides or a pre-fabricated bridge. The connection is designed to not mute tides and to accommodate 3.3 feet of SLR.

15. Seal Beach Wetland at the Southeast Corner – A portion of the project site located near the far east end straddles a wetland and the property fence line runs through a marsh. Some of that marsh is located on the project site and the rest is located within the City of Seal Beach. There is a desire to not impact it, but in all likelihood the new tidal connection and proposed grading could result in tides inundating that site. This project proposes a small earthen berm between the far eastern end of the Hellman Channel and the property fence line to reduce the amount of tidal inundation entering that small area. The dimensions of this proposed berm may need to be lengthened to protect the wetlands on the Seal Beach side from inundation. However, the design needs to be vetted through the City and the agencies to identify the appropriate action for this specific site.

16. Public Access Pathways – Public access is incorporated into the project design. New earthen trails are proposed and shown schematically in the 65% design along 1st Street and over the southern land fill area with a trail that connects to an existing trail along Gum Grove Park. The final location of the trails may need to be further assessed out in the final engineering stage and after additional meetings with the public, representative Native American nations, and the regulatory agencies.

17. Cultural Resource Considerations – Native American studies and outreach are in process and are informing the project design. At this time the project has intentionally avoided any work in perimeter upland areas (e.g., Gum Grove Park) in consideration of such resources, but pathways and special land use areas may be added to meet the needs of Native Americans in future design iterations. One example is the reburial site proposed within the southern portion of the project area that is shown on the 65% design plans.

18. Soil Texture – Soils in salt marshes, especially in the mid-marsh and lower, tend to have high silt and clay content. The fine texture is important for carbon sequestration, nutrient cycling and other natural processes. The entire project area is located on what was historically tidal marsh and it is expected that those historic marsh soils are intact at some depth. Ideally, those soils will become the surface of the restored marsh in many areas. In any case, the final grading should assure that the top 12-24 inches of soil in the mid-marsh and cordgrass marsh areas is over 40% clay and less than 25% sand. High-marsh areas can have similar soils to lower areas of the marsh or be quite sandy. Salt panne soils should be over 80% silt and clay in at least the top 6-12 inches. Selective grading should be used to assure topsoil (upper 12-24 inches) in fill areas are appropriate for upland restoration. This means they should have very low salinity, a loamy texture, and should not compacted.

19. Easements and Utilities – Easements and utilities exist on-site that need to be protected. Certain utilities (e.g., the Seal Beach main waterline) will be resleeved by the City. A portion of that City waterline will be re-routed to attach to a new structure (box culvert or bridge) over the main tidal channel. A utility easement for SCE also exists along the 1st Street entry road, and another easement for the local homeowner association to the east exists along the eastern property line. Undergrounding of the overhead power line owned by SCE along First Street is assumed to occur and is shown on the plans. The project will coordinate with the City of Seal Beach for waterline relocation and with SCE for undergrounding of the power lines.

20. Tree Removal – Certain existing trees will be removed as part of the project. The trees to be removed will be shown on the plans in the 65% design phase or a later phase. A majority of the trees are palm trees. Surplus organic material from the trees should be considered for use on site to create habitat features (brush piles or downed wood) or chipped to provide a surface for trails or for ground cover in landscaped areas.

21. Planting – Planting and irrigation of installed habitat areas will occur consistent with the Restoration Plan developed by CRC (2021). The Implementation guidance section of the plan calls for planting to occur on man-made transitional habitat areas, and in some intertidal marsh habitat areas. Planting would be done to accelerate the colonization process of target habitats, and would focus on areas that will be disturbed during construction. Irrigation may be needed to help establish the plants along the slopes of berms and control soil salinity in other areas with intertidal salt marsh, transitional, and upland habitat, but it should not be required permanently. Planting is shown on the 65% plans, but irrigation will be deferred to final engineering for construction due to its undefined location(s).

References

Coastal Restoration Consultants. 2021. Los Cerritos Wetlands Habitat Restoration Plan. May 26, 2021.

Moffatt & Nichol. 2015. Los Cerritos Wetlands Final Conceptual Restoration Plan. August 2015.

Moffatt & Nichol. 2022. Draft Hydrology Memorandum. January 31, 2023.

FIGURES:

1. Project Layout
2. Proposed Habitats
3. Flood Protection Features
4. Cut and Fill Map (“Heat Map”)
5. Sumps to Remain or be Removed
6. Construction Staging and Access Sites

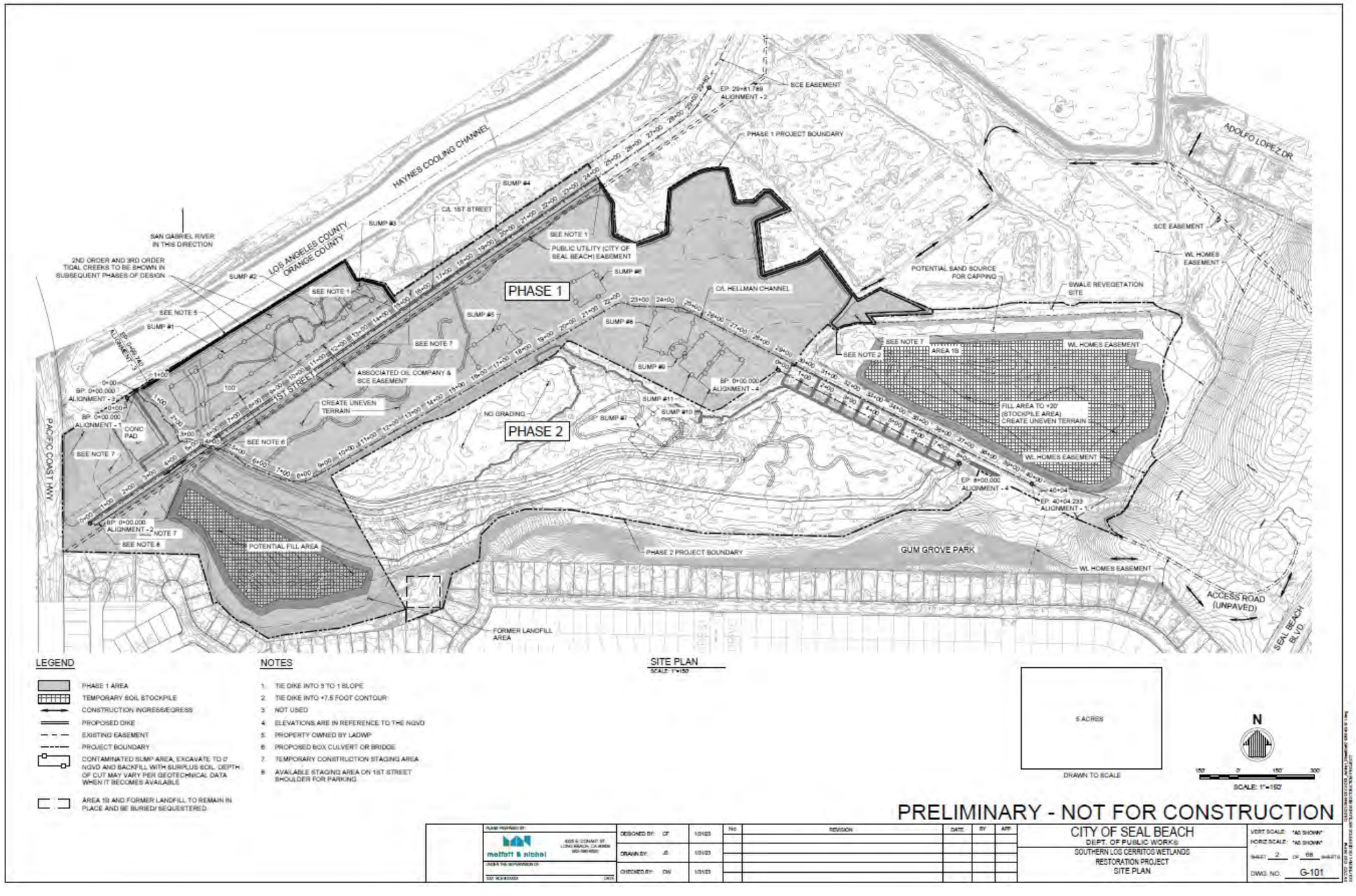


FIGURE 1 – PROJECT LAYOUT WITH SOURCES OF SEAWATER AND THE TIDAL CHANNEL NETWORK

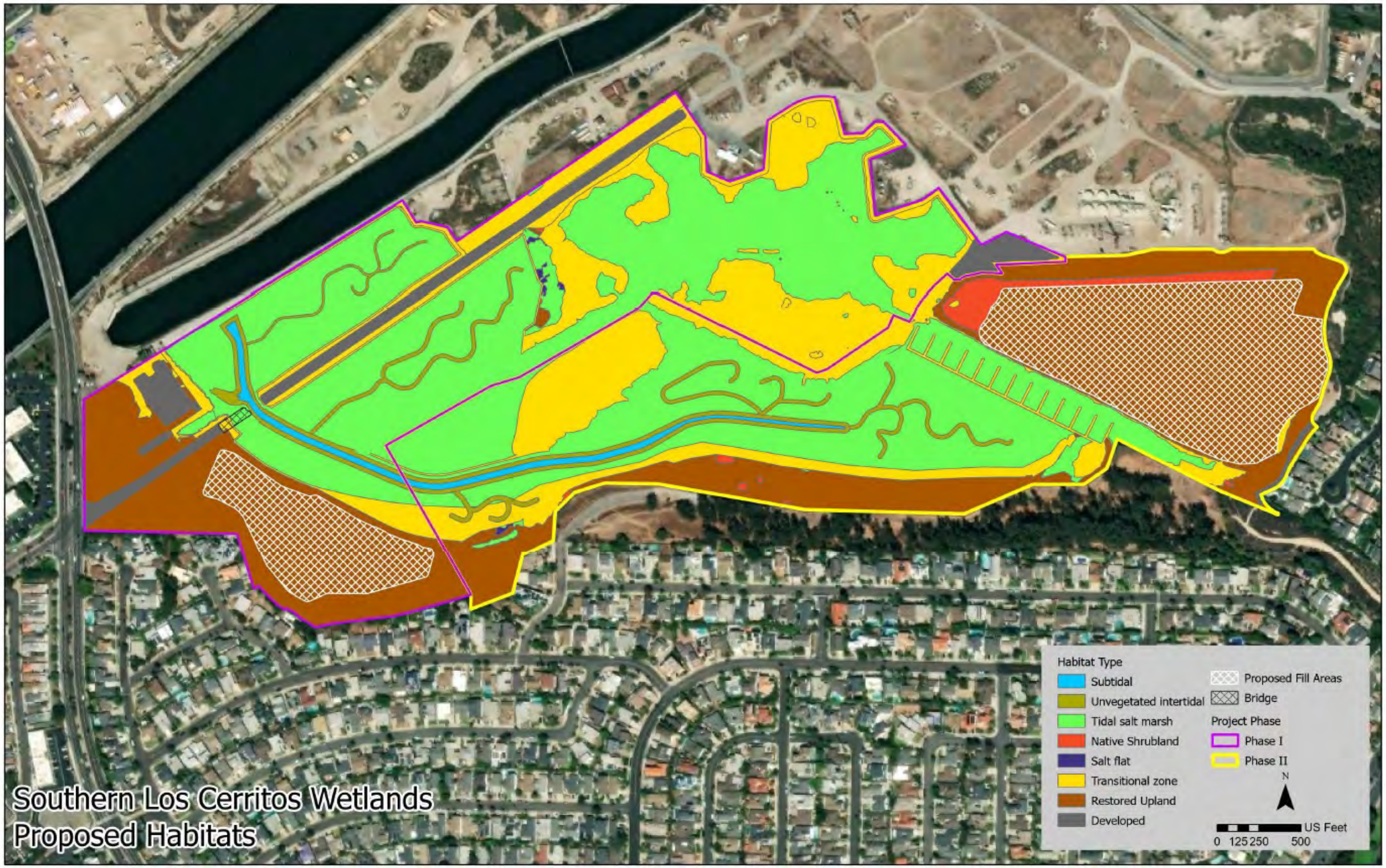
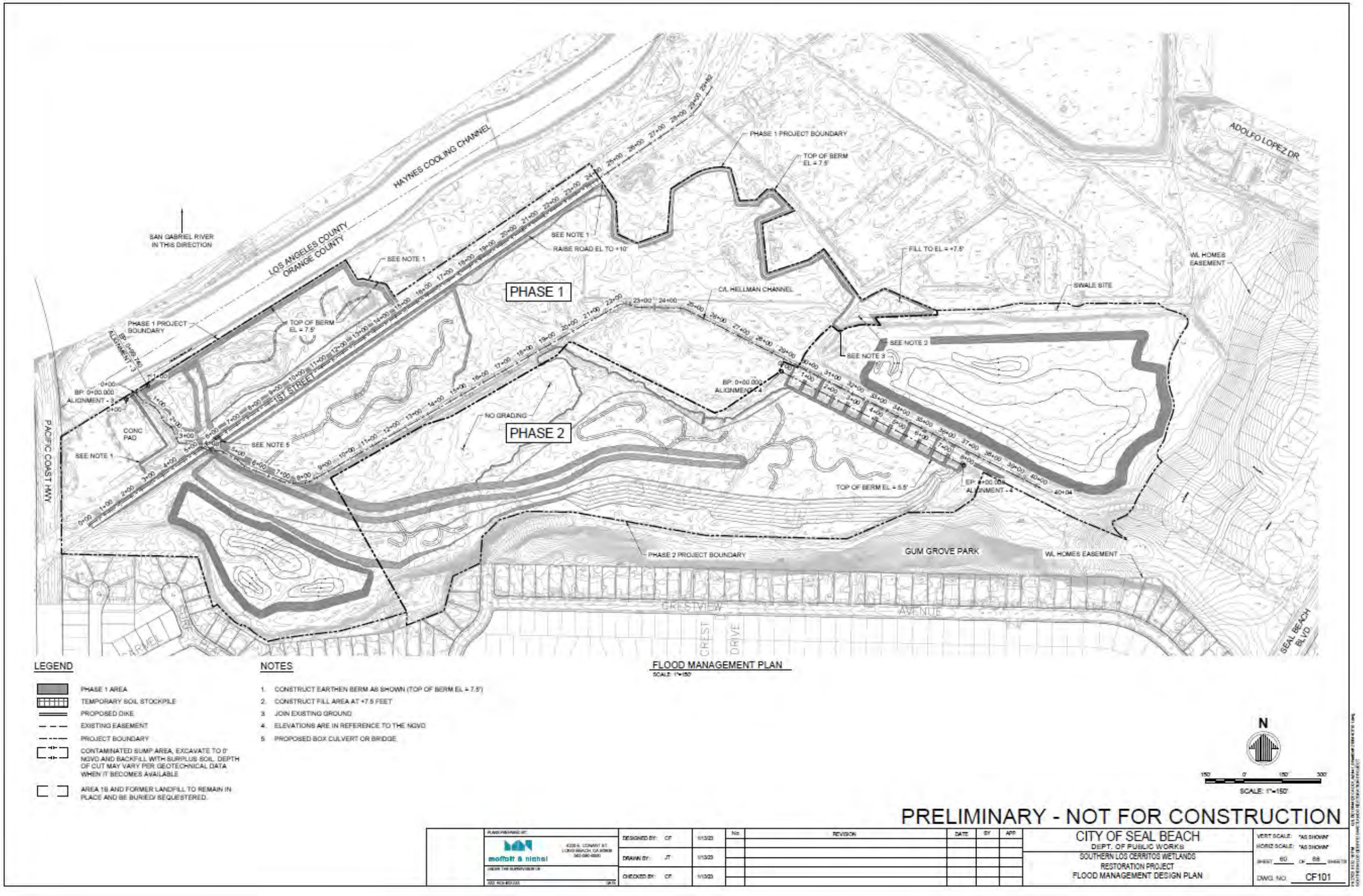


FIGURE 2 – PROPOSED HABITATS



LEGEND

- PHASE 1 AREA
- TEMPORARY SOIL STOCKPILE
- PROPOSED DIKE
- EXISTING EASEMENT
- PROJECT BOUNDARY
- CONTAMINATED SUMP AREA, EXCAVATE TO 0' NGVD AND BACKFILL WITH SURPLUS SOIL. DEPTH OF CUT MAY VARY PER GEOTECHNICAL DATA WHEN IT BECOMES AVAILABLE
- AREA 1B AND FORMER LANDFILL TO REMAIN IN PLACE AND BE BURIED/ SEQUESTERED.

NOTES

1. CONSTRUCT EARTHEN BERM AS SHOWN (TOP OF BERM EL = 7.5')
2. CONSTRUCT FILL AREA AT +7.5 FEET
3. JOIN EXISTING GROUND
4. ELEVATIONS ARE IN REFERENCE TO THE NGVD
5. PROPOSED BOX CULVERT OR BRIDGE

FLOOD MANAGEMENT PLAN
SCALE: 1"=150'

N

150' 0 150' 300'
SCALE: 1"=150'

PRELIMINARY - NOT FOR CONSTRUCTION

PLANS PREPARED BY: moffatt & nichol, 4225 E. CONANT ST. LONG BEACH, CA 90808, 562-590-6500	DESIGNED BY: CF	1/13/23	No.	REVISION	DATE	BY	APP	CITY OF SEAL BEACH DEPT. OF PUBLIC WORKS SOUTHERN LOS CERRITOS WETLANDS RESTORATION PROJECT FLOOD MANAGEMENT DESIGN PLAN	VERT SCALE: "AS SHOWN" HORIZ SCALE: "AS SHOWN" SHEET 60 OF 88 SHEETS DWG. NO. CF101
UNDER THE SUPERVISION OF:	DRAWN BY: JT	1/13/23							
REG. NO. & EXP. DATE	CHECKED BY: CF	1/13/23							

FIGURE 3 – PROJECT FLOOD MANAGEMENT DESIGN PLAN WITH FLOOD PROTECTION FEATURES

FIGURE 4 – PROJECT CUT AND FILL VALUES

FIGURE 5 – SUMPS TO REMAIN OR BE REMOVED

FIGURE 6 – CONSTRUCTION STAGING AND ACCESS SITES

EXHIBIT B – Southern Los Cerritos Wetland Restoration Project

CALIFORNIA STATE LANDS COMMISSION

STATEMENT OF FINDINGS

1.0 INTRODUCTION

The California State Lands Commission (Commission or CSLC), acting as a responsible agency under the California Environmental Quality Act (CEQA), makes these findings to comply with CEQA as part of its discretionary approval to authorize issuance of a Lease Amendment- Public Agency Use to the Los Cerritos Wetland Authority (LCWA), for use of sovereign land associated with the proposed Southern Los Cerritos Wetlands Restoration Project (Project). (See generally Pub. Resources Code, § 21069; State CEQA Guidelines, § 15381.)[1] The Commission has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The Commission also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions. (Pub. Resources Code, §§ 6301, 6306, 6009, subd. (c).) All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the common law Public Trust.

The Commission is a responsible agency under CEQA for the Project because the Commission must amend a lease for the Project to go forward and because LCWA, as the CEQA lead agency, has the principal responsibility for approving the Project and has completed its environmental review under CEQA. LCWA analyzed program-level environmental impacts associated with the larger Los Cerritos Wetlands Restoration Plan (Plan) in a Final Program Environmental Impact Report (PEIR) (State Clearinghouse [SCH] No. 2019039050, herein referred to as the LCWRP PEIR) and, on January 7, 2021, certified the PEIR and adopted a Mitigation Monitoring and Reporting Program (MMRP), Findings, and a Statement of Overriding Considerations. LCWA then prepared an Initial Study/Mitigated Negative Declaration (MND) for the Southern Los Cerritos Wetlands Restoration Project (Project) (SCH No. 2023040250, herein referred to as the SLCWRP MND), and adopted the Final MND and MMRP on August 24, 2023, for the Project. LCWA analyzed a reduced project footprint (20.5 percent of the original plan area) in the SLCWRP MND and provided a report related to updated air quality and greenhouse gas emission calculations for the smaller

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[1] CEQA is codified in Public Resources Code section 21000 et seq. The State CEQA Guidelines are found in California Code of Regulations, title 14, section 15000 et seq.

Project. The SLCWRP MND also provided additional studies required by the LCWRP PEIR for cultural resources and tribal cultural resources, which explained why impacts determined to be significant and unavoidable in the LCWRP PEIR were reduced to less than significant with mitigation or below in the SLCWRP MND.

The Project would restore wetland, wetland-upland transition zone, and upland habitats throughout the Project area. This restoration would involve addressing any contaminated soil, grading, revegetation, construction of new public access opportunities (including trails, a Stewardship Site, and viewpoints), construction of flood management facilities (including earthen berms), and modified existing infrastructure and utilities.

In the MND, LCWA determined that the Project could have significant environmental effects on the following environmental resources:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gases
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Public Services
- Transportation
- Tribal Cultural Resources
- Utilities and Utility Systems

Of the 14 resources areas noted above, Project components within the Commission's jurisdiction (i.e., construction staging area, new public access opportunities, and construction of flood management facilities) could have significant environmental effects on six of the resource areas, as follows:

- Biological Resources
- Cultural Resources
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Public Services
- Tribal Cultural Resources

In certifying the LCWRP PEIR and approving the Plan, LCWA imposed various mitigation measures for Plan-related significant effects. Even with the integration

of all feasible mitigation, the LCWA concluded in the LCWRP PEIR that some of the identified impacts would remain significant. The LCWA determined that, after mitigation, the Plan may still have significant impacts on Air Quality, Cultural Resources, and Tribal Cultural Resources. As a result, the LCWA adopted a Statement of Overriding Considerations to support its approval of the Plan despite the significant and unavoidable impacts. However, the MND determined that the proposed Project would not result in any additional potentially significant environmental impacts not identified in the LCWRP PEIR, and concluded that all Project-related impacts would be reduced to less than significant levels with implementation of the MMRP. Therefore, a Statement of Overriding Considerations is not required by the Commission.

As a responsible agency, the Commission complies with CEQA by considering the LCWRP PEIR and SLCWRP MND and reaching its own conclusions on whether, how, and with what conditions to approve a project. In doing so, the Commission may require changes in a project to lessen or avoid the effects, either direct or indirect, of that part of the project which the Commission will be called on to carry out or approve. In order to ensure the identified mitigation measures and/or Project revisions are implemented, the Commission adopts the Mitigation Monitoring Program (MMP) as set forth in Exhibit A as part of its Project approval.

2.0 ADMINISTRATIVE RECORD OF PROCEEDINGS AND CUSTODIAN OF THE RECORD

These Findings are supported by substantial evidence contained in the LCWRP PEIR, the SLCWRP MND, and other relevant information provided to the Commission or existing in its files, all of which is contained in the administrative record. The administrative record is located at the California State Lands Commission, 100 Howe Avenue, Suite 100-South, Sacramento, CA 95825. The custodian for the administrative record is the California State Lands Commission Division of Environmental Science, Planning, and Management.

3.0 FINDINGS

The Commission's role as a responsible agency affects the scope of, but not the obligation to adopt, findings required by CEQA. Findings are required under CEQA by each "public agency" that approves a project for which an EIR has been certified that identifies one or more significant impacts on the environment. (Pub. Resources Code, § 21081, subd. (a); State CEQA Guidelines, § 15091, subd. (a).) Because the LCWA certified the LCWRP PEIR for the Plan and adopted the SLCWRP MND for the Project, and identified potentially significant impacts that fall within the Commission's jurisdiction, the Commission makes the Findings set forth below as a responsible agency under CEQA. (State CEQA

Guidelines, § 15096, subd. (h); *Riverwatch v. Olivenhain Mun. Water Dist.* (2009) 170 Cal.App.4th 1186, 1202, 1207.)

While the Commission must consider the environmental impacts of the Project as set forth in the PEIR and MND, the Commission's obligation to mitigate or avoid the direct or indirect environmental impacts of the Project is limited to those parts which it decides to carry out, finance, or approve. (Pub. Resources Code, § 21002.1, subd. (d); State CEQA Guidelines, §§ 15041, subd. (b), 15096, subds. (f)-(g).) Accordingly, because the Commission's exercise of discretion involves only issuing a lease amendment for this Project, the Commission is responsible for considering only the environmental impacts related to lands or resources subject to the Commission's jurisdiction. With respect to all other impacts associated with implementation of the Project, the Commission is bound by the legal presumption that the PEIR and MND fully comply with CEQA.

The Commission has reviewed and considered the information contained in the PEIR for the Plan and MND for the Project. All potentially significant adverse impacts of the Project identified in the PEIR and MND relating to the Commission's approval of a lease amendment for Public Agency Use, which would allow the use of the Commission parcel as a construction staging area, construction of an earthen berm for flood protection, and the installation and use of a Stewardship site on the Commission parcel, are included herein and organized according to the resource affected.

These Findings, which reflect the independent judgment of the Commission, are intended to comply with CEQA's mandate that no public agency shall approve or carry out a project for which an EIR has been certified that identifies one or more significant environmental effects unless the agency makes written findings for each of those significant effects. Possible findings on each significant effect are:

(1) Changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the Final PEIR or MND.

(2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the Commission. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

(3) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers,

make infeasible the mitigation measures or project alternatives identified in the Final PEIR.[2]

A discussion of supporting facts follows each Finding.

- Whenever Finding (1) occurs, the mitigation measures that lessen the significant environmental impact are identified in the facts supporting the Finding.
- Whenever Finding (2) occurs, the agencies with jurisdiction are specified. These agencies, within their respective spheres of influence, have the responsibility to adopt, implement, and enforce the mitigation discussed.

The mitigation measures are briefly described in these Findings; more detail on the mitigation measures is included in the PEIR and MND. For the full text of each mitigation measure (MM), please refer to Exhibit A, Attachment A-1.

A. SUMMARY OF FINDINGS

Based on the PEIR and MND, the proposed Project will have No Impact on the following environmental resource areas:

- Agricultural and Forestry Resources
- Population and Housing
- Wildfire

The PEIR and MND subsequently identified the impacts to the following resource areas as Less Than Significant:

- Greenhouse Gases
- Energy
- Land Use Planning (Determined to be No Impact in the MND)
- Mineral Resources (Determined to be No Impact in the MND)
- Recreation (Determined to be No Impact in the MND)
- Noise

For the remaining potentially significant effects, the Findings are organized by significant impacts within the PEIR and MND resource areas as presented below.

B. POTENTIALLY SIGNIFICANT IMPACTS

The impacts within the Commission's jurisdiction, identified in Table B-1, were determined in the PEIR to be potentially significant absent mitigation. After application of mitigation, however, several impacts were determined to be less than significant (LTSM). Even with the integration of all feasible mitigation, LCWA

[2] See Public Resources Code section 21081, subdivision (a), and State CEQA Guidelines section 15091, subdivision (a).

concluded in the PEIR that other identified potentially significant impacts will remain significant. Table B-1 identifies those impacts that LCWA determined would be, after mitigation, significant and unavoidable (SU).

Although the PEIR determined that Impacts AQ-1a, AQ-3a, CUL-1, CUL-3, TCR-1, and TCR-2 were significant and unavoidable for the Plan, the MND determined that, for the proposed Project, these impacts were less than significant with mitigation. As such, all impacts listed in Table B-1 are discussed in section C, immediately below.

Table B- 1 - Significant Impacts by Resource Area

Environmental Resource Area	Impact Nos. (LTSM)	Impact Nos. (SU)
Aesthetics	AES-4	
Air Quality	AQ-2a	AQ-1a, AQ-3a
Biological Resources	BIO-1, BIO-2, BIO-3	
Cultural Resources	CUL-3	CUL-1, CUL-2
Hazardous Materials	HAZ-1[1]	
Hydrology and Water Quality	HYD-1, HYD-3a, HYD-5[1]	
Public Services	PS-1a	
Tribal Cultural Resources		TRI-1, TRI-2

NOTE: IMPACT NO. WITH SUPERSCRIPT[1] = IMPACTS DETERMINED TO BE LTSM IN THE MND ONLY.

C. IMPACTS REDUCED TO LESS THAN SIGNIFICANT LEVELS WITH MITIGATION

The impacts identified below were determined in the PEIR or MND to be potentially significant absent mitigation; however, the impacts were determined to be less than significant with mitigation (LTSM).

1. AESTHETICS

CEQA FINDING NO. 1

Impact: **AES-4. New source of light or glare**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR.

FACTS SUPPORTING THE FINDING(S)

Activities proposed as part of the Project that have the potential to result in increased light or glare include construction activities (e.g., glare from reflected sunlight off parked construction vehicles and equipment, and security lighting used after hours) and operations (e.g., lighting would be installed for the new Stewardship site). The PEIR identified a mitigation measure requiring a construction Lighting Plan to ensure that exterior lighting will be placed and oriented downward to encourage wayfinding and provide security, thereby limiting the spillover of lighting to sensitive uses and habitats.

While the impact to the Project area considered under the MND was determined to be less than significant, implementation of mitigation measure (MM) AES-1 has still been incorporated into the Project to further reduce this impact to a less than significant level.

MM AES-1. Lighting Plan.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

2. AIR QUALITY

CEQA FINDING NO. 2

Impact: **AQ-1a. Obstruction of an Air Quality Plan (construction).**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR.

FACTS SUPPORTING THE FINDING(S)

Construction activities analyzed at the Plan-level have the potential to conflict with the Air Quality Management Plan for the South Coast Air Quality Management District (SCAQMD) by producing emissions of criteria pollutants in exceedance of thresholds for which SCAQMD is in non-attainment. The PEIR

requires mitigation through the implementation of construction-related reduction measures for oxides of nitrogen (NOx), including the use of certain equipment that complies with Tier IV emission controls, use of Best Available Control Technology devices, prohibition of equipment idling in excess of five minutes, prohibition of use of portable generators, and routing of construction trucks. While these measures will reduce NOx emissions during construction, the activities could still conflict with applicable air quality plans. Air Quality impacts determined to be significant and unavoidable in the PEIR were reduced to less than significant for the Project in the MND, as the Project footprint proposed for construction activities is approximately 20 percent of the total Plan area in the PEIR.

While the impact to the Project area considered under the MND was determined to be less than significant, implementation of MM AQ-1 has still been incorporated into the Project to further reduce this impact to a less than significant level.

MM AQ-1. Construction NO_x Reduction Measures.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. 3

Impact: **AQ-2a. Construction-related NO_X Emissions.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR.

FACTS SUPPORTING THE FINDING(S)

Construction activities analyzed at the Plan-level have the potential to result in increased emissions that would result in exceedances of the SCAQMD daily regional threshold for nonattainment ozone precursor emissions (e.g., NO_X) during individual sub-construction phases, as there is the potential for these phases to overlap, temporarily and spatially. The PEIR requires the implementation of construction-related NO_X reduction measures, including the use of certain equipment that complies with Tier IV emission controls, use of Best Available Control Technology devices, prohibition of equipment idling in excess of five minutes, prohibition of use of portable generators, and routing of construction trucks. The impact was determined to be less than significant for the Project in the MND, as Project-level construction activities are not expected to generate emissions for an extended duration.

While the impact to the Project area considered under the MND was determined to be less than significant, implementation of MM AQ-1 has still been incorporated into the Project to further reduce this impact to a less than significant level.

MM AQ-1. Construction NO_x Reduction Measures.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. 4

Impact: **AQ-3a. Impacts to Sensitive Receptors (construction).**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR.

FACTS SUPPORTING THE FINDING(S)

Construction activities analyzed at the Plan-level have the potential to impact sensitive receptors near the Plan area through generation of NOx emissions. In addition, the PEIR air quality analysis assumed that all construction subphases would occur concurrently. The PEIR requires mitigation through the implementation of construction-related NO_X reduction measures, including the use of certain equipment that complies with Tier IV emission controls, use of Best Available Control Technology devices, prohibition of equipment idling in excess of five minutes, prohibition of use of portable generators, and routing of construction trucks. While these measures will reduce NOx emissions during construction, Plan activities could still conflict with applicable air quality plans. Air Quality impacts determined to be significant and unavoidable in the PEIR were reduced to less than significant for the Project in the MND, as the Project footprint proposed for construction activities is approximately 20 percent of the total Plan area in the PEIR.

While the impact to the Project area considered under the MND was determined to be less than significant, implementation of MM AQ-1 has still been incorporated into the Project to further reduce this impact to a less than significant level.

MM AQ-1. Construction NO_x Reduction Measures.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

3. BIOLOGICAL RESOURCES

CEQA FINDING NO. 5

Impact: **BIO-1. Impacts to Candidate, Sensitive or Special Status Species**.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR and MND.

FACTS SUPPORTING THE FINDING(S)

Activities proposed as part of the Project have the potential to result in impacts to special status plants, non-special status invertebrates, and special status wildlife. Special status plants could be impacted through ecosystem restoration activities, the development of public access features, and infrastructure and utility modifications. Non-special status invertebrates could be impacted through grading within wetland or mudflat areas which could result in mortality. Special status wildlife could be impacted through grading and removal of suitable habitat, resulting in the direct loss of individuals. Construction noise and dust could have indirect impacts to special status wildlife. The PEIR identified measures that would require avoidance and/or re-establishment of special status plants, restoration of any impacts to these special status species, and the preparation and implementation of weed management, maintenance, and monitoring procedures. Additionally, measures also require the implementation of a Worker Education Awareness Program, monitoring of initial work efforts by a qualified biological monitor, and a minimum habitat replacement ratio of 1:1. Measures for birds require minimization and avoidance measures for preserving active bird nests. Other measures include a lighting plan that requires nighttime lighting be shielded downward to minimize spillage into adjacent areas and pre-construction bat surveys including steps if a maternity roost is determined to be present. Finally, measures also include focused habitat assessments and surveys for terrestrial and aquatic special status species to determine presence, absence, and abundance, as well as necessary steps if such species cannot be avoided.

Implementation of MMs BIO-1through BIO-11 has been incorporated into the Project to reduce this impact to a less than significant level.

MM BIO-1: Avoidance of Special Status Plants.

MM BIO-2: Environmental Awareness Training and Biological Monitoring.

MM BIO-3: Belding's Savannah Sparrow Breeding Habitat.

MM BIO-4: Nesting Bird and Raptor Avoidance.

MM BIO-5: Habitat Assessment and Pre-construction Surveys for Burrowing Owls.

MM BIO-6: Minimization of Light Spillage.

MM BIO-7: Pre-construction Bat Surveys.

MM BIO-8: Focused Surveys for Special Status Wildlife Species.

MM-BIO-9: Revegetation of Sensitive Natural Communities.

MM BIO-10: Jurisdictional Resources Permitting.

MM BIO-11: Monitoring and Adaptive Management Plan.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. 6

Impact: **BIO-2. Impacts to Riparian Habitat or Sensitive Natural Communities**.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR and MND.

FACTS SUPPORTING THE FINDING(S)

Construction activities proposed as part of the Project include grading, berm installation, use of fill, berm/road removal, sidewalk grading, and relocation of infrastructure and utilities. Operations activities include ecosystem restoration activities, flood risk and stormwater management, and development of public access and visitor facilities. Both construction and operational activities could result in direct and indirect impacts (e.g., introduction of noxious, invasive weeds) to sensitive natural communities. The PEIR identified measures that would require the reestablishment of California Department of Fish and Wildlife (CDFW) Sensitive Natural Communities which are impacted by Project activities. In addition, measures to minimize impacts to plant communities will require the preparation and implementation of weed management and maintenance and monitoring procedures to address direct impacts caused by invasion of weed species.

Implementation of MMs BIO-1through BIO-11 has been incorporated into the Project to reduce this impact to a less than significant level.

MM BIO-1: Avoidance of Special Status Plants.

MM BIO-2: Environmental Awareness Training and Biological Monitoring.

MM BIO-3: Belding's Savannah Sparrow Breeding Habitat.

MM BIO-4: Nesting Bird and Raptor Avoidance.

MM BIO-5: Habitat Assessment and Pre-construction Surveys for Burrowing Owls.

MM BIO-6: Minimization of Light Spillage.

MM BIO-7: Pre-construction Bat Surveys.

MM BIO-8: Focused Surveys for Special Status Wildlife Species.

MM-BIO-9: Revegetation of Sensitive Natural Communities.

MM BIO-10: Jurisdictional Resources Permitting.

MM BIO-11: Monitoring and Adaptive Management Plan.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. 7

Impact: **BIO-3. Impacts to Protected Wetlands**.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR and MND.

FACTS SUPPORTING THE FINDING(S)

Wetland restoration activities proposed as part of the Project are intended to result in the restoration and expansion of coastal salt marsh through much of the Plan area, which includes jurisdictional waters, resulting in a net increase of jurisdictional wetlands and waters. Some upland areas will also be transformed into jurisdictional wetlands through these activities. The PEIR identified measures that require the re-establishment of vegetation found in CDFW Sensitive Natural

Communities in response to permanent and temporary impacts; a jurisdictional wetland delineation and issuance of jurisdictional resource permits; and a measure that requires a functional assessment of the wetland areas that will be restored in the Plan areas. Mitigation measures will result in habitat restoration of coastal salt marsh and transitional wetland habitats and require the establishment of upland scrub buffers.

Implementation of MMs BIO-1through BIO-11 has been incorporated into the Project to reduce this impact to a less than significant level.

MM BIO-1: Avoidance of Special Status Plants.

MM BIO-2: Environmental Awareness Training and Biological Monitoring.

MM BIO-3: Belding's Savannah Sparrow Breeding Habitat.

MM BIO-4: Nesting Bird and Raptor Avoidance.

MM BIO-5: Habitat Assessment and Pre-construction Surveys for Burrowing Owls.

MM BIO-6: Minimization of Light Spillage.

MM BIO-7: Pre-construction Bat Surveys.

MM BIO-8: Focused Surveys for Special Status Wildlife Species.

MM-BIO-9: Revegetation of Sensitive Natural Communities.

MM BIO-10: Jurisdictional Resources Permitting.

MM BIO-11 Monitoring and Adaptive Management Plan.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

4. CULTURAL RESOURCES

CEQA FINDING NO. 8

Impact: **CUL-1. Impacts to Historical Resources**.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR and MND.

FACTS SUPPORTING THE FINDING(S)

Construction, ecosystem restoration, and flood control activities (e.g., any ground disturbance, berm/levee construction and maintenance, revegetation, construction of a new visitor center/Stewardship Site) proposed as part of the Plan have the potential to result in impacts to historical resources which include pre-historic, historic-period, and multicomponent sites as well as historic architectural sites. The Plan area has also been identified as a tribal cultural landscape. The PEIR developed mitigation measures for impacts to cultural resources which require qualified cultural resources personnel to conduct future project-specific studies; the development of appropriate treatment for significant resources; archaeological and Native American monitoring of ground disturbance; and preparation of a tribal access plan. In addition, mitigation measures for biological resources would lessen potential construction-related impacts to plants and animals that are considered part of the tribal cultural landscape. Impacts determined to be significant and unavoidable in the PEIR were reduced to less than significant with mitigation for the Project in the MND, as the MND was supported by additional studies and tribal consultation to more fully analyze impacts to the tribal cultural landscape (required mitigation for the PEIR).

Implementation of MMs CUL-1 through CUL-18 has been incorporated into the Project to reduce this impact to a less than significant level.

MM CUL-1. **Cultural Resources Personnel Professional Qualifications.**

MM CUL-2. **Historic Resources Assessment.**

MM CUL-3. **Historic Resources Evaluation.**

MM CUL-4. **Archaeological Resources Assessment.**

MM CUL-5. **Extended Phase I Archaeological Investigation.**

MM CUL-6. **Phase II Archaeological Assessment.**

MM CUL-7. **Avoidance and Preservation in Place of Archaeological Resources.**

MM CUL-8. **Phase III Archaeological Resources Data Recovery and Treatment Plan.**

MM CUL-9. **Archaeological Resources Monitoring and Mitigation Plan.**

MM CUL-10. **Construction Worker Cultural Resources Sensitivity Training.**

MM CUL-11. **Archaeological Resources Monitoring.**

MM CUL-12. **Native American Coordination.**

MM CUL-13. **Native American Monitoring.**

MM CUL-14. **Archaeological Resources Discoveries.**

MM CUL-15. **Curation and Disposition of Cultural Materials.**

MM CUL-16. **Future Native American Input.**

MM CUL-17. **Tribal Access Plan.**

MM CUL-18. **Human Remains Discoveries.**

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. 9

Impact: **CUL-2. Impacts to Archaeological Resources.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR and MND.

FACTS SUPPORTING THE FINDING(S)

Construction, ecosystem restoration, and flood control activities (e.g., any ground disturbance, berm/levee construction and maintenance, revegetation, construction of a new visitor center/Stewardship Site) proposed as part of the Plan have the potential to result in impacts to archaeological resources. The Plan area has also been identified as a tribal cultural landscape. The PEIR developed mitigation measures that would reduce impacts to archaeological

resources by requiring qualified cultural resources personnel conduct future project-specific studies; development of appropriate treatment for significant resources; and archaeological and Native American monitoring of ground disturbance. In addition, mitigation measures for biological resources would lessen potential construction-related impacts to plants and animals that are considered part of the tribal cultural landscape. Impacts determined to be significant and unavoidable in the PEIR were reduced to less than significant with mitigation for the Project in the MND, as the MND was supported by additional studies and tribal consultation to more fully analyze impacts to the tribal cultural landscape (required mitigation for the PEIR).

Implementation of MMs CUL-1 through CUL-18 has been incorporated into the Project to reduce this impact to a less than significant level.

MM CUL-1. Cultural Resources Personnel Professional Qualifications.

MM CUL-2. Historic Resources Assessment.

MM CUL-3. Historic Resources Evaluation.

MM CUL-4. Archaeological Resources Assessment.

MM CUL-5. Extended Phase I Archaeological Investigation.

MM CUL-6. Phase II Archaeological Assessment.

MM CUL-7. Avoidance and Preservation in Place of Archaeological Resources.

MM CUL-8. Phase III Archaeological Resources Data Recovery and Treatment Plan.

MM CUL-9. Archaeological Resources Monitoring and Mitigation Plan.

MM CUL-10. Construction Worker Cultural Resources Sensitivity Training.

MM CUL-11. Archaeological Resources Monitoring.

MM CUL-12. Native American Coordination.

MM CUL-13. Native American Monitoring.

MM CUL-14. Archaeological Resources Discoveries.

MM CUL-15. **Curation and Disposition of Cultural Materials.**

MM CUL-16. **Future Native American Input.**

MM CUL-17. **Tribal Access Plan.**

MM CUL-18. **Human Remains Discoveries.**

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. 10

Impact: **CUL-3. Inadvertent Discovery of Human Remains**.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR and MND.

FACTS SUPPORTING THE FINDING(S)

Construction and ecosystem restoration activities involving any ground disturbance (e.g., inspection and maintenance of berms and levees, removal of non-native vegetation from restored habitat, trash removal from restored wetlands, etc.) proposed as part of the Project have the potential to result in the exposure and inadvertent discovery of human remains. The Plan area covers a region where numerous Native American burials have previously been recovered. The PEIR requires mitigation in compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98 in the event that humans are discovered and ensures that human remains and any associated funerary objects or grave goods are treated with respect and in a manner consistent with state law.

Implementation of MMs CUL-1 through CUL-18 has been incorporated into the Project to reduce this impact to a less than significant level.

MM CUL-1. **Cultural Resources Personnel Professional Qualifications.**

MM CUL-2. **Historic Resources Assessment.**

MM CUL-3. **Historic Resources Evaluation.**

MM CUL-4. **Archaeological Resources Assessment.**

MM CUL-5. **Extended Phase I Archaeological Investigation.**

MM CUL-6. Phase II Archaeological Assessment.

MM CUL-7. Avoidance and Preservation in Place of Archaeological Resources.

MM CUL-8. Phase III Archaeological Resources Data Recovery and Treatment Plan.

MM CUL-9. Archaeological Resources Monitoring and Mitigation Plan.

MM CUL-10. Construction Worker Cultural Resources Sensitivity Training.

MM CUL-11. Archaeological Resources Monitoring.

MM CUL-12. Native American Coordination.

MM CUL-13. Native American Monitoring.

MM CUL-14. Archaeological Resources Discoveries.

MM CUL-15. Curation and Disposition of Cultural Materials.

MM CUL-16. Future Native American Input.

MM CUL-17. Tribal Access Plan.

MM CUL-18. Human Remains Discoveries.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

5. HAZARDOUS MATERIALS

CEQA FINDING NO. 11

Impact: **HAZ-1. Impacts from the Transport, Use, or Disposal of Hazardous materials.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR or MND.

FACTS SUPPORTING THE FINDING(S)

Construction activities (e.g., wetland restoration, flood control, construction of a Stewardship site) proposed as part of the Project do not involve the routine use

or transport of hazardous materials. The Plan area does include several contaminated sites due to the presence of active, idle, or plugged oil wells; historical releases of contamination; and/or the presence of landfill materials. However, the Project area in Commission jurisdiction, as described in the MND, does not include any of these sites. Mitigation measures developed for the PEIR require that construction contractors prepare a health and safety plan in accordance with Cal OSHA regulations. This plan will provide hazard recognition and monitoring information, specify personal protective equipment for workers, outline construction measures to reduce the potential for workers' exposures to hazardous materials in soil, landfill materials, and groundwater, and describe procedures for handling accidental hazardous materials releases and unanticipated contamination. In addition, construction contractors are required to prepare and implement a Soil, Landfilled Materials, and Groundwater Management Plan in compliance with all relevant environmental regulations for the management and disposal of excavated fill, soil, and groundwater. The plan would include describing soil, landfilled materials, and groundwater testing procedures to identify the appropriate reuse and/or disposal options, the containers to be used to transport the materials, and the proposed recycling or disposal facilities along with each facilities acceptance criteria. Impact HAZ-1 was determined to be less than significant in the PEIR and less than significant with mitigation in the MND.

Implementation of MM HAZ-1 and MM HAZ-2 has been incorporated into the Project to reduce this impact to a less than significant level.

MM HAZ-1: Health and Safety Plan

MM HAZ-2: Soil, Landfill Materials, and Groundwater Management Plan

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

6. HYDROLOGY AND WATER QUALITY

CEQA FINDING NO. 12

Impact: **HYD-1. Impacts to Water Quality Standards or Waste Discharge Requirements**.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR and MND.

FACTS SUPPORTING THE FINDING(S)

Construction activities proposed as part of the Project have the potential to expose and remove topsoil and underlying sub-soils that could generate sediment, that if mobilized by stormwater runoff or runoff from applied water during construction, could expose sediment to erosion and potentially mobilize contaminated sediments that would adversely affect the water quality of receiving waters. The PEIR identified measures that will ensure monitoring and adaptive management is conducted to recognize and address any erosion or sediment quality issues. The Monitoring and Adaptive Management Plan will include sediment erosion and deposition monitoring post large storm events to evaluate whether erosion from the marsh is depositing in the San Gabriel River and increasing flood risk. The monitoring will also determine if the marsh habitats are being impacted by erosion and provide measure for addressing the impacts.

Implementation of MM HYD-1 has been incorporated into the Project to reduce this impact to a less than significant level.

MM HYD-1: Monitoring and Adaptive Management Plan.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. 13

Impact: **HYD-3a. Impacts to Drainage Patterns Resulting in Erosion or Siltation**.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR and MND.

FACTS SUPPORTING THE FINDING(S)

Construction activities proposed as part of the Project include ground disturbance, vegetation removal, and/or grading to restore and enhance the wetlands, and building of levees and berms. These activities have the potential to result in exposure and removal of topsoil and the underlying sub-soils, and could generate sediment that, if mobilized by stormwater runoff or runoff from applied water during construction, could deliver sediment-laden runoff to the San Gabriel River or adjacent sites, including the beach, which could result in localized and downstream siltation. The PEIR identified measures that will ensure monitoring and adaptive management is conducted to recognize and address any erosion or sediment quality issues. The Monitoring and Adaptive Management Plan will include sediment erosion and deposition monitoring post

large storm events to evaluate whether erosion from the marsh is depositing in the San Gabriel River and increasing flood risk. The monitoring will also determine if the marsh habitats are being impacted by erosion and provide measure for addressing the impacts.

Implementation of MM HYD-1 has been incorporated into the Project to reduce this impact to a less than significant level.

MM HYD-1: Monitoring and Adaptive Management Plan.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. 14

Impact: **HYD-5. Conflict with a Water Quality Control Plan or Sustainable Groundwater Management Plan.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR or MND.

FACTS SUPPORTING THE FINDING(S)

Construction activities for the Plan would occur in the Los Cerritos Channel and the San Gabriel River, which are listed as impaired waterbodies. Implementation of the Plan would allow for tidal flows into the area, creating favorable water quality conditions by limiting retention time and enhancing tidal exchange. Water demand required for operations is expected to be low and confined to visitor centers and would not interfere with the goals of the Water Replenishment District of Southern California Groundwater Basins Master Plan. The Project area for the MND, being a subset of the Plan area, does not include any impaired waterbodies and will not increase the impervious surface area of the Project site. The PEIR required a mitigation measure, the Monitoring and Adaptive Management Plan, which will provide a framework for monitoring site conditions and will focus on sediment quality in areas subject to the greatest deposition from storm events that are not subject to regular tidal flushing. The findings of monitoring efforts shall be used to identify any source and impairment and provide measures for remediation for sediment source areas. Impact HYD-5 was determined to be less than significant in the PEIR and less than significant with mitigation in the MND.

Implementation of MM HYD-1 has been incorporated into the Project to reduce this impact to a less than significant level.

MM HYD-1: Monitoring and Adaptive Management Plan

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

7. PUBLIC SERVICES

CEQA FINDING NO. 15

Impact: **PS-1a. Impact to Public Services-Fire Protection**.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR and MND.

FACTS SUPPORTING THE FINDING(S)

Demolition and construction activities proposed as part of the Project would require the use of electrical power, fuel, and/or the handling of oil and would increase the number of persons on-site. These activities have the potential to result in increased fire risk and need for emergency services. A PEIR mitigation measure requires that construction workers receive fire safety prevention training regarding activities that pose a potential fire risk, such as handling of oil and other flammable liquids and welding and cutting.

Implementation of MM PS-1 has been incorporated into the Project to reduce this impact to a less than significant level.

MM PS-1: Fire Prevention and Protection Training.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

8. TRIBAL CULTURAL RESOURCES

CEQA FINDING NO. 16

Impact: **TRI-1. Impacts to Historical Resources**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR and MND.

FACTS SUPPORTING THE FINDING(S)

Construction (e.g., development of new channels to restore tidal influence, disturbance to existing salt marshes), restoration (e.g., removal of existing habitat

for restoration and any resulting loss of biological resources), and operations activities (e.g., operations and maintenance of visitor facilities), proposed as part of the Plan have the potential to result in impacts to historical resources and the tribal cultural landscape. This landscape includes the waterways, plants, and animals found in the Los Cerritos Wetlands that are significant to some tribes. The PEIR identified measures developed for other resources areas (cultural resources and biological resources) which would lessen the impacts to historic and archaeological resources that contribute to the significance of the tribal cultural landscape and construction-related impacts to plants and animals that are considered part of the tribal cultural landscape. Impacts determined to be significant and unavoidable in the PEIR were reduced to less than significant with mitigation for the Project in the MND, as the MND was supported by additional studies and tribal consultation to more fully analyze impacts to the tribal cultural landscape (required mitigation for the PEIR).

Implementation of MMs BIO-1 through BIO-11, MM CUL-1, and MMs CUL-4 through CUL-17 has been incorporated into the Project to reduce this impact to a less than significant level.

MM BIO-1: Avoidance of Special Status Plants.

MM BIO-2: Environmental Awareness Training and Biological Monitoring.

MM BIO-3: Belding's Savannah Sparrow Breeding Habitat.

MM BIO-4: Nesting Bird and Raptor Avoidance.

MM BIO-5: Habitat Assessment and Pre-construction Surveys for Burrowing Owls.

MM BIO-6: Minimization of Light Spillage.

MM BIO-7: Pre-construction Bat Surveys.

MM BIO-8: Focused Surveys for Special Status Wildlife Species.

MM-BIO-9: Revegetation of Sensitive Natural Communities.

MM BIO-10: Jurisdictional Resources Permitting.

MM BIO-11 Monitoring and Adaptive Management Plan.

MM CUL-1. **Cultural Resources Personnel Professional Qualifications.**

MM CUL-4. Archaeological Resources Assessment.

MM CUL-5. Extended Phase I Archaeological Investigation.

MM CUL-6. Phase II Archaeological Assessment.

MM CUL-7. Avoidance and Preservation in Place of Archaeological Resources.

MM CUL-8. Phase III Archaeological Resources Data Recovery and Treatment Plan.

MM CUL-9. Archaeological Resources Monitoring and Mitigation Plan.

MM CUL-10. Construction Worker Cultural Resources Sensitivity Training.

MM CUL-11. Archaeological Resources Monitoring.

MM CUL-12. Native American Coordination.

MM CUL-13. Native American Monitoring.

MM CUL-14. Archaeological Resources Discoveries.

MM CUL-15. Curation and Disposition of Cultural Materials.

MM CUL-16. Future Native American Input.

MM CUL-17. Tribal Access Plan.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. 17

Impact: **TRI-2. Impacts to Resources Significant to a California Native American Tribe**.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the Final PEIR and MND.

FACTS SUPPORTING THE FINDING(S)

Construction (e.g., development of new channels to restore tidal influence, disturbance to existing salt marshes), restoration (e.g., removal of existing habitat for restoration and any resulting loss of biological resources), and operations activities (e.g., operations and maintenance of visitor facilities) proposed as part of the Plan have the potential to result in impacts to resources significant to California Native American tribes and the tribal cultural landscape. This landscape includes the waterways, plants, and animals found in the Los Cerritos Wetlands that are significant to some tribes. The PEIR identified measures developed for other resources areas (cultural resources and biological resources) which would lessen the impact to historic and archaeological resources that contribute to the significance of the tribal cultural landscape and construction-related impacts to plants and animals that are considered part of the tribal cultural landscape. Impacts determined to be significant and unavoidable in the PEIR were reduced to less than significant with mitigation for the Project in the MND, as the MND was supported by additional studies and tribal consultation to more fully analyze impacts to the tribal cultural landscape (required mitigation for the PEIR).

Implementation of MMs BIO-1 through BIO-11, MM CUL-1, and MMs CUL-4 through CUL-17 has been incorporated into the Project to reduce this impact to a less than significant level.

MM BIO-1: Avoidance of Special Status Plants.

MM BIO-2: Environmental Awareness Training and Biological Monitoring.

MM BIO-3: Belding's Savannah Sparrow Breeding Habitat.

MM BIO-4: Nesting Bird and Raptor Avoidance.

MM BIO-5: Habitat Assessment and Pre-construction Surveys for Burrowing Owls.

MM BIO-6: Minimization of Light Spillage.

MM BIO-7: Pre-construction Bat Surveys.

MM BIO-8: Focused Surveys for Special Status Wildlife Species.

MM-BIO-9: Revegetation of Sensitive Natural Communities.

MM BIO-10: Jurisdictional Resources Permitting.

MM BIO-11 Monitoring and Adaptive Management Plan.

MM CUL-1. Cultural Resources Personnel Professional Qualifications.

MM CUL-4. Archaeological Resources Assessment.

MM CUL-5. Extended Phase I Archaeological Investigation.

MM CUL-6. Phase II Archaeological Assessment.

MM CUL-7. Avoidance and Preservation in Place of Archaeological Resources.

MM CUL-8. Phase III Archaeological Resources Data Recovery and Treatment Plan.

MM CUL-9. Archaeological Resources Monitoring and Mitigation Plan.

MM CUL-10. Construction Worker Cultural Resources Sensitivity Training.

MM CUL-11. Archaeological Resources Monitoring.

MM CUL-12. Native American Coordination.

MM CUL-13. Native American Monitoring.

MM CUL-14. Archaeological Resources Discoveries.

MM CUL-15. Curation and Disposition of Cultural Materials.

MM CUL-16. Future Native American Input.

MM CUL-17. Tribal Access Plan.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

D. FINDINGS ON ALTERNATIVES

The Commission, as a responsible agency and pursuant to State CEQA Guidelines section 15096, subdivision (g)(2), finds there are no feasible Project alternatives within its powers that would substantially lessen or avoid any outstanding significant effects that the Project, as proposed, would have on the environment.

4.0 CONCLUSION

Based upon the objectives identified in the PEIR, the subsequent determinations made in the MND, and the detailed mitigation measures imposed upon the Project, the Commission has determined the mitigation measures found in Exhibit A, Mitigation Monitoring Program, are sufficient to warrant approving the Project.