CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

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Clean Water Act Section 401 Water Quality Certification
and Waste Discharge Requirements
for Discharge of Dredged and/or Fill Materials

PROJECT: **San Elijo Lagoon Restoration**
Certification Number R9-2016-0111
WDID: 9000003036

Reg. Meas. ID:	405475
Place ID:	823509
Party ID:	487679
Person ID:	487693
Party ID:	7222
Person ID:	544310

APPLICANTS: **San Elijo Lagoon Conservancy**
777 South Highway 101
Suite 112
Solana Beach, CA 92075

California Department of Transportation
District 11
M.S. 333
4050 Taylor Street
San Diego, CA 92110

ACTION:

☐ Order for Low Impact Certification	☐ Order for Denial of Certification
☑ Order for Technically-conditioned Certification	☐ Enrollment in Isolated Waters Order No. 2004-004-DWQ
☑ Enrollment in SWRCB GWDR Order No. 2003-017-DWQ	

PROJECT DESCRIPTION

An application dated March 24, 2016 was submitted by San Elijo Lagoon Conservancy and the California Department of Transportation District 11 (hereinafter Applicants), for Water Quality Certification pursuant to section 401 of the Clean Water Act (United States Code (USC) Title 33, section 1341) for the proposed San Elijo Lagoon Restoration Project (Project). The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) deemed the application complete on September 29, 2016. The Applicants propose to discharge dredged or fill material to waters of the United States and/or State associated with construction activity at the Project site. The Applicants have also applied for a Clean Water Act section 404 permit from the United States Army Corps of Engineers for the Project (USACE File No. SPL-2009-00575).

The Project is located in San Elijo Lagoon along the Pacific coast between the Cities of Encinitas and Solana Beach and extending inland to the community of Rancho Santa Fe, San

Diego County, California. The Project center reading is located at latitude 33.008978 and longitude -117.261415. The Applicants have paid all required application fees for this Certification in the amount of $90,400.00. On an annual basis, the Applicants must also pay all active discharge fees and post discharge monitoring fees, as appropriate[1]. On September 30, 2016, the San Diego Water Board provided public notice of the Project application pursuant to California Code of Regulations, title 23, section 3858 by posting information describing the Project on the San Diego Water Board's web site and providing a period of twenty-one days for public review and comment. No comments were received.

Need for Project

The Applicants propose to implement the San Elijo Lagoon Restoration Project (SELRP) to restore ecological functions of San Elijo Lagoon (also referred to as Lagoon) by increasing tidal influence through reconfiguring lagoon elevations via grading/dredging and modifying water flow into the lagoon via changes to lagoon channels. In addition to Lagoon restoration, the SELRP is also a compensatory mitigation project identified by the Resource Enhancement and Mitigation Program (REMP) group to satisfy compensatory mitigation requirements for several North Coast Corridor development projects. The SELRP will be implemented together with other freeway and railroad improvements in the Lagoon. Over the past several decades, the San Elijo Lagoon ecosystem has gradually degraded due to the expansion of urban development within the upstream watershed. This development has altered the hydrology and, subsequently, the physical and biological functions of the Lagoon ecosystem. Water quality has decreased due to sewage wastewater discharges into the lagoon, nutrient accumulation in lagoon sediments, lack of circulation, and sedimentation in areas of impounded water. The lagoon is currently listed under CWA Section 303(d) as an impaired water body for eutrophic conditions (oversaturated nutrients), indicator bacteria, and sedimentation/siltation. Mechanical breaching of the ocean inlet is routinely performed under permits to maintain a predominantly open inlet and tidal flushing within the Lagoon, although severe tidal muting occurs. Muted tidal conditions, the resulting changes in inundation frequencies, and increasing freshwater flows from upstream development have resulted in the proliferation of freshwater marsh habitat dominated by Cattail (Typha spp.) and the expansion of low- and mid-marsh habitat at the expense of tidal mudflat areas, further decreasing circulation and exacerbating water quality concerns.

If measures are not taken to improve lagoon water quality and hydrology, muted tidal exchange and restricted water circulation will continue to degrade the physical and ecological/biological functions of the Lagoon. Freshwater marsh habitats and higher elevation saltmarsh habitats will likely continue to expand and dominate the system, at the expense of more rare intertidal habitats. Water quality issues will continue to cause eutrophication and low dissolved oxygen conditions that threaten benthic communities and food chain support. Threatened, endangered, and sensitive plant and animal species currently dependent on the

[1] Additional information regarding Water Quality Fees, Waste Discharge Requirement Fees, and Water Quality Certification Dredge and Fill Application Fee Calculator can be found electronically at the following location: http://www.waterboards.ca.gov/resources/fees/water_quality/#wqfees.

aquatic and intertidal habitats within the Lagoon would be adversely affected by these conditions.

The purpose of the SELRP is to enhance and restore the physical and biological functions and services of San Elijo Lagoon. This will be accomplished by increasing hydraulic efficiency in the lagoon, addressing existing water quality impairments (including CWA section 303(d) impairments listed above), and halting ongoing conversion of unvegetated wetland habitats to support a more connected gradient of balanced habitat types. By providing these benefits, the SELRP will result in an overall increase in the ecological function and biological support provided by the Lagoon. Design of the project has involved Southern California Coastal Water Research Project (SCCWRP) coordination to evaluate eutrophication and benthic effects on the Lagoon, and limits for grading/dredging activities associated with the SELRP have been refined over time based on agency input. Limits of grading/dredging have been further reduced by 22 acres compared to the refined proposed project identified in the Final EIR/EIS, to balance the protection of existing wetlands and sensitive species with achieving project water quality and ecological objectives.

Sea level rise within coastal water bodies is a critical agency concern for restoration planning, and the incorporation of transitional areas into the SELRP design was requested by resource agencies' staff to provide additional resiliency to sea level rise. The intent of transitional areas is to expand the potential area available for conversion to wetlands in the future, which is particularly important in lagoons surrounded by urban development with limited perimeter transitional area, such as San Elijo Lagoon. The original project proposal included 10 acres of transitional area, but this design component was reduced to 5 acres to provide a balance between maintaining existing wetland habitat and providing for future wetland conversion. Transitional areas will be created where higher elevations already occur; these areas will be expanded to provide more extensive and natural contouring (e.g. along the existing California Department of Fish and Wildlife (CDFW) dike and sewer outfall alignment). Utilization of these locations would minimize additional impacts to existing wetlands and build upon lower quality perimeter wetland areas as opposed to fragmenting existing expanses of wetland areas in the basin interiors. While this component of the project would result in the temporary loss of waters of the U.S., it is intended to transition from upland to wetland under sea level rise and enhance future wetland acreage that would otherwise be lost.

In addition to potential closure of the inlet by sediment transported during an extreme storm event, the regular flood and ebb currents moving through the inlet will deposit in the inlet, which can change the habitat distribution within the wetlands by reducing tidal range and/or raising elevations. Approximately 40,000 cubic yards of material would be removed through annual inlet maintenance after project construction under permits. As described in the EIR/EIS, a number of components would be a part of the adaptive management strategy for the proposed project. In addition to inlet maintenance, maintenance of focused areas within Lagoon channels could be required as vegetation encroachment or sedimentation occur over time (e.g., due to storm events). Bank protection repair may be required should severe storms or other events result in damage to bridge and channel armor. Additional activities, including dredging or armoring, beyond the initial project scope would not occur without consultation and permits from all relevant agencies.

Description of Activity

The 33-month project includes the construction of and monitoring and maintenance program for, the SELRP, as well as beneficial reuse of the generated material. This project will impact approximately 128 acres in the project area through grading and dredging, reflecting a reduction of 22 acres of impacts to wetlands compared to the alternative proposed in the Final EIR/ EIS. The proposed construction will restore lagoon habitats using low-pressure, earthmoving grading equipment and will control water levels using dikes and pumps for the use of a cutterhead dredge when needed.

Phase 1 (beginning Fall 2017) begins with the construction of Dike 1 and improvement of the existing CDFW dike as necessary to control water levels within the central basin. The dredge will be launched and creation of the overdredge pit initiated, with removed sediment being pumped to placement sites as described below. Clearing and grubbing of the central basin will occur. Grading will occur while water levels are maintained at relatively low levels. Graded materials from outside of proposed channels will be shifted to within channel limits for dredging during subsequent phases. Phase 2 will involve raising water levels to allow for the dredging of the channels in the central basin and placement of that material into the overdredge pit. While material is being pumped into the overdredge pit, clearing and grubbing of higher elevation portions of the east basin will begin, as will construction of Dike 4 under I-5 to control water levels in the east basin. Phase 2 also includes construction of transitional habitat and then release of water controls in the central basin to restore tidal action and recovery. During Phase 3, water levels in the east basin will be lowered, and grading outside of the channels in the east basin will occur. Water levels will then be raised to allow for the dredging of east basin channels. Dredged materials will be placed in the overdredge pit. Dike 4 will be lowered and planting of transitional habitats in the east basin will occur as this phase is completed. In Phase 4, construction of Dike 5 will control water levels in the west basin to allow dredging of the channel. Material removed will be placed in the overdredge pit, and the overdredge pit will be capped with sand. Clearing of the lagoon inlet will open the Lagoon to tidal action. Then active revegetation of remaining transitional and low marsh areas, construction of a nesting area in the central basin, and construction of the pedestrian bridge will complete active construction in the lagoon. The dikes will be removed from the west basin as dredging is completed.

In addition to controlling water elevations, the dike system will also be used as Best Management Practices (BMPs) to control turbidity plumes from the dredging operations and generally replaces silt curtains.

Lagoon restoration has the potential to generate approximately 850,000 cubic yards (CY) of excess sediment through excavation. The proposed project involves creation of an overdredge pit to provide larger-grained material suitable for reuse within the littoral cell. Finer materials will be placed in the overdredge pit and covered. This material will be apportioned among a number of placement sites, as follows: Onshore (Cardiff Beach-300,000 CY and Solana Beach-146,000 CY), offshore (2001 SANDAG SO-6-107,000 CY and 2012 SANDAG SO-6-297,000 CY). Off-site transport will occur through a pipeline extended through the lagoon inlet then to the placement site. Transport to onshore placement sites and both SO-6

sites would occur via pipeline. Up to two booster pumps may be necessary to help convey material through the pipeline.

The Project application includes a description of the design objective, operation, and degree of treatment expected to be attained from equipment, facilities, or activities (including construction and post-construction BMPs) to treat waste and reduce runoff or other effluents which may be discharged. Compliance with the Certification conditions will help ensure that construction and post-construction discharges from the Project will not cause on-site or off-site downstream erosion, damage to downstream properties, or otherwise damage stream habitats in violation of water quality standards in the *Water Quality Control Plan for the San Diego Basin (9)* (Basin Plan).

Project construction will permanently impact up to 231.5 acre of open water, beach, and wetland waters of the United States and/or State. The Applicants report that the Project purpose cannot be practically accomplished in a manner which would avoid or result in less adverse impacts to aquatic resources considering all potential practicable alternatives, such as the potential for alternate available locations, designs, reductions in size, configuration or density.

No compensatory mitigation is needed since the permanent loss of 231.5 acre of jurisdictional waters will be achieved through the restoration of 236 acres of waters of the United States and/or State within the impacted area. The project will provide an overall net gain of waters and improve functions and services. All waters of the United States and/or State receiving temporary discharges of fill material will be restored upon removal of the fill. Mitigation for discharges of fill material to waters of the United States and/or State will be completed by the Applicants in San Elijo Lagoon located in the San Elijo hydrologic sub-area (HSA 904.61) at a minimum compensation ratio of 1.01:1 (area mitigated:area impacted).

Detailed written specifications and work descriptions for the restoration project including, but not limited to, the geographic boundaries of the project, timing, sequence, monitoring, maintenance, ecological success performance standards and provisions for long-term management and protection of the mitigation areas are described in the *San Elijo Lagoon Restoration Project Wetland Restoration Plan* (Restoration Plan), dated August 2016. San Diego Water Board acceptance of the Restoration Plan applies only to the Project described in this Certification and must not be construed as approval for other current or future projects that are planning to use additional acreage at the site for Restoration. The Restoration Plan is incorporated in this Certification by reference as if set forth herein. The Restoration Plan provides for implementation of lagoon restoration which offsets adverse water quality impacts attributed to the Project in a manner that protects and restores the abundance, types and conditions of aquatic resources and supports their beneficial uses. Implementation of the Restoration Plan will reduce significant environmental impacts to resources within the San Diego Water Board's purview to a less than significant level. Based on all of these considerations, the Restoration Plan will adequately compensate for the loss of beneficial uses and habitat within waters of the United States and/or State attributable to the Project.

Additional Project details are provided in Attachments 2 through 5 of this Certification.

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Attachments:

1. **Definitions**
2. **Project Location Maps**
3. **Project Site Plans**
4. **CEQA Mitigation Monitoring and Reporting Program**

I. STANDARD CONDITIONS

Pursuant to section 3860 of title 23 of the California Code of Regulations, the following three standard conditions apply to all water quality certification actions:

A. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the Water Code and chapter 28, article 6 (commencing with title 23, section 3867), of the California Code of Regulations.

B. This Certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility and requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to California Code of Regulations title 23, section 3855 subdivision (b), and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

C. This Certification action is conditioned upon total payment of any fee required under title 23, chapter 28 (commencing with section 3830) of California Code of Regulations and owed by the Applicants.

II. GENERAL CONDITIONS

A. **Term of Certification**. Water Quality Certification No. R9-2016-0111 (Certification) shall expire upon a) the expiration or retraction of the Clean Water Act section 404 (33 USC Title 33, section1344) permit issued by the U.S. Army Corps of Engineers for this Project, or b) five (5) years from the date of issuance of this Certification, whichever occurs first.

B. **Duty to Comply.** The Applicants must comply with all conditions and requirements of this Certification. Any Certification noncompliance constitutes a violation of the Water Code and is grounds for enforcement action or Certification termination, revocation and reissuance, or modification.

C. **General Waste Discharge Requirements**. The requirements of this Certification are enforceable through Water Quality Order No. 2003-0017-DWQ, *Statewide General Waste Discharge Requirements for Discharges of Dredged or Fill Material that have Received State Water Quality Certification* (Water Quality Order No. 2003-0017-DWQ). This provision shall apply irrespective of whether a) the federal permit for which the Certification was obtained is subsequently retracted or is expired, or b) the Certification is expired. Water Quality Order No. 2003-0017-DWQ is accessible at:

http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/generalorders/go_wdr401regulated_projects.pdf.

D. **Project Conformance with Application.** All water quality protection measures and BMPs described in the application and supplemental information for water quality certification are incorporated by reference into this Certification as if fully stated herein. Notwithstanding any more specific conditions in this Certification, the Applicants shall construct, implement and comply with all water quality protection measures and BMPs described in the application and supplemental information. The conditions within this Certification shall supersede conflicting provisions within the application and supplemental information submitted as part of this Certification action.

E. **Project Conformance with Water Quality Control Plans or Policies**. Notwithstanding any more specific conditions in this Certification, the Project shall be constructed in a manner consistent with the Water Quality Control Plan for the San Diego Basin (Basin Plan), the California Ocean Plan, and any other applicable water quality control plans or policies adopted or approved pursuant to the Porter Cologne Water Quality Act (Division 7, commencing with Water Code Section 13000) or section 303 of the Clean Water Act (33 USC section 1313). The Basin Plan and Ocean Plan are accessible at:

Basin Plan
http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml

Ocean Plan
http://www.waterboards.ca.gov/water_issues/programs/ocean/docs/cop2015.pdf

F. **Project Modification**. The Applicants must submit any changes to the Project, including Project operation, which would have a significant or material effect on the findings, conclusions, or conditions of this Certification, to the San Diego Water Board for prior review and written approval. If the San Diego Water Board is not notified of a significant change to the Project, it will be considered a violation of this Certification.

G. **Certification Distribution Posting**. During Project construction, the Applicants must maintain a copy of this Certification at the Project site. This Certification must be available at all times to site personnel and agencies. A copy of this Certification shall also be provided to any contractor or subcontractor performing construction work, and the copy shall remain in their possession at the Project site.

H. **Inspection and Entry**. The Applicants must allow the San Diego Water Board or the State Water Resources Control Board, and/or their authorized representative(s) (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents as may be required under law, to:

1. Enter upon the Project or Compensatory Mitigation site(s) premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Certification;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Certification;

3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Certification; and

4. Sample or monitor, at reasonable times, for the purposes of assuring Certification compliance, or as otherwise authorized by the Clean Water Act or Water Code, any substances or parameters at any location.

I. **Enforcement Notification**. In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under State law. For purposes of section 401(d) of the Clean Water Act, the applicability of any State law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification.

J. **Certification Actions**. This Certification may be modified, revoked and reissued, or terminated for cause including but not limited to the following:

1. Violation of any term or condition of this Certification;

2. Monitoring results indicate that continued Project activities could violate water quality objectives or impair the beneficial uses of the San Elijo Lagoon, its tributaries, or the Pacific Ocean;

3. Obtaining this Certification by misrepresentation or failure to disclose fully all relevant facts;

4. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and

5. Incorporation of any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act.

The filing of a request by the Applicants for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Certification condition.

K. **Duty to Provide Information**. The Applicants shall furnish to the San Diego Water Board, within a reasonable time, any information which the San Diego Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Certification or to determine compliance with this Certification.

L. **Property Rights**. This Certification does not convey any property rights of any sort, or any exclusive privilege.

M. **Petitions**. Any person aggrieved by this action of the San Diego Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with the California Code of Regulations, title 23, sections 3867 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Certification. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

III. CONSTRUCTION BEST MANAGEMENT PRACTICES

A. **Approvals to Commence Construction**. The Applicants shall not commence Project construction until all necessary federal, State, and local approvals are obtained.

B. **Personnel Education.** Prior to the start of the Project, and annually thereafter, the Applicants must educate all personnel on the requirements in this Certification, pollution prevention measures, spill response measures, and BMP implementation and maintenance measures.

C. **Spill Containment Materials.** The Applicants must, at all times, maintain appropriate types and sufficient quantities of materials on-site to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach waters of the United States and/or State.

D. **Waste Management.** The Applicants must properly manage, store, treat, and dispose of wastes in accordance with applicable federal, state, and local laws and regulations. Waste management shall be implemented to avoid or minimize exposure of wastes to precipitation or storm water runoff. The storage, handling, treatment, or disposal of waste shall not create conditions of pollution, contamination or nuisance as defined in Water Code section 13050. Upon Project completion, all Project generated debris, building materials, excess material, waste, and trash shall be removed from the Project site(s) for disposal at an authorized landfill or other disposal site in compliance with federal, state and local laws and regulations.

E. **Waste Management**. Except for a discharge permitted under this Certification, the dumping, deposition, or discharge of trash, rubbish, unset cement or asphalt, concrete, grout, damaged concrete or asphalt, concrete or asphalt spoils, wash water, organic or earthen material, steel, sawdust or other construction debris waste from Project activities directly into waters of the United States and or State, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited.

F. **Downstream Erosion.** Discharges of concentrated flow during construction or after Project completion must not cause downstream erosion or damage to properties or stream habitat.

G. **Construction Equipment**. All equipment must be washed prior to transport to the Project site and must be free of sediment, debris, and foreign matter. All equipment used in direct contact with surface water shall be steam cleaned prior to use. All equipment using gas, oil, hydraulic fluid, or other petroleum products shall be inspected for leaks prior to use and shall be monitored for leakage. Stationary equipment (e.g., motors, pumps, generator, etc.) shall be positioned over drip pans or other types of containment.

H. **Process Water.** Water containing mud, silt, or other pollutants from equipment washing or other activities, must not be discharged to waters of the United States and/or State or placed in locations that may be subjected to storm water runoff flows. Pollutants discharged to areas within a stream diversion must be removed at the end of each work day or sooner if rain is predicted.

I. **Surface Water Diversion.** All surface waters, including ponded waters, must be diverted away from areas of active grading, construction, excavation, vegetation removal, and/or any other activity which may result in a discharge to the receiving water. Diversion activities must not result in the degradation of beneficial uses or exceedance of the receiving water quality objectives. Any temporary dam or other artificial obstruction constructed must only be built from native materials. Normal flows must be restored to the affected areas immediately upon completion of work at that location.

J. **Re-vegetation and Stabilization.** The Applicants shall implement and maintain BMPs to prevent erosion of the rough graded areas. After completion of grading, all areas must be re-vegetated with native species appropriate for the area. The re-vegetation palette must not contain any plants listed on the California Invasive Plant Council Invasive Plant Inventory, which can be accessed at http://www.cal-ipc.org/ip/inventory/.

K. **Hazardous Materials.** Except as authorized by this Certification, substances hazardous to aquatic life including, but not limited to, petroleum products, unused cement/concrete, asphalt, and coating materials, must be prevented from contaminating the soil and/or entering waters of the United States and/or State. BMPs must be implemented to prevent such discharges during each Project activity involving hazardous materials.

L. **Vegetation Removal.** Removal of vegetation must occur by hand, mechanically, or through application of United States Environmental Protection Agency (USEPA) approved herbicides deployed using applicable BMPs to minimize adverse effects to beneficial uses of waters of the United States and/or State. Discharges related to the application of aquatic pesticides within waters of the United States must be done in

compliance with State Water Resources Control Board Water Quality Order No. 2004-0009-DWQ, the *Statewide General National Pollution Discharge Elimination System Permit for the Discharge of Aquatic Weed Control in Waters of the United States,* and any subsequent reissuance as applicable.

M. **Limits of Disturbance.** The Applicants shall clearly define the limits of Project disturbance to waters of the United States and/or State using highly visible markers such as flag markers, construction fencing, or silt barriers prior to commencement of Project construction activities within those areas.

N. **On-site Qualified Biologist.** The Applicants shall designate an on-site qualified biologist to monitor Project construction activities within or adjacent to waters of the United States and/or State to ensure compliance with the Certification requirements. The biologist shall be given the authority to stop all work on-site if a violation of this Certification occurs or has the potential to occur. Records and field notes of the biologist's activities shall be kept on-site and made available for review upon request by the San Diego Water Board.

O. **Beneficial Use Protection**. The Applicants must take all necessary measures to protect the beneficial uses of waters of San Elijo Lagoon and the Pacific Ocean. This Certification requires compliance with all applicable requirements of the Basin Plan and Ocean Plan. If at any time, an unauthorized discharge to surface waters (including rivers or streams) occurs or monitoring indicates that the Project is violating, or threatens to violate, water quality objectives, the associated Project activities shall cease immediately and the San Diego Water Board shall be notified in accordance with Notification Requirement VII.A of this Certification. Associated Project activities may not resume without approval from the San Diego Water Board.

P. **Turbidity Monitoring in San Elijo Lagoon.** Turbidity must be monitored in nephelometric turbidity units (NTU Natural light[2]shall not be significantly[3] reduced at any point outside the initial[4] dilution zone as a result of the discharge of waste[5].

Q. **Dredge Limit Volume.** The volume of sediment dredged from San Elijo Lagoon must not exceed 850,000 cubic yards. The volume of dredged sediment designated for beneficial reuse at the onshore disposal location at Cardiff Beach and Solana Beach shall not exceed 300,000 cubic yards and 146,000 cubic yards, respectively. Dredged sediment designated for ocean disposal shall be disposed of at the 2001 SANDAG SO-6 and 2012 SANDAG SO-6 sites and shall not exceed 107,000 cubic yards and 297,000 cubic yards, respectively.

R. **Dike System.** A dike system shall be implemented to contain turbidity generated by dredging and other construction activities. Any discharges of sediment laden or turbid water from these activities outside the diked area, shall comply with the General Construction Storm Water Permit referenced in General Condition III.D.

S. **Silt Curtain Deployment**. As applicable and where water depths allow, the Applicant shall deploy and maintain a continuous length of silt curtain, fully surrounding active dredging, loading, and/or desilting discharges in conformance with the following requirements:

1. The silt curtains must restrict the surface visible turbidity plume or surface debris to the area of construction and dredging and must control and contain the migration of re-suspended sediments or debris at the water surface and at depth;

2. The silt curtain must be maintained as a full turbidity enclosure;

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[2] NATURAL LIGHT: Reduction of natural light may be determined by the Regional Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Board.

[3] SIGNIFICANT difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

[4] INITIAL DILUTION is the process which results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and nonbuoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant* mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Board, whichever results in the lower estimate for initial dilution.

[5] WASTE: As used in this Plan, waste includes a discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

3. The bottom of the silt curtains must be weighted with ballast to resist fabric buoyancy and lateral movement. Where feasible and applicable, the floating silt curtains must be anchored and deployed from the surface of the water to just above the substrate;

4. The silt curtain must monitored for damage, dislocation, gaps, and must be immediately repaired where it is no longer continuous or where it has loosened; and

5. The silt curtain must not be removed until the visible turbidity plume has dissipated and/or surface debris is skimmed and removed.

T. **Placement of Dredge Material Suitable for Beneficial Reuse.** The Applicant shall place dredged material determined by the USACE and USEPA to be suitable for beneficial reuse at the onshore locations on Cardiff Beach and Solana Beach, and offshore sites 2001 SANDAG SO-6 and 2012 SANDAG SO-6 in accordance with the following additional project elements to ensure protection of sensitive resources and water quality outside of the active placement sites:

1. Sediment shall be transported to the placement and disposal areas in pipelines in a way that prevents the unintentional discharge of sediment.

2. The Applicants shall visually monitor the placement and disposal operations as well as areas of excessive turbidity associated with the dredger and support equipment.

3. Visual monitoring of sediment movement and turbidity levels shall be performed by the Applicant during and after sediment placement in accordance with Section VI.J of this Certification.

U. **Sand Composition.** The dredged material used for on-shore or offshore beach nourishment must have at least 80 percent sand and no more than 10 percent difference in sand composition from the receiving beach, and must not have a significant chemical contamination. The Project must not impact the aesthetic characteristics of the receiving beaches and/or adjacent ocean waters.

U. **Trash.** The dredged material deposited on-shore or offshore of the beach must be free of trash and debris.

V. **BMPs and Monitoring.** The Applicants must comply with the *San Elijo Lagoon Restoration, Proposed Water Quality BMP and Monitoring Information for R9-2016-0111* (Attachment 5).

IV. POST-CONSTRUCTION BEST MANAGEMENT PRACTICES

A. **Post-Construction Discharges.** The Applicants shall not allow post-construction discharges from the Project site to cause or contribute to on-site or off-site erosion or damage to properties or habitats.

V. PROJECT IMPACTS AND RESTORATION

A. **Project Impact Avoidance and Minimization**. The Project must avoid and minimize adverse impacts to waters of the United States and/or State to the maximum extent practicable.

B. **Project Impacts and Compensatory Mitigation.** Unavoidable Project impacts to San Elijo Lagoon and the Pacific Ocean within the Carlsbad Watershed must not exceed the type and magnitude of impacts described in the table below. At a minimum, compensatory mitigation required to offset unavoidable temporary and permanent Project impacts to waters of the United States and/or State must be achieved as described in the table below:

	Impacts (acres)	Impacts (linear ft.)	Mitigation for Impacts (acres)	Mitigation Ratio (area mitigated :area impacted)	Mitigation for Impacts (linear ft.)	Mitigation Ratio (linear feet mitigated :linear feet impacted)
Permanent Impacts						
Ocean[a]	103.5	N/A	[c]	N/A	N/A	N/A
San Elijo Lagoon Wetland[b]	128	N/A	[d]	N/A	N/A	N/A
Temporary Impacts						
Wetland[e]	26.9	1,266	N/A	N/A	N/A	N/A

N/A = Not Applicable

a. Ocean impacts will occur from placement of sand on Cardiff Beach (300,000 cubic yards), Solana Beach (146,000 cubic yards), and the disposal of sand in SANDAG offshore disposal sites (404,000 cubic yards).

b. Wetland impacts in San Elijo Lagoon will occur from grading and dredging (850,000 cubic yards) and will represent a short-term degradation of ecological function.

c. Compensatory mitigation for impacts attributable to dredge material beneficial reuse is not required because the result from the impacts will continue to provide existing aquatic habitat for beneficial uses.

d. The project will provide for restoration of 236 acres of waters of the United States and/or State within the San Elijo Lagoon. The Project will provide an overall net gain of waters and improve functions and services. The impacts associated with dredging will include temporary and localized increases in suspended sediment (i.e., turbidity) along with a potential for reduced dissolved oxygen levels associated with disturbance of anoxic sediment compounds. Deployment of the dike system and silt curtains to contain the plume will reduce this impact to a less than significant level. Additionally, the Project will have temporary effects on marine life of varying degrees. Mobile aquatic organisms will most likely need to vacate the area of disturbance during the short duration of the Project. Impacts to benthic organisms and habitat through direct removal or indirect disturbance of existing bottom sediments is less than significant as benthic communities are anticipated to recolonize the disturbed sediment areas within 2 to 6 months. Based on all of these considerations, compensatory mitigation for the above-described impacts is not required.

e. Temporary impacts to wetlands will occur from engineered inundation (temporary flooding to float a barge dredge) and must be re-vegetated with native species.

C. **Restoration Plan Implementation.** The Applicants must fully and completely implement the Restoration Plan; any deviations from, or revisions to, the Restoration Plan must be pre-approved by the San Diego Water Board.

D. **Performance Standards.** Restoration required under this Certification shall be considered achieved once it has met the ecological success performance standards contained in the Restoration Plan dated August 2016 to the satisfaction of the San Diego Water Board.

E. **Restoration Site Design.** The restoration Project shall be designed to be self-sustaining once performance standards have been achieved. This includes minimization of active engineering features (e.g., pumps) and appropriate siting to ensure that natural hydrology and landscape context support long-term sustainability in conformance with the following conditions:

   a. Most of the channels through the Project area shall be characterized by equilibrium conditions, with no evidence of severe aggradation or degradation;

   b. As viewed along cross-sections, the channel and buffer area(s) shall have a variety of slopes, or elevations, that are characterized by different moisture gradients. Each sub-slope shall contain physical patch types or features that contribute to irregularity in height, edges, or surface and to complex topography overall; and

   c. The restoration shall have a well-developed plant community characterized by a high degree of horizontal and vertical interspersion among plant zones and layers.

F. **Temporary Project Impact Areas.** The Applicants must restore all areas of temporary impacts and all other areas of temporary disturbance which could result in a discharge or a threatened discharge of pollutants to waters of the United States and/or State. Restoration must include grading of disturbed areas to pre-project contours and re-vegetation with native species. The Applicants must implement all necessary BMPs to control erosion and runoff from areas associated with the Project.

G. **Long-Term Management and Maintenance.** The compensatory mitigation site(s) must be managed, protected, and maintained, in perpetuity, in conformance with the long-term management plan and the final ecological success performance standards identified in the Restoration Plan. The aquatic habitats and buffers that comprise the restoration areas must be protected in perpetuity from land-use and maintenance activities that may threaten water quality or beneficial uses within the restoration areas in a manner consistent with the following requirements:

   a. Any maintenance activities in the restored areas that do not contribute to the success of the mitigation site(s) and enhancement of beneficial uses and ecological functions and services are prohibited;

   b. Maintenance activities must be limited to the removal of trash and debris, removal of exotic plant species, replacement of dead native plant species, and remedial measures deemed necessary for the success of the restoration Project;

c. The restored areas must be maintained, in perpetuity, free of perennial exotic plant species including, but not limited to, pampas grass, giant reed, tamarisk, sweet fennel, tree tobacco, castor bean, and pepper tree. Annual exotic plant species must not occupy more than 5 percent of the mitigation site(s); and

d. If at any time a catastrophic natural event (e.g., fire, flood) causes damage(s) to the mitigation site(s) or other deficiencies in the Project, the Applicants must take prompt and appropriate action to repair the damage(s) including replanting the affected area(s) and address any other deficiencies. The San Diego Water Board may require additional monitoring by the Applicants to assess how the Project is responding to a catastrophic natural event.

H. **Restored Areas Preservation Mechanism. Within 90 days from the issuance of this Certification**, the Applicants must provide the San Diego Water Board with a draft preservation mechanism (e.g. deed restriction, conservation easement, etc.) that will protect all mitigation areas and their buffers in perpetuity. **Within 90 days of the start of Project construction**, the Applicants must submit proof of a completed final preservation mechanism that will protect all mitigation areas and their buffers in perpetuity. The conservation easement, deed restriction, or other legal limitation on the mitigation properties must be adequate to demonstrate that the sites will be maintained without future development or encroachment on the sites which could otherwise reduce the functions and values of the sites for the variety of beneficial uses of waters of the United States and/ or State that it supports. The legal limitation must prohibit, without exception, all residential, commercial, industrial, institutional, and transportation development, and any other infrastructure development that would not maintain or enhance the wetland and streambed functions and values of the sites. The preservation mechanism must clearly prohibit activities that would result in soil disturbance or vegetation removal, other than the removal of non-native vegetation. Other infrastructure development to be prohibited includes, but is not limited to, additional utility lines, maintenance roads, and areas of maintained landscaping for recreation.

VI. MONITORING AND REPORTING REQUIREMENTS

A. **Representative Monitoring**. Samples and measurements taken for the purpose of monitoring under this Certification shall be representative of the monitored activity.

B. **Monitoring Reports**. Monitoring results shall be reported to the San Diego Water Board at the intervals specified in section VI of this Certification.

C. **USEPA Test Procedures.** Monitoring must be conducted according to USEPA test procedures approved under Title 40, Code of Federal Regulations (CFR), Part 136, Guidelines Establishing Test Procedures for Analysis of Pollutants Under the Clean Water Act as amended, unless other test procedures have been specified in this Certification.

D. **Monitoring Instruments.** All monitoring instruments and devices, which are used by the Applicant to fulfill the prescribed monitoring program, must be properly maintained and calibrated as necessary to ensure their continued accuracy.

E. **Certified Laboratory.** All laboratory analyses must be performed in a laboratory certified to perform such analyses under the State Water Resources Control Board's Environmental Laboratory Accreditation Program or a laboratory approved by the San Diego Water Board.

F. **Monitoring and Reporting Revisions**. The San Diego Water Board may make revisions to the monitoring program at any time during the term of this Certification and may reduce or increase the number of parameters to be monitored, locations monitored, the frequency of monitoring, or the number and size of samples collected.

G. The Applicant must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Certification, and records of all data used to complete the application for this Certification. Records must be maintained for a minimum of ten years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this Project or when requested by the San Diego Water Board

H. **Records of Monitoring Information.** Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;

2. The individual(s) who performed the sampling or measurements;

3. The date(s) analyses were performed;

4. The individual(s) who performed the analyses;

5. The analytical techniques or methods used; and

6. The results of such analyses.

I. **California Rapid Assessment Method.** California Rapid Assessment Method (CRAM)[6] monitoring must be performed to assess the current and potential ecological conditions (ecological integrity) of the impact site and proposed compensatory mitigation site(s). These conditions reflect the overall level of ecological function of an aquatic resource. Prior to initiating Project construction, the Applicants shall develop a monitoring plan to implement California Rapid Assessment Method (CRAM) monitoring.

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[6] The most recent versions of the California Rapid Assessment Method (CRAM) for Wetlands and additional information regarding CRAM can be accessed at http://www.cramwetlands.org/

The Applicants must conduct a quantitative function-based assessment of the health of streambed habitat to establish pre-project baseline conditions, set CRAM success criteria, and assess the mitigation site(s) progress towards meeting the success criteria. CRAM monitoring must be conducted prior to the start of Project construction authorized under this Certification and during years 1, 3, and 5, and then every other year until success criteria is achieved following construction completion. The annual CRAM monitoring results shall be submitted with the Annual Project Progress Report. An evaluation, interpretation, and tabulation of all CRAM assessment data shall be submitted with the Final Project Completion Report.

J. **Dredged Material Evaluation.** Dredged material must be sampled and tested according to the document entitled "1991 Evaluation of Dredge Materials Proposed for Ocean Disposal" under the direction and approval of USACE and USEPA.

K. **Receiving Water Visual Observation Monitoring.** The Applicant must conduct visual observation monitoring of the Project activities in San Elijo Lagoon, Cardiff Beach, Solana Beach, 2001 SANDAG SO-6-107, 2012 SANDAG SO-6-107 prior to, during, and after each period of project construction. The visual observation monitoring documentation must be included in the Receiving Water and Visual Observation Monitoring Report(s).

1. **Parameters.** The following parameters, at a minimum, shall be recorded and visually monitored immediately outside of the construction area and in the vicinity of the onshore or offshore sand placement:

   i. Tidal stage;

   ii. Speed and direction of currents;

   iii. Appearance of floating particulates, rubbish, refuse, garbage, trash or any other solid waste, suspended materials, grease, or oil;

   iv. Discoloration of the water surface, extent of turbidity plume, and any observable sediment movement; and

   v. Presence of nuisance odors attributable to the dredge activity or dredged material discharge activity to the beach disposal area.

2. **Field Documentation.** All visual observations shall be recorded throughout Project construction activities. In addition to the requirements listed in section VI.H., monitoring field logs shall include observations of water quality conditions including sheen, color, odor, floating particulates, and surface visible turbidity plume. Logs shall also include observations of sensitive biological resources and weather conditions, such as wind speed/direction and cloud cover.

   If photo documentation is used in support of visual observations of water quality

conditions, it should be conducted in accordance with guidelines posted at http://www.waterboards.ca.gov/sandiego/water_issues/programs/401_certification/docs/401c/401PhotoDocRB9V713.pdf. In addition, photo documentation should include Global Positioning System (GPS) coordinates for each of the photo points referenced; and,

3. **Response Actions.** If the condition of a deployed silt curtain is observed to be damaged, has become dislocated, or has gaps where a visible turbidity plume is forming outside of the silt curtain at the Project Site, a response action shall be taken immediately to correct the situation. Response actions may include, but are not limited to, work stoppage until silt curtain repair is completed, implementation of operational modifications, and/or implementation of additional BMPs (e.g., a second silt curtain). Response actions, if needed, shall be documented in the monitoring field log.

L. **Receiving Water Quality Monitoring**. The Applicant shall conduct receiving water monitoring during construction activities at the Project Site and at the SANDAG disposal sites during disposal to verify that applicable water quality standards for pH, dissolved oxygen and turbidity are not violated outside of the construction areas. The monitoring plan shall contain the following elements:

1. **Monitoring Stations**. During each monitoring event, water quality parameters including turbidity, dissolved oxygen, and pH shall be measured at three stations at the Project Site and at three stations at the SANDAG disposal sites. Monitored water quality measurements shall be compared to "ambient" water quality reference measurements outside of the respective construction or disposal areas in San Elijo Lagoon or the Pacific Ocean, respectively. Two stations shall be compliance stations and one station shall be a reference station. Monitoring station positions shall be located using a Global Position System (GPS) accurate to within ±3 meters. Station descriptions are as follows:

   i. ***Compliance Stations***. Two monitoring stations at the Project Site shall be located evenly along an arc located 200 feet from the edge of the containment areas to capture all tidal and current conditions at the time of dredging at each area.

   Two monitoring stations at the SANDAG disposal sites shall be located 100 and 300 feet down current from the edge of the disposal activities to capture tidal and current conditions.

   The locations shall be adjusted in the field to better target a visible turbidity plume, if a visible plume is observed; and

   ii. **Reference *Station***. One reference station for the Restoration Project shall be located at least 300 feet from the construction activity and beyond the influence of construction activities.

One reference station for the SANDAG disposal sites shall be located at least 300 feet up current of the disposal area and beyond the influence of disposal activities.

Natural turbidity, dissolved oxygen, and pH shall be determined through measurements at the reference stations. A reference station shall be monitored during every event, because the turbidity water quality objective is based on an acceptably small increase in the vicinity of the construction/disposal activity relative to ambient reference levels. The location of the reference station shall remain the same for all monitoring events;

2. **Water Quality Measurements**. Monitored water quality measurements for turbidity, dissolved oxygen, and pH at the Compliance Stations shall be compared to Reference Station measurements outside the construction area. Water quality measurements shall be collected from a depth of 10 feet below the water surface, or in the deepest area of the lagoon bed at each of the stations. Monitoring depths shall be determined using a depth finder with an accuracy of ±0.5 feet. Water quality shall be monitored using instrumentation capable of measuring dissolved oxygen (dO_2), pH, and turbidity (in nephelometric turbidity units (NTU's));

3. **Monitoring Frequency**. During dredging, manual water quality samples shall be collected once daily after dredging operations have been underway for a minimum of one hour. The reference station outside the influence of dredging shall also be sampled at similar depths and frequency for comparison to the samples collected from the dredge area. Sampling may be reduced to weekly sampling if no water quality exceedances of the Receiving Water Limitations described in section II.E of this Certification are observed or measured after 3 consecutive days of monitoring.

   If after 3 consecutive days without an exceedance the monitoring frequency is reduced to weekly, all water quality parameters may be measured during one monitoring event per week. The monitoring frequency must return to daily if an exceedance of the Receiving Water Limitations described in section II.E of this Certification is observed or measured. The monitoring frequency can again be reduced to weekly sampling if 3 consecutive days of monitoring show there are no exceedances of Receiving Water Limitations.

   During on-shore or offshore disposal, water quality monitoring at all Compliance and Reference Stations shall be conducted during each discharge event after disposal activities have been underway for at least 1 hour.

4. **Sample Integrity**. The integrity of each water sample collected shall be maintained from the time of collection to the point of data reporting. Proper record keeping and chain of custody (COC) procedures shall be implemented to allow samples to be traced from collection to final disposition. After collection of water samples, documentation on various logs and forms shall be required to adequately identify and catalog sample information; and

5. **Compliance Criteria**. Applicable water quality objectives are referenced in section II.E of this Certification. The point of compliance with with applicable water quality objectives shall be located at the compliance monitoring stations described above. The Project construction area is defined as the area(s) occupied by the dredging barge(s), the scow(s), silt curtains, and other associated work activities. The disposal site area is defined as the drop point where the material is discharged at the on-shore or offshore disposal site locations in the Pacific Ocean.

M. **Response Actions to Monitoring Results**. In the event that visual observations or water quality monitoring described in Section VI.J and VI.K of this Certification indicate an exceedance of an applicable Receiving Water Limitation described in Section II.E of this Certification, the Applicant shall implement the additional or enhanced operational or engineering BMPs described below:

1. Evaluate the concurrent measurements at background and compliance monitoring stations and supporting visual evidence to determine whether the exceedance is caused by the dredging or disposal activities or by other ambient conditions in the San Elijo Lagoon or Pacific Ocean (e.g., wind waves, boat wakes, barge/ship traffic, and storm inflow).

2. Immediately re-take measurements at background and compliance stations.

3. If the exceedance is confirmed, immediately notify the dredge contractor to immediately modify operations or implement additional BMPs to mitigate the exceedance. Operational modifications may include, but are not limited to the following modifications implemented individually or in combination:

   i. Adjust the sequence and/or speed of dredging and disposal operations;

   ii. Reposition dredge operations in such a way as to ensure future exceedances do not occur;

   iii. Fix, maintain, and/or upgrade floating silt curtains; and

   iv. Modify, either on a temporary or permanent basis, dredge equipment (such as the dredging bucket size or type).

4. Re-evaluate field measurements at all relevant stations 30 minutes later, after additional BMPs or operational modifications are implemented.

5. If the receiving water limitation exceedance continues to persist, even with additional BMPs, determine and implement more aggressive BMPs or operational modifications that resolve the exceedance or stop work to further assess the source of the exceedance, identify effective mitigation measures, and allow the water column to recover.

N. **Receiving Water and Visual Observation Monitoring Report**. The Applicant shall prepare monitoring reports that contain the results of receiving water quality and visual observation monitoring activities for each week of that month. The reports must be submitted no later than 30 days following each calendar month of in-water construction and must include:

1. The following identification numbers included at the end of the header or subject line: Certification No. R9-20156-0111:823509:mporter;

2. The names, qualifications, and affiliations of the persons contributing to the report;

3. A summary table of the monitoring results with a comparison to receiving water limitation compliance criteria;

4. An evaluation, interpretation, and tabulation of the visual observations required under section VI.J and water quality data required under section VI.K including interpretations and conclusions as to whether applicable receiving water limitations were attained at each monitoring station;

5. A description of each incident of non-compliance and its cause, the period of the noncompliance including exact dates and times, and actions taken to reduce, eliminate, and prevent reoccurrence of the noncompliance; and

6. For any weekly monitoring period in which no dredging or disposal activities were conducted, the reporting must include a statement certifying that no dredging or discharge activities occurred during the monitoring period.

O. **Geographic Information System Data.** The Applicants must submit Geographic Information System (GIS) shape files of the Project impact sites within 30 days of the start of Project construction and GIS shape files of the Project mitigation sites within 30 days of mitigation installation. All impact and mitigation site shape files must be polygons. Two GPS readings (points) must be taken on each line of the polygon and the polygon must have a minimum of 10 points. GIS metadata must also be submitted.

P. **Annual Project Progress Reports.** The Applicants must submit annual Project progress reports describing status of construction BMP implementation, the San Elio Lagoon restoration, the placement of sand on beaches and littoral areas, and compliance with all requirements of this Certification to the San Diego Water Board prior to **March 1** of each year following the issuance of this Certification, until the Project has reached completion. The Annual Project Progress Reports must contain monitoring information sufficient to demonstrate how the Project is progressing towards accomplishing its objectives and meeting its performance standards. Annual Project Progress Reports must be submitted even if Project construction has not begun. The monitoring period for each Annual Project Progress Report shall be January 1st through

December 31st of each year. Annual Project Progress Reports must include, at a minimum, the following:

1. **Project Status and Compliance Reporting.** The Annual Project Progress Report must include the following Project status and compliance information:

   a. The names, qualifications, and affiliations of the persons contributing to the report;

   b. The status, progress, and anticipated schedule for completion of Project construction activities including the installation and operational status of best management practices Project features for erosion and storm water quality treatment;

   c. A description of Project construction delays encountered or anticipated that may affect the schedule for construction completion; and

   d. A description of each incident of noncompliance during the annual monitoring period and its cause, the period of the noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

2. **Restoration Monitoring Reporting.** Restoration monitoring information must be submitted as part of the Annual Project Progress Report for a period of not less than five years, sufficient to demonstrate that the Project has accomplished its objectives and met ecological success performance standards contained in the Restoration Plan. Following Project implementation the San Diego Water Board may reduce or waive monitoring requirements upon a determination that performance standards have been achieved. Conversely the San Diego Water Board may extend the monitoring period beyond five years upon a determination that the performance standards have not been met or the Restoration Project is not on track to meet them. The Annual Project Progress Report must include the following compensatory mitigation monitoring information:

   a. Names, qualifications, and affiliations of the persons contributing to the report;

   b. An evaluation, interpretation, and tabulation of the parameters being monitored, including the results of the Restoration Plan monitoring program, and all quantitative and qualitative data collected in the field;

   c. A description of the following mitigation site(s) characteristics:

      i. General topographic complexity;
      ii. General upstream and downstream habitat and hydrologic connectivity; and
      iii. Source of hydrology.

d. Monitoring data interpretations and conclusions as to how the Project is progressing towards meeting performance standards and whether the performance standards have been met;

e. A description of the progress toward implementing a plan to manage the restoration project after performance standards have been achieved to ensure the long term sustainability of the resource in perpetuity, including a discussion of long term financing mechanisms, the party responsible for long term management, and a timetable for future steps;

f. Qualitative and quantitative comparisons of current lagoon conditions with pre-construction conditions and previous lagoon monitoring results;

g. Photo documentation, including all areas of permanent and temporary impact, prior to and after mitigation site construction. Photo documentation must be conducted in accordance with guidelines posted at http://www.waterboards.ca.gov/sandiego/water_issues/programs/401_certification/docs/401c/401PhotoDocRB9V713.pdf. In addition, photo documentation must include Geographic Positioning System (GPS) coordinates for each of the photo points referenced;

h. A qualitative comparison to adjacent preserved wetland areas;

i. The results of the California Rapid Assessment Method (CRAM) monitoring required under section VI. of this Certification;

j. A survey report documenting boundaries of the progress of restored areas.

Q. **Final Project Completion Report.** The Applicants must submit a Final Project Completion Report to the San Diego Water Board **within 30 days of completion of the Project.** The final report must include the following information:

1. Date of construction initiation;

2. Date of construction completion;

3. As-built drawings of the Project, no bigger than 11"X17";

4. Photo documentation of implemented post-construction BMPs and all areas of permanent and temporary impacts, prior to and after project construction. Photo documentation must be conducted in accordance with guidelines posted at http://www.waterboards.ca.gov/sandiego/water_issues/programs/401_certification/docs/401c/401PhotoDocRB9V713.pdf. In addition, photo documentation must include Global Positioning System (GPS) coordinates for each of the photo points referenced; and

5. An evaluation, interpretation, and tabulation of all California Rapid Assessment Method (CRAM) assessment data collected throughout the term of Project construction in accordance with section VI.I of this Certification.

R. **Reporting Authority.** The submittal of information required under this Certification, or in response to a suspected violation of any condition of this Certification, is required pursuant to Water Code section 13267 and 13383. Civil liability may be administratively imposed by the San Diego Water Board for failure to submit information pursuant to Water Code sections 13268 or 13385.

S. **Electronic Document Submittal.** The Applicants must submit all reports and information required under this Certification in electronic format via e-mail to SanDiego@waterboards.ca.gov. Documents over 50 megabytes will not be accepted via e-mail and must be placed on a disc and delivered to:

California Regional Water Quality Control Board
San Diego Region
Attn: 401 Certification No. R9-2016-0111:823509:mporter
2375 Northside Drive, Suite 100
San Diego, California 92108

Each electronic document must be submitted as a single file, in Portable Document Format (PDF), and converted to text searchable format using Optical Character Recognition (OCR). All electronic documents must include scanned copies of all signature pages; electronic signatures will not be accepted. Electronic documents submitted to the San Diego Water Board must include the following identification numbers in the header or subject line: Certification No. R9-2016-0111:823509:mporter.

T. **Document Signatory Requirements**. All applications, reports, or information submitted to the San Diego Water Board must be signed as follows:

1. For a corporation, by a responsible corporate officer of at least the level of vice president.

2. For a partnership or sole proprietorship, by a general partner or proprietor, respectively.

3. For a municipality, or a state, federal, or other public agency, by either a principal executive officer or ranking elected official.

4. A duly authorized representative may sign applications, reports, or information if:

   a. The authorization is made in writing by a person described above.

b. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated activity.

c. The written authorization is submitted to the San Diego Water Board Executive Officer.

If such authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the Project, a new authorization satisfying the above requirements must be submitted to the San Diego Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative.

U. **Document Certification Requirements**. All applications, reports, or information submitted to the San Diego Water Board must be certified as follows:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

VII. NOTIFICATION REQUIREMENTS

A. **Twenty Four Hour Non-Compliance Reporting.** The Applicants shall report any noncompliance which may endanger health or the environment. Any such information shall be provided orally to the San Diego Water Board within **24 hours** from the time the Applicants becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Applicants becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The San Diego Water Board, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

B. **Hazardous Substance Discharge**. Except as provided in Water Code section 13271(b), any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, shall as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the County of San Diego, in accordance with California Health and Safety Code section 5411.5 and the California Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to Government Code Title 2,

Division 1, Chapter 7, Article 3.7 (commencing with section 8574.17), and immediately notify the State Water Board or the San Diego Water Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of section 13271 of the Water Code unless the Applicants is in violation of a Basin Plan prohibition.

C. **Oil or Petroleum Product Discharge.** Except as provided in Water Code section 13272(b), any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the California Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Government Code Title 2, Division 1, Chapter 7, Article 3.7 (commencing with section 8574.1). This requirement does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Clean Water Act section 311, or the discharge is in violation of a Basin Plan prohibition.

D. **Anticipated Noncompliance**. The Applicants shall give advance notice to the San Diego Water Board of any planned changes in the Project or the Compensatory Mitigation project which may result in noncompliance with Certification conditions or requirements.

E. **Commencement of Construction Notification.** The Applicants must notify the San Diego Water Board in writing at least 5 days prior to the start of initial Project construction ground disturbance

F. **Transfers.** This Certification is not transferable in its entirety or in part to any person or organization except after notice to the San Diego Water Board in accordance with the following terms:

1. **Transfer of Property Ownership:** The Applicants must notify the San Diego Water Board of any change in ownership of the Project area. Notification of change in ownership must include, but not be limited to, a statement that the Applicants has provided the purchaser with a copy of the Section 401 Water Quality Certification and that the purchaser understands and accepts the certification requirements and the obligation to implement them or be subject to liability for failure to do so; the seller and purchaser must sign and date the notification and provide such notification to the San Diego Water Board **within 10 days of the transfer of ownership.**

2. **Transfer of Mitigation Responsibility:** Any notification of transfer of responsibilities to satisfy the mitigation requirements set forth in this Certification must include a signed statement from an authorized representative of the new party (transferee) demonstrating acceptance and understanding of the responsibility to

comply with and fully satisfy the mitigation conditions and agreement that failure to comply with the mitigation conditions and associated requirements may subject the transferee to enforcement by the San Diego Water Board under Water Code section 13385, subdivision (a). Notification of transfer of responsibilities meeting the above conditions must be provided to the San Diego Water Board **within 10 days of the transfer date.**

Upon properly noticed transfers of responsibility, the transferee assumes responsibility for compliance with this Certification and references in this Certification to the Applicants will be interpreted to refer to the transferee as appropriate. Transfer of responsibility does not necessarily relieve the Applicants of responsibility for compliance with this Certification in the event that a transferee fails to comply.

VIII. CALIFORNIA ENVIRONMENTAL QUALITY ACT COMPLIANCE

A. The County of San Diego is the Lead Agency under the California Environmental Quality Act (CEQA) (Public Resources Code section 21000, et seq.) section 21067, and CEQA Guidelines (California Code of Regulations, title 14, section 15000 et seq.) section 15367, and has filed a Notice of Determination dated February 26, 2016 for the Final Environmental Impact Report (FEIR) titled San Elijo Lagoon Restoration Project EIR/EIS (State Clearing House Number 2011111013). The Lead Agency has determined the Project will have a significant effect on the environment and mitigation measures were made a condition of the Project.

B. The San Diego Water Board is a Responsible Agency under CEQA (Public Resources Code section 21069; CEQA Guidelines section 15381). The San Diego Water Board has considered the Lead Agency's FEIR and finds that the Project as proposed will have a significant effect on resources within the San Diego Water Board's purview.

C. The San Diego Water Board has required mitigation measures as a condition of this Certification to avoid or reduce the environmental effects of the Project to resources within the Board's purview to a less than significant level.

D. The Lead Agency has adopted a mitigation monitoring and reporting program pursuant to Public Resources Code section 21081.6 and CEQA Guidelines section 15097 to ensure that mitigation measures and revisions to the Project identified in the FEIR are implemented. The Mitigation Monitoring and Reporting Program (MMRP) is included and incorporated by reference in Attachment 4 to this Certification. The Applicants shall implement the Lead Agency's MMRP described in the FEIR, as it pertains to resources within the San Diego Water Board's purview. The San Diego Water Board has imposed additional MMRP requirements as specified in sections V and VI of this Certification.

E. As a Responsible Agency under CEQA, the San Diego Water Board will file a Notice of Determination in accordance with CEQA Guidelines section 15096 subdivision (i).

IX. SAN DIEGO WATER BOARD CONTACT PERSON

Mike Porter, Engineering Geologist
Telephone: 619.521.3967
Email: Mike.Porter@waterboards.ca.gov

X. WATER QUALITY CERTIFICATION

I hereby certify that the proposed discharge from the **San Elijo Lagoon Restoration** (Certification No. R9-2016-0111) will comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Board Order No. 2003-0017-DWQ, "*Statewide General Waste Discharge Requirements for Dredged or Fill Discharges that have Received State Water Quality Certification (General WDRs)*," which requires compliance with all conditions of this Water Quality Certification. Please note that enrollment under Order No. 2003-017-DWQ is conditional and, should new information come to our attention that indicates a water quality problem, the San Diego Water Board may issue individual waste discharge requirements at that time.

Except insofar as may be modified by any preceding conditions, all Certification actions are contingent on (a) the discharge being limited to, and all proposed mitigation being completed in strict compliance with, the Applicants' Project description and/or the description in this Certification, and (b) compliance with all applicable requirements of the Basin Plan.

I, David W. Gibson, Executive Officer, do hereby certify the forgoing is a full, true, and correct copy of Certification No. R9-2016-0111 issued on June 14, 2017.

David W. Gibson

DAVID W. GIBSON
Executive Officer
San Diego Water Board

14 June 2017
Date

ATTACHMENT 1
DEFINITIONS

Activity - when used in reference to a permit means any action, undertaking, or project including, but not limited to, construction, operation, maintenance, repair, modification, and restoration which may result in any discharge to waters of the state.

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

California Rapid Assessment Method (CRAM) - is a wetland assessment method intended to provide a rapid, scientifically-defensible and repeatable assessment methodology to monitor status and trends in the conditions of wetlands for applications throughout the state. It can also be used to assess the performance of compensatory mitigation projects and restoration projects. CRAM provides an assessment of overall ecological condition in terms of four attributes: landscape context and buffer, hydrology, physical structure and biotic structure. CRAM also includes an assessment of key stressors that may be affecting wetland condition and a "field to PC" data management tool (eCRAM) to ensure consistency and quality of data produced with the method.

Compensatory Mitigation Project - means compensatory mitigation implemented by the Applicants as a requirement of this Certification (i.e., Applicants -responsible mitigation), or by a mitigation bank or an in-lieu fee program.

Discharge of dredged material – means any addition of dredged material into, including redeposit of dredged material other than incidental fallback within, the waters of the United States and/or State.

Discharge of fill material – means the addition of fill material into waters of the United States and/or State.

Dredged material – means material that is excavated or dredged from waters of the United States and/or State.

Ecological Success Performance Standards – means observable or measurable physical (including hydrological), chemical, and/or biological attributes that are used to determine if a compensatory mitigation project meets its objectives.

Enhancement – means the manipulation of the physical, chemical, or biological characteristics of an aquatic resource to improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Establishment – means the manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist. Creation results in a gain in aquatic resource area.

Fill material – means any material used for the primary purpose of replacing an aquatic area with dry land or of changing the bottom elevation of a water body.

Isolated wetland – means a wetland with no surface water connection to other aquatic resources.

Mitigation Bank – means a site, or suite of sites, where resources (e.g., wetlands, streams, riparian areas) are restored, established, enhanced, and/or preserved for the purpose of providing mitigation for impacts authorized by this Certification.

Preservation - means the removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

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

Rehabilitation - means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/ historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration - means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Start of Project Construction - For the purpose of this Certification, "start of Project construction" means to engage in a program of on-site construction, including site clearing, grading, dredging, landfilling, changing equipment, substituting equipment, or even moving the location of equipment specifically designed for a stationary source in preparation for the fabrication, erection or installation of the building components of the stationary source within waters of the United States and/or State.

Uplands - means non-wetland areas that lack any field-based indicators of wetlands or other aquatic conditions. Uplands are generally well-drained and occur above (i.e., up-slope) from nearby aquatic areas. Wetlands can, however, be entirely surrounded by uplands. For example, some natural seeps and constructed stock ponds lack aboveground hydrological connection to other aquatic areas. In the watershed context, uplands comprise the landscape matrix in which aquatic areas form. They are the primary sources of sediment, surface runoff, and associated chemicals that are deposited in aquatic areas or transported through them.

Water quality objectives and other appropriate requirements of state law – means the water quality objectives and beneficial uses as specified in the appropriate water quality control plan(s); the applicable provisions of sections 301, 302, 303, 306, and 307 of the Clean Water Act; and any other appropriate requirement of state law.

Waters of the State - means any surface water or groundwater, including saline waters, within the boundaries of the State. [Water Code section13050, subd. (e)].

ATTACHMENT 2
PROJECT LOCATION

Figure 1 – Regional Map

Figure 2-4 – Geologic Units

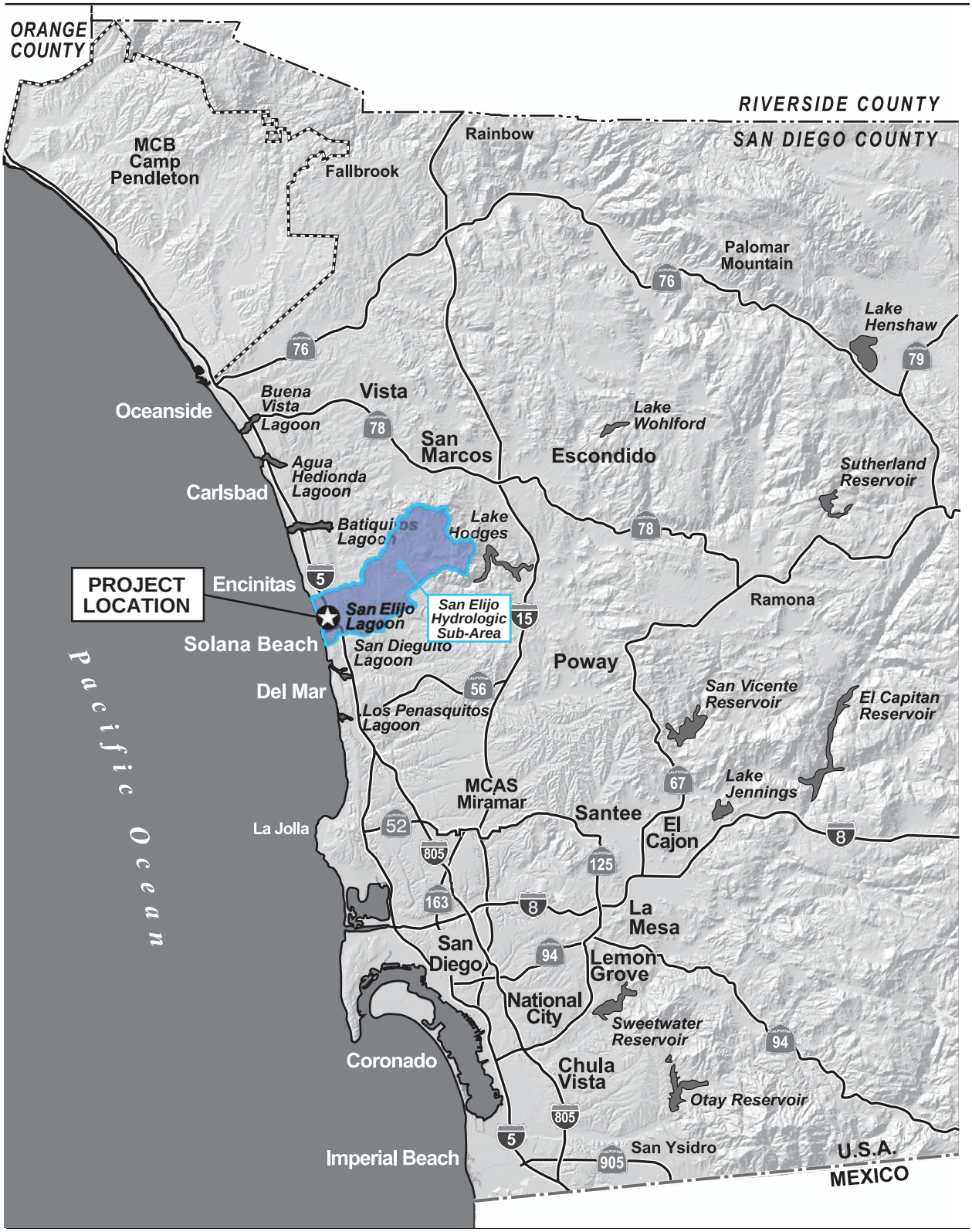


Figure 1
Regional Map

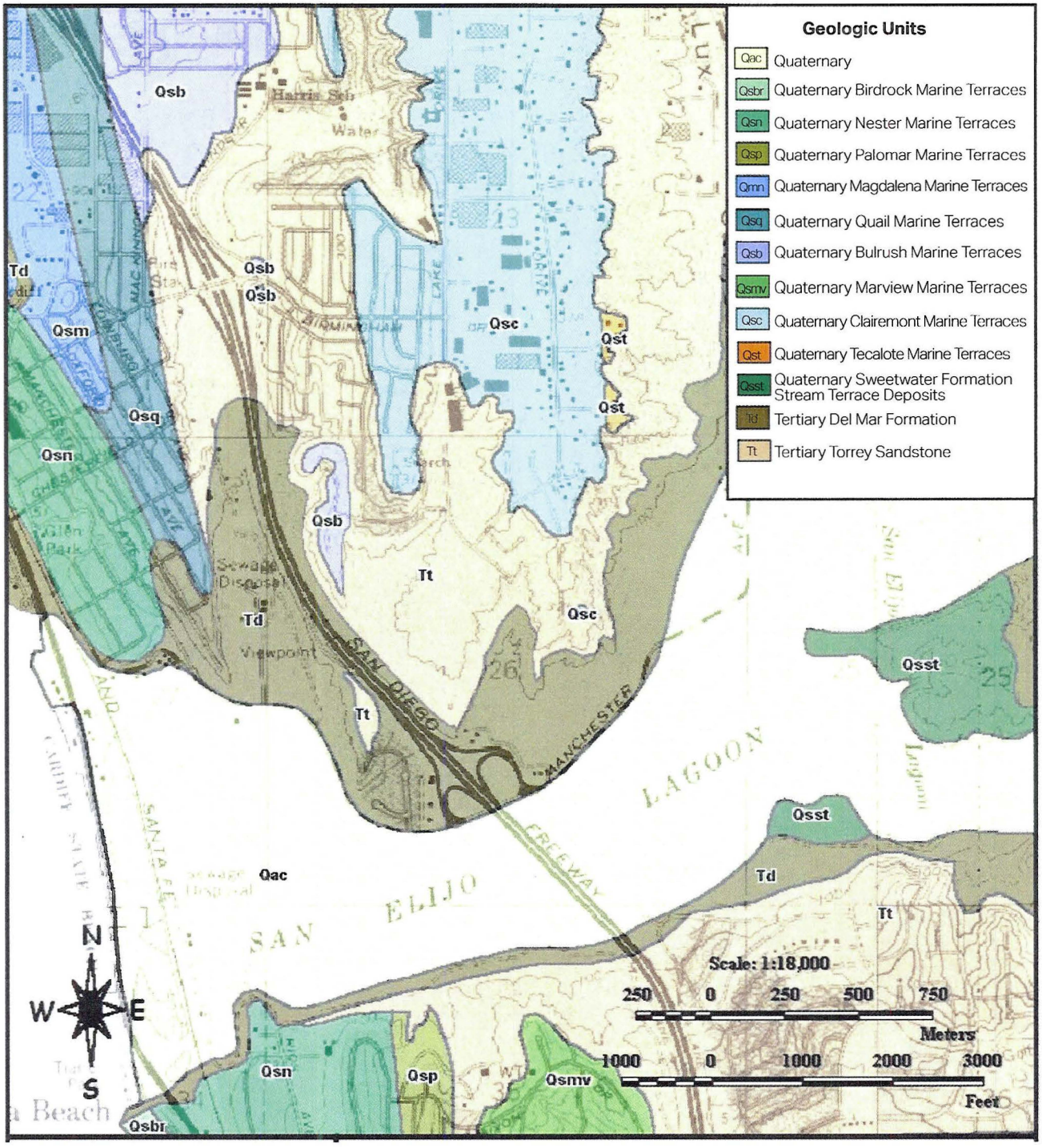


Figure 2-4
Geologic Units

ATTACHMENT 3
PROJECT IMPACTS and PLANS

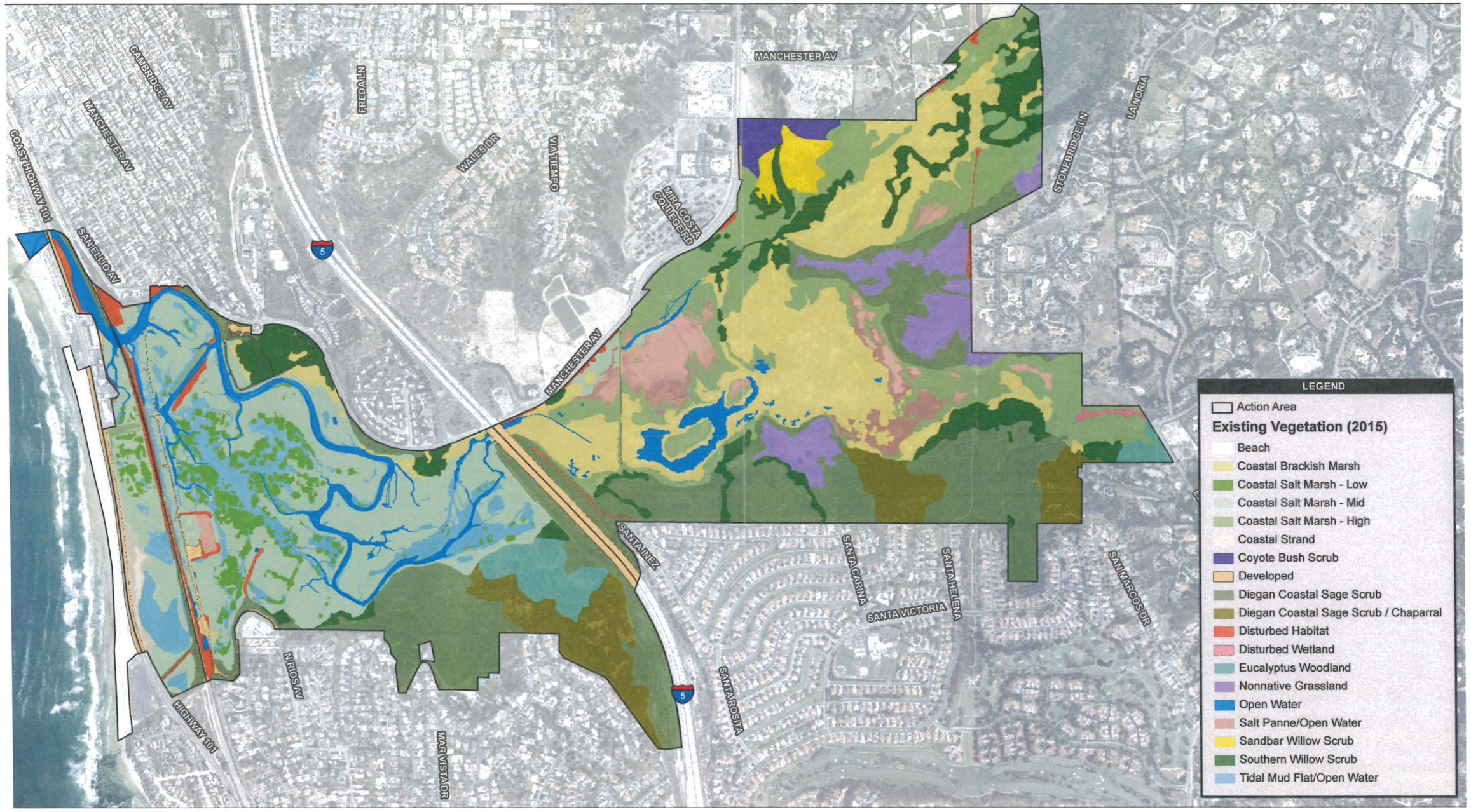
(No Figure Number) – Existing Vegetation

Figure 2 – San Elijo Lagoon Restoration Project Limits of Disturbance

Figure 3-1 – Restored Habitats

(No Figure Number) – Reduced Alternative 1B – Refined High-Nutrient Sediment Removed

(No Figure Number) – Proposed Materials Placement Sites



Source: SANDAG 2012; MoffattNichol; AECOM General Veg 2015.

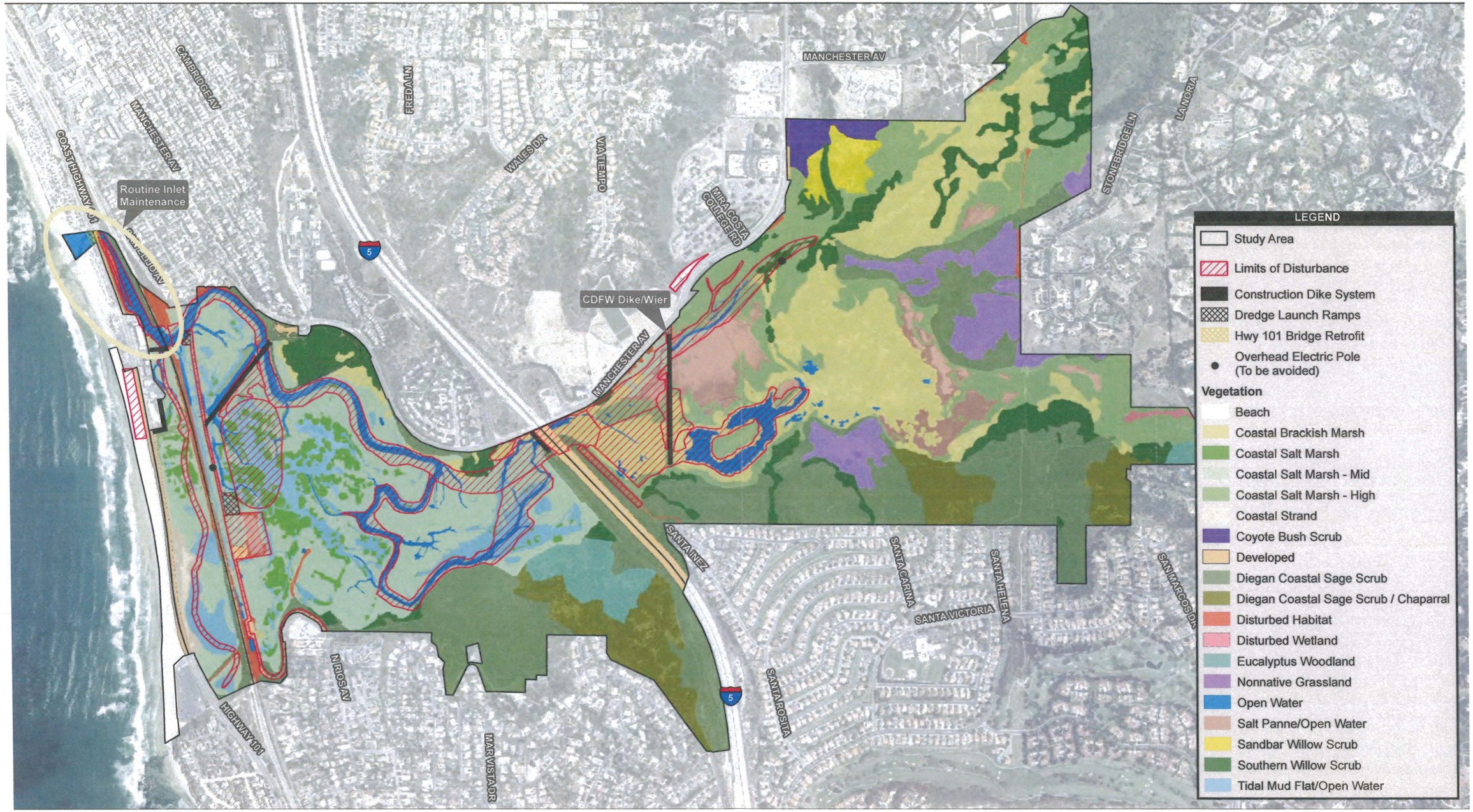
1,100 550 0 1,100 Feet

Scale: 1:13,200; 1 inch = 1,100 feet

Existing Vegetation

San Elijo Lagoon Restoration Project

Path: P:\2009\09080064_SELRP_EIR\6.0 GIS\6.3 Layout\BTR_BA\BA\Updated_2015_Veg.mxd, 5/20/2016, Paul_Moreno



Source: SANDAG 2012; MoffattNichol; AECOM 2013

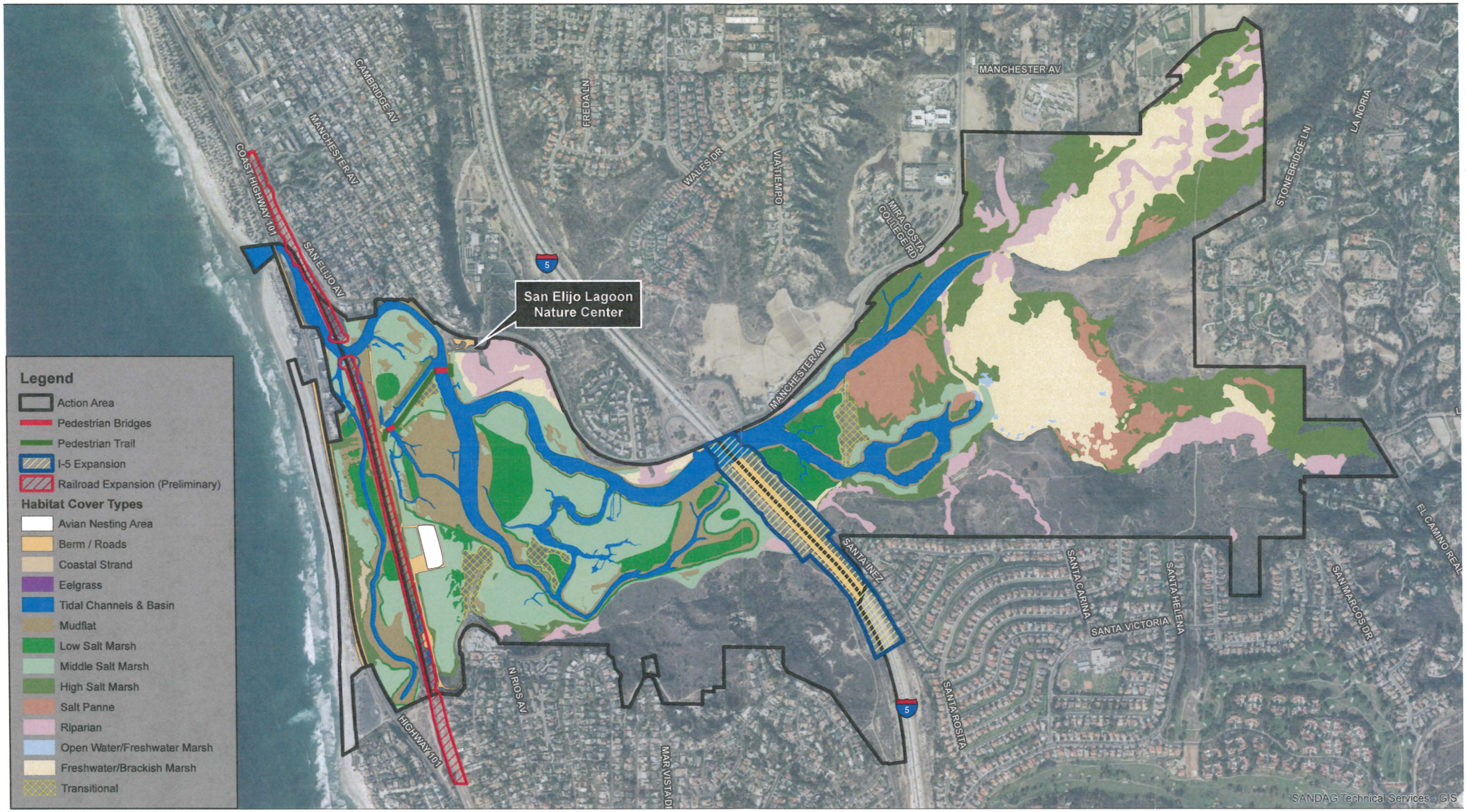
1,100 550 0 1,100 Feet

Scale: 1:13,200; 1 inch = 1,100 feet

Figure 2
San Elijo Lagoon Restoration Project
Limits of Disturbance

San Elijo Lagoon Restoration Project

Path: P:\2009\09080064_SELRP_EIR\6.0 GIS\6.3 Layout\Alternative1B_Optimized\Reduced_Alt1b_Refined_LOD_Comparison_20161025_Existing_Veg_2015.mxd, 10/25/2016, paul.moreno



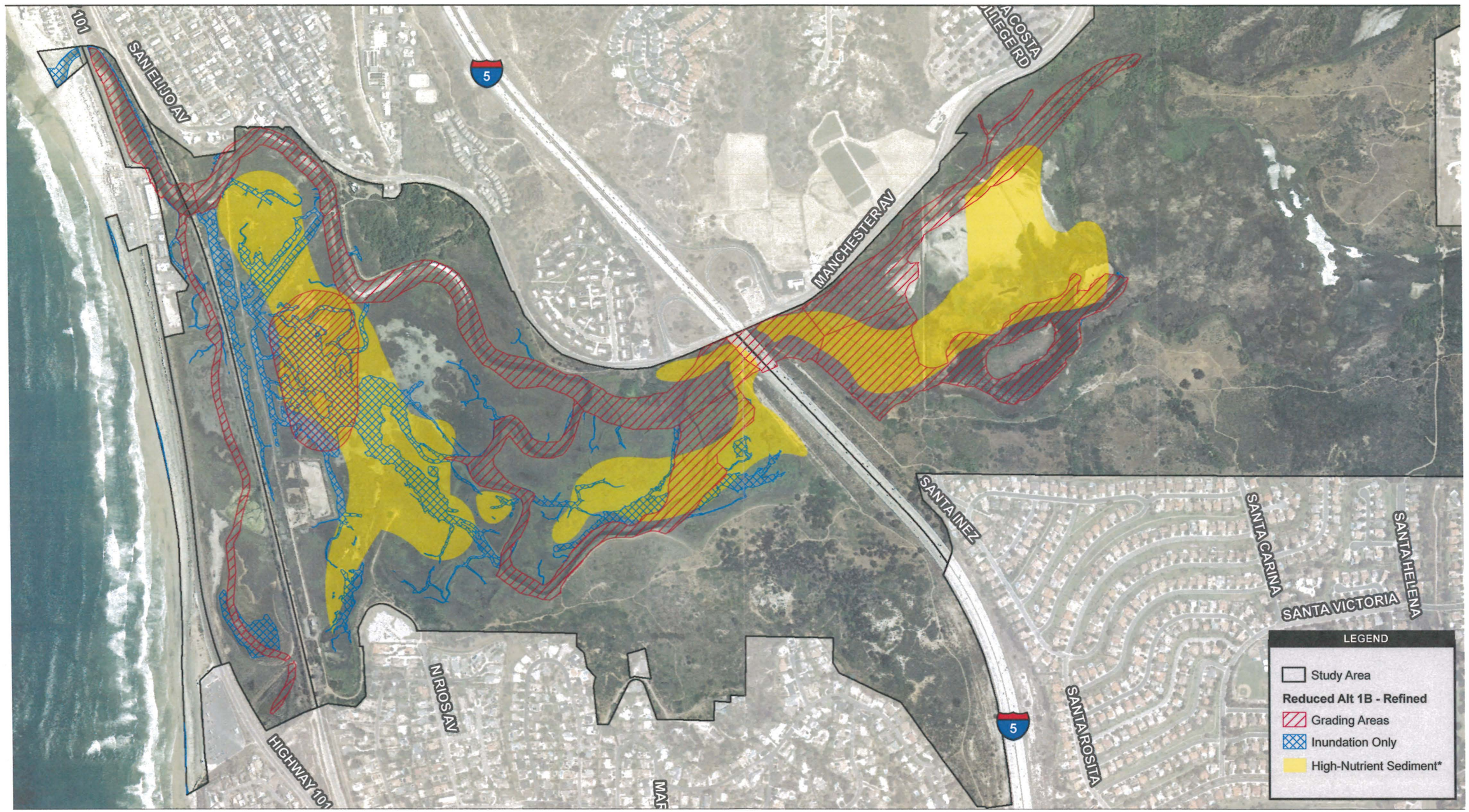
Source: SANDAG 2012; MoffattNichol; AECOM 2013

1,100 550 0 1,100 Feet

Scale: 1:13,200; 1 inch = 1,100 feet

Figure 3-1
Restored Habitats

Path: P:\2009\09080064_SELRP_EIR\6.0 GIS\6.3 Layout\Restoration_Plan\Restored_Habitats.mxd, 7/14/2016, Paul_Moreno



Source: UC Fullerton 2002; SANDAG 2012; MoffattNichol; AECOM 2013

750 375 0 750 Feet

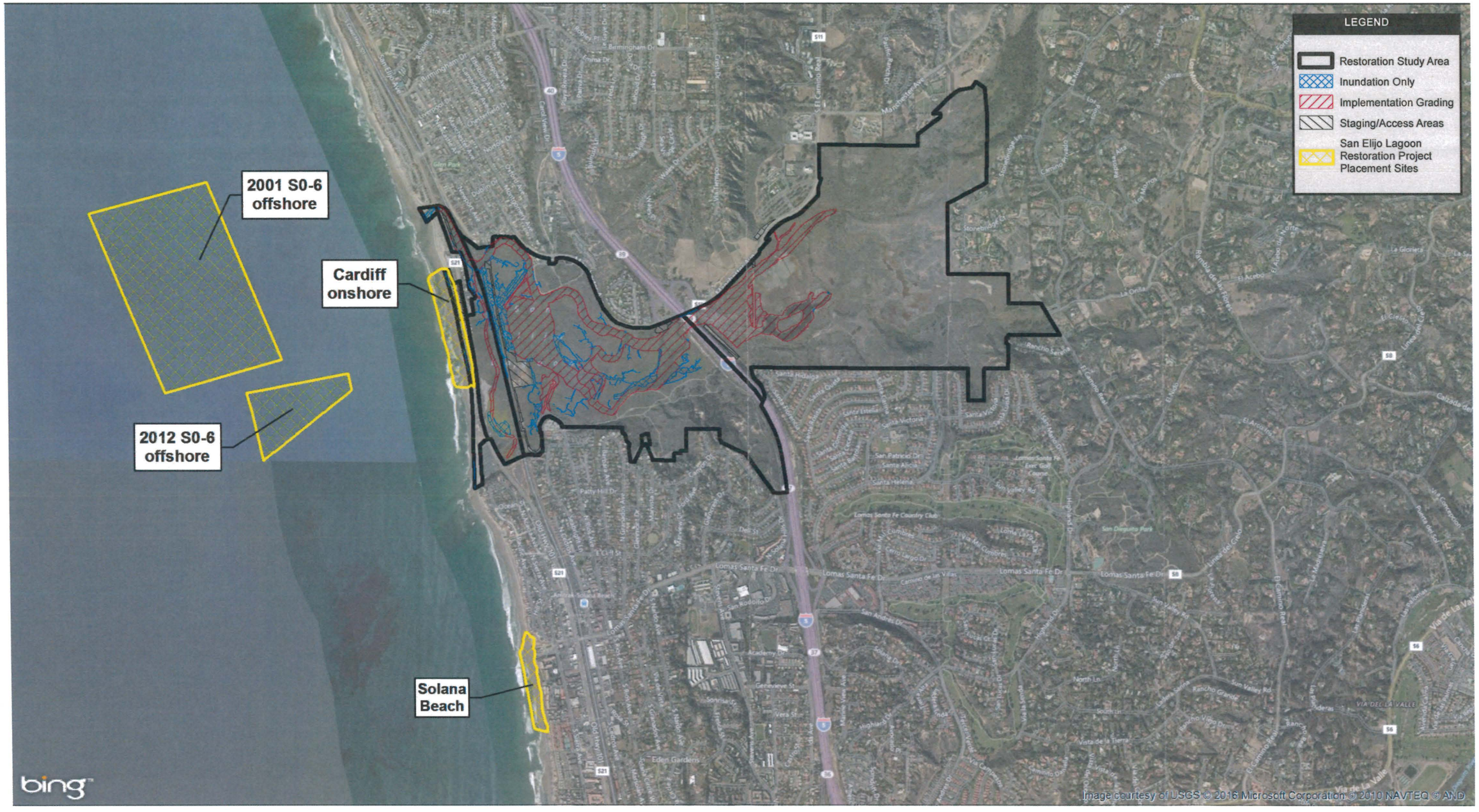
Scale: 1:9,000; 1 inch = 750 feet

***Grading will remove 35.4/115.6 acres (30.6%) of high-nutrient sediment in the lagoon.**

Reduced Alternative 1B - Refined
High-Nutrient Sediment Removed

San Elijo Lagoon Restoration Project

Path: P:\2009\09080064_SELRP_EIR\6.0 GIS\6.3 Layout\Alternative1B_Optimized\Sediments_with_Overdredge.mxd, 10/17/2016, paul.moreno



Source: Bing; San Elijo Lagoon Conservancy; SanGIS; AECOM 2012; M&N 2016.

2,000 1,000 0 2,000 Feet

Scale: 1:24,000; 1 inch = 2,000 feet

Proposed Materials Placement Sites

San Elijo Lagoon Restoration Project

Path: P:\2009\09080064_SELRP_EIR\6.0 GIS\6.3 Layout\Parcels\CDP\New_Placement_ReceiverBorrow_Sites.mxd, 8/29/2016, Paul_Moreno

ATTACHMENT 4
MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM
FOR
THE SAN ELIJO LAGOON RESTORATION PROJECT
FINAL ENVIRONMENTAL IMPACT REPORT
State Clearinghouse No. 2011111013

Prepared for:

County of San Diego
Department of Parks and Recreation
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Prepared by:

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San Diego, California 92101
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February 2016

MITIGATION MONITORING AND REPORTING PROGRAM
SAN ELIJO LAGOON RESTORATION PROJECT

Mitigation measures have been identified in the Final Program Environmental Impact Report for the San Elijo Lagoon Restoration Project to reduce or avoid potential environmental impacts. To ensure compliance, the following mitigation monitoring and reporting program has been formulated. This program provides a checklist of the party responsible for the mitigation, when the mitigation will occur and the measure to document compliance. Project design features are also incorporated into the mitigation monitoring and reporting program because they have been committed to by the project applicant proactively to avoid or minimize impacts, support the overall restoration objectives of the project, or are regulatory requirements with which the project would need to comply. A mitigation checklist and a list of project features designed to construct the project in an environmentally sensitive way have been prepared for the project.

Table 1 summarizes the mitigation measures for Alternative 1B – Refined, selected as "the project" by the County of San Diego and U.S. Army Corps of Engineers. Mitigation measure numbering in Table 1 does not always appear sequential because the EIR/EIS originally considered all project alternatives at an equal level of detail and some mitigation was only applicable to alternatives not selected as the project; those measures are not included in this table and create the occasional disruption in numbering. Information contained within the checklist clearly identifies the mitigation measure, delineates the monitoring schedule, and defines the conditions required to verify compliance. The following list is an explanation of the five columns that constitute the checklist.

Column 1 **Mitigation Measure:** Each measure is numbered and provided with a brief description of mitigation to reduce an impact to a below a level of significance.

Column 2 **Monitor:** Identifies the County department or other public agency that is responsible for determining compliance with the mitigation measure and for informing DPW about compliance.

Column 3 **Schedule:** The monitoring schedule depends upon the progression of the overall project. Therefore, specific dates are not used within the "Schedule" column. Instead, scheduling describes a logical succession of events (e.g., prior to construction, annual) and if necessary, delineates a follow-up program.

Column 4 **Compliance Activities:** Specifies discrete actions that will satisfy the mitigation requirement.

Column 5 **Verification of Compliance:** Verification by the responsible monitor that the mitigation measure has been completed.

Table 2 summarizes the project design features that have been incorporated to minimize and avoid, where possible, impacts to resources. Some project design features are incorporated to avoid or minimize a potential significant impact proactively through design, but others are additional measures that support the overall restoration objectives of the project without being tied to a specific potential impact. Many features also represent regulatory or code requirements that the project would need to comply with to be approved by various agencies and/or implemented legally. Those project design features that were originally included as part of the EIR/EIS, but are only applicable to alternatives other than 1B-Refined have been excluded from the table and thus, numbering does not always appear sequential. The table includes the purpose, timing, and responsibility for implementation of each project design feature. They are provided within this MMRP to ensure inclusion within the appropriate future construction documents to confirm implementation.

Table 1
Mitigation Checklist

Mitigation Measure	Monitor	Schedule	Compliance Action	Verification of Compliance (Date/Notes)
To avoid potential impacts to water and aquatic sediment quality due to temporary turbidity that would be generated by lagoon restoration activities, the following measures shall be implemented.				
Mitigation Measure Water Quality-1: All additional conditions, best management practices (BMPs), and requirements that are identified by regulatory agencies prior to project initiation as part of the permitting process for the project, including Section 404 permit, Coastal Development Permit, Section 1601 permit, Section 401 Water Quality Certification, and the National Pollutant Discharge Elimination (NPDES) System MS4 permit must be implemented. Compliance with those permit conditions would be monitored through the construction monitoring program and the contractor shall certify to the engineer of record that they have been completed.	Contractor	During Construction	Construction Monitoring Report	
Mitigation Measure Water Quality–2: Turbidity shall be actively managed by utilizing a cutterhead dredge and/or temporarily closing the lagoon inlet. The overdredge pit shall be capped with sand material to encapsulate material and prevent it from introducing turbidity or pollutants into the water column or released into the environment. The contractor shall certify to the permit holder that the dredge operations are not responsible for release of sediments into the water column at levels resulting in increased downstream sedimentation.	Contractor	During Construction	Construction Monitoring Report	

Mitigation Measure	Monitor	Schedule	Compliance Action	Verification of Compliance (Date/Notes)
To avoid potential impacts to cultural resources due to disturbance of unknown human remains or accidental disturbance near sites CA-SDI-13,903 and CA-SDI-20,816, the following measures shall be implemented. **Mitigation Measure Cultural-4:** If human remains are encountered during the proposed project: • Work at that location will be suspended and redirected elsewhere. • Corps and County DPR will be immediately notified of the discovery. • Remains will be left in place and exclusionary fencing will be placed in a 50-foot radius around the discovery. • Under the provisions of the California PRC Section 7050.5, the County Coroner will be notified in the event of discovery of human remains. • If the remains are either determined to be or there is reason to believe they are Native American, the coroner will notify the NAHC within 24 hours. • Disposition of Native American human remains on non-federal lands is within the jurisdiction of the NAHC. The Corps and County DPR, as lead agencies for the proposed project, will initiate consultation with the NAHC. As part of the consultation process, the NAHC will notify persons most likely to be descended (MLD) from the remains. No ground-disturbing work will occur in the location of the remains until consultation between the NAHC, MLD, Corps, and County DPR has been completed, and notification by the Corps and County DPR that construction activities may resume.	Professional Archaeologist	During Construction	Construction Monitoring Report	

Mitigation Measure	Monitor	Schedule	Compliance Action	Verification of Compliance (Date/Notes)
• If the remains are discovered in situ, they will be left in place and covered with weather-proof materials such as a tarp or plywood. If they are discovered in spoils, the remains will be placed in a labeled bag and, on approval by the MLD, transported to a secure locked container. An osteologist or a forensic anthropologist will, in consultation with the MLD, inspect fragmentary bones that are suspected to be human but cannot be identified as such in the field. **Mitigation Measure Cultural-5:** Exclusionary fencing shall be used to avoid inadvertent disturbance of cultural resources in proximity to the APE, staging areas, and access roads. The temporary exclusionary fencing shall be placed parallel to, but outside of the APE, staging areas, or the access road's existing limits of disturbance in locations where within 15 feet. Specifically, exclusionary fencing shall be placed parallel to existing access roads used for construction access near sites CA-SDI-13,903 and CA-SDI-20,816.	Professional Archaeologist	Prior to Construction	Construction Monitoring Report	
To avoid potential impacts to paleontological resources due to grading, trenching or other excavation into undisturbed rock layers, the following measures shall be implemented. **Mitigation Measure Paleo-1**: A monitoring program during grading, trenching, or other excavation into undisturbed substratum or deeper bedrock beneath the soil horizons and a fossil recovery program shall be implemented per County mitigation standards for excavation equal to or greater than 2,500 cy in high or moderate potential areas. A County-approved	County-approved paleontologist	During construction	Paleontological Resource Monitoring Program	

Mitigation Measure	Monitor	Schedule	Compliance Action	Verification of Compliance (Date/Notes)
paleontologist shall be contracted to perform paleontological resource monitoring and a fossil recovery program if significant paleontological resources are encountered during grading, trenching, or other excavation into undisturbed rock layers beneath the soil horizons in proximity to the Delmar Formation along the North Rios Avenue access road. The following shall be completed: • A County-approved paleontologist shall perform the monitoring (and recovery, if necessary, and report preparation) duties pursuant to the most current version of the County of San Diego Guidelines for Determining Significance for Paleontological Resources. The contract provided to the County shall include an agreement that the grading/ trenching/excavation monitoring will be completed. The contract shall include a cost estimate for the monitoring work and reporting. • The cost of the monitoring shall be bonded. **Mitigation Measure Paleo-2:** A final Paleontological Resource Mitigation Report that documents the results, analysis, and conclusions of all phases of the Paleontological Monitoring Program shall be prepared, if excavation into the Delmar Formation occurs and monitoring is required.	County-approved paleontologist	After construction	Paleontological Resource Mitigation Report, (if necessary)	

Mitigation Measure	Monitor	Schedule	Compliance Action	Verification of Compliance (Date/Notes)
To reduce adverse impacts to the visual quality and character of the lagoon, the following measure shall be implemented. **Mitigation Measure Visual-1**: Temporary screening would be placed around construction areas that are secured with a chain-link fence (such as booster pumps, staging areas, etc., as shown in Figure 2-15) to provide visual screening of the equipment located within the secured area. Screening could be brown or green mesh or other similar screening material attached to the fencing that would visually hide or obscure the interior of the fenced areas. The screening would extend as high as the chain-link fence, which would range from approximately 6 to 10 feet, depending on the area being secured.	Contractor	Prior to construction	Construction Monitoring Report photos	
To minimize traffic impacts of bridge replacement construction activities, the following measures shall be implemented. **Mitigation Measure Traffic-1:** Prepare work zone traffic control plans for lane closures and related construction along Coast Highway 101. The work zone traffic control plans shall be prepared in accordance with the California Manual of Uniform Traffic Control Devices (CAMUTCD), Caltrans Standard Plans (2010), and current standards and best practices of the reviewing and approving agencies. These plans are intended to accommodate workers within the roadway, while facilitating continued circulation for road users (motorists, bicyclists, and pedestrians including persons with disabilities in accordance with the ADA) through the work zone.	Contractor	Prior to construction	Traffic Control Plans	

Mitigation Measure	Monitor	Schedule	Compliance Action	Verification of Compliance (Date/Notes)
Mitigation Measure Traffic-2: Provide advanced notification to motorists that delays and traffic congestion will occur during bridge construction and retrofitting activities to encourage avoidance of the construction area. This notification may be accomplished through various measures such as information and detour routes included on the project website; traffic details included in all notifications sent to local residents; traffic and alternative route information published in local media; and physical traffic control measures, such as temporary signage located at various distances from the construction area.	SELC/Contractor	Prior to and during construction	Traffic Control Plan	
To minimize construction-generated ROG and NOX emissions, the following measures shall be implemented. **Mitigation Measure AQ-1:** Off-road construction diesel engines not registered under ARB's Statewide Portable Equipment Registration Program that have a rating of 50 horsepower (hp) or more, shall meet, at a minimum, the Tier 3 California Emissions Standards, unless such an engine is not available for a particular item of equipment. Tier 2 engines will be allowed on a case-by-case basis when the Contractor has documented that no Tier 3 equipment or emissions equivalent retrofit equipment is available for a particular equipment type that must be used to complete construction. Documentation shall consist of signed written statements from at least two construction equipment rental firms.	Contractor	During construction	Construction Monitoring Report	

Mitigation Measure	Monitor	Schedule	Compliance Action	Verification of Compliance (Date/Notes)
Mitigation Measure AQ-2: AQ-2: Harbor craft with a Category 1 or 2 marine engine, such as tugboats used for materials disposal, shall meet, at a minimum, EPA Tier 2 marine engine emission standards.	Contractor	During construction	Construction Monitoring Report	
Mitigation Measure AQ-3: Dredging equipment shall be electric, if determined by the contractor to be feasible, based on availability and cost.	Contractor	During construction	Construction Monitoring Report	
Mitigation Measure AQ-4: Contractors shall use alternative fueled (e.g., compressed natural gas [CNG], liquefied natural gas [LNG], propane), or electric-powered construction equipment, if determined by the contractor to be feasible, based on availability and cost.	Contractor	During construction	Construction Monitoring Report	
Mitigation Measure AQ-5: The following measures shall be implemented by the construction contractor to reduce fugitive dust emissions associated with offroad equipment and heavy-duty vehicles: • Exposed surfaces (e.g., unpaved access roads) shall be watered, as necessary, to control fugitive dust. • Sweepers and water trucks shall be used to control dust and debris at public street access points. • Dirt storage piles shall be stabilized by chemical binders, tarps, fencing, or other suppression measures. • Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads. • Cover haul trucks or maintain at least 12 inches of freeboard to reduce blow-off during hauling. • Enforce a 15-mph speed limit on unpaved surfaces.	Contractor	During construction	Construction Monitoring Report	

Mitigation Measure	Monitor	Schedule	Compliance Action	Verification of Compliance (Date/Notes)
To ensure that unforeseen wastes and hazardous materials dredged from the lagoon do not cause a public health hazard, the following measure shall be implemented. **Mitigation Measure HAZ-3:** A Sediment Management Plan will be developed and implemented to test dredged materials for proper placement in the overdredge pit or for off-site transport and proper disposal and to be in compliance with local, state, and federal regulations. The plan shall specify that if unknown contamination or other buried hazards are encountered during dredging, procedures must be carried out according to applicable regulations. Any material encountered that appears to contain contaminants will be handled in accordance with local, state, and federal guidelines, and permit conditions.	Contractor	Prior to and during construction	Sediment Management Plan	
To reduce construction-related greenhouse gas emissions, the following measures shall be implemented. **Mitigation Measure GHG-1**: On-site material hauling shall be performed with trucks equipped with on-road engines to the extent practicable. **Mitigation Measure GHG-2**: Limit deliveries of materials and equipment to the site to off-peak traffic congestion hours to the extent practicable.	Contractor Contractor	During construction During construction	Construction Monitoring Report Construction Monitoring Report	

Mitigation Measure	Monitor	Schedule	Compliance Action	Verification of Compliance (Date/Notes)
Mitigation Measure GHG-3: Restrict material hauling on public roadways to off-peak traffic congestion hours to the extent possible. During construction scheduling and execution minimize, to the extent possible, uses of public roadways that would increase traffic congestion.	Contractor	During construction	Construction Monitoring Report	
Mitigation Measure GHG-4: Use high-efficiency lighting and Energy Star-compliant heating and cooling units. Implement procedures for turning off computers, lights, air conditioners, heaters, and other equipment each day at close of business.	Contractor	During construction	Construction Monitoring Report	

Table 2
Project Design Feature (PDF) Checklist

Project Design Feature ID	Design Features	Purpose	Timing	Implementation Responsibility
	General			
PDF-1	Implement a public information program to assist nearby residents in understanding the purpose of the project and disseminate pertinent project information.	Reduce impacts related to land use incompatibilities.	Prior to and during construction	SELC
PDF-2	Maintain project website with current construction schedule.	Ensure timely public notification; minimize land use conflicts.	During construction	SELC
PDF-3	Conduct fueling and/or maintenance activities at designated staging areas and designated fueling areas, and prepare a Spill Prevention, Control, and Countermeasure plan for hazardous spill containment.	Minimize safety hazards associated with release of hazardous materials.	During construction/ Maintenance	Contractor
PDF-4	Stake construction areas and no construction zones. Limit construction equipment and vehicles to within these limits of disturbance.	Protect sensitive habitat areas; reduce public safety hazards.	During construction/ Maintenance	Contractor
PDF-5	Restrict access to portions of lagoon trails and beaches to maintain public safety.	Reduce risks to public health and safety.	During construction/ Maintenance	Contractor
PDF-6	Maintain alternative access to beaches adjacent to placement sites, portions of trails not under active construction, and the Nature Center.	Minimize impact on public access.	During construction	Contractor
PDF-7	Shield and direct night lighting toward nonsensitive lagoon areas or the ocean and away from residences and habitat.	Minimize effects on residents and sensitive species.	During construction/ Maintenance	Contractor
PDF-8	Equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers.	Minimize noise impacts.	During construction/ Maintenance	Contractor
PDF-9	House exposed engines on dredging equipment to the greatest extent possible.	Minimize noise impacts.	During construction/ Maintenance	Contractor
PDF-10	Contractors will maintain equipment and vehicle engines in good condition and properly tuned per manufacturers' specifications. Idling time for construction equipment will be minimized, as appropriate.	Minimize air quality impacts and greenhouse gas (GHG) emissions.	During construction/ Maintenance	Contractor

Project Design Feature ID	Design Features	Purpose	Timing	Implementation Responsibility
PDF-11	All storage, handling, transport, emission, and disposal of hazardous materials will be in full compliance with local, state, and federal regulations (Health and Safety Code, Division 20, Chapter 6.95, Article 2, Section 25500-25520)	Avoid impacts associated with hazardous materials.	During construction/ Maintenance	Contractor
	Lagoon Restoration			
PDF-12	Utilize continuous construction, with internal phases to (1) restrict vegetation clearing and grubbing to outside the breeding season (February 15–September 15) (2) limit active construction to two basins at a time (excludes construction of Coast Highway 101).	Minimize impacts to sensitive wildlife species and their habitats.	During construction	Contractor
PDF-13	Have Biological Monitor, experienced with each of the listed species, on-site during construction; frequency may vary depending upon activity but could be daily during breeding season. If California gnatcatcher nests are found and need to be inspected, or if California gnatcatcher calls are required for survey efforts, a Biological Monitor with section 10a1a certification will be used. While clearing and grubbing activities are occurring, walk along the impacted habitat ahead of machinery in an effort to flush the birds and other wildlife.	Confirm implementation of biological permit conditions, design features, mitigation measures, and applicable construction specifications.	During construction	Qualified biologist
PDF-14	Remove sources of impounded water resulting from construction equipment (if any) and confirm compliance with construction specifications regarding no ponding. At the discretion of the Biological Monitor, release water controls during construction as needed to enable tidal exchange and circulation.	Minimize vector breeding opportunity during construction.	During construction	Qualified biologist/Contractor
PDF-15	Ensure no encroachment into sensitive “no construction” zones. Visually inspect construction equipment prior to use for evidence of soils or other material that might contain invasive species. Examine equipment history to ascertain if the equipment has been involved in work within areas known to contain invasive species.	Minimize the potential to introduce aquatic invasive species into the site.	During construction	Qualified biologist

Project Design Feature ID	Design Features	Purpose	Timing	Implementation Responsibility
PDF-16	Prior to initiating construction, identify sensitive “no construction zones” and fence or flag those areas	Minimize impacts to sensitive habitat areas.	Prior to construction/ Maintenance	Qualified biologist/Contractor
PDF-17	Initiate flooding of habitat areas outside of the breeding season. If flooding is reduced and required again within the same year, reinitiation of flooding will occur outside the breeding season as well.	Minimize impacts to breeding bird nests and nesting activity.	During construction	Contractor
PDF-18	Clear and grub activities will occur in sensitive habitats in flooded areas. If clear and grub is required in dry conditions, a qualified biological monitor will walk ahead of the impact area to flush birds and other wildlife if conditions are appropriate and safe.	Minimize impacts to resident bird species and sensitive wildlife species.	During construction	Contractor/Qualified biologist
PDF-19	Controlled inundation will be used prior to clearing and grubbing in low- and mid-marsh habitat to actively encourage wildlife to relocate from vegetation to be cleared to adjacent nonimpacted habitat. After at least 24 hours of consistent inundation, grubbing of vegetation within the grading footprint will occur while still inundated to minimize the likelihood of contacting marsh birds.	Minimize impacts to resident marsh bird species.	During construction	Contractor
PDF-20	Site staging areas and access roads at existing access points and previously disturbed areas, where feasible.	Minimize impacts to intact habitat and reduce site preparation requirements.	Final design	Engineer
PDF-21	Prepare a targeted habitat enhancement plan for light-footed Ridgway’s rail and Belding’s savannah sparrow. Enhancement activities will be identified to minimize impacts to these species during construction. Activities will include fencing, public signage, selective vegetation removal (i.e., invasive species or native species not preferred by Belding’s savannah sparrow), nesting platforms, perch removal, predator trapping/control, and other techniques to minimize predation and encourage nesting of the species. The plan will be finalized in conjunction with the permitting and approval process for the project in order to incorporate agency and permit conditions. Due to these timing constraints, final plans will not be completed prior to issuance of the Final	Minimize impacts to light-footed Ridgway’s rail and Belding’s savannah sparrow.	Final design;	Qualified biologist, with approval of the Corps and County.

Project Design Feature ID	Design Features	Purpose	Timing	Implementation Responsibility
	EIR/EIS, but will be completed prior to project implementation.			
PDF-22	Implement targeted habitat enhancement plan for light-footed Ridgway's rail and Belding's savannah sparrow, specifically within designated refugia areas and other suitable habitat not directly impacted by construction activities.	Provide refugia and promote nesting by light-footed Ridgway's rail and Belding's savannah sparrow during construction in areas not directly impacted by construction activities.	During construction, prior to impacting suitable habitat areas	Qualified biologist
PDF-23	Consult with resource agencies, including USFWS, on final nesting area design during the permitting process.	Encourage nesting of special-status species.	Prior to construction	Qualified biologist
PDF-24	Where practicable, invasive species will be removed by hand or hand tools rather than chemical means. When necessary, herbicide application will be conducted by personnel with a California Department of Pesticide Qualified Applicators Certificate (QAC) or by personnel under the supervision of a person with a California Department of Pesticide Qualified Applicators License (QAL). All herbicide applied will be consistent with the label, as well as state and local regulations. Any herbicide used will be approved for use in an aquatic environment (i.e., AquaNeat®) as the entire restoration area is within the confines of the lagoon. Herbicide application will be conducted using backpack sprayers and will consist of spot spraying nonnative plant species. Herbicide application will be conducted using methods that limit overspray to adjacent native plant species and will be discontinued when wind speeds are higher than the designated label standard or above 10 miles per hour.	Reduce overspray and drift of herbicides to nontargeted species and areas.	During and after construction	Contractor
PDF-25	Prepare a Storm Water Pollution Prevention Plan (SWPPP). Prepare a Storm Water Management Plan (SWMP), a Hydromodification Management Plan (HMP), and Low Impact Development (LID) best management practices in compliance with the County MS4 Permit. The SWPPP and SWMP must be approved by the County and City of Encinitas as	Prevent pollutant discharge.	Prior to construction	Prepared by QSD certified Contractor

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	appropriate prior to approval of associated grading plans to confirm that the limits of disturbance will be maintained within the identified footprint.			
PDF-26	Implement best management practices in compliance with SWPPP, SWMP, HMP and LID.	Prevent pollutant discharge.	During construction and future maintenance activities	QSP certified Contractor on-site
PDF-27	Actively manage turbidity by using a cutterhead dredge and/or temporarily closing the lagoon inlet.	Minimize release of disturbed sediment to the coast.	During construction	Contractor
PDF-28	Cap overdredge pit with sand material to encapsulate material and prevent it from being introduced into the water column or released into the environment.	Minimize sedimentation, turbidity, and potential release of contaminants.	During construction	Contractor
PDF-29	Coordinate with the utility service provider for relocating and/or avoiding utilities infrastructure.	Reduce and/or avoid impacts to existing utilities infrastructure.	Prior to construction	SELC and Contractor
PDF-30	Coordinate with affected utility service provider in the event relocation is required or if maintenance needs for agency-owned structures are identified during SELRP monitoring activities.	Minimize utility service disruptions.	During construction/ Maintenance	Contractor
PDF-31	Near Solana Beach sewer pipe or other utilities to be left in place, require dredging and excavation activities to stay above the minimum cover required by the utilities' owner.	Avoid impacts to existing utilities and infrastructure.	Prior to and during construction	Contractor
PDF-32	Coordinate with NCTD regarding phasing and timing to minimize impacts to the railroad during construction.	Avoid impacts to existing utilities and infrastructure.	Prior to and during construction	Contractor
PDF-33	Equipment fueling and maintenance will occur at the designated staging areas and designated fueling areas away from publicly accessible areas.	Ensure public safety.	During construction/ Maintenance	Contractor
PDF-34	During off working hours, secure heavy equipment and vehicles in staging area.	Ensure public safety.	During construction/ Maintenance	Contractor
PDF-35	Provide fire suppression equipment on board equipment and at the worksite.	Reduce fire hazard risks.	During construction/ Maintenance	Contractor
PDF-36	Require heavy equipment operators to be trained in appropriate responses to accidental fires.	Reduce fire hazard risks.	During construction/ Maintenance	Contractor

Project Design Feature ID	Design Features	Purpose	Timing	Implementation Responsibility
PDF-39	Channel bank and bridge abutment protection will be installed along the inlet channel and at bridge crossings (Coast Highway 101, NCTD railroad, and I-5) to protect channels and structures from erosion during severe storm flow events. Rock armoring will be placed directly along the toe of bridge abutments and will "wrap" around the end of the earthen berms supporting each bridge. Bridge protection will be designed in accordance with design standards of bridge owners (and placed as part of new bridge structures, as applicable).	Minimize erosion and undermining of channels and structures.	During and post-construction	Engineer and SELC
PDF-40	Monitor shoal development semi-annually and remove during regular maintenance or as-needed.	Maintain tidal exchange.	Maintenance	SELC
PDF-42	Temporary speed limit reduction for the traffic detour approaches and exits will conform to safe highway design speeds.	Ensure public safety.	Prior to construction	Contractor
PDF-43	Maintain two-way circulation on public roadways and access to neighboring commercial establishments during project construction.	Minimize traffic conflicts and access issues.	During construction	Contractor
PDF-46	All temporary facilities used for contractor activities will be returned to either original or enhanced conditions upon completion of the project to the greatest extent possible, if not needed for future maintenance activities.	Minimize land use conflicts and access issues.	Post-construction	Contractor
PDF-47	Restore North Rios, Solana Hills, and Santa Inez trails and access to them to pre-project conditions after completion of construction use.	Minimize recreational conflicts and access issues.	Post-construction	Contractor
PDF-49	Complete Letter of Map Revision (LOMR) to formally modify the Flood Insurance Rate Map (FIRM) and/or Flood Boundary and Floodway map (FBFM), as required by City of Encinitas and FEMA.	Document revised floodway/floodplain boundaries.	Post-construction	Engineer and Contractor
PDF-50	Channels and infrastructure improvements (Coast Highway 101/inlet, railroad trestle, or I-5 bridge) will be reviewed by the County, Caltrans, City of Solana Beach, and City of Encinitas as appropriate prior to approval of associated grading plans.	Ensure structural integrity of proposed structures.	Prior to and during construction	Engineer and Contractor

Project Design Feature ID	Design Features	Purpose	Timing	Implementation Responsibility
	Materials Disposal/Reuse			
PDF-51	Construct longitudinal training dikes at sand placement sites.	Reduce nearshore turbidity.	During construction	Contractor
PDF-52	Release material at offshore stockpile and nearshore sites close to the ocean floor (e.g., directly from a subsurface pipe or via a vertical pipe extending from the barge downward toward the ocean floor).	Reduce drop height, settling time (and potential sand drift and loss), and surface turbidity at offshore (SO-5 and SO-6) and nearshore (off Cardiff) sites.	During construction	Contractor
PDF-53	Monitor water quality per RWQCB 401 Certification; if outside parameters then implement operational controls or halt materials placement, as necessary.	Verify permit compliance.	During construction as per RWQCB 401 Certification	Qualified biologist
PDF-54	Place material around storm drain outlets to allow continuation of proper drainage.	Continue proper drainage.	During construction	Contractor, in coordination with City Engineer
PDF-55	Conduct underwater survey of proposed anchoring, monobuoy, and routes of sinker discharge pipeline to verify absence of sensitive hard-bottom habitat; if found, relocate to avoid impacts.	Avoid direct impacts to sensitive hard-bottom habitats.	Prior to and during construction	Qualified biologist
PDF-56	Design offshore and nearshore placement sites to avoid artificial reefs, kelp, and other hard-bottom features to the satisfaction of the Corps. Provide a minimum 500-foot buffer zone from kelp beds and potential kelp habitat.	Avoid direct impacts to kelp and sensitive hard bottom habitats.	Final engineering and during materials placement	Engineering contractor and construction contractor
PDF-57	Assess habitat suitability for grunion spawning prior to construction, if construction is to occur during the spawning season. During the grunion spawning period of March through August, all proposed sand disposal sites will be monitored for grunion runs concurrently, unless the beach consists of 100% cobble (i.e., there is not sand on the beach). Grunion monitoring will be conducted by qualified biologists for 30 minutes prior to and 2 hours following the predicted start of each spawning event. If a grunion run consisting of more than 100 fish is reported, the biologist will coordinate with the resource agencies to determine appropriate avoidance	Minimize impacts to grunion.	March through August and per CDFW annual pamphlet *Expected Grunion Runs* (CDFG 2010a)	Qualified biologist

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	and minimization measures (e.g. relocation/rescheduling of work/equipment or specification of acceptable vehicle routes).			
PDF-58	A Marine Mammal and Turtle Contingency Plan will be prepared prior to construction approved by National Marine Fisheries Service. A pre-construction contractor training will be conducted by a qualified biologist to educate workers with respect to protected marine species and avoidance measures required by the contingency plan. Monitoring during construction will include marine mammal observers on project vessels who will notify the vessel operator if a protected marine species is in the vicinity.	Reduce interactions between vessels and protected marine species.	Prior to initiation of construction and during construction	Qualified biological
PDF-59	Coordinate barge operations with the U.S. Coast Guard (USCG).	Minimize restricted areas/durations to maximize fishing opportunities.	Prior to initiation of construction and during construction	Contractor
PDF-60	Clearly mark pipelines used during materials transport (including offshore stockpiling efforts), including both floating and submerged, as “navigational hazards.”	Warn recreational users of water-based activities to ensure safety and avoidance.	Before and during activities in the ocean	USCG (via construction contractor)
PDF-61	Issue Notice to Mariners and maintain 300-foot buffer around monobuoy.	Warn recreational users of water-based activities to ensure safety and avoidance.	Before and during activities in the ocean	USCG (via construction contractor)
PDF-62	Designate a 300-foot buffer around the lane designated for barges to use to reach disposal/reuse sites and track actual routes. Employ Global Positioning System (GPS) tracking on barges to track disposal activity.	Minimize gear loss and fishing conflicts.	During construction	Contractor
PDF-63	Restrict public access at sand placement sites, both on the beach and in the nearshore ocean adjacent to the pipeline and monobuoy	Public safety during construction.	During construction	Contractor, in coordination with local lifeguards
PDF-64	Temporarily relocate mobile lifeguard towers, if necessary	Ensure public safety during construction.	During construction	Contractor, in coordination with local lifeguards

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PDF-65	Place sand to avoid blocking line-of-sight at permanent lifeguard towers. All sight lines from the viewing platforms of the lifeguard towers will be maintained and there will be no interference with views for the lifeguards.	Ensure public safety during construction.	During construction	Contractor, in coordination with local lifeguards
PDF-66	Post signs advising the public of the presence of steep sand slopes (e.g., scarps) should they develop on beaches where sand is being placed.	Reduce risks to public health and safety.	During construction	SELC in coordination with Marine Safety departments in the cities of Encinitas, Solana Beach, and San Diego
PDF-67	Prior to opening areas of beach with placed materials, spread the material and check it for potential hazards (e.g., foreign objects in the sand).	Reduce risks to public health and safety.	During construction	Contractor
PDF-68	Coordinate the schedule at individual materials placement site to the extent possible to avoid major holidays and special events.	Minimize land use and recreation conflicts.	During construction	SELC
PDF-69	Dedicated parking lots will be identified for employee parking during peak beach attendance to minimize effects to public parking availability, as necessary. A shuttle will likely be necessary for some of the more distant lots.	Maintain public beach access.	During construction	Contractor
PDF-70	Maintain horizontal access along the back beach where adjacent vertical access is not available. Where horizontal access is limited, (e.g., where a wet beach directly abuts bluffs), vertical access will remain to allow public access on either side of the active sand placement area as long as public safety is not compromised.	Maintain public beach access.	During construction	Contractor
PDF-71	Cover discharge pipeline with sand at consistent intervals to facilitate access from the back beach to the water.	Maintain public beach access.	During construction	Contractor

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PDF-72	Notify residents at least 1 week in advance of nighttime construction work within 100 feet of residences; Restrict construction work to no longer than 3 consecutive nights within 100 feet of a specific residence where sleep disturbance may occur.	Notify residents of nighttime noise.	During construction	Contractor
PDF-73	Conduct surf condition monitoring in areas with placement of sand to verify the modeling results and document any changes in coastal conditions.	Ensure no adverse changes to coastal conditions.	Prior to, during, and following construction activities	SELC and Engineer
PDF-74	Conduct sand placement at the Torrey Pines placement site outside of the bird breeding season (April 1 through September 15, or after August 1 with confirmation of cessation of nesting). Sand placement at Cardiff placement site may happen year round. However, at both placement sites, monitoring shall be conducted during sand placement to avoid impacts to foraging snowy plover. Should foraging plover be present, the monitor will direct sand placement away from the foraging plover to allow time for the bird(s) to leave the site. In addition, night lighting shall be shielded and directed away from the back beaches. Should nesting plover be detected, a buffer around the nest would be established in consultation with the wildlife agencies and sand placement directed away from the nest.	Minimize impacts to snowy plover at placement sites.	During materials placement.	Qualified biologist