

**Initial Study/Mitigated Negative Declaration
No. PP-24-0054**

**Orange County
Sand Compatibility and
Opportunistic Use Program**

May 2026

Prepared for:

**Orange County Public Works
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LIST OF ACRONYMS AND ABBREVIATIONS

ASBPA	American Shore & Beach Preservation Association
AQMD	Air Quality Management District
BMP	Best Management Practice
CAP	Climate Action Plan
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CHRIS	California Historical Information System
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CY	Cubic Yards
dBA	A-Weighted Decibels
DPM	Diesel Particulate Matter
EIR	Environmental Impact Report
EOP	Emergency Operations Plan
FAA	Federal Aviation Administration
FHSZ	Fire Hazard Severity Zones
GHG	Greenhouse Gas
HCP	Habitat Conservation Plan
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
LHMP	Local Hazard Mitigation Plan
MHTL	Mean High Tide Line
MM	Mitigation Measure
MND	Mitigated Negative Declaration
MPA	Marine Protected Area
NCCP	Natural Community Conservation Plan
ND	Negative Declaration
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
OC SCOUP	Orange County Sand Compatibility and Opportunistic Use Program
OC	Orange County
OCHCA	Orange County Health Care Agency
OCPW	Orange County Public Works
OCTA	Orange County Transportation Authority
OSHA	Occupational Safety and Health Administration

PGM	Program Guideline Measures
PPV	Peak Particle Velocity
Program	Orange County Sand Compatibility and Opportunistic Use Program
RCM	Regulatory Compliance Measure
SC	Standard Conditions
SCAQMD	South Coast Air Quality Management District
SR	State Route
VMT	Vehicle Miles Traveled
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency

1.0 INITIAL STUDY / ENVIRONMENTAL CHECKLIST

1.1 Project Title

Orange County Sand Compatibility and Opportunistic Use Program (OC SCOUP)

1.2 Lead Agency

County of Orange

1.3 Project Contact

Giles Matthews
Regulatory Permitting Manager
OC Infrastructure Programs,
Orange County Public Works (OCPW)

1.4 Project Sponsor

Giles Matthews
Regulatory Permitting Manager
OC Infrastructure Programs, OCPW

1.5 Project Location

The Program sites are located along the Orange County coast and inland in the following Cities (listed north to south): City of Seal Beach, City of Huntington Beach, City of Costa Mesa, City of Newport Beach, City of Irvine, City of Dana Point, and City of San Clemente. For the purpose of this document, locations are grouped by the entities who manage (are responsible for) the beach receiver and stockpile sites. The Costa Mesa stockpile site is managed by OCPW and the Dana Point beach receiver site locations are managed by Orange County Parks and California State Parks. These Costa Mesa and Dana Point locations are included under the Orange County Parks and California State Parks managing entities for location identification purposes but are also included in analysis for Costa Mesa and Dana Point city ordinances where appropriate. The other Cities manage the receiver and stockpile sites located within their boundaries and will continue to be analyzed as managing entities where appropriate. See Table 2-1 and Table 2-2 and Figure 2-1 and Figure 2-2 for a full list of beach receiver and stockpile sites, listed by managing entities, that are associated with The Program.

1.6 General Plan / Zoning Designations

Land Use Designations: The Program would be implemented at beach receiver sites and stockpile sites in cities throughout Orange County. The specific zoning designations which are applicable to OC SCOUP are listed below by the cities in which The Program sites are located and in Table 2-1 and Table 2-2. Zoning designations are written as they appear in the respective City's general plan and zoning documents.

- **Costa Mesa:** public/institutional
- **Dana Point:** recreational/open space
- **Huntington Beach:** park, open space/shoreline, no designation
- **Irvine:** open space preservation, institutional
- **Newport Beach:** shoreline public, parks and recreation, open space
- **San Clemente:** shoreline private, shoreline public, open space public
- **Seal Beach:** beach

1.7 Summary

The County of Orange has determined that the proposed Orange County Sand Compatibility and Opportunistic Use Program (OC SCOUNP or The Program), and the required discretionary actions of the County of Orange for The Program, require compliance with the guidelines and regulations of the California Environmental Quality Act (CEQA). This Initial Study and Mitigated Negative Declaration (IS/MND) addresses the direct, indirect, and cumulative environmental effects associated with The Program.

This IS/MND has been prepared in conformance with the California Environmental Quality Act of 1970, as amended (Public Resources Code Section 21000 *et seq.*); Section 15070 of the State Guidelines for Implementation of the California Environmental Quality Act of 1970 (“CEQA Guidelines”), as amended (CCR, Title 14, Chapter 3, Section 15000 *et seq.*), and applicable requirements of the Lead Agency.

This IS/MND has determined that The Program would result in potentially significant environmental impacts; however, mitigation measures are proposed that would reduce any potentially significant impact to less than significant levels. As such, an IS/MND is deemed as the appropriate document to provide the necessary environmental evaluations and clearance.

1.8 Statutory Authority and Requirements

In accordance with CEQA (Public Resources Code Sections 21000-21177) and pursuant to Section 15063 of the CEQA Guidelines set forth at Title 14 of the California Code of Regulations (CCR), the Lead Agency is undertaking environmental review of The Program in this document. Acting as CEQA Lead Agency, the County of Orange is required to prepare an Initial Study (IS) to inform its decision on whether an Environmental Impact Report (EIR), Negative Declaration (ND), or Mitigated Negative Declaration (MND) would be appropriate for providing the necessary environmental documentation for The Program.

The purpose of an IS is to: (1) identify potential environmental impacts; (2) provide the Lead Agency with information to use as the basis for deciding whether to prepare an EIR or ND; (3) enable The Program sponsor/applicant or Lead Agency to modify a project, mitigating adverse impacts before an EIR is prepared; (4) facilitate environmental assessment early in the design of a project; (5) provide documentation of the factual basis for the finding in a ND that a project would not have a significant environmental effect; (6) eliminate needless EIRs; (7) determine whether a previously prepared EIR could be used for a project; and (8) assist in the preparation of an EIR, if required, by focusing the EIR on the effects determined to be significant, identifying the effects determined not to be significant, and explaining the reasons for determining that potentially significant effects would not be significant.

Section 15063 of the CEQA Guidelines identifies global disclosure requirements for inclusion in an IS. Pursuant to those requirements, an IS must include: (1) a description of The Program, including the location of The Program; (2) an identification of the environmental setting; (3) an identification of environmental effects by use of a checklist, matrix or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries; (4) a discussion of ways to mitigate significant effects identified, if any; (5) an examination of whether The Program is compatible with existing zoning, plans, and other applicable land use controls; and (6) the name of the person or persons who prepared or participated in the preparation of the IS.

According to Section 15065(a) of the CEQA Guidelines, an EIR must be prepared for a project if any of the following conditions occur:

- The Program has the potential to: substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-

sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory.

- The Program has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The Program has possible environmental effects that are individually limited but cumulatively considerable. “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.
- The environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly.

According to Section 15070(a) of the CEQA Guidelines, an ND is deemed appropriate if the IS shows that there is no substantial evidence, in light of the whole record before the Lead Agency, that The Program may have a significant effect on the environment.

According to Section 15070(b), an MND is deemed appropriate if the IS identifies potentially significant effects, but:

- Revisions in The Program plans or proposals made by or agreed to by the sponsor/applicant before a proposed IS/MND is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and
- There is no substantial evidence, in light of the whole record before the agency, that The Program as revised may have a significant effect on the environment.

1.9 Intended Uses of this Initial Study and Mitigated Negative Declaration

This IS/MND is intended to be an informational document for the County of Orange, the general public, and for responsible agencies to review and use when approving subsequent discretionary actions for The Program. The resulting documentation is not a policy document, and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits and other discretionary approvals would be required.

The Notice of Intent (NOI) to Adopt an MND and supporting analysis is subject to a **30-day public and agency review period (June 1, 2026 – June 30, 2026)**. During this review, comments on the document should be addressed to the County of Orange. Following review of any comments received, County of Orange will consider these comments as a part of The Program’s environmental review and include them with the IS/MND documentation for consideration by County of Orange. This document is available at OC Public Works, OC Development Services/Planning: 601 N. Ross Street, First Floor, Santa Ana, CA 92701 and/or <https://pwds.oc.gov/service-areas/oc-development-services/planning-development/current-projects/1st-district-5th-0>.

Although findings herein are for the overall Program, they are based on specific information at each beach receiver and stockpile site which are part of the Program.

1.10 Supportive Documentation

1.10.1 Incorporation by Reference

Incorporation by reference is a procedure for reducing the size of environmental documents and is most appropriate for including long, descriptive, or technical materials that provide general background information but do not contribute directly to the specific analysis of The Program itself. This procedure is particularly useful when an EIR or ND relies on a broadly drafted EIR for its evaluation of cumulative impacts of related projects. (*Las Virgenes Homeowners Federation v. County of Los Angeles* (1986) 177 Cal.App.3d 300.) If an EIR or ND relies on information from a supporting study that is available to the public, the EIR or ND cannot be deemed unsupported by evidence or analysis (*San Francisco Ecology Center v. City and County of San Francisco* (1975) 48 Cal.App.3d 584, 595.). This document incorporates by reference the Orange County General Plan, Orange County Great Park Final EIR, City of Huntington Beach General Plan, City of Newport Beach Local Coastal Program Implementation Program, City of Newport Beach Local Coastal Program Implementation Program, and Seal Beach General Plan.

When an EIR or ND incorporates a document by reference, the incorporation must comply with Section 15150 of the CEQA Guidelines as follows:

- The incorporated document must be available to the public or be a matter of public record (CEQA Guidelines Section 15150(a)).
- This document must summarize the portion of the document being incorporated by reference or briefly describe information that cannot be summarized (CEQA Guidelines Section 15150(c)).
- The material to be incorporated in this document will include general background information (CEQA Guidelines Section 15150(f)).

1.10.2 Technical Studies

This IS/MND also uses information provided in the following document(s), which are included in the appendices:

- **Preliminary Implementation Guidelines: Orange County Sand Compatibility and Opportunistic Use Program (Appendix A; <https://pwds.oc.gov/service-areas/oc-development-services/planning-development/current-projects/1st-district-5th-0>)**
 - Prepared by Moffatt & Nichol, August 2025
 - The term “preliminary” in the document title is to recognize that specific implementation protocols (such as specific sediment testing and monitoring protocols) may need to be revised once final regulatory permits are obtained. It is assumed though that these regulatory permit requirements will result in fewer impacts than analyzed herein, i.e., the Preliminary Implementation Guidelines document represents the highest potential impacts that may result from The Program.
- **Marine Biological Technical Study and Essential Fish Habitat Assessment**
 - Prepared by Merkel & Associates, July 2025
- **Terrestrial Biological Resources Assessment Report**
 - Prepared by Merkel & Associates, August 2025

1.11 Environmental Setting and Surrounding Land Uses

The Orange County Sand Compatibility and Opportunistic Use Program (OC SCOUNP) is located in multiple areas of Orange County, California. These areas are surrounded primarily by mixed use areas, with single family and multifamily residential, public parks, and roadways in adjacent areas for most of the sites affiliated with The Program.

1.12 Environmental Factors Potentially Affected

All potential environmental impacts listed below are addressed in this IS. Those that are checked below have been identified as involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages, for which mitigation measures have been identified to reduce the impact to less than significant.

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Mineral Resources
<input type="checkbox"/> Agriculture and Forestry Resources	<input checked="" type="checkbox"/> Noise
<input type="checkbox"/> Air Quality	<input type="checkbox"/> Population/Housing
<input checked="" type="checkbox"/> Biological Resources	<input type="checkbox"/> Public Services
<input type="checkbox"/> Cultural Resources	<input checked="" type="checkbox"/> Recreation
<input type="checkbox"/> Energy	<input checked="" type="checkbox"/> Transportation
<input type="checkbox"/> Geology/Soils	<input type="checkbox"/> Tribal Cultural Resources
<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Utilities/Service Systems
<input type="checkbox"/> Hazards & Hazardous Materials	<input type="checkbox"/> Wildfire
<input type="checkbox"/> Hydrology/Water Quality	<input checked="" type="checkbox"/> Mandatory Findings of Significance
<input type="checkbox"/> Land Use/Planning	<input type="checkbox"/>

1.13 Environmental Determination (To be completed by the Lead Agency)

On the basis of this initial evaluation:

- I find that The Program COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although The Program could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described in Section 4.0 Mitigation, Monitoring, and Reporting Program (MMRP) have been added to The Program. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that The Program MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that The Program MAY have a “potentially significant impact” or “potentially significant unless mitigated” on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a “potentially significant impact” or “potentially significant unless mitigated.” An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although The Program could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon The Program, nothing further is required.

Signature:	DocuSigned by:  EB76DCA50AD94B6...	Date: 5/29/2026 8:14 AM PDT
Printed Name:	Virginia Gomez	Title: Senior Planner

2.0 PROJECT DESCRIPTION

2.1 Project Background

One of the goals of the *California Coastal Sediment Management Master Plan*¹ is to develop regional, system-wide solutions for sediment management. Orange County (OC) beaches provide many benefits to local residents, communities, and the State, including recreation, flood protection, habitat, and economic value. However, many OC beaches have heavily eroded due to lack of sediment inputs to the shoreline and lack of beach nourishment.

Sediment that would otherwise be transported naturally to the ocean by creeks and rivers, ultimately replenishing the County’s beaches, is instead trapped in debris basins and frequently disposed of at upland sites as part of maintenance activities. This “short-stopping” of sediment occurs throughout the OC watershed. It is critical to find suitable alternatives to replenish Orange County’s beaches that are central to the County’s recreational, infrastructure, habitat, and economic viability.

Orange County beaches generated \$15.8 billion in visitor spending in 2023. Studies show that for every \$1 spent on beach nourishment annually, Orange County beach tourists generate about \$3,000 in economic output, \$1,400 in direct spending and \$200 in taxes.² The *Journal of Shore & Beach* cites that, at the national level, beach tourists generate \$100 in taxes annually to local, state, and federal governments for every dollar spent on beach nourishment by these governments.³ Additionally, the County’s beaches provide buffers against coastal storm damage to shoreline infrastructure and ecological benefits that are more difficult to quantify in dollars.

Historically, (~1990 and before), nourishments (artificial or human-induced sand supply) provided equal or more sand inputs to Southern California beaches than natural inputs.⁴ These historic nourishments helped to sustain many Southern California beaches in the past but the frequency, volume, and funding for nourishment events have decreased significantly in recent decades. While large, planned beach nourishment projects have been successful in combatting erosion, there are typically long gaps between these large projects. Only recently (2024), U.S. Army Corps of Engineers (USACE) nourishment projects were performed along Surfside-Sunset and San Clemente beaches; although the USACE Surfside-Sunset nourishments are supposed to occur every 5-7 years, the last previous event was in 2009.

¹ California State Parks. *California Coastal Sediment Master Plan*. accessed December 11, 2024. https://dbw.parks.ca.gov/?page_id=29330#californiaCSMP

² Wilson and Foley, 2024. *Economic Impact of Beaches & Coastal Areas in Southern California and Capo Beach and the Santa Ana River*, presentations at Assembly representative Diane Dixon’s Workshop Economics and Resilience of Orange County’s Beaches. Presentation by Martin R. Wilson, California Chamber of Commerce – Tourism & California Business and Beaches and Orange County Supervisor Katrina Foley.

³ Houston, 2022. *Beach nourishment provides resilient protection for critical coastal infrastructure*, James R. Houston, U.S. Army Research and Development Center, Shore & Beach, Journal of the American Shore & Beach Preservation Association, Spring 2022.

⁴ Flick, 1993. *The Myth and Reality of Southern California Beaches*, Reinhard E. Flick, California Department of Boating and Waterways and Scripps Institution of Oceanography, Shore & Beach, Journal of the American Shore & Beach Preservation Association January 1993.

Opportunistic beach nourishment is provided by material which becomes available as a surplus from upland projects. The opportunistic material (sand) is available at little cost on a more frequent basis compared to the cost of material commonly used for large-scale beach nourishment projects. Additionally, material from these smaller-scale upland projects can be mobilized and placed on beaches more quickly through opportunistic beach nourishment when there is an urgent/emergency need, such as before or after a large storm event.

In order to address these issues and challenges, the County of Orange proposes to implement OC SCOUP, hereinafter “The Program”, with pre-established criteria, that opportunistically and beneficially uses sediment, from various sources located within and just outside of Orange County, for beach nourishment purposes. The Program will enhance and sustain the many valuable benefits that beaches provide. Sediment and sand are used interchangeably throughout this document.

2.2 Project Description

Purpose

The Program is designed to capitalize on opportunities to obtain beach-quality sand which arise as surplus material from inland sources (opportunistic sand). The purpose of The Program is to obtain regulatory approvals in advance to allow for beach nourishment projects to occur as sediment source opportunities arise. The Program is only to obtain approvals for transporting and placing the source material on public City, State Parks, and County beaches. The basic premise of The Program is the reuse of the source sediment for sand replenishment on beaches along the Orange County coastline. The removal and collection of source sediment will have already been approved through permits and environmental processes by local, state, and federal agencies, and this material, if not for OC SCOUP, would be sent to a landfill or utilized in construction, but now will be repurposed for beach conservation.

To date, there have been few authorizations allowing for upland sediment to be used for beach nourishment on beaches in Orange County. The Program would provide sediment managers in OC the ability to obtain regulatory approvals in advance, by working with the County to jointly seek approvals from the various regulatory agencies, to allow for beach nourishment projects to occur as sediment source opportunities arise. Having pre-approval will eliminate the need for individual permits for each project, helping sediment managers provide faster responses when opportunistic sources (or stockpiled sources) are available. Quicker response times would avoid the current situation in which the OCPW maintenance sediment (and presumably sediment managed by other government entities) is disposed of in upland areas rather than replenishing eroding beaches simply because timely approval for beach nourishment use was not possible. The current problem is source sediment opportunities typically arise quickly and the receiving beach entity does not have environmental and regulatory approvals in place to immediately accept the material. Due to the lack of advance regulatory approvals the source material cannot be beneficially used on beaches.

The County will work with each of the beach managing entities (see Table 2-1: Beach Receiver Site Locations for The Program and Table 2-2: Stockpile Site Locations for The Program) to obtain the regulatory permits required for this Program, i.e., permits/approvals from the California Coastal Commission, U.S. Army Corps of Engineers, State Water Resources Control Board, and State Lands Commission. The County and each of the managing entities will be co-applicants/co-permittees on these permits/approvals. Each of the beach managing entities have already provided approvals for the required permit applications. Some cities do have existing Local Coastal Programs which could result in issuance of a CDP by the managing city for certain areas of the Program, but those cities have chosen to provide authorization for a “Consolidated CDP”, whereby the California Coastal Commission takes over issuance of the CDP for the entire Program. By obtaining these regulatory approvals in advance, the County and beach managing entities are able to take advantage of sand source opportunities as they arise.

Program Characteristics

Many aspects of The Program are novel because they intend to provide Orange County and participating local municipalities in Orange County with a larger degree of flexibility that will ultimately allow for greater success in implementation, i.e. participating receiver beach entities will be able to place sand on their beaches as opportunities arise in a timely and efficient manner, without having to go through environmental reviews and permitting on a case-by-case basis. The Program provides a framework that conforms to regulatory requirements and streamlines the approval process for beach nourishment activities that may provide a model for future SCOUNP programs. Specifically, The Program is intended to:

- Cover a wide geographic range and large number of potential beach receiver sites to maximize program flexibility and opportunistic use;
- Provide a more efficient approval process that lays out requirements based on resources at the individual beach receiver sites and sand placement size and location, thus expediting the timeline between when sand becomes available and its placement on the beach; and
- Include practical and actionable monitoring, e.g., identifying monitoring for the purposes of identifying any needed remediation or adaptive management measures;

Other jurisdictions have adopted similar programs, which help to facilitate the beneficial use of opportunistic sand to replenish eroding beaches (i.e., cities within San Diego County, City of San Clemente, Beach Erosion Authority for Clean Oceans and Nourishment (BEACON) in Santa Barbara and Ventura counties, and Los Angeles County Department of Beaches and Harbors). The Program takes inspiration from what these other jurisdictions have done and applies a similar framework to the unique areas of Orange County included in the Program.

All events where opportunistic sand is used for beach nourishment within the scope of The Program will have to demonstrate compliance with a pre-determined set of science-based criteria based on sediment and water quality guidelines from the U.S. Environmental Protection Agency (USEPA) and others. These criteria are defined in the OC SCOUNP Sampling and Analyses Plan (SAP) of the Preliminary Implementation Guidelines (Appendix A) and will be approved by the USEPA and other agencies as part of the regulatory permitting process. The criteria for source sand suitability for placement on receiver beaches include chemical characteristics, grain size, color, debris content, vegetation content, taking precautions against invasive *Caulerpa* (a group of nonindigenous green algae that pose a significant threat to eelgrass and other marine ecosystems), timing of sand placement, fill design and monitoring. See the Preliminary Implementation Guidelines (Appendix A; Sections 4.0 and 5.0) for criteria and monitoring protocols, also referred as Project Design Features (PDFs).⁵ The monitoring framework is designed to protect biological and other resources and balance economic feasibility with environmental sensitivity for projects (beach nourishment events) of varying size and location.

The opportunistic sand will be sourced from a variety of inland sources, including sediment detention basins, lakes, dams, rivers, creeks, channels, storm drains, wetlands, marshes, ocean outlets, quarries, and construction sites. The activities at these source sites must be separately reviewed and approved by local, state, and federal agencies as appropriate, i.e., separate from The Program approvals. Only stockpiling of

⁵ The Preliminary Implementation Guidelines is a document that provides the blueprint for the managing entities to implement The Program. It includes guidance on the placement of sand for each location, as well as monitoring requirements based on the presence of biological and other resources. It will be updated and finalized upon issuance of regulatory permits, i.e., it will ultimately include all regulatory permit conditions. The Preliminary Implementation Guidelines are available in Appendix A.

sand at designated stockpile sites, transport to fill beach receiver sites, and actual deposition of material at receiver sites is included in The Program.

The Program's scope includes stockpile sites throughout the County that would serve as sand holding facilities between the locations of the source sites and receiver sites, if needed. Although typically sand will be transported directly from the source site to the beach receiver site, these stockpile sites are important for the success of The Program in the cases in which: a) upland source sites yield limited quantities of beach quality material and it may be more efficient to accumulate a greater volume of material before hauling to a beach receiver site, or b) the source opportunity timing does not align with the beach receiver site environmental and recreational windows, or c) the managing entity needs time to obtain funding for sand placement and monitoring when a sand source opportunity arises. The stockpile sites would provide a storage option for the sand so it can be used when the receiver sites can accept it. There are multiple factors that will affect the frequency and duration that a specific stockpile site is used. The frequency of use of these sites will vary, depending on the time it takes to accumulate sand and the need from receiver sites within their respective distribution areas (see figures in Appendix B). The frequency of sand transport from any one stockpile site to a beach receiver site would likely not exceed once every 5 years based on source sand availability and because typically source sand will be transported directly from the source site to receiver site (most cost-effective in comparison to double-handling sand at the stockpile site). While all currently identified stockpiled sites are included in the Guidelines there may be additional temporary stockpile sites that become available. These sites will be assessed for their suitability as and when they are identified and will only be deemed appropriate for use if they meet the strict environmental criteria.

Receiver sites are the beach sites where the opportunistic sand will eventually be placed to help replenish beaches that are experiencing erosion or potential for flooding. Construction staging areas at each receiver site are also included as part of The Program.

The scope for the remainder of this document will include activities at the 25 potential beach receiving sites (Table 2-1: Beach Receiver Site Locations for The Program), and 10 potential stockpile sites (Table 2-2: Stockpile Site Locations for The Program), including haul routes to the furthest receiver site likely to receive the sand (Appendix B).

Locations

The potential receiving sites for the opportunistic sand are public beaches within Orange County, which are owned and managed by California State Parks, OC Parks, and OC coastal cities (from north to south: Seal Beach, Huntington Beach, Newport Beach, and San Clemente) (Table 2-1 and Figure 2-1). Note that there are beach receiving sites located within the City of Dana Point, but those beaches are owned and managed by California State Parks and OC Parks. Stockpile sites will be located throughout the region, providing options to store and sort opportunistic sand from source locations as needed before it reaches the beach receiver sites (Table 2-2 and Figure 2-2). These stockpile locations are owned and managed by Orange County and the Cities of Huntington Beach, Irvine, Newport Beach, and San Clemente. Location descriptions for all receiver and stockpile sites are available in Appendix C.

Beach nourishment activities are not new and have occurred and will continue to occur on many of the potential receiver sites on a semi-regular basis through existing programs, such as the OCPW Ocean Outlets Maintenance Program (Appendix D) and U.S. Army Corps of Engineers projects. While these beaches are nourished through other programs, it would not preclude them from being considered for The Program, as the need to combat erosion requires a multi-pronged approach and more frequent nourishment than what is presently available through other programs alone.

The following tables include the locations that are potential receiver sites (Table 2-1) or stockpile sites (Table 2-2) under The Program. Both Tables are categorized by managing entity (federal, state, local), with specific beach and stockpile locations listed in geographic order from north to south under the entity that manages the site. The location IDs are used throughout this document to identify what criteria or design functions apply to what locations. Unless otherwise indicated, the location IDs are listed in geographic order from north to south. Table 2-1 also indicates the level of urgency, or 'need' for beach nourishment at each location, which may be useful for selecting the most appropriate beach receiver site when opportunistic sand becomes available. The need is based on a combination of beach conditions and recreational opportunities offered. The most eroded beaches with the highest recreational use and the greatest potential for storm damage have a high need and the widest beaches with lower recreational use or lower potential for storm damage have a low need. Table 2-2 includes coordinates for the stockpile sites since the locations do not have specific addresses.

Table 2-1: Beach Receiver Site Locations for The Program
 (listed geographically from north to south under respective managing entities)

Location ID	Location	City/County Jurisdiction	Need	Land Use Designation ⁶⁷
California State Parks				
CA.1	Bolsa Chica State Beach	Huntington Beach	Medium	Open Space Reserve
CA.2	Huntington Beach State Beach	Huntington Beach	Low	Shore
CA.3	Crystal Cove State Park	OC-Unincorporated	High	Open space
CA.4	Doheny State Beach	Dana Point	High	Recreational/Open space
CA.5	San Clemente State Beach	San Clemente	Medium	Open Space Public
Orange County Parks				
OC.1	Newport Dunes	Newport Beach	Low	Parks and Recreation
OC.2	Salt Creek Beach	Dana Point	Medium	Open Space and Recreation
OC.3	Baby Beach	Dana Point	Low	No designation
OC.4	Capistrano Beach County Park	Dana Point	High	Open Space and Recreation
OC.5	Poche Beach	Dana Point	High	Open Space and Recreation
City of Huntington Beach				
HB.1	Sunset Beach	Huntington Beach	Medium	Open Space - Shoreline
HB.2	Huntington Harbour Beaches	Huntington Beach	Low/Medium	Open Space - Shoreline
HB.3	Huntington Beach Bluffs	Huntington Beach	High	Open Space - Shoreline
City of Newport Beach				
NB.1	West Newport Beach	Newport Beach	Medium	Parks and Recreation
NB.2	Newport Harbor Beaches	Newport Beach	High/Medium	Open Space

⁶ Zoning designations use the same language presented in the source materials (i.e., zoning maps listed below).

⁷ City of Dana Point. Community Viewer. Accessed August 14, 2025.

<https://danapoint.maps.arcgis.com/apps/webappviewer/index.html?id=61e136868b284e2bbe40b3c0a4a79235>

City of Costa Mesa. Zoning Districts Map. Accessed August 14, 2025. <https://www.costamesaca.gov/home/showdocument?id=7259>

City of Huntington Beach. Zoning Viewer. Accessed August 14, 2025

<https://huntingtonbeach.maps.arcgis.com/apps/webappviewer/index.html?id=7ab822c02ded4940acd7e4593bba7cb7>

City of Irvine.2025. Zoning Map. Accessed August 14, 2025.https://gis.cityofirvine.org/pdf/Map%20Gallery/Zoning_Map.pdf

City of Newport Beach. Interactive Zoning Maps. Accessed August 14.

<https://nbgis.newportbeachca.gov/NewportHTML5Viewer/?viewer=publicsite>

City of San Clemente. Community Map. Accessed August 14.

<https://experience.arcgis.com/experience/99dcf9f350944f0b909c853ddbdf76d6/>

City of Seal Beach.2010. Zoning Map – Old Town & Bridgeport.<https://www.sealbeachca.gov/Portals/0/Documents/Zoning%20Map%20-%20Old%20Town-Bridgeport.pdf>

City of Seal Beach.2010. Zoning Map – Surfside.<https://www.sealbeachca.gov/Portals/0/Documents/Zoning%20Map%20-%20Surfside.pdf>

Location ID	Location	City/County Jurisdiction	Need	Land Use Designation ⁶⁷
NB.3	Balboa Beach	Newport Beach	Medium	Parks and Recreation
NB.4	Corona del Mar Beach	Newport Beach	Low	Parks and Recreation
NB.5	Little Corona del Mar Beach	Newport Beach	Low	Parks and Recreation
City of San Clemente				
SC.1	Capistrano Shores	San Clemente	High	Shoreline Private
SC.2	San Clemente North Beach	San Clemente	High	Shoreline Public
SC.3	San Clemente Central City Beaches	San Clemente	High	Open Space Public
SC.4	Cyprus Shore/Cottons	San Clemente	High	Shoreline Private; Shoreline Public
City of Seal Beach				
SB.1	West Beach	Seal Beach	Low	Beach
SB.2	East Beach	Seal Beach	High	Beach
SB.3	Surfside Beach	Seal Beach	High	Beach

Table 2-2: Stockpile Site Locations for The Program
 (listed geographically from north to south under respective managing entities)

Location ID	Site Location	Coordinates	City/County Jurisdiction	Land Use Designation
California State Parks				
CA.S.1	Huntington Beach State Beach parking lot	Lat: 33°38'18.70"N Long: 117°58'18.55"W	Huntington Beach	Shore
Orange County Public Works				
OC.S.1	Lot at Confluence (Bolsa Chica & Edinger)	Lat: 33°43'50.55"N Long: 118° 2'31.87"W	Huntington Beach	No designation
OC.S.2	Lot adjacent to the Santa Ana Bike Trail and Greenville Banning Channel	Lat: 33°41'27.31"N Long: 117°56'11.29"W	Costa Mesa	Public/Institutional
OC.S.3	Audubon Basin	Lat: 33°35'18.98"N Long: 117°45'6.06"W	Irvine	Open Space Preservation
City of Huntington Beach				
HB.S.1	Lot adjacent to Gothard Street, Huntington Beach	Lat: 33°41'53.35"N Long: 118° 0'10.66"W	Huntington Beach	Park
City of Irvine				
I.S.1	Lot within Great Park (MCAS El Toro)	Lat: 33°40'17.70"N Long: 117°45'0.09"W	Irvine	Institutional
City of Newport Beach				
NB.S.1	North Star beach parking lot	Lat: 33°37'26.91"N Long: 117°53'36.48"W	Newport Beach	Parks and Recreation
City of San Clemente				
SC.S.1	Lot at Avenue Vista Hermosa and Avenida La Pata	Lat: 33°27'47.20"N Long: 117°36'16.95"W	San Clemente	Neighborhood Commercial
SC.S.2	San Clemente Water Reclamation Plant yard	Lat: 33°26'5.40"N Long: 117°37'46.30"W	San Clemente	Public
SC.S.3	Lot near North Beach	Lat: 33°25'56.91"N Long: 117°37'56.92"W	San Clemente	Mixed-Use

* The projected distribution range for each stockpile site is 10 miles, with the exception of stockpile sites I.S.1 and OC.S.4, which are located further inland and are projected to serve receiver sites up to 15 miles away (see distribution ranges for stockpile sites in Appendix B).

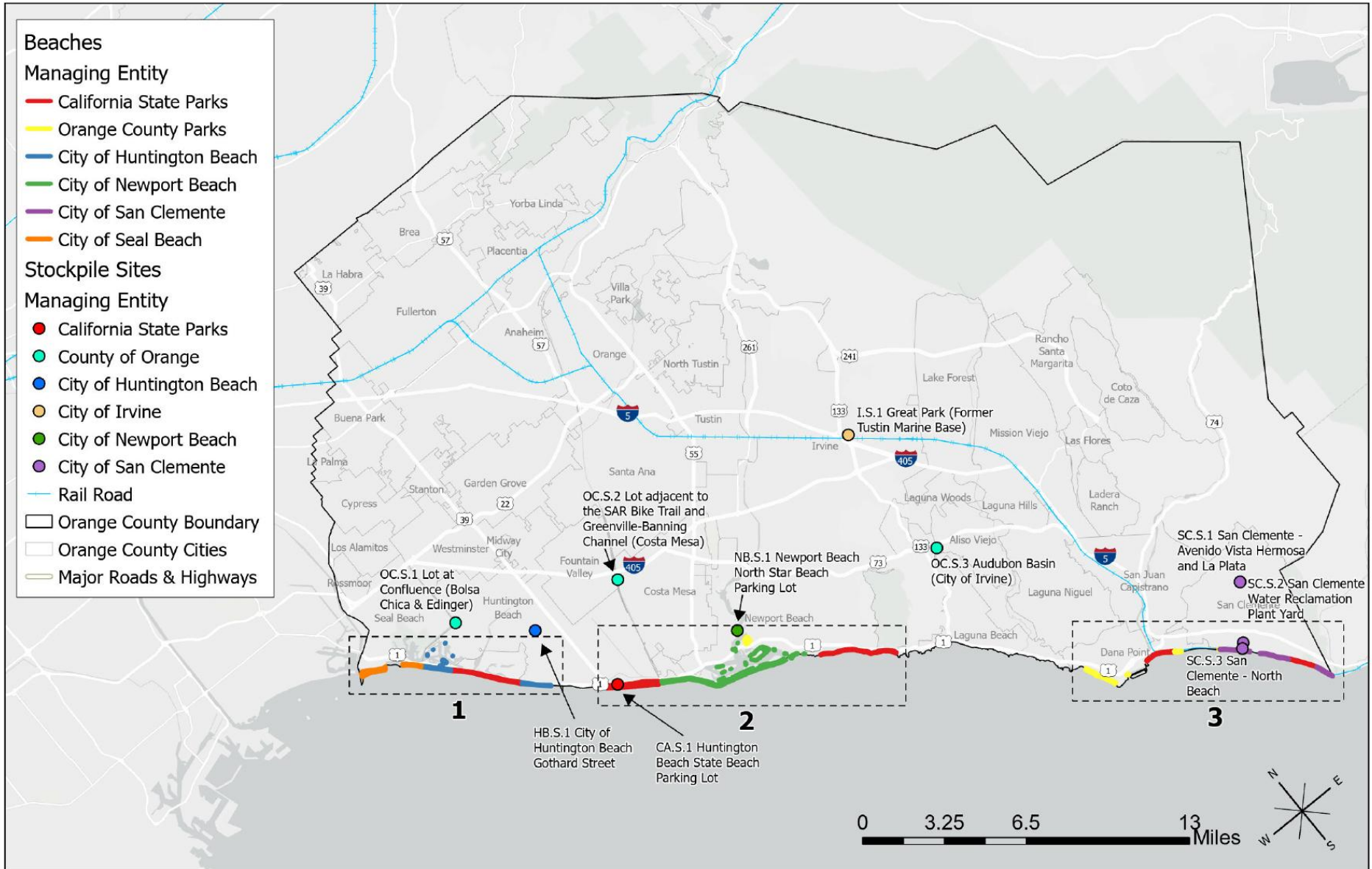


Figure 2-1: Overview of Beach Receiver and Stockpile Sites included in The Program (color coded by managing entity)

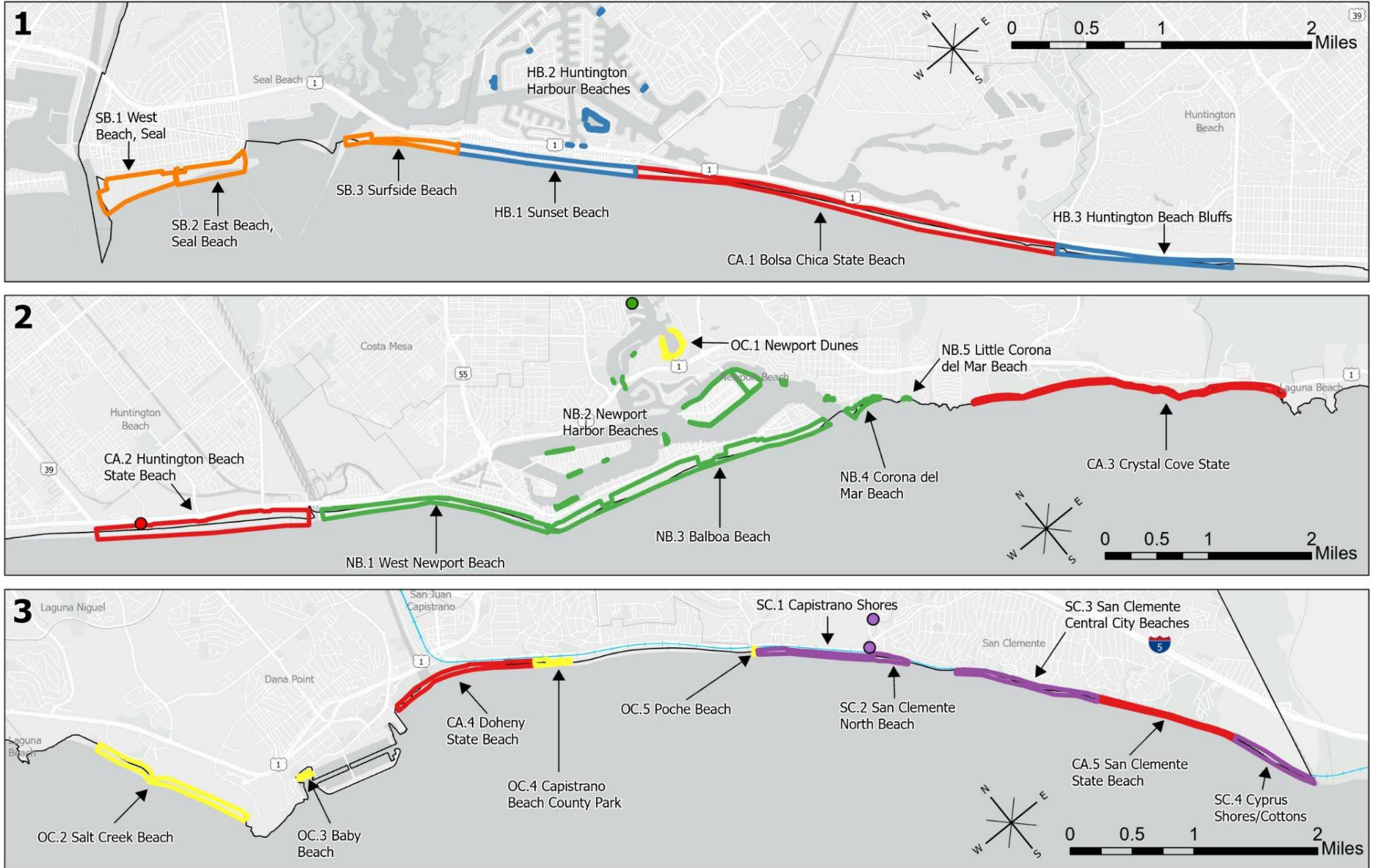


Figure 2-2: Closeup Snapshot of North (Frame 1), Central (Frame 2), and South (Frame 3) Locations

Beach Nourishment and Stockpile Quantities

To approximate maximum beach nourishment (“fill”)⁸ quantities for The Program, a target beach width was determined based on a natural shoreline condition at the receiver site, typically 50-100 feet. The fill volume was first estimated by a rule of thumb factor of 1.5 cubic yards of sand per 1 foot of beach width for every 1 linear foot of a beach shoreline length for a beach berm fill in southern California and adjusted as needed to define a reasonable volume. For some beaches, such as West Seal Beach, fill estimates were based on estimates for dune creation/enhancement. To ensure these estimates were reasonable and environmentally suitable, a review of historic and/or upcoming nourishment projects (when available) and environmental conditions were considered for each receiver site. Table 2-3 provides a summary of the typical fill quantities per event and maximum quantities per year at each beach receiver site. The maximum fill quantities are not likely to be met for most sites but will serve as the basis for analysis for the purposes of this document.

The maximum shoreline extent for opportunistic beach fill over time is shown by the black polygons in Appendix A; Section 3.0. The overall maximum footprint (black polygon) for each site is based on the potential fill placement design(s) at that site, e.g., beach berm or backbeach dunes (Table 2-5: Beach Fill Design). Individual opportunistic projects (events) would occur within the bounds of this maximum footprint. The actual fill footprint per opportunistic nourishment event will be much smaller as shown by the representative/typical sand fill blue polygon but can occur anywhere within the bigger maximum extent (black polygon) envelope. The maximum footprints are not likely to be used for most receiver sites but provide the most conservative basis for analysis for the purposes of this document.

Sand holding capacities and acreage for stockpile sites are included in Table 2-4: Stockpile Site Size and Volume Capacity. The frequency of use of these sites will vary, depending on the time it takes to accumulate sand and the need from receiver sites within their respective distribution areas (see figures in Appendix B). The frequency of sand transport from any one stockpile site would likely not exceed once every 5 years based on source sand availability and because typically source sand will be transported directly from the source site to receiver site (most cost-effective in comparison to double-handling sand at the stockpile site). However, for the purposes of analysis in this document, the transport from stockpile sites to receiver sites were analyzed at distances of 10 and 15 miles, with a frequency based on the most conservative estimate for the number of truck trips required as dictated by the max fill volume for receiver beaches. See Appendix E for more detailed information on how transport from stockpile sites to receiver sites were used to analyze potential impacts. Transport of sand from source sites must be separately reviewed and approved by local, state, and federal agencies as appropriate, i.e., separate from The Program approvals. Thus, only stockpiling of sand at designated stockpile sites, transport to fill beach receiver sites, and actual deposition of material at receiver sites are included in The Program.

⁸ For the purpose of this document, the term ‘fill’ is intended to be a general term referring to the material appropriate for use in beach nourishment projects. It does not imply fill of Waters of the U.S.

Table 2-3: Beach Receiver Site Fill Quantities (Typical and Max Fill Volumes)

Location ID	Location	Typical Fill Volume Per Event (cubic yards)	Maximum Fill Volume Per year (cubic yards)
California State Parks			
CA.1	Bolsa Chica State Beach	100,000	300,000
CA.2	Huntington Beach State Beach	50,000	200,000
CA.3	Crystal Cove State Park	100,000	300,000
CA.4	Doheny State Beach	100,000	300,000
CA.5	San Clemente State Beach	100,000	300,000
Orange County Parks			
OC.1	Newport Dunes	50,000	50,000
OC.2	Salt Creek Beach	50,000	200,000
OC.3	Baby Beach	5,000	10,000
OC.4	Capistrano Beach County Park	50,000	150,000
OC.5	Poche Beach	1,000	1,000
City of Huntington Beach			
HB.1	Sunset Beach	100,000	200,000
HB.2	Huntington Harbour Beaches	1,000 - 5,000	1,000 - 5,000
HB.3	Huntington Beach Bluffs	100,000	300,000
City of Newport Beach			
NB.1	West Newport Beach	100,000	300,000
NB.2	Newport Harbor Beaches	1,000 – 10,000	1,000 – 10,000
NB.3	Balboa Beach	100,000	300,000
NB.4	Corona del Mar Beach	50,000	100,000
NB.5	Little Corona del Mar Beach	5,000	5,000
City of San Clemente			
SC.1	Capistrano Shores	100,000	300,000
SC.2	San Clemente North Beach	50,000	150,000
SC.3	San Clemente Central City Beaches	100,000	300,000
SC.4	Cyprus Shore/Cottons	100,000	300,000
City of Seal Beach			
SB.1	West Beach	50,000	100,000
SB.2	East Beach	50,000	200,000
SB.3	Surfside Beach	100,000	300,000

Table 2-4: Stockpile Site Size and Volume Capacity

Location ID	Site Location	Approximate Site Size (acres)	Approximate Stockpile Volume Capacity (cubic yards)
California State Parks			
CA.S.1	Huntington Beach State Beach Parking Lot (City of Huntington Beach)	1.0	15,000
Orange County			
OC.S.1	Lot at Confluence of Bolsa Chica and Westminster Flood Channels (City of Huntington Beach)	4.8	77,000
OC.S.2	Lot adjacent to the Santa Ana Bike Trail across from OC Sanitation District (City of Costa Mesa)	0.2	3,000
OC.S.4	Audubon Basin, I02B01 (City of Irvine)	1.1	18,000
City of Huntington Beach			
HB.S.1	Huntington Beach - Gothard Street Lot	0.9	15,000
City of Irvine			
I.S.1	Great Park Lot (MCAS El Toro)	9.8	60,000
City of Newport Beach			
NB.S.1	Newport Beach North Star Beach Parking Lot	2.5	40,000
City of San Clemente			
SC.S.1	San Clemente – Avenue Vista Hermosa and Avenida La Pata	1.9	30,000
SC.S.2	San Clemente Water Reclamation Plant Yard	0.7	10,000
SC.S.3	San Clemente – North Beach Lot	0.4	6,000

Source Sand Quality

Each source of potential beach sediment will be analyzed against a set of criteria to determine if the source sediment is suitable for beach placement. The following is a list of preliminary criteria for sand quality testing. These details of the specific criteria may need to be updated when final regulatory permits are issued to conform to the terms of those final permits but the general criteria will remain the same.

- Chemistry – Source sediment suitability is determined by comparing chemistry results from source sediment testing to established criteria/guidelines, such as those set forth in the: 1) USACE/USEPA Inland Testing Manual and 2) National Oceanic and Atmospheric Administration (NOAA) Sediment Quality Guidelines.
- Grain Size – Acceptable grain size distribution of the source material will be based on compatibility with the receiving beach's grain size distribution and the placement location within the beach profile (e.g., backbeach dune or within the intertidal zone).
- Color - Color compatibility will be at the discretion of the receiver beach entity (e.g., City entity). There are no known adverse physical or chemical effects to the coastal environment from color incompatibility. As a result, source material lacking in color compatibility may still be considered as a candidate for beach fill at the discretion of the receiver site managing entity.
- Non-sand Content – Source sediment with seashell and/or cobble content will only be placed on beaches which have similar content.
- Debris Content – Debris within the source material poses possible health and safety hazards and possible nuisance odors and visual impacts. Debris must be separated from the source sediment prior to placement on beaches.
- Riparian Vegetation Content – Large amounts of vegetation in the source material is not anticipated as, generally, vegetation is cleared at source sites prior to excavation. If the remaining amount of vegetation in the source material is unacceptable, it will be screened and separated from the source sediment prior to beach placement.
- Compactability/Moldability – Any material with the tendency to form a hardpan (visible component of iron oxides, brown/red color) will be placed seaward of the mean high tide line (MHTL) to be reworked by waves. Reworking by waves will result in rapid winnowing of fines from the beach fill leaving beach sand behind while fines are transported away from the site by currents. It should be noted that hardpan source material also likely would not meet grain size criteria so this is likely to be a non-issue.
- Caulerpa – *Caulerpa* is an invasive algae known to be present in Newport Bay. Therefore, any source sediments from the Newport Bay marine environment will need to adhere to the guidelines set forth in the *Caulerpa Control Protocol*⁹ prior to placement on beaches. This includes survey and reporting requirements as well as coordination with the appropriate regulatory agencies to ensure that the invasive algae is not spread elsewhere.

Sand Placement Timing

Existing sensitive biological resources (e.g., least terns, snowy plovers, grunion) and high-use recreational times of year (Spring and Summer months) have the potential to constrain the timing of sand placement on the proposed receiving beaches. Beach nourishment events within The Program will generally try to avoid these times of year to the extent feasible, however, source sand opportunities are likely to arise year-round.

⁹ National Marine Fisheries Service (NMFS), 2021. *Caulerpa Control Protocol*. October 2021.

Source sediment availability has the potential to overlap the spring/summertime period, especially given that flood facility maintenance, which generates potential replenishment sand, generally cannot occur during the rainy season. When/if sediment sources become available during Spring and Summer months for beaches with seasonal constraints, some or all of the following Program Guideline Measures (PGM) will be implemented to minimize impacts (PGMs are specific “project measures or features” required by The Program that will minimize adverse impacts on the environment and project area, and are therefore, not identified as CEQA mitigation measures. These measures are defined in the Preliminary Implementation Guidelines):

- Stockpile source sand at an offsite location (designated stockpile sites) until beach placement timing is suitable,
- Perform sensitive bird species and grunion monitoring, including pre-construction surveys, in areas where sensitive species are known to occur (see 3.4 Biological Resources).
- Avoid placement of sand on receiving site beach during weekends,
- Avoid placement of sand at especially popular (high-use) beaches, and
- Limit the volume to be placed on the beach to minimize the time required to place the material,

Additional placement timing constraints may be imposed by regulatory agencies as part of the permitting process; hence, the Preliminary Implementation Guidelines (Appendix A; Section 2.0) will be updated to incorporate these additional constraints as needed.

Beach Fill Design

The following table (Table 2-5: Beach Fill Design) defines the potential sand placement designs and locations within the beach profile for each beach receiver site (listed north to south). This set of designs and locations represents the maximum range of sand fill for analysis in this IS/MND; regulatory agencies may, as part of the permitting process, disallow a certain sand placement location at a given site. If that turns out to be the case, the Implementation Guidelines (Appendix A; Section 2.0) will be updated to incorporate those changes made by the relevant regulatory agency.

Table 2-5: Beach Fill Design

(Representative planview layouts and cross-sections for the placement designs are included in Appendix A; Section 2.0)

Placement Design Type/Description	Design /Recommended Implementation	Applicable Receiver Site for Design Implementation (see Table 2-1 for location IDs)
<p><u><i>Beach Berm</i></u></p> <p>For this placement scenario, fill material is placed as a layer over the existing beach as a berm to widen the sandy beach. The berm will be a level surface extending a certain distance from the back of the beach toward the ocean, then sloping gradually into the water. The elevation, width, length, and slope of the berm will vary for each sand placement opportunity, depending upon the quantity of material to be placed, its qualities and the condition of the beach at the time.</p>	<ul style="list-style-type: none"> • Beach berm crest height to match the natural beach berm elevation (typically +10' to +15' NAVD88). • Length and width of the berm based on dimensions of The Program area and volume of sediment available for placement. • Slope seaward of the berm with a constructed slope of approximately 5:1 Horizontal:Vertical (H:V), which will equilibrate over time to a flatter natural slope. 	<p>East Beach (SB.2), Surfside Beach (SB.3), Sunset Beach (HB.1), Huntington Harbour Beaches (HB.2), Bolsa Chica State Beach (CA.1), Huntington Beach Bluffs (HB.3),</p> <p>West Newport Beach (NB.1), Newport Harbor Beaches (NB.2), Newport Dunes (OC.1), Balboa Beach (NB.3), Corona del Mar Beach (NB.4), Little Corona del Mar Beach (NB.5), Salt Creek Beach (OC.2), Baby Beach (OC.3), Capitstrano Beach County Park (OC.4), Poche Beach (OC.5)</p> <p>Capistrano Shores (SC.1), San Clemente North Beach (SC.2), San Clemente Central City Beaches (SC.3), San Clemente State Beach (CA.5), Cyprus Shore/Cottons (SC.4)</p>

Placement Design Type/Description	Design /Recommended Implementation	Applicable Receiver Site for Design Implementation (see Table 2-1 for location IDs)
<p><u><i>Backbeach Storm Dike</i></u></p> <p>For this placement scenario, fill material is placed in a dike-type (linear mound) structure above the dry beach berm and serves to provide wave overtopping protection for landward infrastructure. This type of feature is typically constructed during the winter months when wave action is highest and beach usage is lower and then flattened in the spring/summer months when beach usage increases.</p> <p>The implementation criteria are similar to historic and ongoing dike construction at Seal Beach East Beach and Sunset Beach</p>	<ul style="list-style-type: none"> • Dike crest height to match the highest runup elevation (typically at least +20 ft NAVD88 for 100-year storm events). • Dike crest width of at least 5 feet; • Dike sideslopes of approximately 3:1 H:V. • Length of the dike based on dimensions of The Program area and volume of sediment available for placement. 	<p>East Beach (SB.2), Surfside Beach (SB.3), Sunset Beach (HB.1), Bolsa Chica State Beach (CA.1),</p> <p>Balboa Beach (NB.3), Newport Dunes (OC.1),</p> <p>Doheny State Beach (CA.4), Capistrano Beach County Park (OC.4), Poche Beach (OC.5), Capistrano Shores (SC.1), San Clemente North Beach (SC.2) San Clemente Central City Beaches (SC.3), San Clemente State Beach (CA.5), Cyprus Shore/Cottons (SC.4),</p>

Placement Design Type/Description	Design /Recommended Implementation	Applicable Receiver Site for Design Implementation (see Table 2-1 for location IDs)
<p><u><i>Below Mean High Tide Line (MHTL)</i></u></p> <p>For this placement option, fill is placed below the mean high tide line (MHTL), within the intertidal zone. This scenario is typically used if the source material is darker colored and finer grained than the native beach sand. Sand would be delivered to the beach and pushed by bulldozers to the water's edge. At low tide, the material is pushed as far seaward as possible so that it can be reworked by waves during the following rising tide. The fines would be gradually winnowed out by waves and currents, carried offshore, and sand would be left behind.</p> <p>This option differs from the previous berm placement approach in that, for this option, the fill is placed solely within the intertidal zone, e.g., from elevation +5 ft NAVD88 (approximate MHTL) to elevation 0 ft NAVD88, whereas for the berm option, the sand is placed much higher, e.g., at elevation +10 to +15 ft NAVD88.</p>	<ul style="list-style-type: none"> In order to mitigate invertebrate population decline and encourage quick recolonization of affected areas, linear gaps can be implemented systematically along the placement footprint. 	<p>East Beach (SB.2), Surfside Beach (SB.3), Sunset Beach (HB.1), Huntington Harbour Beaches (HB.2), Huntington Beach Bluffs (HB.3)</p> <p>Bolsa Chical State Beach (CA.1), Huntington Beach State Beach (CA.2), West Newport Beach (NB.1), Balboa Beach (NB.3),</p> <p>Salt Creek Beach (OC.2), Capistrano Beach County Park (OC.4), Poche Beach (OC.5), Capistrano Shores (SC.1), San Clemente North Beach (SC.2), San Clemente Central City Beaches (SC.3), San Clemente State Beach (CA.5), Cyprus Shore/Cottons (SC.4)</p>

Placement Design Type/Description	Design /Recommended Implementation	Applicable Receiver Site for Design Implementation (see Table 2-1 for location IDs)
<p><u><i>Backbeach Dunes</i></u></p> <ul style="list-style-type: none"> Finer-grained source sands may be suitable for placement along the backbeach for creation of vegetated dunes, for beach receiver sites with wide sandy fronting berms. These systems provide an aesthetically pleasing buffer between the beach and upland infrastructure. Additionally, the vegetated systems introduce habitat for native vegetation and animal species including foraging birds. Dunes would be created by placing and grading imported sediment onto the backbeach to form mounds and subsequently planting native vegetation species within the system. 	<ul style="list-style-type: none"> This dune placement option should be implemented in conjunction with beach berm construction if a wide sandy beach does not exist at the beach receiver site. Length and width of the dune based on dimensions of The Program area and volume of sediment available for placement. 	<p>West Beach (SB.1), Surfside Beach (SB.3), Sunset Beach (HB.1), Balboa Beach (NB.3), Huntington Beach Bluffs (HB.3), Huntington Beach State Beach (CA.2), West Newport Beach (NB.1), Bolsa Chica State Beach (CA.1), Corona del Mar Beach (NB.4), Little Corona del Mar Beach (NB.5), Salt Creek Beach (OC.2), Doheny State Beach (CA.4), Capistrano Beach County Park (OC.4), Capistrano Shores (SC.1), San Clemente State Beach (CA.5)</p>
<p><u><i>Backbeach Bluff/Cliff Stabilization</i></u></p> <p>Many segments of the Orange County coastline are backed by bluffs. Increased levels of beach erosion result in less of a buffer between the ocean and the bluffs, which can cause increased scour at the bluff base and subsequently result in an increased risk of bluff erosion. Sediment from sand sources managed under this program may be suitable for placement along the backbeach to help combat bluff erosion by creating a stabilizing layer of sand at the base of the bluff or as sand cover on bluff toe rock or seawall protection.</p>	<ul style="list-style-type: none"> Sand placed along the toe of the bluff with a crest width of 10-20 feet and seaward slope of approximately 5:1 H:V. Length and width of the bluff toe protection based on dimensions of The Program area and volume of sediment available for placement. 	<p>Huntington Beach Bluffs (HB.3), Crystal Cove State Park (CA.3)</p>

Construction and Transportation

Opportunistic sand for beach fill activities will be transported from the stockpile sites to the receiver sites. The sand will be primarily transported via truck and dumped directly on the beach, with some locations also possibly receiving sand transported via trains, conveyor belts, or hydraulic pipelines as appropriate based on the sediment source site location and excavation/dredging method and receiver beach location and accessibility. The removal of source sediment will have already been approved through permits and environmental processes by local, state, and federal agencies. The stockpile sites will support identified receiver beaches within a 10-mile radius (see Figures in Appendix B). The total sand haul distance traveled is calculated from the stockpile location to the receiver site. However, two stockpile sites (I.S.1 and OC.S.4) are further inland, so the haul distance to the furthest receiver site for these two stockpile locations is assumed to be 15 miles so these can serve more receiver sites.

Approximately 10 construction personnel are expected to be on site for each nourishment event, resulting in up to 10 round-trip commutes per day per worker from home to the job site. Construction activities at receiver and stockpile sites will be conducted during daylight hours, no more than 10 hours per day, six days per week (Monday – Saturday). Specific construction windows are shown in Table 2-6: Days and Times Approved for Construction by Jurisdiction.

Table 2-6: Days and Times Approved for Construction by Jurisdiction

Jurisdiction	Days and Times Approved for Construction
Orange County	Monday – Saturday: 7:00 a.m. – 8:00 p.m.
City of Costa Mesa	Monday – Friday: 7:00 a.m. – 7:00 p.m. Saturday: 9:00 a.m. – 6:00 p.m.
City of Dana Point	Monday – Saturday: 7:00 a.m. – 8:00 p.m.
City of Huntington Beach	Monday – Saturday: 7:00 a.m. – 8:00 p.m.
City of Irvine	Monday – Friday: 7:00 a.m. – 7:00 p.m. Saturday: 9:00 a.m. – 6:00 p.m.
City of Newport Beach	Monday – Friday: 7:00 a.m. – 6:30 p.m. Saturday: 8:00 a.m. – 6:00 p.m.
City of San Clemente	Monday – Friday: 7:00 a.m. – 6:00 p.m. Saturday: 8:00 a.m. – 6:00 p.m.
City of Seal Beach	Monday – Friday: 7:00 a.m. – 8:00 p.m. Saturday: 8:00 a.m. – 8:00 p.m.

For all transportation modes, sand will be redistributed along the beach and graded to the design template using earthmoving equipment such as bulldozers and scrapers. At this stage, the sand would be exposed to moisture, limiting the potential for dust generation. Activities on dry sand would be limited to transport from stockpile sites to receiver sites and from staging areas to beach fill activities at each receiver site. Potential staging areas where construction vehicles and equipment will be temporarily located have been designated for each receiver site. Figures included in Appendix A; Section 3.0 show construction areas for receiver sites, including beach fill areas, construction staging, and haul truck accessways.

See Table 2-7 for a summary of specific transportation methods, staging areas, and other construction considerations by receiver location. For some beach receiver sites, multiple potential staging areas are

identified but for a typical sand placement event, only one staging area would be used. Additional staging and access points may be leveraged for use by The Program.

Transportation Methods

Beach nourishment activities may occur on short notice when material becomes available. Transportation of the sediment will be by truck, train, hydraulic pipeline, and/or conveyor belt. Trucking to and from all receiver sites and from stockpile sites will be assumed; some receiver sites will also have the ability to receive sand via: a) train (CA.4 Doheny State Beach, OC.4 Capistrano Beach County Park, OC.5 Poche Beach, HB.1 Sunset Beach, SC.1 Capistrano Shores, SC.2 San Clemente North Beach, SC.3 San Clemente Central City Beaches, CA.5 San Clemente State Beach, and SC.4 Cyprus Shore/Cottons), b) hydraulic pipeline (CA.2 Huntington Beach State Beach, HB.3 Huntington Beach Bluffs, and NB.1 West Newport Beach), or c) conveyor belt (CA.3 Crystal Cove State Beach, CA.5 San Clemente State Beach, OC.5 Poche Beach, HB.1 Sunset Beach, HB.3 Huntington Beach Bluffs, NB.5 Little Corona del Mar Beach, SC.2 San Clemente North Beach, SC.3 San Clemente Central City Beaches, SC.4 Cyprus Shore/Cottons and other beaches in The Program as applicable). The installation of hydraulic pipelines are not within the scope of this CEQA evaluation as the pipeline installation would be covered by the source sediment dredge project environmental review and permitting.

Truck

Trucking will be the most efficient transportation method for most stockpile sites. Trucks would haul material from the stockpile site/s along a designated route to the receiver sites for placement. The projected haul capacity for the trucks to be used for The Program is 14 cy of sand per truck.

The frequency of construction for beach nourishment at most locations would likely not exceed once every three to five years, however for the purposes of impact calculations for this document, annual construction was considered for high need receiver sites to provide a conservative estimate. A five-year frequency was estimated for medium and low receiver sites (see Table 2-1 for a list of receiver sites and level of need).

Table 2-8 provides a breakdown of projected truck trips, volumes of sand transported, and associated locations (receiver and stockpile sites). To be conservative, truck traffic is estimated based on assuming the maximum fill volumes are fulfilled at each receiver location (see Table 2-3 and Table 2-4 for location-specific max fill capacities). However, because of the opportunistic nature of The Program, the likelihood of any receiver location getting the maximum sand quantity is low and truck traffic would thus be significantly less for most receiver sites during construction. The information provided in Table 2-8 assumes a 10-hour-day/6-day-work-week as allowed per the local ordinances for all jurisdictions in which receiver sites are located; actual construction periods may vary from this. For some of the larger receiver site locations, the potential for more than one beach accessway is possible (see Figures in Appendix A; Section 3.0), thus a higher number of trucks was assumed per hour. The actual frequency may vary, but is unlikely to exceed the conservative estimates provided in Table 2-8.

Train

Trains could be an option to transport sand in the future. The Los Angeles-San Diego-San Luis Obispo Rail Corridor (LOSSAN Corridor) runs adjacent to the coastline along the majority of southern Orange County (Dana Point Harbor to Cyprus/Cottons) and another train track is adjacent to the OC.S.2 Great Park/MCAS El Toro stockpile site. In certain situations, transportation of upland material to the receiver site may be more efficient by rail. Significantly higher quantities of material can be transported in a single trip as compared to trucking, and thus the train method could be more time and cost efficient when source material is located extremely far upland, or very close to the vicinity of the rail line. A typical aggregate railcar will transport up to

60 cy of material, thus each railcar of sand is equivalent to approximately four highway truckloads of sand. Similarly, a 40-car train would be equivalent to about 160 highway truck loads.¹⁰

The Orange County Transportation Authority (OCTA) manages the section of the LOSSAN Corridor within Orange County. Currently, there are limitations to train use for The Program, including the lack of sidetrack (second track) along the coastal areas that would allow additional trains to pass the unloading train (which can take 6-8 hours to unload) and tight schedules for existing train traffic (e.g., passenger trains and freight trains that carry cargo and support national commerce). Further, permission for use of the tracks for The Program would require permission from the operators and OCTA who might be impacted by limited or no access to the tracks during the sand unloading process.

Although train transport of sand to the receiver sites is currently not feasible, it may be in the future, especially if sidetrack is added to the LOSSAN Corridor tracks in Orange County. Additionally, there may be scenarios for train use for The Program without the addition of sidetrack, such as during an emergency situation where erosion threatens the integrity of the train tracks near the coast. Given this future possibility and the efficiency of train transport of sand, trains are thus included as a potential option for sand transport in this CEQA document.

Train transport for the purpose of The Program is assumed to be a potential future option for the following sites: CA.4 Doheny State Beach, OC.4 Capistrano Beach County Park, OC.5 Poche Beach, SC.1 Capistrano Shores, SC.2 San Clemente North Beach, SC.3 San Clemente Central City Beaches, CA.5 San Clemente State Beach, SC.4 Cyprus Shore/Cottons, and I.S.1 Great Park/MCAS El Toro. Based on planning and logistical challenges though, it is assumed train transport of sand would occur no more than once per ten years. It is estimated that each train would carry 5,500 cy of sand and it would take 6-8 hours for the trains to unload sand at each receiver site. A maximum of one train per week is anticipated and over the course of 54 weeks within a 10 year period if the max fill for the beaches relying on train transport (300,000 cy at CA.4 Doheny State Beach) is met. Material delivered to sites by train would be transferred from the railcars to the receiver site using appropriate off-loading and conveyance methods suitable for conditions at the time. Alternative methods to discharge sand from railcars that are cleaner and more efficient may be developed .

Conveyor Belt

Some receiver sites would be difficult to reach by truck, particularly those that are backed by cliffs with no or limited vehicular beach accessways (e.g., San Clemente State Beach and Crystal Cove State Beach). In these cases, a temporary conveyor belt may be used to move sand from the trucks at the nearest road or parking lot to the beach fill area during construction. The conveyor belt would be removed after sand placement is completed. Designs for conveyor belts vary, but the design would most likely include a convex middle or guardrails on the sides to prevent fugitive sand from falling off the belt before reaching the target drop site at the end of the belt. Water could also be sprayed on the sand as it is loaded on to the belt to further reduce the risk of fugitive sand. These devices are generally powered by generators which in turn are powered by diesel fuel.

¹⁰ GHD, 2021. Capistrano Beach Nourishment Route Preliminary Feasibility Study, January 2021.

Table 2-7: Construction and Transportation Information for Receiver Locations
 (listed by managing entity, in alphabetical order; See figures in Appendix A; Section 3.0 for visual graphics depicting this information)

Receiver Site Location	Mode of Transportation for Sand Delivery	Construction Staging Area(s)	Other Considerations and/or Constraints
California State Parks			
CA.1 Bolsa Chica State Beach	Truck	The staging area will be in the Bolsa Chica State Beach paved parking lot, in a location in close proximity to sand placement site.	A public pedestrian/bicycle path is between the parking lot staging area and beach receiver site; special precautions will need to be in place for trucks crossing the path.
CA.2 Huntington Beach State Beach	Truck	The staging area will be in the Huntington Beach State Beach paved parking lot, in a location in close proximity to sand placement site.	A public pedestrian/bicycle path is between the parking lot staging area and beach receiver site; special precautions will need to be in place for trucks crossing the path. The backbeach area along Huntington Beach State Beach will also be considered as a sand source site, as sand often builds up and blows over the bicycle/pedestrian path and into the parking lot.
CA.3 Crystal Cove State Park	Conveyor Belt, Truck	Crystal Cove State paved parking lot southeast of main entrance Beachcomber paved parking lot, northwest corner Paved parking lot southeast of Reef Point Drive	There is the potential for sand to be placed on the southern end of Crystal Cove beach via conveyor belt from the Moro Campground lower parking lot through the PCH underpass or from the Reef Point bluff-top parking lot via the ramp.
CA.4 Doheny State Beach	Train, Truck	Doheny State Beach paved parking lot (west of San Juan Creek), northeast corner adjacent to Park Lantern Doheny State Beach paved parking lot adjacent to Coast Highway, east of San Juan Creek.	Given this receiver beach's proximity to the railroad, there is the potential for the transportation of sand from upland sources via train and sidecar dumping of sand in a stockpile area adjacent to the beach.

Receiver Site Location	Mode of Transportation for Sand Delivery	Construction Staging Area(s)	Other Considerations and/or Constraints
CA.5 San Clemente State Beach	Train, Conveyor Belt, Truck	Northeast corner of the State Beach Parking Lot off of Avenida Calafia State Beach Parking Lot at Group Campsite #2	Given this beach's proximity to the railroad, there is the potential for the transportation of sand from upland sources via train and sidecar dumping of sand in a stockpile area adjacent to the beach and/or directly onto the beach. There is also the potential for sand to be placed via conveyor belt from the upper Group Campsite 2 parking lot. Sand haul over the railroad from the lower Calafia parking lot will require infrastructure improvements to the railroad at-grade crossing and the existing stairway on the beach side of the railroad. These infrastructure improvements would also greatly benefit State Parks lifeguard and beach maintenance services.
Orange County			
OC.1 Newport Dunes	Truck	Parking lot off of N Bayside Drive, west of Newport Dunes Bridge Parking Lot off of Back Bay Drive, east of Newport Dunes Bridge	There is currently no direct beach access for construction equipment from the Bayside Drive parking lot staging area.
OC.2 Salt Creek Beach	Truck, Conveyor Belt	Salt Creek Beach parking lot, northwest portion of the lot east of Ritz Carlton Drive	Beach nourishment at the southern extent of Dana Stands, south of the Selva Road parking lot ramp, will likely be restricted to only low tide conditions given the limited current beach width.
OC.3 Baby Beach	Truck	Pier parking lot, northeast of the Pier Ensenada Place Parking, north end adjacent to Dana Point Harbor Drive	N/A
OC.4 Capistrano Beach County Park	Train, Truck	Off of Beach Road, west of the Capistrano Beach parking lot Southwest corner of the Capistrano Beach parking lot	Given this receiver beach's proximity to the railroad, there is the potential for the transportation of sand from upland sources via train and sidecar dumping of sand in a stockpile area adjacent to the beach.
OC.5 Poche Beach	Train, Conveyor Belt	Capistrano Beach County Park parking lot	There is no/limited space for construction staging in the areas adjacent to Poche Beach, thus the need to use the Capo Beach lot. Given this receiver beach's proximity to the railroad, there may be the potential for the transportation of sand from upland sources via train and sidecar dumping of sand in a stockpile area adjacent to the beach.

Receiver Site Location	Mode of Transportation for Sand Delivery	Construction Staging Area(s)	Other Considerations and/or Constraints
City of Huntington Beach			
HB.1 Sunset Beach	Truck, Train, Conveyor Belt	Parking spaces along and on median between N. and S. Pacific Avenues, off of Anderson Street Sunset Beach parking lot, off of Warner Avenue and Pacific Coast Highway	N/A
HB.2 Huntington Harbour Beaches	Truck	Adjacent streets	Due to limited space within the harbor, construction staging would be limited to along the streets.
HB.3 Huntington Beach Bluffs	Truck, Hydraulic Pipeline, Conveyor Belt	Huntington Bluffs Beach City parking lots	There is the potential for sand to be placed on Huntington Beach Bluffs site by hydraulic pipeline transporting sand from the Bolsa Chica Tidal Inlet maintenance dredging.
City of Newport Beach			
NB.1 West Newport Beach	Truck	OCPW maintenance yard off of Summit Street, adjacent to the Santa Ana River Parking lot north of Newport Pier, off of W Oceanfront	N/A
NB.2 Newport Harbor Beaches	Truck	Adjacent streets	Due to limited space within the harbor, construction staging would be limited to along the streets.
NB.3 Balboa Beach	Truck	Parking lot north of Newport Pier, off of W Oceanfront Balboa Pier Parking Lot 1, west of Balboa Pier Parking Lot A at Peninsula Park (926 E Ocean Front Parking), east of Balboa Pier	N/A
NB.4 Corona del Mar Beach	Truck	Corona Del Mar beach parking lot, adjacent to Heliotrope Ave (northwest corner)	N/A
NB.5 Little Corona del Mar Beach	Truck, Conveyor Belt	Corona Del Mar beach parking lot, adjacent to Heliotrope Ave (northwest corner)	Beach access is only via a narrow ramp from Poppy Avenue.

Receiver Site Location	Mode of Transportation for Sand Delivery	Construction Staging Area(s)	Other Considerations and/or Constraints
City of San Clemente			
SC.1 Capistrano Shores	Train, Truck	San Clemente Metrolink Station Parking Lot, south end	Given this receiver beach's proximity to the railroad, there is the potential for the transportation of sand from upland sources via train and sidecar dumping of sand in a stockpile area adjacent to the beach, although sidecar dumping in the immediate vicinity will likely be difficult due to the density of private residences.
SC.2 San Clemente North Beach	Train, Truck, Conveyor Belt	San Clemente Metrolink Station Parking Lot, south end	Special precautions may be needed for construction vehicles travel over the storm drain outlet to protect the outlet structure. Given this receiver beach's proximity to the railroad, there is the potential for transportation of sand from upland sources via train and sidecar dumping of sand in a stockpile area adjacent to and/or directly along the beach.
SC.3 San Clemente Central City Beaches	Train, Truck, Conveyor Belt	East parking lot off of N Alameda Lane	Special precautions will be necessary for haul trucks and construction equipment crossing the railroad. Given this receiver beach's proximity to the railroad, there is the potential for transportation of sand from upland sources via train and sidecar dumping of sand in a stockpile area adjacent to and/or directly onto the beach.
SC.4 Cyprus Shore/Cottons	Train, Truck, Conveyor Belt	Upper beach, near Trestles Beach Trail head	Special precautions will be necessary for haul trucks and construction equipment crossing the railroad. There are no adjacent parking or empty lots and so construction equipment will need to be staged along the back beach. Given this beach's proximity to the railroad, there is the potential for transportation of sand from upland sources via train and sidecar dumping of sand in a stockpile area adjacent to and/or directly onto the beach.
City of Seal Beach			
SB.1 West Beach	Truck	The parking lot to the west of the pier, behind Eisenhower Park The parking lot adjacent to the San Gabriel River, off of 1 st Street and Ocean Avenue.	N/A

Receiver Site Location	Mode of Transportation for Sand Delivery	Construction Staging Area(s)	Other Considerations and/or Constraints
SB.2 East Beach	Truck, Conveyor Belt	<p>The parking lot to the east of the pier, off of 10th Street behind Eisenhower Park.</p> <p>Another potential staging area is at Barney's Beach within the Naval Weapons Station Seal Beach; this area was used for a previous East Beach sand placement project. The use of Barney's Beach avoids construction vehicles traffic along local streets but requires special approval by the U.S. Navy.</p>	<p>Truck access to East Beach is limited. In order to avoid impact to the public, trucks could enter the East Beach placement site by approaching from Seal Beach Boulevard, entering the U.S. Naval Weapons Station via its western entry gate, and continuing to the nourishment site using the Navy's western perimeter road. However, special permissions and security arrangements must be made in advance with the Navy to use this access route.¹¹</p>
SB.3 Surfside Beach	Truck, Conveyor Belt	Lot adjacent to the Naval Weapons Station, southwest of Pacific Coast Highway	N/A

¹¹ Noble, 2017. *Orange County Sand Compatibility and Use Program, Final Report*, Prepared for County of Orange OC Parks, Prepared by Noble Consultants-G.E.C., Inc, August 2017

Table 2-8: Truck Trips

Maximum Fill Volume Per Year ¹² (cubic yards)	Assumed Max Fill per Week (cubic yards)	Maximum Fill Volume Per Day (cubic yards)	Project Duration (weeks)	Number of Individual Trips per Year	Maximum Monthly Truck Trips	Maximum Weekly Number of Truck Trips Projected ¹³	Maximum Daily Number of Truck Trips Projected	Maximum Hourly Number of Truck Trips Projected	Approximate Time Interval Between each Truck (minutes)	Applicable Project Sites
300,000	13,440	2,240	22	21,400	3840	960	160	16	4	High Need Receiver Sites: Crystal Cove State Park (CA.3), Doheny State Beach (CA.4), Huntington Beach Bluffs (HB.3), Capistrano Shores (SC.1), San Clemente Central City Beaches (SC.3), Cyprus Shore/Cottons (SC.4), Surfside Beach (SB.3) Medium/Low Need Receiver Sites: Bolsa Chica State Beach (CA.1), San Clemente State Beach (CA.5), Sunset Beach (HB.1), West Newport Beach (NB.1), Balboa Beach (NB.3) Stockpile Site/s: ¹⁴ N/A
200,000	6,720	1,120	30	14,300	1920	480	80	8	8	High Need Receiver Sites: East Beach (SB.2) Medium/Low Need Receiver Sites: Huntington State Beach (CA.2), Salt Creek Beach (OC.2), Sunset Beach (HB.1) Stockpile Site/s: N/A
150,000	6,720	1,120	22	10,700	1920	480	80	8	8	High Need Receiver Sites: Capistrano Beach County Park (OC.4), San Clemente North Beach (SC.2) Medium/Low Need Receiver Sites: N/A Stockpile Site/s: N/A
100,000	6,720	1,120	15	7,100	1920	480	80	8	8	High Need Receiver Sites: N/A Medium/Low Need Receiver Sites: Corona Del Mar Beach (NB.4) Stockpile Site/s: N/A
100,000	13,440	2,240	7	7,100	3840	960	160	16	4	High Need Receiver Sites: N/A Medium/Low Need Receiver Sites: West Beach (SB.1) Stockpile Site/s: Lot at Confluence – Bolsa Chica & Edinger (I.S.1)
50,000	6,720	1,120	15	7,100	1920	480	80	8	8	High Need Receiver Sites: N/A Medium/Low Need Receiver Sites: Newport Dunes (OC.1) Stockpile Site/s : Newport Beach North Star Beach Parking Lot (NB.S.1); Great Park – MCAS El Toro (OC.S.2); San Clemente – Avenue Vista Hermosa and Avenida La Pata (SC.S.3)
10,000	6720	1,120	7	3600	1920	480	80	8	8	High Need Receiver Sites: Newport Harbor Beaches (NB.2) Medium/Low Need Receiver Sites: Baby Beach (OC.3) Stockpile: City of Huntington Beach Gothard Street (HB.S.1); Audubon Basin (OC.S.1) (+8,000); San Clemente Water Reclamation Plant Yard (SC.S.2)
5,000	6720	1,120	1	700	1920	480	80	8	8	High Need Receiver Sites: N/A Medium/Low Need Receiver Sites: Huntington Harbour Beaches (HB.2), Little Corona del Mar Beach (NB.5) Stockpile Site/s: Lot adjacent to the Santa Ana Bike Trail across from OC Sanitation District (OC.S.4) (-2,000); San Clemente – North Beach (SC.S.1) (+1,000)
1,000	5040	840	1	400	1440	360	60	6	10	High Need Receiver Sites: Poche Beach (OC.5) Medium/Low Need Receiver Sites: Newport Dunes (OC.1) Stockpile site/s: N/A

Calculations based on the following assumptions: 6-day work week and 10-hour workday (allowed under local noise ordinances for all jurisdictions); A carrying capacity of 14 cy dry sand per truck; Truck traffic may be split between 2 or 3 haul routes; Storage volume capacity at the stockpile sites range from 3,000 cy to 77,000 cy. These were included in the category with the closest volume (difference +/- 10,000 or less or the next highest volume if the difference is greater than 5,000 cy). The traffic from these sites will likely be much less than the traffic at the receiver sites; Maximum Monthly Truck Trips are rounded to the nearest 100.

¹² See Tables 3 and 4 for Max Fill (receiver sites) and Capacity (stockpile sites) Volumes by Location

¹³ Storage volume capacity at the stockpile sites range from 3,000 cy to 77,000 cy. These were included in the category with the closest volume (difference +/- 10,000 or less or the next highest volume if the difference is greater than 5,000 cy). The traffic from these sites will likely be much less than the traffic at the receiver sites

2.3 Project Permitting/Entitlements List

This IS/MND is intended to analyze the potential environmental impacts of The Program in advance of its consideration and as an informational document for the County of Orange and other agencies to review and use when approving subsequent discretionary actions for The Program. Table 2-9 provides a list of other agencies that may rely upon this IS/MND to grant subsequent discretionary approvals and/or permits related to The Program's implementation.

Table 2-9: Permitting and Agency Review for The Program

Regulatory Agency	Permit/Approval/Review	Description
California Coastal Commission (CCC)	Coastal Development Permit (CDP)	Work (sand placement and construction staging) within the California Coastal Zone
U.S. Army Corps of Engineers (USACE)	Section 10/404 Permit (Section 10 of the federal Rivers and Harbors Act and Section 404 of federal Clean Water Act)	Sand placement and construction activity within jurisdictional Waters of the U.S. (work seaward of the Highest Tide Line)
U.S. Fish and Wildlife Service (USFWS)	Consultation to USACE for Section 10/404 Permit	Review of compliance with Section 7 of the federal Endangered Species Act
NOAA National Marine Fisheries Service (NMFS)	Consultation to USACE for Section 10/404 Permit	Review of compliance with Magnuson-Stevens Act for Essential Fish Habitat, Marine Mammal Protection Act, and Section 7 of the Endangered Species Act
U.S. Environmental Protection Agency (USEPA)	Consultation to USACE for Section 10/404 Permit	Review of compliance with sediment quality ecological and human health criteria
State Water Resources Control Board* (SWRCB)	Section 401 Water Quality Certification / Waste Discharge Requirement (Section 401 of federal Clean Water Act and State Porter-Cologne Water Quality Act)	Sand placement and construction activities within jurisdictional Waters of the U.S. and State (work seaward of the Highest Tide Line)
California State Lands Commission (CSLC)	Lease(s) of State Lands	Sand placement within Tidelands and Submerged Lands of California (work seaward of the Ordinary High Water Mark)

* Since OC SCOUP falls across two Regional Water Quality Control Boards (Santa Ana and San Diego), the 401 Certification will be issued by the State Board.

As defined by CEQA Statute and Guidelines, a “Responsible Agency” means a public agency, other than the lead agency, which has responsibility for carrying out or approving a project.” In the case of OC SCOUP, the receiver beach managing entities (California State Parks, OC Parks, City of Seal Beach, City of Huntington Beach, City of Newport Beach and City of San Clemente) will have the responsibility for carrying out the individual SCOUP beach nourishment events (projects) and thus they are Responsible Agencies under CEQA. In addition, the beach managing entities are co-applicants on each the permits listed in the table above. The City of Dana Point is not a beach managing entity, however five OC SCOUP beaches (Salt Creek, Baby, Doheny, Capistrano and Poche) are located within the City of Dana Point; the City has an approved Local Coastal Program and could issue a CDP for portions of The Program but has provided authorization to the CCC to issue a “Consolidated CDP”, i.e. the CCC will issue the CDP and not the City of Dana Point.

2.4 Consultation with California Native American Tribe(s)

The County of Orange initiated formal AB52 consultation requests on April 4, 2025 and concluded consultation on May 7, 2025. Letters were sent to the Tribes listed below.

- Gabrieleño Band of Mission Indians - Kizh Nation
- Juaneño Band of Mission Indians
- San Gabriel Band of Mission Indians
- Soboba Band of Luiseño Indians

These Tribes did not request formal consultation.

3.0 ENVIRONMENTAL ANALYSIS

The environmental analysis provided in this Section 3.0 is patterned after the Appendix G Checklist recommended by the CEQA Guidelines, as amended, and used by the lead agency in its environmental review process. For the environmental review undertaken as part of this IS preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze The Program's impacts and to identify mitigation for the identified impact.

For the evaluation of potential impacts for The Program, the questions in the IS Checklist are stated and accompanied by analysis and an answer. The analysis considers the short-term, long-term, direct, indirect, and cumulative impacts of The Program. There are four possible responses to each question, each with the following meanings:

- **No impact.** The Program would not have any measurable environmental impact on the environment.
- **Less than significant impact.** The Program would have the potential to impact the environment, although this impact would be negligible, it would be below established thresholds that are considered to be significant and/or would be reduced to less than significant with the implementation of established plans, policies, procedures and/or regulations (including measures identified in the Preliminary Implementation Guidelines).
- **Less than significant with mitigation.** The Program would have the potential to generate impacts, which may be considered a significant effect on the environment, although mitigation measures or changes to The Program's physical or operational characteristics would reduce these impacts to levels that are less than significant.
- **Potentially significant impact.** The Program could have impacts that may be considered significant and, therefore, additional analysis is required to identify mitigation measures that could reduce potentially significant impacts to less than significant levels.

The following is a discussion of potential Program impacts as identified in the Initial Study/Mitigated Negative Declaration (IS/MND). Explanations are provided for each item.

In addition to the analysis, Program Guidelines Measures (PGM) recommended mitigation measures (MM), regulatory compliance measures (RCM), and Standard Conditions/best management practices (SCs) are specified in this IS/MND. Mitigation measures are specific actions required to avoid, reduce, or offset significant environmental impacts identified in the environmental review. Regulatory compliance measures refer to mandatory actions that ensure adherence to existing laws, regulations, and standards, and while not CEQA mitigation, they contribute to environmental safeguards. Standard Conditions are the best management practices required by the County and are voluntary or project-specific strategies that promote sustainability and minimize potential environmental effects, often implemented as part of standard operating procedures. PGMs identified in the Preliminary Implementation Guidelines are specific "project measures or features" required by The Program that will minimize adverse impacts on the environment and project area, and are therefore, not identified as CEQA mitigation measures. See Table 4-1: Mitigation, Monitoring, and Reporting Program for more details.

3.1 Aesthetics

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) Would the Project have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. Views of the ocean, sandy beach, coastal bluffs, piers, or natural features that would be considered ‘scenic vistas’ would not be permanently affected by The Program. Designated scenic resources at or near The Program locations include Huntington Beach Pier, Huntington Beach Bluffs, Bolsa Chica Ecological Reserve, Balboa Beach Pier, Dana Point Harbor, the Bluff Top Trail, and Sunset Beach.¹⁵ Scenic resources that have been identified as important scenic vistas by the State and local jurisdictions and are listed by proximity (within 1 mile) to specific receiver sites in Table 3-2 and stockpile sites Table 3-3.

Nourished beach heights, widths, and lengths are comparable to, and compatible with, underlying and surrounding beach areas. Stockpile heights would reach a maximum of 10 feet. Construction equipment and activities, such as dump trucks unloading sand and earthmoving equipment placing and moving sand on the beach, may be seen in the immediate vicinity of The Program sites by residents and recreational users along the parking lots, bikeways, roadways, and private residences adjacent to the sites and may be considered unpleasant to the viewer with a potential to temporarily diminish the perceived scenic quality of the beach sites.

¹⁵ City of Dana Point. 1991. General Plan. https://www.plandanapoint.com/_files/ugd/db9256_b7de4d9e6cef4496b1f5ee5c7df657f5.pdf
 City of Huntington Beach. 2001 (amended 2011). General Plan: Coastal Element. https://cms3.revize.com/revize/huntingtonbeachca/Documents/Departments/Community%20Development/Planning%20Zonning/Coastal%20Element/Coastal_Elem_Tech_Synop.pdf?t=202404051223360&t=202404051223360
 City of Irvine. 2024. General Plan: Conservation and Open Space Element. <https://legacy.cityofirvine.org/civica/filebank/blobdload.asp?BlobID=35717>
 City of Newport Beach. 2005 (amended October 2018). Local Coastal Program: Coastal Land Use Plan. https://www.newportbeachca.gov/PLN/LCP/Internet%20PDFs/CLUP_Part%204_Coastal%20Resource_Protection.pdf
 City of San Clemente. 2014 (amended October 2022). Centennial General Plan. <https://www.san-clemente.org/home/showpublisheddocument/48385/638924187583400000>
 City of Seal Beach. 2023. DRAFT Local Coastal Program Land Use Plan. https://www.sealbeachca.gov/Portals/0/Documents/Seal%20Beach%20LUP_DRAFT%20compressed.pdf?ver=2023-05-09-154143-560

Construction would occur during daylight hours, no more than 10 hours per day Monday – Saturday (as allowed by local ordinances – See Table 3-1: Days and Times Approved for Construction by Jurisdiction). The duration of construction would vary by location and the amount of sand available, but would not exceed 30 weeks per year at any location. For most locations, construction duration would be between 7 weeks and 22 weeks in any given year and a construction event would not occur more than once every 2-5 years. Long-term, The Program would permanently improve the beach views at the receiver beach sites due to the wider beach areas. All impacts to scenic vistas would be temporary and views would return to pre-Program conditions once maintenance is completed and ultimately views would be improved by The Program; thus impacts would be less than significant.

Table 3-1: Days and Times Approved for Construction by Jurisdiction¹⁶

Jurisdiction	Days and Times Approved for Construction
Orange County	Monday – Saturday: 7:00 a.m. – 8:00 p.m.
City of Costa Mesa	Monday – Friday: 7:00 a.m. – 7:00 p.m. Saturday: 9:00 a.m. – 6:00 p.m.
City of Dana Point	Monday – Saturday: 7:00 a.m. – 8:00 p.m.
City of Huntington Beach	Monday – Saturday: 7:00 a.m. – 8:00 p.m.
City of Irvine	Monday – Friday: 7:00 a.m. – 7:00 p.m. Saturday: 9:00 a.m. – 6:00 p.m.
City of Newport Beach	Monday – Friday: 7:00 a.m. – 6:30 p.m. Saturday: 8:00 a.m. – 6:00 p.m.
City of San Clemente	Monday – Friday: 7:00 a.m. – 6:00 p.m. Saturday: 8:00 a.m. – 6:00 p.m.
City of Seal Beach	Monday – Friday: 7:00 a.m. – 8:00 p.m. Saturday: 8:00 a.m. – 8:00 p.m.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

¹⁶ City of Costa Mesa. 2025. City of Costa Mesa Code of Ordinances Title 13 Section 13-279 Exemptions for Construction accessed July 24, 2025 at <https://ecode360.com/42619123#42619125>

City of Dana Point. 2025. City of Dana Point Municipal Code: Noise Control Special Provisions. accessed on July 24, 2025 at <https://ecode360.com/42957309?highlight=noise&searchId=4199133278820013#42957309>

City of Huntington Beach. 2016. Noise Control. Accessed July 24, 2025. <https://www.nonoise.org/lawlib/cities/ordinances/Huntington%20Beach,%20California.pdf>

City of Newport Beach. 2025 Construction Activity Noise Regulations .Accessed July 24, 2025 <https://www.codepublishing.com/CA/NewportBeach/html/NewportBeach10/NewportBeach1028.html#10.28.040>

City of San Clemente. 2025. Noise Control. Accessed July 24, 2025. https://library.municode.com/ca/san_clemente/codes/code_of_ordinances?nodeId=TIT8HESA_CH8.48NOCO_8.48.090EXCH

City of Seal Beach. 2024. Noise-Exemptions. Accessed July 24, 2025. <https://ecode360.com/43955094?highlight=noise&searchId=4199842164208452#43955094>

b) Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less Than Significant Impact. The Program would stockpile sand at stockpile sites and place compatible sand on receiver sites to replenish eroding beaches. Caltrans designates highways as scenic “depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler’s enjoyment of the view.”¹⁷ Most of the receiver and stockpile locations are located within 1 mile of scenic resources (see Table 3-2 and Table 3-3 for a list of scenic resources near receiver and stockpile sites). Scenic routes, as defined by Caltrans, along Program sites are listed below:¹⁸

- Interstate 5 (I-5) from San Diego County near the City of Coronado to Orange County near San Juan Capistrano and State Route 1 (State Route 1, SR-1) from Orange County near San Juan Capistrano to Los Angeles County near Long Beach,
- Highway 1 (SR-1) from Orange County near San Juan Capistrano to Los Angeles County near Long Beach,

Additionally, public viewpoints and coastal views within the City of Newport Beach are protected under Natural Resource Policy NR 20.3 Public Views and defined as “views from public vantage points.”¹⁹ Activities conducted as part of The Program include stockpiling, transportation, and placement of sand using dump trucks and earth-moving equipment, such as bulldozers, and would occur no less than 25 feet away from historical buildings/structures. Trucks would transport sand from the source sites to the receiver beaches on these highways as part of The Program and would be consistent with current traffic, thus they would not introduce damaging impacts to scenic resources along their routes. The Program would have less than significant impact to scenic resources along the state scenic highways and surrounding areas.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

¹⁷ Caltrans. 2025. Scenic Highways – Frequently Asked Questions accessed July 28, 2025 at <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways/lap-liv-i-scenic-highways-faq2>

¹⁸ California Department of Transportation. 2024. State Scenic Highway Map accessed on October 24, 2024 at <https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>

¹⁹ City of Newport Beach. 2006. City of Newport Beach General Plan Chapter 10 accessed on July 28, 2025 at <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways/lap-liv-i-scenic-highways-faq2>

Table 3-2: List of Scenic Resources Within 1.0 mi of Receiver Sites²⁰

Location ID	Location	Scenic Resources
California State Parks		
CA.1	Bolsa Chica State Beach	HWY 1
CA.1	Bolsa Chica State Beach	Bolsa Chica Ecological Reserves
CA.2	Huntington Beach State Beach	HWY 1
CA.2	Huntington Beach State Beach	Huntington Beach Pier
CA.3	Crystal Cove State Park	HWY 1
CA.4	Doheny State Beach	Coast Hwy
CA.4	Doheny State Beach	HWY 1
CA.4	Doheny State Beach	I-5
CA.5	San Clemente State Beach	I-5
Orange County Parks		
OC.1	Newport Dunes	HWY 1
OC.1	Newport Dunes	Coastal View Road
OC.2	Salt Creek Beach	HWY 1
OC.3	Baby Beach	HWY 1
OC.3	Baby Beach	Bluff Top Trail
OC.3	Baby Beach	Dana Point Harbor
OC.4	Capistrano Beach County Park	I-5
OC.5	Poche Beach	I-5
City of Huntington Beach		
HB.1	Sunset Beach	HWY 1
HB.1	Sunset Beach	Sunset Beach
HB.2	Huntington Harbour Beaches	HWY 1
HB.2	Huntington Harbour Beaches	Huntington Beach Harbor
HB.3	Huntington Beach Bluffs	HWY 1

²⁰ City of Dana Point. 1991. General Plan. https://www.plandanapoint.com/_files/ugd/db9256_b7de4d9e6cef4496b1f5ee5c7df657f5.pdf
 City of Huntington Beach. 2001 (amended 2011). General Plan: Coastal Element. https://cms3.revize.com/revize/huntingtonbeachca/Documents/Departments/Community%20Development/Planning%20Zoning/Coastal%20Element/Coastal_Elem_Tech_Synop.pdf?t=202404051223360&t=202404051223360
 City of Newport Beach. 2005 (amended October 2018). Local Coastal Program: Coastal Land Use Plan. https://www.newportbeachca.gov/PLN/LCP/Internet%20PDFs/CLUP_Part%204_Coastal%20Resource_Protection.pdf
 City of San Clemente. 2014 (amended October 2022). Centennial General Plan. <https://www.san-clemente.org/home/showpublisheddocument/48385/638924187583400000>
 City of Seal Beach. 2023. DRAFT Local Coastal Program Land Use Plan. https://www.sealbeachca.gov/Portals/0/Documents/Seal%20Beach%20LUP_DRAFT%20compressed.pdf?ver=2023-05-09-154143-560
 Caltrans. 2025. Scenic Highways – Frequently Asked Questions accessed July 28, 2025 at <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways/lap-liv-i-scenic-highways-faq2>
 California Department of Transportation. 2024. State Scenic Highway Map accessed on October 24, 2024 at <https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>

Location ID	Location	Scenic Resources
HB.3	Huntington Beach Bluffs	Beach bluffs
City of Newport Beach		
NB.1	West Newport Beach	HWY 1
NB.1	West Newport Beach	Newport Pier
NB.2	Newport Harbor Beaches	HWY 1
NB.2	Newport Harbor Beaches	Public viewpoints
NB.2	Newport Harbor Beaches	Upper Newport Bay Ecological Reserve
NB.3	Balboa Beach	HWY 1
NB.3	Balboa Beach	Balboa Pier
NB.4	Corona del Mar Beach	HWY 1
NB.4	Corona del Mar Beach	Public viewpoints
NB.5	Little Corona del Mar Beach	HWY 1
City of San Clemente		
SC.1	Capistrano Shores	I-5
SC.2	San Clemente North Beach	I-5
SC.3	San Clemente Central City Beaches	I-5
SC.3	San Clemente Central City Beaches	Del Mar/T-Street Corridor
SC.3	San Clemente Central City Beaches	San Clemente Pier
SC.4	Cyprus Shore/Cottons	I-5
City of Seal Beach		
SB.1	West Beach	HWY 1
SB.1	West Beach	Seal Beach Pier
SB.1	West Beach	San Gabriel River and River's End Park
SB.1	West Beach	Eisenhower Park
SB.2	East Beach	HWY 1
SB.2	East Beach	Seal Beach Pier
SB.2	East Beach	Eisenhower Park
SB.3	Surfside Beach	HWY 1

Table 3-3: Scenic Resources within 1 mi of Stockpile Sites²¹

Location ID	Site Location	Scenic Vistas
California State Parks		
CA.S.1	Huntington Beach State Beach parking lot (within City of Huntington Beach)	HWY 1
Orange County Public Works		
OC.S.3	Audubon Basin (within City of Irvine)	El Toro Road
City of Newport Beach		
NB.S.1	North Star beach parking lot, Newport Beach	HWY 1
NB.S.1	North Star beach parking lot, Newport Beach	San Joaquin Hills Road
NB.S.1	North Star beach parking lot, Newport Beach	Public viewpoints
NB.S.1	North Star beach parking lot, Newport Beach	Upper Newport Bay Ecological Reserve
City of San Clemente		
SC.S.2	San Clemente Water Reclamation Plant yard	I-5
SC.S.3	Lot near North Beach, San Clemente	I-5

c) Would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the Project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact. The Program does not include any development and would not degrade existing visual character or quality of public views. Views from the receiver sites are the ocean, sandy beaches, coastal bluffs, harbors, parks, and landward urban infrastructure such as parking lots, roadways, buildings, and homes. Views from the stockpile sites are primarily the surrounding roadways, buildings, parking lots, and flood control channels. Operationally, The Program would replenish eroding beaches with sand, providing beneficial aesthetic effects to the existing visual character and quality of public views. During construction,

²¹ City of Huntington Beach. 2001 (amended 2011). General Plan: Coastal Element. https://cms3.revize.com/revize/huntingtonbeachca/Documents/Departments/Community%20Development/Planning%20Zonning/Coastal%20Element/Coastal_Elem_Tech_Synop.pdf?t=202404051223360&t=202404051223360

City of Irvine. 2024. General Plan: Conservation and Open Space Element. <https://legacy.cityofirvine.org/civica/filebank/blobload.asp?BlobID=35717>

City of Newport Beach. 2005 (amended October 2018). Local Coastal Program: Coastal Land Use Plan. https://www.newportbeachca.gov/PLN/LCP/Internet%20PDFs/CLUP_Part%204_Coastal%20Resource_Protection.pdf

City of San Clemente. 2014 (amended October 2022). Centennial General Plan. <https://www.san-clemente.org/home/showpublisheddocument/48385/638924187583400000>

Caltrans. 2025. Scenic Highways – Frequently Asked Questions accessed July 28, 2025 at <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways/lap-liv-i-scenic-highways-faq2>

California Department of Transportation. 2024. State Scenic Highway Map accessed on October 24, 2024 at <https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca>

equipment and activities may temporarily impact the quality of public views in the vicinity of The Program sites (both receiver sites and stockpile sites). These temporary impacts would include trucks, equipment, and workers being visible on receiver sites and large quantities of sediment being spread on the receiver site areas. Construction would occur during daylight hours, no more than 10 hours per day Monday – Saturday as allowed by local ordinances (see Table 3-1: Days and Times Approved for Construction by Jurisdiction). The duration of construction would vary by location and the amount of sand available, but would not exceed 30 weeks per year at any location. For most locations, the construction duration would be between 7 weeks and 22 weeks in any given year. The quality of public views and visual character of The Program sites and their surroundings would return to pre-Program conditions once construction is completed and would improve the beach views at the receiver beach sites due to the wider beach areas. Impacts to the visual character and quality of views would be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

d) Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. The Program would replenish sand on eroding beaches and does not propose development of any new light or glare sources and thus would not adversely affect day or nighttime views in the area, except for possibly temporarily during construction. Temporary increases in glare may occur from light reflection on chrome construction equipment during the construction period. Construction (i.e., placement of sand) would take place during the day only (see Table 3-1: Days and Times Approved for Construction by Jurisdiction) and therefore no nighttime construction lighting would be used. No significant long-term sources of substantial light or glare would result from The Program, thus impacts would be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

3.2 Agricultural and Forest Resources

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing agricultural zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The Program would not convert any Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use. Per the California Department of Conservation’s California Important Farmland Finder (accessed July 24, 2025),²² there is no farmland within The Program’s receiver and stockpile sites. The Program would transport and place compatible sand on eroding beaches. It would also stockpile sand at locations that are already in use for urban and municipal purposes. The Program would not convert any farmland. Thus, it would have no impact.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

²² California Department of Conservation. *California Important Farmland Finder*. Farmland Mapping and Monitoring Program. Accessed July 26, 2025. <https://maps.conservation.ca.gov/DLRP/CIFF/>

b) Would the Project conflict with existing agriculture zoning for agricultural use, or a Williamson Act contract?

No Impact. The Program would transport and place sand on eroding beaches throughout Orange County. It would also stockpile sand at locations that are already developed and in use for urban and municipal purposes. Further, the stockpile and beach receiver sites, as well as the haul routes associated with The Program, are not zoned for agriculture and would not conflict with existing agriculture zoning. Further, the County has not reported any Williamson Act contracts to the California Williamson Act Enrollment Finder,²³ and the only jurisdiction within The Program that has agricultural zoning (i.e., the City of Irvine) does not have any Williamson Act Contracts per the City's 2045 General Plan Update EIR (2024),²⁴ Thus, The Program would have no impact.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

c) Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. The stockpile and receiver sites associated with The Program are not zoned as forest land or timberland (see Table 2-1: Beach Receiver Site Locations for The Program and Table 2-2: Stockpile Site Locations for The Program for existing zoning for Program sites). Haul routes, construction staging areas, and stockpile locations are currently on built roads and existing disturbed parcels, none of which are zoned as forest land. The Program would transport and place compatible sand on eroding beaches. It would also stockpile sand at locations that are already in use for urban and municipal purposes. There is no forest land or timberland at or near The Program sites or haul routes. No impact would occur as a result of The Program.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

d) Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The stockpile and receiver sites associated with The Program are not zoned as forest land or timberland (see Table 2-1: Beach Receiver Site Locations for The Program and Table 2-2: Stockpile Site Locations for The Program for existing zoning for Program sites). Haul routes, construction staging areas, and stockpile locations are currently on built roads and existing disturbed parcels, none of which are zoned as forest land. There is no forest land located at the beach receiver or stockpile sites, or along the haul routes associated with The Program. The Program would transport and place sand on eroding beaches. It would also stockpile sand at locations that are already in use for urban and municipal purposes. There would be no loss or conversion of forest land due to activities performed within the scope of The Program. Thus, there will be no impact.

²³ California Department of Conservation. 2024. Williamson Act Enrollment Finder. Accessed October 27, 2025. <https://maps.conservation.ca.gov/dlrp/williamsonact/App/index.html>

²⁴ City of Irvine. 2024. Program Environmental Impact Report: City of Irvine 2024 General Plan Update. Accessed October 27, 2025. <https://legacy.cityofirvine.org/civica/filebank/blobload.asp?BlobID=35261>

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

e) Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact. The Program would transport and place compatible sand on eroding beaches. It would also stockpile sand at locations that are already in use for urban and municipal purposes. There is no farmland or forest land on the receiver and stockpile sites or haul routes associated with The Program. The Program would not involve any other changes that will result in the conversion of farmland or forest land into non-farm or forest use. No impact would occur.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

3.3 Air Quality

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) Would the Project conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The Program’s receiver and stockpile sites (Table 2-1 and Table 2-2) are located within the South Coast Air Quality Management District’s (SCAQMD) Air Quality Management Plan (AQMP). The SCAQMD regulates the emission of criteria air pollutants within the South Coast Air Basin in compliance with state and federal air quality standards. Criteria pollutants are those for which the EPA and the California Air Resources Board (CARB) have established health-based ambient air quality standards. These pollutants are monitored due to their known adverse effects on human health and the environment. The primary criteria pollutants regulated by SCAQMD include:

- **Ozone (O₃):** A secondary pollutant formed by photochemical reactions between reactive organic gases (ROG) and nitrogen oxides (NO_x) in the presence of sunlight. Ozone is a strong respiratory irritant and a major component of smog.
- **Nitrogen Oxides (NO_x):** A group of highly reactive gases, including nitrogen dioxide (NO₂), that contribute to ozone formation and particulate matter. NO_x is primarily emitted from combustion sources such as vehicles and industrial operations.
- **Carbon Monoxide (CO):** A colorless, odorless gas produced by incomplete combustion of carbon-based fuels. CO reduces the blood’s ability to carry oxygen and can be particularly harmful to people with cardiovascular conditions.
- **Sulfur Oxides (SO_x):** A group of gases including sulfur dioxide (SO₂) produced from burning sulfur-containing fuels. SO_x can irritate the respiratory system and contributes to the formation of fine particulate matter and acid rain.
- **Particulate Matter (PM₁₀ and PM_{2.5}):** PM₁₀ refers to particles with diameters of 10 microns or less, and PM_{2.5} refers to fine particles with diameters of 2.5 microns or less. These particles can penetrate deep into the lungs and are associated with respiratory and cardiovascular health effects.

- **Volatile Organic Compounds (VOCs):** Also referred to as Reactive Organic Gases (ROG), these are precursors to ozone formation. ROGs are emitted from motor vehicles, solvents, and industrial activities.

Lead (Pb) is also a pollutant of concern, but is not typically a significant pollutant associated with construction emissions because modern construction equipment uses ultra-low sulfur diesel fuel and operates under strict emissions standards that virtually eliminate lead emissions. Additionally, leaded gasoline and lead-based fuels have been banned for decades in the United States, significantly reducing airborne lead concentrations from mobile sources.

SCAQMD uses emission thresholds and modeling tools to evaluate whether a project’s emissions of these pollutants would cause or contribute to exceedances of applicable air quality standards. Consistency with the AQMP is determined by assessing whether a project would (1) exceed the regional emissions projections included in the AQMP, or (2) conflict with strategies intended to reduce air pollutant emissions.

An analysis of The Program’s activities were assessed (Moffatt & Nichol 2025a and Moffatt & Nichol 2025b; see Appendix E) to compare The Program’s emissions to the SCAQMD thresholds.²⁵ The assessment included the daily number of truck trips (based on the maximum annual sand volume; see Table 2-8: Truck Trips) and an assumed 15 mile distance traveled, which is the furthest distance trucks would travel from a stockpile location to a receiver site (see Appendix B). The removal and collection of source sediment will have already been approved through permits and environmental processes by local, state, and federal agencies. The full methodology for the assessment is available in Appendix E. The results of the analysis and SCAQMD thresholds of significance are shown in Table 3-4.

Table 3-4: Maximum Daily Program Emissions Compared to SCAQMD Thresholds (lbs/day)

	NO_x	PM_{2.5}	PM₁₀	VOC	SO_x	CO
Maximum Daily Emissions – Trucks ¹	6.13	0.07	0.07	3.76	0.08	3.40
Maximum Daily Emissions – Trains ²	52.81	2.02	2.08	3.23		11.93
SCAQMD Threshold of Significance	100	55	150	75	150	550
Significant Impact?	No	No	No	No	No	No

Nox = nitrogen oxides, PM₁₀ = particulate matter (10 microns or less); PM_{2.5} = particulate matter (2.5 microns or less); Sox = sulfur oxides; VOC = volatile organic compounds; CO = carbon monoxide

See Appendix E for the full emissions analysis

1) Assumes the maximum number of trucks per day (160 – See Table 2-8)

2) Assumes 15-mile trips (see stockpile site ranges in Appendix E)

3) Assumes current engine types and a frequency of 1 train per week over a total of 54 weeks every 10 years

The Program would replenish eroding Orange County beaches with sand. Any impacts would be short-term and temporary, associated only with the construction phase. There would be no air quality impacts from ongoing operations since there is no additional activity once the sand is placed on a receiver site or removed from/stocked at a stockpile site. The Program would not result in any local or regional population, employment, VMT, or economic growth, and would not exceed the applicable SCAQMD significance thresholds. Therefore, The Program would not interfere with or obstruct implementation of the AQMP and would have no impact to air quality plan consistency.

²⁵ South Coast Air Quality Management District. *Air Quality Significance Thresholds*. Revised March 2023. Accessed July 24, 2025. <https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf>

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

b) Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable federal or state ambient air quality standard?

Less Than Significant Impact. Orange County is located within the South Coast Air Basin and is regulated by the SCAQMD. According to the EPA Green Book (2025),²⁶ Orange County is currently designated as nonattainment for the following criteria pollutants:

- **Ozone (O₃):** Classified as extreme nonattainment under the federal 8-hour ozone standard (2015) and nonattainment under the California state ambient air quality standards. Construction emissions that contribute to O₃ are VOCs and NO_x.
- **Particulate Matter (PM₁₀):** Classified as serious nonattainment under the federal standards and nonattainment under California state standards.

For other criteria pollutants, including Particulate Matter (PM_{2.5}), Carbon Monoxide (CO), Sulfur Dioxide (SO₂), Nitrogen Dioxide (NO₂), and Lead (Pb), Orange County is designated as attainment or unclassified, indicating compliance with applicable air quality standards.

Per Table 3-4, emissions from The Program would be well below the SCAQMD thresholds for all criteria pollutants, including PM₁₀, VOCs, and NO_x. Because these thresholds are established to reflect levels at which a project's emissions could contribute substantially to regional air quality violations or hinder attainment of air quality standards, emissions below these thresholds are considered less than significant for both direct and cumulative impacts.

Further, The Program's emissions would be consistent with the growth assumptions used in the latest AQMP, which is designed to achieve attainment of state and federal air quality standards. Since The Program's emissions are accounted for within regional planning efforts and do not exceed established significance criteria, The Program would not result in a cumulatively considerable net increase in VOCs, NO_x, or other criteria pollutants. Therefore, The Program's contribution to cumulative air quality impacts would be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

c) Would the Project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. The SCAQMD has established two sets of air quality thresholds to evaluate potential impacts under CEQA: Localized Significance Thresholds (LSTs) and regional significance thresholds. These thresholds serve as screening criteria to determine whether a project's emissions may result in adverse effects to public health, especially for sensitive receptors, such as residences, schools, hospitals, daycare centers, parks, and long-term care facilities.

LSTs are developed to assess the potential for a project's on-site emissions of NO_x, CO, PM₁₀, and PM_{2.5} to cause or contribute to localized exceedances of state or federal air quality standards. These thresholds are

²⁶ U.S. Environmental Protection Agency. 2025. California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants | Green Book | US EPA. Accessed July 24, 2025 at https://www3.epa.gov/airquality/greenbook/anayo_ca.html

specific to the project's location, size of the disturbed area (in acres), and the distance to the nearest sensitive receptor. Locations are represented in the context of Source Receptor Areas (SRA) for the purpose of evaluating air quality impacts. The Program's receiver and stockpile locations are located within the SCAQMD and fall within SRAs 18, 20, or 21. The LSTs are intended to ensure that localized concentrations of air pollutants from construction or operational activities do not expose nearby sensitive receptors to unhealthy air quality conditions. Table 3-5 and Table 3-6 show sensitive receptors that are within 25 meters of receiver and stockpile sites. They also show applicable SRAs for each location.

Regional significance thresholds (Table 3-7: Project Emissions Compared to Localized Significance Thresholds) on the other hand, assess the total mass emissions of pollutants generated from both on-site and off-site project activities (including mobile sources). These thresholds protect air quality on a broader scale and prevent projects from significantly contributing to regional pollution burdens that can affect the health of a larger population.

The Program's construction emissions for key pollutants (i.e., NO_x, PM₁₀, PM_{2.5}, and CO) were estimated and compared to the applicable SCAQMD LSTs²⁷ For the purposes of this analysis, the LSTs for a 2-acre disturbance area²⁸ and the most conservative (shortest) receptor distance of 25 meters (approximately 82 feet). VOCs and SO_x are not evaluated under the LST methodology. Instead, these pollutants are addressed using regional significance thresholds established by SCAQMD. The analysis of Program emissions compared to the LST and regional significance thresholds are shown in Table 3-7 below.

The Program would replenish sand on eroding beaches. The only emissions it would generate would be short-term and temporary, associated only with construction. There would be no air quality impacts once the sand has been placed on the receiver sites or stocked at/removed from the stockpile sites. The Program's emissions would be below both localized and regional significance thresholds. Therefore, The Program would not expose sensitive receptors to substantial pollutant concentrations during construction or operationally. Potential air quality impacts to sensitive receptors from localized and regional construction emissions would be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

²⁷ South Coast Air Quality Management District. *Localized Significance Thresholds Methodology and Mass Rate Look-Up Tables*. Accessed July 23, 2025. <https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds>

²⁸ The maximum amount of sand that could be placed on a receiver site or stockpile site per day would be 2,240 cubic yards (see Table 2-8: Truck Trips). Assuming the sand would be placed at a maximum of 1 foot deep, 2,240 cubic yards = 1.39 acres. Daily construction activities would not exceed 1.39 acres.

Table 3-5: Sensitive Receptors and Source Receptor Areas (SRA) - Receiver Sites

ID	Location	Sensitive Receptors Within 25 m of the Site	SRA
California State Parks			
CA.1	Bolsa Chica State Beach	Bolsa Chica State Beach Visitor Center	18
CA.2	Huntington Beach State Beach	N/A	18
CA.3	Crystal Cove State Park	Residences	20
CA.3	Crystal Cove State Park	Crystal Cove State Park	20
CA.4	Doheny State Beach	N/A	21
CA.5	San Clemente State Beach	Residences	21
Orange County Parks			
OC.1	Newport Dunes	Residences	18
OC.2	Salt Creek Beach	N/A	21
OC.3	Baby Beach	Dana Cove Park	21
OC.4	Capistrano Beach County Park	Residences	21
OC.5	Poche Beach	Residences	21
City of Huntington Beach			
HB.1	Sunset Beach	Residences	18
HB.2	Huntington Harbour Beaches	Residences	18
HB.2	Huntington Harbour Beaches	Seabridge Park	18
HB.2	Huntington Harbour Beaches	Trinidad Park	18
HB.2	Huntington Harbour Beaches	Humboldt Park	18
HB.3	Huntington Beach Bluffs	Bluff Top Park	18
City of Newport Beach			
NB.1	West Newport Beach	Residences	18
NB.2	Newport Harbor Beaches	Residences	18
NB.2	Newport Harbor Beaches	Castaway Park	18
NB.2	Newport Harbor Beaches	Genoa Park	18
NB.2	Newport Harbor Beaches	San Remo Park	18
NB.2	Newport Harbor Beaches	Marina Park	18
NB.3	Balboa Beach	Residences	18
NB.3	Balboa Beach	Peninsula Park	18
NB.3	Balboa Beach	West Jetty View Park	18
NB.3	Balboa Beach	Newport Elementary School	18
NB.4	Corona del Mar Beach	N/A	18
NB.5	Little Corona del Mar Beach	Residences	18
City of San Clemente			
SC.1	Capistrano Shores	Residences	21
SC.2	San Clemente North Beach	Residences	21
SC.3	San Clemente Central City Beaches	N/A	21
SC.4	Cyprus Shore/Cottons	N/A	21
City of Seal Beach			
SB.1	West Beach	Residences	18
SB.2	East Beach	Residences	18
SB.3	Surfside Beach	Residences	18

Table 3-6: Sensitive Receptors and Source Receptor Areas (SRA) - Stockpile Sites

Location ID	Site Location	Sensitive Receptors Within 25 m of the Site	SRA
California State Parks			
CA.S.1	Huntington Beach State Beach Parking Lot (City of Huntington Beach)	N/A	18
Orange County			
OC.S.1	Lot at Confluence (Bolsa Chica & Edinger)	N/A	18
OC.S.2	Lot adjacent to the Santa Ana Bike Trail across from OC Sanitation District (Costa Mesa)	Suburbia Park	18
OC.S.4	Audubon Basin, I02B01 (City of Irvine)	N/A	20
City of Huntington Beach			
HB.S.1	City of Huntington Beach Gothard Street	N/A	18
City of Irvine			
I.S.1	Great Park (MCAS El Toro) (City of Irvine)	Great Park	20
City of Newport Beach			
NB.S.1	Newport Beach North Star Beach Parking Lot	Residences	18
City of San Clemente			
SC.S.1	San Clemente – Avenida Vista Hermosa and Avenida La Pata	Vista Hermosa Sports Park	21
SC.S.2	San Clemente Water Reclamation Plant yard	N/A	21
SC.S.3	San Clemente – North Beach	N/A	21

Table 3-7: Project Emissions Compared to Localized Significance Thresholds

Pollutant	Project Emissions (lb/day)	LST Threshold SRA 18 (lb/day)	LST Threshold SRA 20 (lb/day)	LST Threshold SRA 21 (lb/day)	Regional Threshold (lb/day)	Impact Determination
NO_x	58.4	197	137	128	100	Below all LST thresholds — Less than significant
PM₁₀	2.15	14	7	6	150	Below all LST thresholds — Less than significant
PM_{2.5}	2.09	5	4	3	55	Below all LST thresholds — Less than significant
CO	15.3	883	704	682	550	Below all LST thresholds — Less than significant
VOC	6.99	N/A	N/A	N/A	75	Below regional threshold — Less than significant
SO_x	0.08	N/A	N/A	N/A	150	Below regional threshold — Less than significant

d) Would the Project result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?

Less Than Significant Impact. Potential sources of odors that would be emitted as a result of activities performed as part of The Program include diesel fumes from construction exhaust and placement of sand which contains decaying organic material, (i.e. material derived from living matter). Although larger vegetation and debris would be removed at the source site prior to placement of sand on the beach, there is the potential for remaining organic material (i.e., plant matter and microorganisms) to be present in the placed sand, in which case there may be an odor during the decaying process of the organic material. However, exposure to air and wave action would disrupt the oxygen-poor conditions and/or flush out the organic compounds that generate the odors. The odor may persist over the duration of the construction (sand placement) period but it would not remain longer than approximately one week following completion of construction, based on experience from other beach nourishment projects. Thus, odors would be short-term and temporary. No odor producing activities would occur on a permanent basis as there are no activities beyond the stockpiling, transporting, and placement of sand associated with The Program. Thus, there would be less than significant impact.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

3.4 Biological Resources

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The information in this Biology Section was derived from the **Essential Fish Habitat Assessment and Terrestrial Biological Resources Assessment** (Merkel & Associates, 2025a) and **Marine Biological Technical Study** (Merkel & Associates 2025b) reports prepared by Merkel & Associates. The full reports are available in Appendix F and Appendix G respectively and summarized herein. The reports identify biological resources with the potential to be present at each of the beach receiver and stockpile sites. Although the following is intended to provide an analysis of the overall Program, it is based on specific biological resources information at each beach receiver and stockpile site.

a) Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

Less Than Significant Impact With Mitigation.

Stockpile Sites

Given the developed nature of the upland stockpile sites, the presence of special status species is anticipated to be limited (Merkel and Associates 2025a, Appendix F). One singular plant that is a special status species, the paniculate tarplant (*Deinandra paniculata*), a California Rare Plant Rank (CRPR) 4.2 species,²⁹ was detected within disturbed habitat at the upland stockpile site OC.S.4 Audubon Basin. This species is not expected to occur at any other upland stockpile site due to a lack of habitat. In order to avoid impacts to paniculate tarplant, a survey will be performed by a qualified biologist prior to any storage event at this site and, if found, paniculate tarplant will be fenced off and stockpiling will be avoided in that area (PGM BIO-1).

PGM BIO-1: At the stockpile site OC.S.4 (Audubon Basin), in order to avoid impacts to paniculate tarplant, a sensitive species, a survey will be performed by a qualified biologist prior to any sand storage. If found, any paniculate tarplant will be fenced off with ribbon or yellow rope and t-posts and stockpiling and construction activities should be avoided in the fenced-off area.

According to CDFW's California Natural Diversity Database (CNDDDB) records, 27 flora and 45 fauna sensitive species occur regionally within the vicinity (approximately two miles) of the stockpile sites (Merkel & Associates 2025). Of these 72 species, none have at least a moderate potential of occurring at any of the locations. More information regarding special status species at the upland stockpile sites including sensitivity codes, habitat requirements, and likelihood of occurrence can be found in the Terrestrial Biological Resources Assessment Report prepared for The Program (Appendix F). Given the developed nature of the upland stockpile sites, lack of identified special status species with potential to occur in the area, and proposed monitoring for paniculate tarplant, the placement, removal, and/or stockpiling of sand at the stockpile sites would not result in significant impacts to special status species.

To avoid direct impacts to migratory birds and/or raptor active nests protected under the Migratory Bird Treaty Act (federal) and CFG Code Sections 3503 and 3513 (state), removal of habitat (i.e., stockpiled material) that supports active nests within The Program's impact area, should occur outside of the breeding season for applicable species. If removal of habitat (i.e., stockpiled material) outside the breeding season is not feasible, then an active bird nest survey is required (MM BIO-1).

MM BIO-1: At stockpile sites, to avoid direct impacts to migratory birds and/or raptor active nests protected under the federal MBTA and CFG Code Sections 3503 and 3513, removal of stockpiled material that supports active nests within The Program's impact area should occur outside of the breeding season for applicable species, as far as is reasonably feasible. Where removal during the nesting season is unavoidable, a suitably qualified biologist will conduct nesting bird surveys prior to commencement. If nesting birds are identified, the biologist will implement a suitable buffer zone around the nest(s) and a biological monitor would be on site daily to ensure that adverse impacts to the sensitive resource do not occur.

Receiver Sites

Several special status species have the potential to be present within the vicinity of the receiver sites. These species are summarized in Table 3-8. California grunion (*Leuresthes tenuis*) and Pismo clams (*Tivela stultorum*) are not listed in the table as special status species, but they are ecologically significant and CDFW-managed wildlife species that also have the potential to occur at the receiver sites. Additional information can be found in Appendix G (Merkel & Associates 2025b).

²⁹ CRPR 4 indicates plants with limited distribution or infrequent throughout California. They are considered 'watch list' species, but are not formally endangered or threatened.

Table 3-8. Special Status Species with Potential to Occur within The Program Sites

Common Name	Scientific Name	Status	Occurrence in Project Site
Reptiles			
Green Sea Turtle	<i>Chelonia mydas</i>	FT	Resident population occur in San Gabriel River and Seal Beach National Wildlife Refuge. Low potential in Program Area.
Birds			
California Least Tern	<i>Sternula antillarum browni</i>	FE, SE	Least terns are a migratory species found in the Program Area from approximately April 1 through September 1. Nests and forage in The Program Area. Nesting occurs at Bolsa Chica State Beach and Huntington Beach State Beach
Western Snowy Plover	<i>Chardrius alexandrinus nivosus</i>	FT	Present year around. Nests and forage in Program Area. Nesting occurs at Bolsa Chica State Beach and Huntington Beach State Beach
Brown Pelican	<i>Pelecanus occidentalis</i>	Delisted; MBTA	Present year around. Nest at Channel Islands. No known nesting sites in The Program area.
Mammals			
Pacific Harbor Seal	<i>Phoca vitulina richardsi</i>	MMPA	Occur in harbors or bays hauled out on buoys, moorings, docks, or breakwaters. Low potential on sandy beaches in region. Low potential in Program Area.
California Sea Lion	<i>Zalophus californianus</i>	MMPA	Occur in harbors or bays hauled out on buoys, moorings, docks, or breakwaters. Low potential on sandy beaches in region. Low potential in Program Area.
Common and Bottlenose Dolphins	<i>Delphinus delphis; Tursiops truncatus</i>	MMPA	Travel and feed in nearshore and offshore waters. Low potential in Program Area.
California Gray Whale	<i>Eschrichtius robustus</i>	MMPA	Very Low Potential – Regular migrant in offshore waters, but uncommon in bay and nearshore waters. Low potential in Program Area.

Notes: FE – Federally Endangered; SE – State Endangered; FT – Federally Threatened; MMPA – species protected by the Marine Mammal Protection Act; MBTA - Migratory Bird Treaty Act

Benthic Habitat Disturbance and Forage Reduction, Alteration, or Modification

The sandy beach ecosystem is a dynamic system and biota are generally tolerant of a high degree of physical change. The primary direct impact associated with beach nourishment is the burying of beach invertebrate animals (e.g., clams, sand crabs, worms) living on or in the beach sand. This would temporarily reduce infauna availability for benthic feeders including Western snowy plover which have the potential to occur foraging in the intertidal for benthic organisms within the vicinity of The Program. The loss of benthic organisms within the receiver site footprint is an expected and unavoidable impact. Most studies have reported rapid recovery of intertidal benthic invertebrates within 1 year or less after nourishment events (SAIC 2012, Rosov et al. 2016 as cited in Merkel & Associates 2025b). The temporary reduction in invertebrates would be localized and temporary, and recovery would begin immediately following construction. Further, each receiver site has unaffected shoreline nearby that could be used for foraging during benthic recovery periods. Sensitive bird species monitoring (PGM BIO-2) would be anticipated to avoid the potential for adverse impacts to foraging individuals. Given the temporary nature of the proposed activity, rapid recovery of benthic organisms, adjacent available foraging habitat, and proposed monitoring, impacts to protected birds species would be expected to be less than significant.

PGM BIO-2: Sensitive bird species monitoring will be implemented if sand placement is anticipated to occur during the California least tern or Western snowy plover nesting seasons on beach receiver sites with the potential for least tern or snowy plover nesting. Sensitive bird species monitoring will also

occur if sand placement will occur during the snowy plover overwintering season on beach receiver sites with the potential for snowy plover overwintering. The monitoring protocol will be approved by the applicable regulatory agencies prior to permit issuance. The protocol is anticipated to include pre-construction surveys, recurring surveys, the establishment of buffers, and the authority to halt work to avoid or minimize impacts.

The receiver site footprints for The Project extend from the back of the beach to the intertidal zone, an area where marine mammals are not likely to occur and therefore, marine mammal impacts are not anticipated. The Program is not expected to result in impacts to eelgrass or surfgrass nearshore habitats of concern; and therefore, foraging impacts to green sea turtles are not anticipated. The Preliminary Implementation Guidelines' monitoring protocol of nearshore habitats additionally assure impact avoidance.

There is the potential for habitat disturbance to directly impact California grunion individuals or eggs. To avoid potential impacts, grunion monitoring would be required for any beach nourishment occurring within the grunion spawning season, on any sandy beach where spawning could potentially occur, and where The Program's activities would potentially affect spawning habitat (PGM BIO-3). With the proposed monitoring, The Program's impacts to grunion would be less than significant.

PGM BIO-3: Grunion monitoring will be implemented for any beach nourishment event occurring within the spawning season (per the CDFW published grunion spawning schedule for the year of the placement event) on any sandy beach where spawning could potentially occur and with sand placement or equipment access seaward of the MHTL. Regulatory agencies will be notified of monitoring events. Any deviations from the monitoring protocols in the Implementation Guidelines will require agency approval.

Operationally, The Program would be beneficial to biological resources as it would enhance the health and quality of the habitat. Habitat functions were studied for three years following the Regional Beach Sand Project (beach nourishment) at several beaches in Encinitas, California. The studies found that habitats in the nourished beaches were enhanced by increasing invertebrate prey variety earlier in the season, greater sand depths and grunion habitat suitability, and increased bird use of wider beach habitat across tide conditions (SAIC 2006 as cited in Merkel & Associates 2025b). Additionally, a recent sand nourishment event occurring on Capistrano County Beach witnessed the return of grunion following placement, not possible prior to construction due to lack of sandy beach.

Water Quality Impacts

The placement of sand at the beach receiver sites may result in temporary, localized increases in turbidity in the ocean water; i.e., cloudy or murky appearance, which may be caused by an increase in suspended clay and silt particles in the water column. Elevated turbidity should generally not result from The Program, as source material is evaluated to be of a similar gradation, limiting fine sediments composed of silt and clay, to that of the receiver site. Obvious visible elevated turbidity for an extended period of time over large areas could bury or blind from sunlight where present, nearshore habitats of eelgrass, surfgrass, or kelp. Turbidity has the potential to cause physiological stress, reduced feeding, or displacement of marine invertebrates or fish in reef areas as well as soft-bottom habitats, with effects dependent on the concentration and duration of turbidity (Merkel & Associates 2025b). Birds that forage on fish such as the California least tern and the California brown pelican have the potential to be impacted by increases in turbidity. However, no adverse effects on bird foraging from turbidity were observed during recent nourishment events in California (AMEC 2002 and SAIC 2011 as cited in Merkel & Associates 2025b).

While marine mammals have the potential to occur in the deeper nearshore project area, they are rarely observed on beaches in the region. Given that turbidity impacts are localized at the sand placement area,

temporary (i.e., would be caused by disturbance of placed sand during high tide and wave events but dissipate quickly thereafter), and generally remain within the surf zone (where the disturbance to both placed and native sand is highest), the area can easily be avoided by marine mammals and sea turtles. Therefore, turbidity impacts to marine mammals and sea turtles are anticipated to be less than significant.

Based on available data, turbidity levels produced by nourishment events are anticipated to be within normal ranges to those measured during storm or high wave conditions. Turbidity monitoring would be conducted to minimize impacts of projects that place sand in the intertidal zone (below the MHTL) (PGM BIO-4). With the proposed measures, water quality impacts to fish and birds would be less than significant.

PGM BIO-4. Turbidity monitoring will be implemented to avoid significant impacts to water quality if sand placement is seaward of the MHTL and in accordance with the scale of the nourishment event and percentage of fines in the source material. If the turbidity monitoring staff determines ocean water quality thresholds are exceeded, they have the authority to halt sand placement until water quality is restored. Regulatory agencies will be notified of monitoring events. Any deviations from the monitoring protocols in the Implementation Guidelines will require agency approval.

All potential beach sediment would require agency approval prior to placement to ensure there are no contaminants of concern and that the source sediment is physically compatible with the potential receiver site.

The construction contractor would use Best Management Practices (BMPs) to avoid potential spills, and if a spill occurred, the contractor would implement measures to control and clean up any spill to minimize degradation of water quality and habitat.

Disturbance

Construction activities have the potential to disturb shorebirds, gulls, and other coastal birds that may forage or rest on beaches at or near receiver sites. Disturbance impacts are of concern for endangered or threatened species. Any disturbance effects would be temporary in duration and limited to the period of construction (maximum of 30 weeks per year; however, most locations would not experience construction more than once every 2-5 years). Sensitive bird species monitoring would be required for any beach nourishment project occurring within the nesting season of California least tern and/or western snowy plover and for over-wintering areas for snowy plovers (MM BIO-3), and if any active nests are identified, a buffer identified by a qualified biologist must be established and avoided. Therefore, impacts would be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

The following program and mitigation measures are proposed.

Stockpile Sites Avoidance, Minimization, and/or Mitigation Measures

PGM BIO-1: At the stockpile site OC.S.4 (Audubon Basin), in order to avoid impacts to paniculate tarplant, a sensitive species, a survey will be performed by a qualified biologist prior to any sand storage. If found, any paniculate tarplant will be fenced off with ribbon or yellow rope and t-posts and stockpiling and construction activities should be avoided in the fenced-off area.

MM BIO-1: At stockpile sites, to avoid direct impacts to migratory birds and/or raptor active nests protected under the federal MBTA and CFG Code Sections 3503 and 3513, removal of stockpiled material that supports active nests within The Program's impact area should occur outside of the breeding season for applicable species, as far as is reasonably feasible. Where removal during the nesting season is unavoidable, a suitably qualified biologist will conduct nesting bird surveys prior to commencement. If nesting birds are identified, the biologist will implement a suitable buffer zone

around the nest(s) and a biological monitor would be on site daily to ensure that adverse impacts to the sensitive resource do not occur.

Receiver Sites- Avoidance and Minimization Measures and/or Mitigation Measures

PGM BIO-2: Sensitive bird species monitoring will be implemented if sand placement is anticipated to occur during the California least tern or Western snowy plover nesting seasons on beach receiver sites with the potential for least tern or snowy plover nesting. Sensitive bird species monitoring will also occur if sand placement will occur during the snowy plover overwintering season on beach receiver sites with the potential for snowy plover overwintering. The monitoring protocol will be approved by the applicable regulatory agencies prior to permit issuance. The protocol is anticipated to include pre-construction surveys, recurring surveys, the establishment of buffers, and the authority to halt work to avoid or minimize impacts.

PGM BIO-3: Grunion monitoring will be implemented for any beach nourishment event occurring within the spawning season (per the CDFW published grunion spawning schedule for the year of the placement event) on any sandy beach where spawning could potentially occur and with sand placement or equipment access seaward of the MHTL. Regulatory agencies will be notified of monitoring events. Any deviations from the monitoring protocols in the Implementation Guidelines will require agency approval.

PGM BIO-4. Turbidity monitoring will be implemented to avoid significant impacts to water quality if sand placement is seaward of the MHTL and in accordance with the scale of the nourishment event and percentage of fines in the source material. If the turbidity monitoring staff determines ocean water quality thresholds are exceeded, they have the authority to halt sand placement until water quality is restored. Regulatory agencies will be notified of monitoring events. Any deviations from the monitoring protocols in the Implementation Guidelines will require agency approval.

b) Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

Less Than Significant Impact With Mitigation.

Stockpile Sites

Riparian habitat or other sensitive natural communities do not occur within the footprint of the stockpile sites. Most of the eight potential stockpile sites are located within already developed or disturbed areas that are not expected to support sensitive flora, fauna, and native habitats. However, native riparian habitat does occur immediately adjacent to OC.S.4 Audubon Basin. Buffers would be implemented to avoid impacts to native riparian habitat (PGM BIO-5). These buffers would also be implemented at OC.S.2 D03 D/S California at E01 Bike Trail and OC.S.1 C02/C04 Confluence to avoid impacts to wetlands (see 3.4c). Sediment placement BMPs would be implemented at all sites to prevent indirect impacts to biological resources (MM BIO-2).

PGM BIO-5: At site OC.S.4 Audubon Basin, in order to avoid impacts to adjacent native habitats and/or downstream aquatic jurisdictional resources a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the sides of the maintenance road and basin spillway/overflow channel that drains to native riparian habitat.

To avoid impacts to the Greenville-Banning Channel, the cement lined channel adjacent to site OC.S.2 D03 D/S California at E01 Bike Trail, a buffer large enough to install, maintain, and inspect stockpile

BMPs will be established between any stockpiled soil and the edge of the maintenance road adjacent to the channel.

To avoid impacts to open water and salt marsh habitats in the Bolsa Chica/Westminster Channel adjacent to stockpile site OC.S.1 C02/C04 Confluence, a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the hinge point of the adjacent channel. The triangular portion of this site will only be used for stockpile storage of sediment with less than 35% fines if stored over the wet season.

MM BIO-2: Placement of sand within each stockpile site will be located to the greatest extent possible within relatively flat terrain that is not in close proximity to and does not slope toward a sensitive biological resource such as a jurisdictional aquatic resource or native habitat. Stockpiles not scheduled to be utilized within 14 days of placement will be considered non-active and the following protective measures will be implemented:

- Temporary perimeter sediment barriers such as compost-filled wattles temporary silt dykes, biodegradable fiber rolls, burlap sandbags/, gravel bags, or biofiltration bags will be installed to provide erosion and sediment control and to protect the stockpile from wind and rain.
- Only biodegradable materials should be used for stockpile BMP protection, Any non-biodegradable BMP will be maintained and removed when no longer necessary.

Receiver Sites

There is no riparian habitat within the vicinity of the receiver sites. Sensitive habitat within the vicinity of The Program sites includes kelp, surfgrass, eelgrass, rocky reefs, sandy beaches and dunes, and estuaries. Refer to Appendix G, Figures 4-1 through 4-5 for additional details on the distribution of sensitive habitats in relation to the receiver sites. The regional distribution of habitats within and near The Program sites are summarized in Table 3-9.

Table 3-9. Regional Distribution of Coastal Habitats in the Vicinity of Program Areas

Habitat	Relative Occurrence	Occurrence in Orange County
Nearshore Rocky Reefs	Localized areas	Huntington Beach Bluffs, Newport Beach, Laguna Beach, Corona del Mar, Crystal Cove, Salt Creek, Dana Point, San Clemente
Kelp Forests	Localized hard-bottom areas	Newport Beach, Laguna Beach, Dana Point, San Clemente
Surfgrass Beds	Localized hard-bottom areas	Corona Del Mar State Beach, Crystal Cove, Laguna Beach, Dana Point, San Clemente
Eelgrass Beds	Localized in embayments	Anaheim Bay, Seal Beach National Wildlife Refuge, Huntington Harbour, Bolsa Chica Ecological Reserve, Huntington Beach Wetlands, Lower Newport Bay, Dana Point Harbor
Sandy Beach	Majority of shoreline	Most shorelines
Sandy Subtidal	Majority of subtidal	Nearshore, embayments
Bays, Harbors, and Wetlands	See Occurrence in Orange County	Anaheim Bay, Huntington Harbour, Newport Bay, Dana Point Harbor, Bolsa Chica Ecological Reserve, Huntington Beach Wetlands, Los Cerritos Wetlands, Santa Ana River Salt Marsh

Sensitive habitats do not occur within The Program footprint and therefore direct impacts to sensitive habitat are not anticipated. Further, the receiver site footprint depicts the maximum potential placement envelope for the specific receiver site over multiple events (multiple years); the actual fill footprint per opportunistic nourishment event would be much smaller. Sand placed in or close to the waterline on individual receiver sites would eventually be washed by waves and redistributed offshore and alongshore through natural processes. Impacts associated with sediment transport away from the receiver site generally focus on indirect burial of sensitive hard bottom, vegetated habitats, or shoaling of inlets and/or navigational channels of down current embayments. To avoid and/or minimize indirect sediment transport impacts, sensitive habitat monitoring would occur (PGM BIO-6 and PGM BIO-7). The Program identifies nearshore sensitive habitat monitoring protocols consistent with PGM BIO-6 and PGM BIO-7; therefore, impacts to sensitive aquatic habitats would be less than significant.

PGM BIO-6: If sand placement occurs in the vicinity of known surfgrass, kelp, or hard (rocky) substrate (habitat of particular concern), monitoring of that habitat will occur in accordance with the sand placement scale and proximity to the surfgrass, kelp or hard (rocky) substrate. The monitoring protocol will be approved by the applicable regulatory agencies prior to permit issuance.

PGM BIO-7: If sand placement occurs in the vicinity of known or potential eelgrass, monitoring of eelgrass will occur in accordance with the California Eelgrass Mitigation Policy (CEMP) (NOAA 2014, or most up-to-date policy).

Pursuant of the Marine Life Protection Act, CDFW established and manages a network of Marine Protected Areas (MPAs) to, among other goals, protect marine life and habitats and preserve ecosystem integrity. Seven MPAs including the Bolsa Bay State Marine Conservation Area (SMCA), Bolsa Chica Basin SMCA, Upper Newport Bay SMCA, Crystal Cove SMCA, Laguna Beach SMR, Laguna Beach SMCA, and Dana Point SMCA occur in the vicinity of the receiver sites. Four of the receiver sites (OC.1 Newport Dunes, NB.5 Little Corona Del Mar, CA.3 Crystal Cove State Park, and OC.2 Salt Creek Beach) occur in MPAs. Please refer to Appendix G, Figure 4-6 for additional details regarding the location of these MPAs in relation to the receiver sites. Since measures to protect biological resources are in place for any beach nourishment project, impacts to MPAs would be less than significant and additional mitigation is not proposed. Practitioners operating nourishment projects under The Program would comply with the specific rules for the MPA in which they are operating.

Avoidance, Minimization, and/or Mitigation Measures

The following best management practices and mitigation measures are required:

Stockpile Sites Avoidance, Minimization, and/or Mitigation Measures

PGM BIO-5: At site OC.S.4 Audubon Basin, in order to avoid impacts to adjacent native habitats and/or downstream aquatic jurisdictional resources a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the sides of the maintenance road and basin spillway/overflow channel that drains to native riparian habitat.

To avoid impacts to the Greenville-Banning Channel, the cement lined channel adjacent to site OC.S.2 D03 D/S California at E01 Bike Trail, a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the edge of the maintenance road adjacent to the channel.

To avoid impacts to open water and salt marsh habitats in the Bolsa Chica/Westminster Channel adjacent to stockpile site OC.S.1 C02/C04 Confluence, a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the hinge point of the adjacent channel. The triangular portion of this site will only be used for stockpile storage of sediment with less than 35% fines if stored over the wet season.

MM BIO-2: Placement of sand within each stockpile site will be located to the greatest extent possible within relatively flat terrain that is not in close proximity to and does not slope toward a sensitive biological resource such as a jurisdictional aquatic resource or native habitat. Stockpiles not scheduled to be utilized within 14 days of placement will be considered non-active and the following protective measures will be implemented:

- Temporary perimeter sediment barriers such as compost-filled wattles temporary silt dykes, biodegradable fiber rolls, burlap sandbags/, gravel bags, or biofiltration bags will be installed to provide erosion and sediment control and to protect the stockpile from wind and rain.
- Only biodegradable materials should be used for stockpile BMP protection, Any non-biodegradable BMP will be maintained and removed when no longer necessary.

Receiver Sites- Avoidance and Minimization Measures and/or Mitigation Measures

PGM BIO-6: If sand placement occurs in the vicinity of known surfgrass, kelp, or hard (rocky) substrate (habitat of particular concern), monitoring of that habitat will occur in accordance with the sand placement scale and proximity to the surfgrass, kelp or hard (rocky) substrate. The monitoring protocol will be approved by the applicable regulatory agencies prior to permit issuance.

PGM BIO-7: If sand placement occurs in the vicinity of known or potential eelgrass, monitoring of eelgrass will occur in accordance with the California Eelgrass Mitigation Policy (CEMP) (NOAA 2014, or most up-to-date policy).

c) Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less Than Significant Impact.

Stockpile Sites

Stockpile site OC.S.1 CO2/CO4 Confluence (Bolsa Chica and Edinger) is adjacent to the Bolsa Chica/Westminster Channel which supports tidally influenced open water and salt marsh habitat dominated by pickleweed (*Salicornia sp.*) (See Appendix F, Figure 2a). A buffer would be maintained between the stockpile site and the Bolsa Chica/Westminster Channel to avoid impacts to salt marsh habitat (PGM BIO-5). Stockpile sites CA.S.1 Huntington Beach State Beach Parking Lot and NB.S.1 North Star Parking Lot are located near, but outside of the wetlands (see Figure 3-4 and Figure 3-6) and would not impact wetland habitat or tidal functions since they will store sand on already disturbed parking lots. Therefore, with the proposed mitigation, impacts to wetlands associated with the use of the upland stockpile sites will not occur.

PGM BIO-5: At site OC.S.4 Audubon Basin, in order to avoid impacts to adjacent native habitats and/or downstream aquatic jurisdictional resources a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the sides of the maintenance road and basin spillway/overflow channel that drains to native riparian habitat.

To avoid impacts to the Greenville-Banning Channel, the cement lined channel adjacent to site OC.S.2 D03 D/S California at E01 Bike Trail, a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the edge of the maintenance road adjacent to the channel.

To avoid impacts to open water and salt marsh habitats in the Bolsa Chica/Westminster Channel adjacent to stockpile site OC.S.1 C02/C04 Confluence, a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the hinge point of the adjacent channel. The triangular portion of this site will only be used for stockpile storage of sediment with less than 35% fines if stored over the wet season.

Receiver Sites

There are no wetlands within the footprint of the proposed receiver sites. Therefore, The Program would not have a direct impact on wetlands. However, there are five wetlands within the vicinity of some of the receiver sites in Seal Beach, Huntington Beach, and Newport Beach (Seal Beach National Wildlife Refuge, Bolsa Chica Ecological Reserve Huntington Beach Wetlands, Semeniuk Slough/Randall Preserve, and Upper Newport Bay Ecological Reserve). Figure 3-1 to Figure 3-6 show The Program receiver and stockpile locations in relation to these wetlands. For coastal wetlands/marshes such as the Bolsa Chica Ecological Reserve and Huntington Beach Wetlands, maintaining a connection to the ocean is essential for the health of the wetland/marsh. Sand from beach nourishment events have the potential to move along the coast and into tidal inlets. Indirect sedimentation impacts could result in tidal inlet closure and impacts to coastal wetlands/marshes. However, due to the proposed tidal inlet monitoring (PGM BIO-8) which would ensure that nourishment events do not result in significant impacts to tidal exchange, impacts are anticipated to be less than significant.

PGM BIO-8. Tidal inlet monitoring that typically occurs, may need to be increased or rescheduled appropriately following implementation of sand placement events that have the potential to impact tidal inlets to coastal marshes to ensure that nourishment events do not result in significant impacts to tidal exchange considering the scale of the nourishment event and distance to the tidal inlet, and approved by the applicable regulatory agencies prior to permit issuance.

Avoidance, Minimization, and/or Mitigation Measures

The following mitigation is required:

Stockpile Sites Avoidance, Minimization, and/or Mitigation Measures

PGM BIO-5: At site OC.S.4 Audubon Basin, in order to avoid impacts to adjacent native habitats and/or downstream aquatic jurisdictional resources a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the sides of the maintenance road and basin spillway/overflow channel that drains to native riparian habitat.

To avoid impacts to the Greenville-Banning Channel, the cement lined channel adjacent to site OC.S.2 D03 D/S California at E01 Bike Trail, a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the edge of the maintenance road adjacent to the channel.

To avoid impacts to open water and salt marsh habitats in the Bolsa Chica/Westminster Channel adjacent to stockpile site OC.S.1 C02/C04 Confluence, a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the hinge point of the adjacent channel. The triangular portion of this site will only be used for stockpile storage of sediment with less than 35% fines if stored over the wet season.

Receiver Sites- Avoidance and Minimization Measures and/or Mitigation Measures

PGM BIO-8: Tidal inlet monitoring that typically occurs, may need to be increased or rescheduled appropriately following implementation of sand placement events that have the potential to impact tidal inlets to coastal marshes to ensure that nourishment events do not result in significant impacts to tidal

exchange considering the scale of the nourishment event and distance to the tidal inlet, and approved by the applicable regulatory agencies prior to permit issuance.

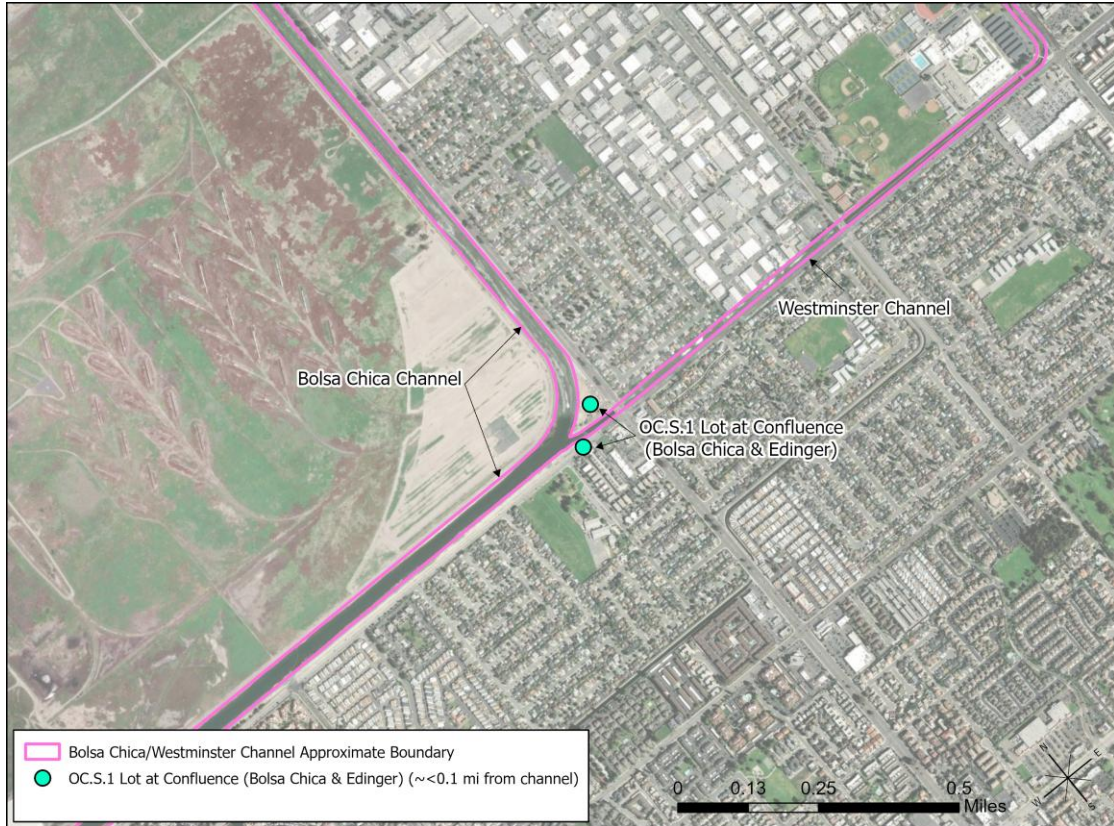


Figure 3-1: Program Site Near Bolsa Chica/Westminster Channel



Figure 3-2: Program Sites Near Bolsa Chica Ecological Reserve



Figure 3-3: Program Sites Near Seal Beach National Wildlife Refuge

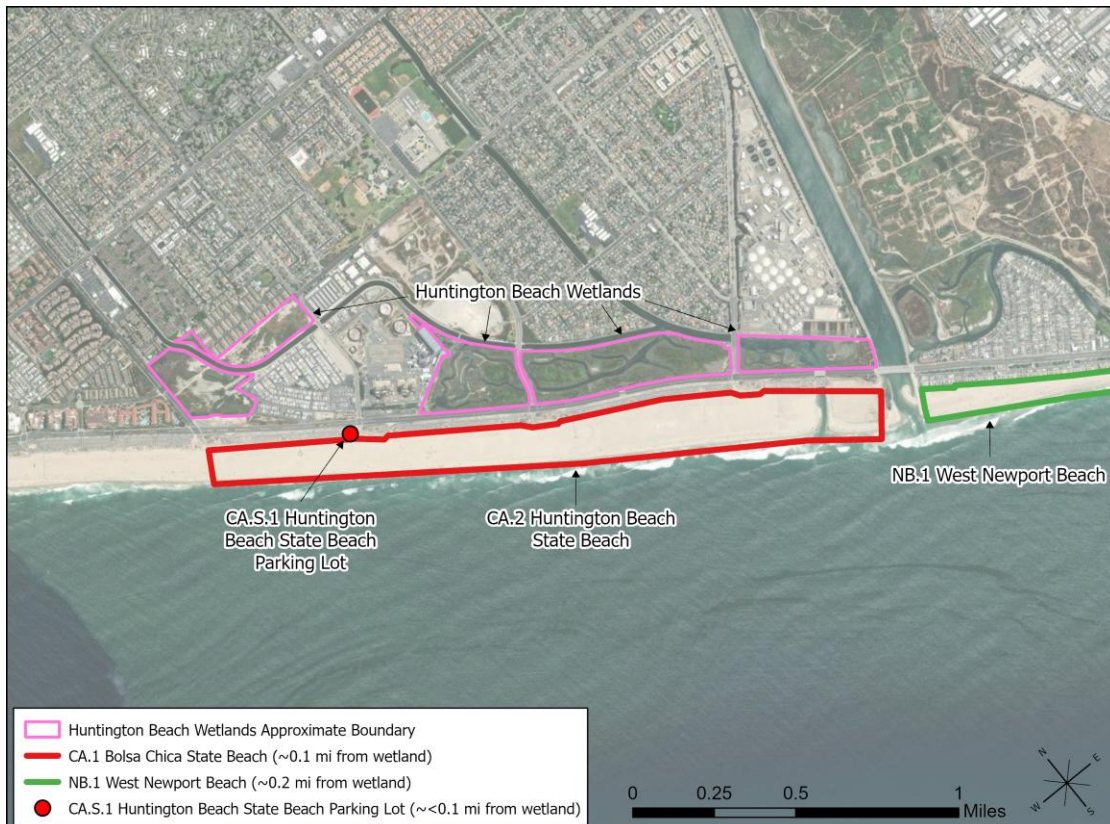


Figure 3-4: Program Sites Near Huntington Beach Wetlands



Figure 3-5: Program Sites Near Semeniuk Slough/Randall Preserve



Figure 3-6: Program Sites Near Upper Newport Bay Ecological Reserve

d) Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant Impact. Wildlife corridors are important in preserving species diversity. In the absence of corridors, habitats become isolated islands surrounded by development. Fragmented habitats support lower numbers of species and increase the likelihood of extinction for species restricted to small areas. Connections between areas of open space are integral to maintaining biological diversity and population viability. For the purposes of The Program, Merkel and Associates (2025) have defined wildlife corridor as a linear landscape feature utilized by resident or transient wildlife for movement between two blocks of habitat.

Stockpile Sites

Each of the eight potential stockpile sites are surrounded entirely or mostly by urban development, with many being fenced as well. These locations are also all currently or have previously been used as storage, parking, or construction staging and provide limited value for wildlife movement due to the size, disturbed condition, human activities, and isolated nature, from a wildlife corridor perspective, of each location.

The Orange County Central/Coastal Subregion NCCP/HCP Reserve is a regional conservation strategy that includes conserved large tracts of natural habitat that are interconnected by habitat linkages that function as wildlife movement corridors. Wildlife corridors typically support topography that provides a path of least resistance in terms of energetics such as along canyon bottoms/riparian corridors and along ridgelines. The Orange County NCCP/HCP identifies habitat linkages within the Reserve in Section 3.6 through 3.9 and shown in Figures 11-13, 22, and 75.³⁰ None of The Program's locations are within any of the linkages identified in Sections 3.6 through 3.9 of the OC NCCP/HCP. Therefore, the use of the stockpile sites would have a less than significant impact on the movement of native resident or migratory fish, wildlife species, or wildlife corridors.

Receiver Sites

The Program is not anticipated to interfere substantially with movement, migration, or native aquatic wildlife nursery sites. The Program area for the receiver sites includes a relatively narrow habitat area that even when considering the area extending from the back beach to the offshore depth of closure, does not provide any terrestrial movement corridors. No marine mammal, reptile, or fish migratory corridors occur within The Program area for the receiver sites. Some marine fish species such as anchovy, sardine, and topsmelt may move into and out of bays and harbors for spawning, nursery, and foraging. Beach nourishment would not block any corridors and tidal inlet monitoring in accordance with MM BIO-10 would be implemented to monitor sedimentation in the inlets and ensure significant impacts to tidal exchange do not occur. Several whale species migrate along the coast of California including the California gray whale, but beach nourishment would not block or interfere with any whale migration corridors.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required.

³⁰ County of Orange Central & Coastal Subregion Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP), approved July 1996, issued under a 75-year permit (1996–2071) with the California Department of Fish and Wildlife and U.S. Fish & Wildlife Service.

e) Would the Project conflict with any local policies or ordinance protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant Impact. The Program would be consistent with applicable local policies and ordinances protecting biological resources in Orange County coastal jurisdictions, including Dana Point, Costa Mesa, Irvine, Huntington Beach, Newport Beach, San Clemente, and Seal Beach. These include, but are not limited to:

- Local Coastal Program (LCP) policies in Dana Point (§9.3.3 of the Headlands Conservation Area Plan), Huntington Beach (Coastal Element Policy C-1.1), and Newport Beach (Policy NR 10.1), which require avoidance of Environmentally Sensitive Habitat Areas and protection of coastal wetlands.
- Municipal Code provisions such as Irvine’s Zoning Ordinance §3-37-5, which regulates development near native habitat areas; Costa Mesa’s Tree Preservation Ordinance (§13-101); and San Clemente’s Biological Resources Overlay Zone (§17.56), which mandates biological assessments for projects near sensitive habitats.
- The OC NCCP/HCP Reserve, which applies to portions of Irvine, Dana Point, and Newport Beach, and establishes regional conservation goals for coastal sage scrub and listed species like the California gnatcatcher.

The Program would place clean, compatible sand sourced from developed stockpile sites, already in use for parking or municipal storage, onto existing public beaches to reduce coastal erosion. It would not involve building or development of infrastructure or impervious surfaces, nor would it involve vegetation removal or encroachment by construction activities and equipment into undisturbed habitats. The Program would be implemented with seasonal timing restrictions, spatial buffers, and biological monitoring (see MM BIO-1 – MM BIO-10) to avoid impacts to sensitive habitats and species. Further, none of The Program’s receiver or stockpile sites are located within The Orange County Central/Coastal NCCP/HCP Reserve. In other words, The Program would be implemented in a way that is compatible with the local policies and ordinances. Overall, The Program supports long-term coastal resiliency and habitat enhancement by reestablishing sandy beach habitat for shorebirds, grunion, invertebrates, and other intertidal species. Therefore, The Program would not conflict with any local policy or ordinance protecting biological resources. The Program would have less than significant impact with mitigation.

Avoidance, Minimization, and/or Mitigation Measures

The following measures are part of The Program:

PGM BIO-1: At the stockpile site OC.S.4 (Audubon Basin), in order to avoid impacts to paniculate tarplant, a sensitive species, a survey will be performed by a qualified biologist prior to any sand storage. If found, any paniculate tarplant will be fenced off with ribbon or yellow rope and t-posts and stockpiling and construction activities should be avoided in the fenced-off area.

MM BIO-1: At stockpile sites, to avoid direct impacts to migratory birds and/or raptor active nests protected under the federal MBTA and CFG Code Sections 3503 and 3513, removal of stockpiled material that supports active nests within The Program’s impact area should occur outside of the breeding season for applicable species, as far as is reasonably feasible. Where removal during the nesting season is unavoidable, a suitably qualified biologist will conduct nesting bird surveys prior to commencement. If nesting birds are identified, the biologist will implement a suitable buffer zone around the nest(s) and a biological monitor would be on site daily to ensure that adverse impacts to the sensitive resource do not occur.

PGM BIO-2: Sensitive bird species monitoring will be implemented if sand placement is anticipated to occur during the California least tern or Western snowy plover nesting seasons on beach receiver sites

with the potential for least tern or snowy plover nesting. Sensitive bird species monitoring will also occur if sand placement will occur during the snowy plover overwintering season on beach receiver sites with the potential for snowy plover overwintering. The monitoring protocol will be approved by the applicable regulatory agencies prior to permit issuance. The protocol is anticipated to include pre-construction surveys, recurring surveys, the establishment of buffers, and the authority to halt work to avoid or minimize impacts.

PGM BIO-3: Grunion monitoring will be implemented for any beach nourishment event occurring within the spawning season (per the CDFW published grunion spawning schedule for the year of the placement event) on any sandy beach where spawning could potentially occur and with sand placement or equipment access seaward of the MHTL. Regulatory agencies will be notified of monitoring events. Any deviations from the monitoring protocols in the Implementation Guidelines will require agency approval.

PGM BIO-4. Turbidity monitoring will be implemented to avoid significant impacts to water quality if sand placement is seaward of the MHTL and in accordance with the scale of the nourishment event and percentage of fines in the source material. If the turbidity monitoring staff determines ocean water quality thresholds are exceeded, they have the authority to halt sand placement until water quality is restored. Regulatory agencies will be notified of monitoring events. Any deviations from the monitoring protocols in the Implementation Guidelines will require agency approval.

PGM BIO-5: At site OC.S.4 Audubon Basin, in order to avoid impacts to adjacent native habitats and/or downstream aquatic jurisdictional resources a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the sides of the maintenance road and basin spillway/overflow channel that drains to native riparian habitat.

To avoid impacts to the Greenville-Banning Channel, the cement lined channel adjacent to site OC.S.2 D03 D/S California at E01 Bike Trail, a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the edge of the maintenance road adjacent to the channel.

To avoid impacts to open water and salt marsh habitats in the Bolsa Chica/Westminster Channel adjacent to stockpile site OC.S.1 C02/C04 Confluence, a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the hinge point of the adjacent channel. The triangular portion of this site will only be used for stockpile storage of sediment with less than 35% fines if stored over the wet season.

MM BIO-2: Placement of sand within each stockpile site will be located to the greatest extent possible within relatively flat terrain that is not in close proximity to and does not slope toward a sensitive biological resource such as a jurisdictional aquatic resource or native habitat. Stockpiles not scheduled to be utilized within 14 days of placement will be considered non-active and the following protective measures will be implemented:

- Temporary perimeter sediment barriers such as compost-filled wattles temporary silt dykes, biodegradable fiber rolls, burlap sandbags/, gravel bags, or biofiltration bags will be installed to provide erosion and sediment control and to protect the stockpile from wind and rain.
- Only biodegradable materials should be used for stockpile BMP protection, Any non-biodegradable BMP will be maintained and removed when no longer necessary.

PGM BIO-6: If sand placement occurs in the vicinity of known surfgrass, kelp, or hard (rocky) substrate (habitat of particular concern), monitoring of that habitat will occur in accordance with the sand

placement scale and proximity to the surfgrass, kelp or hard (rocky) substrate. The monitoring protocol will be approved by the applicable regulatory agencies prior to permit issuance.

PGM BIO-7: If sand placement occurs in the vicinity of known or potential eelgrass, monitoring of eelgrass will occur in accordance with the California Eelgrass Mitigation Policy (CEMP) (NOAA 2014, or most up-to-date policy).

PGM BIO-8: Tidal inlet monitoring that typically occurs, may need to be increased or rescheduled appropriately following implementation of sand placement events that have the potential to impact tidal inlets to coastal marshes to ensure that nourishment events do not result in significant impacts to tidal exchange considering the scale of the nourishment event and distance to the tidal inlet, and approved by the applicable regulatory agencies prior to permit issuance.

f) Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. Activities conducted under The Program would not conflict with the provisions of adopted habitat or community conservation plans. None of the receiver sites are located within the boundaries of an adopted habitat conservation plan. Stockpile Site OC.S.4 Audubon Basin, is located within Non-Reserve Open Space designated land, meaning it was publicly owned prior to the adoption of the NCCP/HCP and is therefore not subject to the development requirements of the Reserve. Stockpile Site NB.S.1 Newport Beach North Star Parking Lot is located approximately one mile southwest of the Upper Newport Bay Nature Preserve, outside of the jurisdiction of the Management Plan for the Upper Newport Bay Nature Preserve. The additional six stockpile sites are not located within or near Reserve System lands or identified special linkages.

Due to The Program being limited to temporary storage of sediment within existing disturbed or developed areas at each stockpile site and not expected to impact any native plant communities (i.e., coastal sage scrub, riparian plant communities), implementation of The Program will be consistent with the rules and regulations of the Orange County NCCP/HCP as well as the City of Costa Mesa General Plan. Thus, there would be no impact.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

3.5 Cultural Resources

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Less Than Significant Impact. The Program involves the stockpiling, transporting, and placement of sand for the purpose of beach nourishment. Ultimately, the replenishment of eroding beaches would enhance the surroundings of any historical buildings and landmarks near The Program sites, as well as provide shoreline protection for historical resources along the coast. All activities that fall in the scope of The Program would occur on roads, infrastructure and beaches that already exist, meaning that there would be no new installation or construction of structures that would directly impact historical resources. Further, the vibration potential from the construction equipment is well below the threshold for damage to historic buildings, even under the most conservative estimate for buildings within 25 feet of the equipment causing the vibrations (see 3.13 Noise). The California Historic Resources Information System (CHRIS) did not reveal any historic locations within 25 feet of any receiver or stockpile site.³¹ However, The City of San Clemente does list the San Clemente Municipal Pier as a resource of historical significance.³² The pier is within 25 feet of the sand placement area at San Clemente Central City Beaches location (SC.3). Because the vibration created by the construction equipment would be well below the thresholds that are known to damage fragile historic structures, it would not result in a substantial adverse change in the significance of the Pier. Thus, there would be no adverse impacts to the Pier. The Program would not result in substantial adverse change in the significance of a historical resource pursuant to Section 15064.5. Impacts to historical resources would be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

³¹ California Department of Parks and Recreation. 2024. California Historical Resources accessed on December 9, 2024 at <https://ohp.parks.ca.gov/ListedResources/?view=county&criteria=30>

³² City of San Clemente. 2014. City of San Clemente Centennial General Plan, Historic Preservation Element accessed December 9, 2024 at <https://www.san-clemente.org/home/showpublisheddocument/47958/636765886392200000>

b) Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant Impact. The Program would have less than significant impact to archaeological resources. Activities involved in this Program include the transport and placement of sand onto beaches and stockpile sites that have been previously disturbed by recreational and/or other human activity, including previous beach fills (see Appendix D), in addition to natural disturbances by storms and ocean tides and waves. The excavation of material at the source sites is not part of the Program; evaluation of cultural resources at the source sites would be covered by the separate CEQA and permitting of the source sites. The placement of sand would not involve excavation or other ground disturbances beyond surficial impacts generally in developed or high use areas caused by construction vehicles moving sand on the beach or placing and removing sand from a stockpile site. Thus, The Program would not result in substantial adverse change in the significance of any archaeological resources or beneficial uses of the sites. In the very unlikely event that archaeological resources would be discovered within a Program site, as digging would not occur,, it would be treated according to existing laws and protocols such that it would be examined by a qualified archaeologist who would determine appropriate procedures to preserve the artifact, including avoiding and preserving the artifact in place if feasible, preparing a data recovery and treatment plan, and/or contacting Native American representatives if the artifact is indigenous in nature (SC CUL-1). With the implementation of SC CUL-1, impacts would be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

The following standard condition is required:

SC CUL-1: If an archaeological resource is found, it will be examined by a Qualified Archaeologist. If it is determined by the Qualified Archaeologist to be indigenous in nature, a Native American representative will be consulted. If the Qualified Archaeologist determines the resource to be significant, avoidance and preservation in place will be the preferred manner of mitigating impacts pursuant to 15126.4(b)(3)(A). If avoidance is determined to be infeasible, the Qualified Archaeologist will prepare a data recovery and treatment plan tailored to the physical nature and characteristics of the resource. The data recovery plan will identify data recovery excavation methods, research questions, measurable objectives, and data thresholds to reduce any potential significant impacts to the resource. The resulting documentation will be submitted to the regional repository of the California Historical Resources Information System (CHRIS).

c) Would the Project disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact. Activities involved in The Program include the transport and placement of sand onto beaches and stockpile sites that have been previously disturbed by recreational and other human activity and previous beach fills, in addition to natural disturbances by storms and ocean tides and waves. The excavation of material at the source sites would not be part of the Program. No excavation or ground disturbance beyond construction vehicles moving and placing sand on the surface. Thus, it is very unlikely that human remains would be present in the sand or that the act of placing sand would result in excavation of human remains. In the unlikely and unanticipated event that human remains are discovered within a Program site, The Program would be implemented in adherence to California Code of Regulations (CCR) Section 15064.5(e), Public Resources Code (PRC) Section 5097, and Section 7050.5 of the State's Health and Safety Code. Per these regulations, the County Coroner would be notified immediately, and all work would cease until the Coroner has made a determination of origin and disposition pursuant to CCR Section 15064.5(e), PRC Section 5097, and PRC Section 5097.98. To ensure proper treatment of remains in the event of an unanticipated discovery of a burial, human bone, or suspected human bone, State law requires that all excavation or grading in the vicinity of the find halt immediately, the area of the find be protected, and the

contractor immediately notify the County Coroner of the find. Compliance with these provisions, as specified in Regulatory Compliance Measure (RCM) CUL-1 below, would ensure that any potential impacts to unknown buried human remains would be less than significant by ensuring appropriate examination, treatment, and protection of human remains as required by State law. As such, no project-specific mitigation is required. The Program would have less than significant impact. .

Avoidance, Minimization, and/or Mitigation Measures

The following regulatory compliance measure is required:

RCM CUL-1: Human Remains. In the event that human remains are encountered on The Program site, work within 50 feet of the discovery shall be redirected and the County Coroner notified immediately consistent with the requirements of California Code of Regulations (CCR) Section 15064.5(e). State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98. If the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC), which shall determine and notify a Most Likely Descendant (MLD). With the permission of the property owner, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and non-destructive analysis of human remains and items associated with Native American burials. Consistent with CCR Section 15064.5(d), if the remains are determined to be Native American and an MLD is notified, the County shall consult with the MLD as identified by the NAHC to develop an agreement for treatment and disposition of the remains. Prior to the issuance of any permits, the Director of the Orange County Public Works Department, or designee, shall verify that all plans specify the requirements of CCR Section 15064.5(e), State Health and Safety Code Section 7050.5, and PRC Section 5097.98, as stated above..

3.6 Energy

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact. Construction for The Program would involve the use of energy in the form of diesel fuel and gasoline, primarily for construction equipment, and dump trucks. Conveyor belts and trains may be used, but only at a few locations in Dana Point, Irvine, and San Clemente (I.S.1 Great Park/MCAS El Toro, CA.4 Doheny State Beach, CA.5 San Clemente State Beach, OC.4 Capistrano Beach County Park, OC.5 Poche Beach, SC.1 Capistrano Shores, SC.2 San Clemente North Beach, SC.3 San Clemente City Beaches, and SC.4 Cyprus Shore/Cottons). The use of trains would likely be no more than once every 10 years since there are specific criteria that need to be met to accommodate the long unloading times for the trains (e.g., a sidetrack and coordination with other train operators). Due to those criteria, and to provide the most conservative estimate for energy usage, The Program assumes that trains and conveyor belts would be used at these locations but only once every 10 years. Heavy-duty diesel trucks may idle for brief periods while queued on site for loading or unloading materials. Additionally, railroad locomotives may idle for extended periods (6 to 8 hours) during construction staging or offloading operations. These activities would be short-term and temporary.

Truck idling would comply with the CARB Airborne Toxic Control Measure (ATCM) (Title 17 CCR Section 93116)³³ limiting idling to 5 minutes, except under specific exemptions such as traffic conditions or operational safety (ENRG-1).

Extended train idling is not subject to CARB's on-road idling limits. However, CARB works in coordination with federal agencies and rail operators to encourage idling reduction and fuel efficiency. Notably, CARB's Rail Yard Agreements³⁴ and Locomotive Regulation³⁵ aim to further reduce greenhouse gas and criteria pollutant emissions through operational limits and zero-emission targets. Further, train emissions regulations at the federal level indirectly regulate idling limits for trains. The Federal Railroad Administration noise regulations

³³ California Air Resources Board. *Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater*. Title 17, California Code of Regulations, Section 93116. Originally adopted February 26, 2004. Accessed July 24, 2025. <https://regulations.justia.com/states/california/title-17/division-3/chapter-1/subchapter-7-5/airborne-toxic-control-measure-for-diesel-particulate-matter-from-portable-engines-rated-at-50-horsepower-and-greater/section-93116/>

³⁴ California Air Resources Board (CARB). 2005. Statewide Rail Yard Agreement between CARB and Class I Railroads. Accessed July 2025 at <https://ww2.arb.ca.gov/resources/documents/rail-emission-reduction-agreements>

³⁵ California Air Resources Board. *Final Regulation Order: In-Use Locomotive Regulation*. Executive Order R-23-004. Accessed July 24, 2025. <https://ww2.arb.ca.gov/rulemaking/2022/locomotive>

(49 CFR Part 210)³⁶ require trains to comply with noise thresholds, which can be exceeded with prolonged idling. Under 40 CFR Part 1033,³⁷ the U.S. Environmental Protection Agency mandates that new and remanufactured trains (Tier 3 and Tier 4) must shut down engines after 30 minutes of idling with some exceptions for safety. While the duration of train idling may appear excessive, it would be intermittent and limited to construction windows that would occur once every 10 years. To avoid significant impacts from train idling, Orange County Public Works and beach managing agencies will coordinate with the rail operator to reduce unnecessary locomotive idling where feasible. Where practical, the use of Tier 4 or equivalent low-emission locomotives, automatic shutdown/startup systems, or electrification will be encouraged (ENRG-2).

Energy consumption from both trucking and rail activity was accounted for in The Program modeling for emissions (Table 3-4: Maximum Daily Program Emissions Compared to SCAQMD Thresholds (lbs/day)). Given that energy use occurs during a temporary construction phase; idling is regulated or operationally necessary and emissions and fuel use are well below the SCAQMD emissions thresholds, The Program's energy consumption would not produce a significant environmental impact due to energy consumption that is considered wasteful, inefficient, or unnecessary. Adherence to RCM ENRG-1 and RCM ENRG-2 would ensure compliance with idling requirements to stay below the SCAQMD thresholds, thus The Program would have less than significant impact with regards to energy consumption. No project-specific mitigation is required.

Avoidance, Minimization, and/or Mitigation Measures

The following regulatory compliance measures are required:

RCM ENRG-1: The construction contractor will ensure that all construction trucks comply with CARB's idling restrictions (Title 17 CCR Section 93116), limiting idling to 5 minutes, except under safety-related or operational conditions.

RCM ENRG-2: The rail operator will reduce unnecessary locomotive idling where feasible, per 40 CFR Part 1033. Where practical, the use of Tier 4 or equivalent low-emission locomotives, automatic shutdown/startup systems, or electrification will be encouraged.

b) Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. The Program's activities would be limited to temporary construction activities to replenish sand on eroding beaches. The Program would not require new or expanded energy generation or infrastructure. Fuels used for construction would be subject to the California Low Carbon Fuel Standard (Title 17 Sections 95480 – 95490).³⁸ Off-road construction equipment would be regulated under the California In-Use-Off-Road Diesel Vehicle Regulation (Title 13 CCR Section 2449)³⁹ and on-road haul trucks would be regulated under the California Truck and Bus Regulation (Title 13 CCR Section 2025).⁴⁰

³⁶ Federal Railroad Administration. *Railroad Noise Emission Compliance Regulations*. 49 CFR Part 210. Accessed July 24, 2025 <https://www.ecfr.gov/current/title-49/subtitle-B/chapter-II/part-210>

³⁷ U.S. Environmental Protection Agency. *Locomotives: Exhaust Emission Standards*. EPA-420-F-13-050, December 2013. Accessed July 24, 2025. <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100HP4Q.pdf>

³⁸ California Air Resources Board (CARB). *Low Carbon Fuel Standard Program Overview*. Originally adopted 2009 under AB 32. Accessed July 24, 2025. <https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard>.

³⁹ California Air Resources Board (CARB). *In-Use Off-Road Diesel-Fueled Fleets Regulation*. Title 13, California Code of Regulations, Section 2449. Effective October 1, 2023. Accessed July 24, 2025. <https://ww2.arb.ca.gov/our-work/programs/use-road-diesel-fueled-fleets-regulation>.

⁴⁰ California Air Resources Board. *Truck and Bus Regulation Overview and Compliance Requirements*. Originally adopted in 2008 under Title 13, California Code of Regulations, Section 2025. Last updated June 18, 2019. Accessed July 24, 2025. <https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/carb-reg-docs-pdfs/diesel-truck-regulations-remediated-final-a11y.pdf>

Program activities that take place in the City of Newport Beach (NB.1 West Newport Beach, NB.2 Newport Harbor Beaches, NB.3 Balboa Beach; NB.4 Corona del Mar Beach; NB.5 Little Corona del Mar Beach; NB.S.1 Newport Beach North Star Beach Parking Lot) would be subject to the Newport Beach Energy Action Plan's energy efficiency objectives, and Program activities in Irvine (I.S.1 Great Park and OC.S.4 Audubon Basin) would be subject to compliance with the 2023 Newport Beach Energy Action Plan (EAP)⁴¹ and the 2024 Irvine Climate Action and Adaptation Plan (CAAP)⁴² that establish goals and strategies to improve energy efficiency and reduce GHG emissions. These plans include voluntary and regulatory measures aimed at enhancing energy performance for development and operational activities, including construction.

The Program may not be able to fully implement all energy efficiency measures outlined in the Newport Beach EAP and Irvine CAAP due to technical, operational, or logistical constraints (e.g., limited availability of electric or hybrid construction equipment of the kinds required for The Program). Although The Program cannot guarantee use of Tier 3 or Tier 4 off-road vehicles, it would not conflict with any legally binding measure in the Newport Beach EAP or the Irvine CAAP. Both plans promote reductions in energy use and greenhouse gas emissions but do not mandate specific off-road engine tiers for construction activity. The Program would implement 5-minute idling limits mandated by CARB to reduce inefficient use of energy and is well below the GHG emission significance thresholds (see 3.8 Greenhouse Gas Emissions). Therefore, the Program does not conflict with or obstruct implementation of these adopted plans.

Trains may also be used to transport sand for The Program. Their use would be limited to the Great Park stockpile site in Irvine and the receiver sites in Dana Point and San Clemente (I.S.1 Great Park/MCAS El Toro, CA.4 Doheny State Beach, CA.5 San Clemente State Beach, OC.4 Capistrano Beach County Park, OC.5 Poche Beach, SC.1 Capistrano Shores, SC.2 San Clemente North Beach, SC.3 San Clemente City Beaches, and SC.4 Cyprus Shore/Cottons). The Cities of San Clemente and Dana Point do not have adopted Climate Action Plans that contain enforceable or project-specific energy efficiency or renewable energy mandates applicable to temporary construction activities such as beach nourishment. Additionally, while train deliveries may transit through or originate in the City of Irvine, the Program would not conflict with the City of Irvine's CAAP. The CAAP includes strategies to promote electrification of construction equipment and reduce emissions from municipal operations and private development; however, it does not impose mandatory requirements on third-party rail operations or construction projects outside city jurisdiction. The train idling activity would not preclude the realization of Irvine's CAAP goals related to transportation electrification or energy efficiency and would not hinder the achievement of renewable energy targets. As such, the train transport for The Program would not conflict with applicable energy plans.

Further, the Program's temporary nature and lack of long-term energy demand ensure it does not interfere with the implementation of state-level energy efficiency goals (e.g., SB 100 or the California Energy Efficiency Strategic Plan) because there are no long-term energy demands included as part of The Program.

The Program would place sand on eroding beaches, which would be accomplished by short-term construction. There would be no new infrastructure or long-term operations that would require energy as a result. The Program would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required.

⁴¹ City of Newport Beach. 2015. Energy Action Plan (EAP). Accessed July 24, 2025. <https://www.newportbeachca.gov/i-am-a-community-member/living-building-green/energy-action-plan-eap>

⁴² City of Irvine. 2023. Climate Action and Adaptation Plan (CAAP). Accessed July 24, 2025. <https://cityofirvine.org/climate-action-and-adaptation-plan-caap>

3.7 Geology and Soils

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a Known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994 or most current edition), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. The Program includes project sites that are located within an area where several faults and fault zones are considered active by the California Division of Mines and Geology.⁴³ Activities that would be conducted under The Program would be limited to storage, transport, and placement of sand for beach nourishment purposes. There would be no excavation or compaction ground disturbing activities. The Program would not create geologic conditions or infrastructure that would rupture a known fault or result in landslides, lateral spreading, subsidence, liquefaction or collapse. It would not increase human exposure to these events beyond existing conditions because it would only add sand to existing beaches, not new structures. Thus, The Program would have no impact.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

ii) Strong seismic ground shaking?

No Impact. Activities that would be conducted under The Program are limited to storage, transport, and placement of sand for beach nourishment purposes. No development, excavation, or ground disturbance other than surficial disturbances from construction equipment moving and placing sand is proposed. The activities conducted as part of The Program would not create geologic conditions or infrastructure that would result in landslides, lateral spreading, subsidence, liquefaction or collapse. It would not increase human exposure to these events beyond existing conditions because it would only add sand to existing beaches, not new structures. Similarly, The Program would not generate additional human usage of existing beach areas, so there would be no new or additional human exposure to strong seismic ground shaking beyond what already exists in the locations that are part of The Program. Thus, The Program would have no impact.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

iii) Seismic-related ground failure, including liquefaction?

No Impact. All of The Program's receiver and stockpile sites are located on soils that may liquify due to being granular sandy soil with high water content.⁴⁴ Activities that would be conducted under The Program would be limited to storage, transport, and placement of sand for beach nourishment purposes. There would be no excavation or compaction, or other ground disturbing activities. The Program would not create geologic conditions or infrastructure that would result in landslides, lateral spreading, subsidence, liquefaction or collapse. It would not increase human exposure to these events beyond existing conditions because it would only stockpile, transport, and add sand to eroding beaches. It would not add new structures that could collapse and harm people. Mere addition of sediment to existing beach areas, consistent with the existing sand at those locations, would not in any way alter the existing risk of liquefaction at the beach

⁴³ California Department of Conservation. 2015. Fault Activity Map of California. Accessed December 31, 2024. <https://maps.conservation.ca.gov/cgs/fam/>

⁴⁴ Natural Resources Conservation Service. Orange County Surface Soils Textures Map | MWDOC. Accessed December 24, 2024

locations that are receiver sites under The Program. Similarly, temporary storage of sediment at stockpile sites would not alter the existing risk of liquefaction at those sites. Thus, The Program would have no impact.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

iv) Landslides?

No Impact. Landslide risks are typically associated with slopes with significant elevation changes.⁴⁵ The following receiver sites are located near coastal bluffs that meet this criteria: CA.3 Crystal Cove State Park, CA.5 San Clemente State Beach, OC.2 Salt Creek Beach, OC.4 Capistrano Beach County Park, HB.3 Huntington Beach Bluffs, NB.4 Corona del Mar Beach, NG.5 Little Corona del Mar Beach, SC.3 San Clemente Central Beaches, and SC.4 Cyprus Shore/Cottons. However, The Program would not create geologic conditions or infrastructure that would result in landslides, lateral spreading, subsidence, liquefaction or collapse. It would not increase human exposure to these events beyond existing conditions because it would only add sand to existing beaches, not new structures, and would not alter the existing coastal bluffs in these locations. There would be no excavation, removal of vegetation, or other activities that may influence slope stability where the coastal bluffs are adjacent to the receiver beach. There are no known landslide risks at the stockpile sites, and because The Program proposes only temporary storage of sediment at these locations, it would not alter the existing landslide risk for the stockpile sites. The Program would not expose people or buildings to landslides beyond currently existing conditions. Thus, The Program would have no impact.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

b) Would the Project result in substantial soil erosion or the loss of topsoil?

No Impact. Activities of The Program include stockpiling, transport, and placement of sand on beaches and would be conducted with the primary objective of replenishing eroded sand. The beach receiver sites are sandy beaches with no soil or topsoil and the stockpile sites are already disturbed and being used to store items, such as gravel and sandbags for municipal construction and other projects. The activities conducted under The Program would thus have no impact on soil erosion or loss of topsoil.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

c) Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in, on or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?

No Impact. Orange County in general is highly susceptible to slope failure and liquefaction due to the proximity of active and potentially active faults. The Program's receiver and stockpile sites located in Huntington Beach, Newport Beach, San Clemente, and Seal Beach may be located on soils that may liquify due to being granular sandy soil with high water content, but the activities conducted as part of The Program would not create geologic conditions or infrastructure that would result in landslides, lateral spreading, subsidence, liquefaction or collapse. The Program would stockpile, transport, and place sand to replenish eroding beaches. It would

⁴⁵ California Coastal Commission. 2019. *A Primer on Coastal Bluff Erosion and Landslide Hazards*. Public Education Series, November 2019. Accessed July 21, 2025. <https://www.coastal.ca.gov/publiced/waves/coastal-erosion.pdf>

not generate new buildings or infrastructure and it would not conduct any ground disturbing activities. In some locations the replenishment of sand may help improve the geologic stability of adjacent coastal bluffs by providing a buffer against wave action that could undercut the bluffs and eventually cause failure of the bluffs. Thus, The Program may mitigate or decrease the existing risk of land failure near some coastal bluffs by creating a greater buffer against wave action. The Program would not generate unstable soil or result in on or offsite landslides, lateral spreading, subsidence, liquefaction, or collapse. Thus, The Program would have no impact.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

d) Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks of life or property?

No Impact. Most of the sites for The Program are sandy beaches that do not have soil cover or expansive soils documented within the potential project sites, however expansive soils may be present at the following stockpile locations: HB.S.1 City of Huntington Beach Gothard Street, I.S.1 Great Park (MCAS El Toro), SC.S.1 San Clemente – Avenue Vista Hermosa and Avenida La Pata, and SC.S.2 San Clemente Water Reclamation Yard. Expansive soils may also be present at or near the following sandy beach receiver sites: NB.3 Newport Harbor Beaches, CA.3 Crystal Cove State Park, OC.5 Poche Beach, and CA.5 San Clemente State Beach.⁴⁶ The risk to life and property from expansive soils stems from infrastructure, specifically, cracks, foundation movement, and other instability that can occur when the soil these structures are located on expands. The risk to human life or property occurs when expansive soils expand and create instability for infrastructure located on the soil, which can result in damaged property and risk to human life from falling debris or failing infrastructure when humans are present. These risks are not a concern for The Program because it entails only the storage, transport, and placement of sand for the purposes of replenishing eroding beaches. No buildings or structures would be constructed as part of The Program, thus it would not create substantial direct or indirect risk to life or property. There would be no impact.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

e) Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. Activities of The Program would not produce wastewater or require the use of, or construction of, any septic tanks or alternative wastewater disposal systems. The Program would stockpile, transport, and replace sand on beaches that have experienced erosion. Thus, there would be no impact.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

⁴⁶ Natural Resources Conservation Service. Orange County Surface Soils Textures Map. Accessed December 24, 2024. <https://www.mwdoc.com/save-water/resources/technical-resources/soils/>

f) Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. There are General Areas of Sensitivity, or areas that are likely to contain fossil-bearing geologic formations based on existing knowledge, within The Program vicinity per the Orange County General Plan Chapter VI. Resources Element Figure VI-9.⁴⁷ The coast of Orange County south of CA-55/Newport Avenue has four general areas of sensitivity: Newport Bay District, San Joaquin Hills District, Laguna Hills - Dana Point, and San Juan Capistrano - San Clemente District. These areas include receiver and stockpile sites in Newport Beach, Dana Point, and San Clemente. However, The Program would not require subsurface excavation that would impact underlying formations or resources. Because The Program's activities include only temporary surface stockpiling of sand and then deposition of sand on beaches experiencing significant erosion, The Program is not likely to directly or indirectly impact unique geologic features or destroy a unique paleontological resource. Beyond occurring in the vicinity of General Areas of Sensitivity, The Program is not anticipated to have any impact on fossil-bearing geologic formations, which are located below the surface in the vicinity of certain receiver and stockpile sites, Thus, The Program would have no impact on paleontological resources.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

⁴⁷ County of Orange. 2013. General Plan: Chapter V1. Resources Element (Figure VI-9).
<https://ocds.ocpublicworks.com/sites/ocpwoods/files/import/data/files/40235.pdf>

3.8 Greenhouse Gas Emissions

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact. Construction activities associated with The Program would generate greenhouse gas (GHG) emissions from heavy-duty equipment, haul trucks, and worker vehicle trips. Emissions would primarily consist of carbon dioxide (CO₂), with smaller contributions from methane (CH₄) and nitrous oxide (N₂O), resulting from the combustion of diesel and gasoline fuels.

SCAQMD recommends a screening-level threshold of 10,000 metric tons of CO₂ equivalent (MTCO₂e) per year for industrial projects⁴⁸ which is commonly applied to construction activities for infrastructure and shoreline protection projects. Construction-related GHG emissions are typically amortized over the life of the project—commonly assumed to be 30 years—per SCAQMD guidance and consistent with CEQA Guidelines Section 15064.4. In this case, The Program would result in temporary, short-term construction emissions only. There would be no operational or recurring GHG emissions associated with The Program, as it would not result in new facilities, energy demand, long-term equipment use, or changes in land use that would generate ongoing emissions. Therefore, amortizing construction-related emissions over an arbitrary operational life would not meaningfully inform the analysis or alter the determination of significance under CEQA. The GHG analysis for The Program conservatively compares annual construction GHG emissions to the threshold of significance without amortization.

Based on emissions modeling conducted for The Program (Appendix E), a conservative estimate of The Program’s construction activities indicates that it would generate approximately 714.10 MTCO₂e per year.⁴⁹ This total is well below the SCAQMD significance threshold of 10,000 MTCO₂e/year, and impacts related to GHG emissions would therefore be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

⁴⁸ South Coast Air Quality Management District. *Interim CEQA Greenhouse Gas (GHG) Significance Threshold for Stationary Sources, Rules, and Plans*. Governing Board resolution adopted December 5, 2008, South Coast AQMD. <https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds>

⁴⁹ Calculated by combining the max yearly CO₂ emissions from the trucks (688.7 MT) and maximum yearly CO₂ emissions from the trains (25.40 MT - 0.0448/day x 1/week x 52 weeks). This is the most conservative estimate. In practice, the length of construction would be shorter and train emissions would likely be much less as their use would spread over a period of 10 years, not one year.

b) Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. The Program is subject to multiple statewide, regional, and local plans and policies developed to reduce GHG emissions. At the regional level, the SCAQMD has established an interim GHG significance threshold of 10,000 metric tons of CO₂e per year for stationary source projects, as documented in the South Coast AQMD Air Quality Significance Thresholds. This threshold is commonly applied by lead agencies for evaluating the significance of GHG emissions under CEQA in the absence of project-specific or statewide numeric thresholds.

Orange County has developed a Preliminary Draft Climate Action Plan (County of Orange, 2024) to reduce GHG emissions from County operations and to assist cities in formulating complementary measures. Although still in draft form, the plan outlines emissions baselines, reduction targets consistent with Senate Bill (SB) 32 (reducing emissions 40% below 1990 levels by 2030),⁵⁰ and a framework for sector-specific strategies. The City of San Clemente adopted a Climate Action Plan⁵¹ that sets community-wide GHG reduction targets and supports projects that reduce construction and operational emissions. As of 2024, the City of Irvine and City of Huntington Beach are in the process of developing or updating their respective Climate Action and Adaptation Plans (CAAPs), which will outline strategies aligned with the CARB Scoping Plan and statewide climate goals.⁵²

Other cities within The Program area, including Newport Beach, Dana Point, Seal Beach, and Costa Mesa, do not currently have adopted Climate Action Plans; however, these jurisdictions rely on regional policies, such as those implemented by Orange County, and applicable statewide GHG reduction regulations and guidance, including: California Global Warming Solutions Act of 2006⁵³; SB 32, and Executive Order B-55-18,⁵⁴ establishing carbon neutrality by 2045; and the CARB 2022 Scoping Plan,⁵⁵ which identifies the state's pathway toward achieving these targets.

The Program would generate short-term construction-related GHG emissions but would not result in long-term operational emissions. The emissions would be temporary and well below the applicable SCAQMD screening threshold of 10,000 metric tons of CO₂e per year (714.10 MTCO₂e per year; see Appendix E). No new permanent energy demand or stationary sources would be introduced by The Program. The Program would not generate GHG emissions exceeding SCAQMD's significance threshold and would therefore not conflict with applicable local, regional, or state plans adopted for the purpose of reducing GHG emissions. Therefore, The Program would have no impact with respect to conflict with any applicable plan, policy, or regulation adopted to reduce GHG emissions.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

⁵⁰ California Legislative Information. 2016. *Senate Bill No. 32 (Pavley): California Global Warming Solutions Act of 2006: Emissions Limit*. Chapter 249, Statutes of 2016. Accessed July 21, 2025. https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32

⁵¹ City of San Clemente. 2014. *Climate Action Plan*. Accessed July 21, 2025. <https://www.san-clemente.org/home/showpublisheddocument/14756/636346063189430000>

⁵² U.S. Environmental Protection Agency. 2024. *Climate Action and Adaptation Planning Efforts*. (In development). *Los Angeles–Long Beach–Anaheim Metropolitan Statistical Area Preliminary Climate Action Plans Summary*. March 2024. Accessed July 21, 2025. https://www.epa.gov/system/files/documents/2024-03/5d-98t76801-los-angeles-long-beach-anaheim-msa_pcap.pdf

⁵³ California Air Resources Board (CARB). 2006. *Assembly Bill 32: Global Warming Solutions Act of 2006*. Accessed July 21, 2025. <https://ww2.arb.ca.gov/resources/fact-sheets/ab-32-global-warming-solutions-act-2006>

⁵⁴ Office of Governor Edmund G. Brown Jr. *Executive Order B-55-18 to Achieve Carbon Neutrality*. Issued September 10, 2018. <https://www.library.ca.gov/wp-content/uploads/GovernmentPublications/executive-order-proclamation/39-B-55-18.pdf>

⁵⁵ California Air Resources Board (CARB). 2022. *2022 Scoping Plan for Achieving Carbon Neutrality*. Adopted December 15, 2022. Accessed July 21, 2025. <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf>

3.9 Hazards and Hazardous Materials

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a Project located within an airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. The proposed Project would not involve the routine transport, use, or disposal of hazardous substances. Imported sand used for beach nourishment would be subject to standard testing, and any material found to be contaminated would be excluded from use in accordance with federal, state, and local requirements. During construction, limited quantities of common hazardous materials such as fuels, oils, and lubricants could be used to operate equipment. However, these materials would be handled, and disposed of consistent with applicable regulations, and spill prevention BMPs would be implemented to minimize the risk of accidental release. Following construction, the proposed Project would not involve the ongoing use or storage of hazardous materials. Fuels and solvents for construction would be used pursuant to existing regulatory requirements per the California Department of Toxic Substances Control and Orange County Health Care Agency through the Certified Unified Program Agency (CUPA) for cities including Dana Point, Costa

Mesa, Irvine, Huntington Beach, Newport Beach, San Clemente, and Seal Beach.⁵⁶ ..Fueling and maintenance would occur in designated areas away from surface waters, with spill prevention measures in place (**SC HAZ-1**). There would be no long-term operational use of any hazardous materials since The Program is replenishing eroded beaches. The Program would not generate or transport hazardous materials. The use of fuels and lubricants for construction equipment would be temporary and, with the implementation of **SC HAZ-1** would not result in a significant hazard to the public or environment. Thus, The Program would have less than significant impact with regards to the use and transport of hazardous materials with the implementation of **SC HAZ-1**.

Avoidance, Minimization, and/or Mitigation Measures

The following standard condition is required:

SC HAZ-1: Fueling and maintenance of construction vehicles will occur in designated areas at least 25 feet away from surface waters, with spill prevention measures in place

b) Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. The Program involves short-term, temporary construction that would not involve the routine transport, storage, or disposal of hazardous materials, with the exception of fuels and lubricants used for construction equipment, no other hazardous materials would be transported to or from The Program site or used in the construction process. Construction equipment fueling and maintenance would comply with SC HAZ-1 and SC HYD-1 to avoid potential localized impacts from handling those materials. Additionally, all hazardous materials use, storage, and disposal would conform to federal, state, and local regulations, including requirements enforced by the Orange County Health Care Agency.⁵⁷ With these controls in place, The Program would not create a significant hazard to the public or environment due to accidental release of hazardous materials.

While rail transport carries a low risk of hazardous material release due to the regulated handling of fuels and lubricants used by trains, all hazardous materials associated with train operations are managed under strict federal regulations including the Hazardous Materials Transportation Act (49 U.S.C. § 5101 et seq.), and state reporting requirements (California Public Utilities Code §§ 7671–7673).⁵⁸

Sand used for The Program would have to meet minimum criteria that includes “No Detection” of hazardous materials before placement at a stockpile site or beach receiver site as part of The Program (see Preliminary Implementation Guidelines, Appendix A; Section 4.0). Operationally, there would be no hazardous materials once the placement of sand is completed.

No component of The Program would create a significant hazard to the public or to the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment. The Program would have less than significant impact with the implementation of SC HAZ-1.

⁵⁶ Orange County Health Care Agency (OCHCA). 2024. *Certified Unified Program Agency (CUPA) Information*. Accessed July 21, 2025. <https://www.ochealthinfo.com/about-hca/directors-office/environmental-health/hazardous-materials/cupa>

⁵⁷ Orange County Health Care Agency (OCHCA). 2024. *Certified Unified Program Agency (CUPA) Information*. Accessed July 21, 2025. <https://www.ochealthinfo.com/about-hca/directors-office/environmental-health/hazardous-materials/cupa>

⁵⁸ California Code of Regulations (CCR). 2023. *Title 22, Division 4.5, Environmental Health Standards for the Management of Hazardous Waste*. Accessed July 21, 2025. <https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations>

Avoidance, Minimization, and/or Mitigation Measures

The following standard conditions are required:

SC HAZ-1: Fueling and maintenance of construction vehicles will occur in designated areas away from surface waters, with spill prevention measures in place

SC HYD-1: The contractor will place impervious ground cover such as dip pans under construction equipment that is not in use to prevent leaks from entering surface and groundwater sources.

c) Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. There are schools located within 0.25 miles of the following stockpile sites: OS.S.1 Lot at Confluence-Bolsa Chica and Edinger, NB.3 Balboa Beach, CA.3 Crystal Cove State Park, and CA.4 Doheny State Beach. However, The Program would be short term and would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. Emissions from conventional fuel types are already present in the vicinity of these stockpile sites in developed, urban areas, and would remain consistent with the implementation of The Program. The maximum amount of time the trucks would be used for beach nourishment activities at any receiver or stockpile site location in any given year would be 30 weeks. There are no schools or proposed schools located within 0.25 mile from the beach receiver sites. Collectively, The Program's use of conventional fuel types to power equipment and trucks would be similar to existing levels of such uses within 0.25 miles of specified stockpile sites, and would have no impact on schools within 0.25 miles of a beach receiver site, as there are no existing or proposed schools within 0.25 miles of a beach receiver site. Therefore, The Program would have less than significant effect on any nearby school related to hazardous material exposure.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

d) Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. Beach receiver sites and stockpile sites are not located on a hazardous materials site listed on the State of California Hazardous Waste and Substances list compiled pursuant to Government Code Section 65962.5.⁵⁹ The Program would not create a significant hazard to the public or the environment as a result of being located on a site listed on a list of hazardous materials compiled pursuant to Government Code Section 65962.5. The Program would have no impact.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

⁵⁹ California Department of Toxic Substances Control. 2024. Hazardous Waste and Substances Site List (CORTESE). <https://www.envirostor.dtsc.ca.gov>. Accessed December 29, 2024

e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?

Less Than Significant Impact. Stockpile site NB.S.1 North Star Beach parking lot would serve as a stockpile site in the City of Newport Beach and is located at the southern perimeter of the Land Use Plan area for John Wayne Airport. In the City of Seal Beach, receiver site locations SB.1 West Seal Beach and the SB.2 East Seal Beach are on the periphery of the Joint Forces Training Base in Los Alamitos.⁶⁰ There are no receiver or stockpile sites within two miles of a public airport or public use airport in the jurisdictions of California State Parks, Orange County, City of Huntington Beach, City of Irvine, or the City of San Clemente. The activities associated with The Program would not produce infrastructure that could cause aircraft-related safety hazards due to height, reflective materials, or other hazardous features because the program includes only stockpiling of fill material and beach nourishment activities. No construction equipment used for The Program would exceed the 200-foot trigger for additional FAA requirements to avoid height-related hazards to aviation.

Noise would only be generated during construction activities, which would use standard earth-moving equipment. These activities would temporarily generate noise levels typical of construction (between 85-95 decibels at 50 feet)⁶¹ no more than one time per year for no more than 30 weeks. For most locations, the frequency and duration of construction would be less (see Table 2-8: Truck Trips). Per local ordinances for construction, construction noise for areas within the City of Newport Beach would be limited to 7:00 a.m. – 6:30 p.m. Monday – Friday and 8:00 a.m. – 6:00 p.m. on Saturdays, and construction noise for areas within the City of Seal Beach would be limited to 7:00 a.m. – 8:00 p.m. Monday – Friday and 8:00 a.m. – 8:00 p.m. on Saturdays. Only sites (stockpile and receiver sites) within these two cities are within the vicinity of airports. Regulatory standards and guidelines—such as those from the Federal Aviation Administration (FAA),⁶² the Occupational Safety and Health Administration (OSHA),⁶³ and the EPA⁶⁴—do not identify short-term, localized construction noise at these attenuated levels as a safety hazard for the public near airports.

The Program would not result in a safety hazard or excessive noise for people residing or working in The Program area. Thus, The Program would have less than significant impacts.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

f) Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. Orange County and its cities maintain comprehensive emergency management systems guided by the California Standardized Emergency Management System (SEMS)⁶⁵ and

⁶⁰ Airport Land Use Commission for Orange County Airport Planning Areas, Figure 1. 2007. https://files.ocair.com/media/2021-02/airportlu_20200604.pdf?VersionId=cMd6uGpbGOWGd3jMOS6TPJF3y5nMyA7F, Accessed December 16, 2024

⁶¹ Federal Highway Administration (FHWA). 2006. *Roadway Construction Noise Model User's Guide*. FHWA-HEP-05-054. U.S. Department of Transportation. Accessed July 21, 2025. https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf

⁶² Federal Aviation Administration (FAA). 2018. *Guidance on Noise Compatibility Planning*. U.S. Department of Transportation. Accessed July 21, 2025. https://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/aircraft_noise/

⁶³ Occupational Safety and Health Administration (OSHA). 1983. *Occupational Noise Exposure (29 CFR 1910.95)*. Accessed July 21, 2025. <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.95>

⁶⁴ U.S. Environmental Protection Agency (EPA). 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. EPA Report No. 550/9-74-004. Accessed July 21, 2025. <https://nepis.epa.gov/Exe/ZyPDF.cgi/9100B8NW.PDF>

⁶⁵ California Office of Emergency Services (Cal OES). 2022. *Standardized Emergency Management System (SEMS) Guidelines*. Accessed July 21, 2025.

the National Incident Management System (NIMS).⁶⁶ The Orange County Operational Area Emergency Operations Plan (EOP)⁶⁷ provides coordinated emergency response protocols across jurisdictions, including evacuation procedures, public safety coordination, and communications during natural disasters, hazardous materials releases, and other emergencies.

Each city within The Program area—Costa Mesa, Huntington Beach, Irvine, and Newport Beach—has its own Local Hazard Mitigation Plan (LHMP). Dana Point, San Clemente, and Seal Beach are in the process of approving LHMPs.⁶⁸ Each LHMP identifies key evacuation routes, emergency response roles, and hazard-specific procedures such as tsunami, wildfire, and earthquake response.

Construction activities under The Program would include the transport and placement of sand to replenish eroding beaches. Per Caltrans (California Vehicle Code Section 21400 and 21401), and Cal/OSHA (California Code of Regulations Sections 1598 and 1599) laws and regulations, traffic control plans and flaggers are required for any construction that would impact traffic flow or safety. These traffic plans are required to address any potential impacts to emergency access and evacuation routes when construction activities impact public rights-of-way. Trains are regulated under California's Public Utilities Commission General Order No. 135 that generally prohibits non-passenger trains from blocking public grade crossings for more than 10 minutes unless no vehicle or pedestrian is waiting. Any construction activities conducted under The Program would be required to operate in accordance with these regulations and the state and local emergency plans. Thus, The Program would have less than significant impact with compliance to regulations requiring traffic control plans in areas where construction activities would impact public rights-of-way.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation required.

g) Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Less than Significant Impact. Fire hazard risks associated with construction equipment used for implementation of The Program are negligible and not anticipated. Most of the locations are beach receiver sites, which are moist, rocky, and sandy beaches that are less susceptible to fire risk. However, some stockpile and receiver sites are located in fire hazard severity zones designated by CalFire (Table 3-10: Program Locations in Fire Hazard Severity Zones). All Program locations are required to comply with California Fire Code (Title 24, CCR Part 9) and Cal/OSHA Construction Safety Orders (Title 8, CCR Section 6777) to minimize risk and spread of fires sparked by construction activities. To further minimize the risk of wildfire, the construction contractor will implement all applicable fire prevention and suppression measures, including maintaining fire suppression equipment on-site and training construction personnel in fire safety procedures (RCM HAZ-1). SC HAZ-2 would also be implemented to require fuels and flammable substances be placed at

⁶⁶ Federal Emergency Management Agency (FEMA). 2021. *National Incident Management System (NIMS)*. Accessed July 21, 2025.

⁶⁷ Orange County Sheriff's Department, Emergency Management Division. 2021. *Orange County Operational Area Emergency Operations Plan (EOP)*. Accessed July 21, 2025. https://bof.fire.ca.gov/media/he2ae550/rpc-4-a-iii-orange-county-emergency-operations-plan-supplemental-_ada.pdf?utm_source=chatgpt.com

⁶⁸ City of Huntington Beach. 2021. *Local Hazard Mitigation Plan (LHMP)*. Accessed July 21, 2025.

City of Newport Beach. 2020. *Emergency Operations Plan*. Accessed July 21, 2025.

City of Dana Point. 2020. *Emergency Operations Plan*. Accessed July 21, 2025.

City of Costa Mesa. 2022. *Local Hazard Mitigation Plan Update*. Accessed July 21, 2025.

City of Irvine. 2021. *Emergency Operations Plan*. Accessed July 21, 2025.

City of San Clemente. 2020. *Emergency Operations Plan*. Accessed July 21, 2025.

City of Seal Beach. 2021. *Local Hazard Mitigation Plan*. Accessed July 21, 2025.

least 50 feet away from vegetation or brush and stored in compliance with California Fire Code Sections 5704 and 5706. With these mitigation measures in place The Program would not expose people or structures to a significant risk or loss, injury, or death involving wildfires. Impacts would be less than significant with the implementation of SC HAZ-2 and adherence to RCM HAZ-1.

Table 3-10: Program Locations in Fire Hazard Severity Zones

Location ID	Location	Fire Hazard Zone
California State Parks		
CA.1	Bolsa Chica State Beach	Moderate/High
CA.3	Crystal Cove State Park	Moderate/High/Very High
Orange County Parks		
OC.2	Salt Creek Beach	Moderate
OC.S.3	Audubon Basin (within City of Irvine)	Very High
City of Huntington Beach		
HB.1	Sunset Beach	Moderate/High
HB.2	Huntington Harbour Beaches	Moderate/High
City of San Clemente		
SC.S.1	Lot at Avenue Vista Hermosa and Avenida La Pata, San Clemente	Moderate/High/Very High

Avoidance, Minimization and/or Mitigation Measures

The following regulatory compliance and standard condition are required:

RCM HAZ-1: All Program locations will comply with the California Fire Code (Title 24, California Code of Regulations [CCR], Part 9) and the Cal/OSHA Construction Safety Orders for fire prevention (Title 8, CCR, Section 6777). The construction contractor will implement all applicable fire prevention and suppression measures, including maintaining fire suppression equipment on-site and training construction personnel in fire safety procedures. Compliance will be verified by the construction manager through regular site inspections during active construction.

SC HAZ-2: Fuels, oils, and other flammable materials will have secondary containment measures and will not be stored onsite. Storage should comply with California Fire Code Sections 5704 and 5706.

3.10 Hydrology and Water Quality

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surface, in a manner which would				
i) result in substantial erosion or siltation on or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Would the project violate or conflict with any adopted water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less Than Significant Impact. The Program would involve the placement of clean, compatible sand at beach receiver sites and storage at stockpile sites (see Table 2-1: Beach Receiver Site Locations for The Program and Table 2-2: Stockpile Site Locations for The Program).

The source material would be tested in accordance with U.S. Army Corps of Engineers, USEPA, and State Water Resources Control Board standards to ensure chemical and biological compatibility with receiving beach environments, which would protect water quality, including prior to shipment to stockpile sites.

Additionally, no hazardous materials would be handled on-site without secondary containment, and Standard Condition best management practices (SCs) (SC HYD-1 – SC HYD-3) would be in place to prevent accidental releases of fuels, lubricants, or other pollutants.

All beach nourishment construction activities would be conducted in compliance with applicable provisions of the Clean Water Act (CWA) Sections 401 and 404, as well as state regulations under the Porter-Cologne Water Quality Control Act. To prevent water quality impacts during construction, The Program would implement a comprehensive suite of BMPs in accordance with the Orange County Stormwater Program's Construction Runoff Guidance and applicable provisions of the Orange County Drainage Area Management Plan (DAMP). These BMPs would be designed to manage stormwater runoff, minimize erosion, and control turbidity and sedimentation during all phases of the beach nourishment events. Some examples include:

- Placing impervious ground cover and/or spill containment under construction equipment that is not in use to prevent leaks from entering surface and groundwater sources (SC HYD-1).
- The use of construction equipment that is regularly maintained per manufacturer guidelines to prevent leaks from happening (SC HYD-2).
- Avoiding construction equipment traversing in the wetted sand areas unless required for construction activities (SC HYD-3).

Where applicable, BMPs would be coordinated with the State Regional Water Quality Control Board, Santa Ana Regional Water Quality Control Board (receiver and stockpile sites located in Costa Mesa, Huntington Beach, Newport Beach, and Irvine) and San Diego Regional Water Quality Control Board (receiver and stockpile sites located in Dana Point and San Clemente).

Implementation of these SCs would ensure that The Program would not result in significant adverse impacts to surface or groundwater quality.

With the implementation of appropriate BMPs, adherence to applicable federal and state water quality regulations, and agency oversight, The Program would not violate any adopted water quality standards or discharge requirements, nor would it substantially degrade surface or groundwater quality. Impacts would be less than significant.

Avoidance, Minimization and/or Mitigation Measures

The following standard conditions are required:

SC HYD-1: The contractor will place impervious ground cover and/or spill containment under construction equipment that is not in use to prevent leaks from entering surface and groundwater sources.

SC HYD-2: The contractor will regularly maintain construction equipment per manufacturer guidelines to prevent leaks from happening.

SC HYD-3: The contractor will avoid construction equipment traversing in the wetted sand areas below high tide unless required for construction activities.

b) Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact. Receiver beaches and stockpile sites in Costa Mesa, Huntington Beach, Irvine, Newport Beach, and Seal Beach overlie portions of the Coastal Plain of Orange County Groundwater Basin (DWR Basin 8–1),

which is managed by the OCWD.⁶⁹ Nourishment activities would not involve deep excavation, would work in ocean waters, sometimes where the river meets the sea or where there is an elevated ground water table obviously on the beach so no dewatering is proposed. Construction activities associated with The Program would not change the pervious condition of the stockpile and receiver sites, nor would it extract any of groundwater as it is replenishing sand on eroding beaches. Some water may be sourced from onsite for construction purposes of dust control, but water use would be temporary and is not expected to be large amounts. Water would be used as needed to prevent 'fugitive dust' from staging sites or during transport. Onsite water sources may also be required by Cal/OSHA and the California Fire Code on construction sites where fire hazards exist to avoid the spread of wildfire in the unlikely and unanticipated event that one is started by the construction equipment. The Program would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge. There would be no impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

c) Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) result in substantial erosion or siltation on- or off-site;

No Impact. The Program would place clean, compatible sand sourced from developed stockpile sites, already in use for parking or municipal storage, onto existing public beaches to restore natural sediment supply and reduce coastal erosion. However, temporary ground disturbance associated with staging, access, and sand placement could result in localized erosion or siltation. These effects would be minimized through implementation of construction SC BMPs that would be detailed in a site-specific stormwater control plan, consistent with the regulatory and permitting requirements of the Orange County Stormwater Program's Construction Runoff Guidance, Santa Ana Regional Water Quality Control Board (receiver and stockpile sites located in Seal Beach, Costa Mesa, Huntington Beach, Newport Beach, and Irvine), and San Diego Regional Water Quality Control Board (receiver and stockpile sites located in Dana Point and San Clemente).

Program activities would not alter the course of any stream or river, nor would they add impervious surfaces that would change natural drainage patterns. All work would occur within the active beach or nearshore zone, areas already subject to dynamic coastal processes. With the implementation of SC BMPs and permit conditions, The Program would not result in substantial erosion or siltation on- or off-site. Thus, there would be no impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

No Impact. The Program would not increase impervious surfaces or the amount of surface flow at the receiver beaches or stockpile sites. Beach nourishment would help to protect shoreline infrastructure from flooding by increasing the distance between waves and inland structures and by providing sacrificial

⁶⁹ Orange County Water District (OCWD). 2024. *Groundwater Management Plan*. Accessed July 21, 2025. <https://www.ocwd.com/what-we-do/groundwater-management/groundwater-management-plan/>

erosional area during storm events. Impacts to the rate or amount of surface runoff that could result in flooding on or offsite would be largely beneficial since the beach nourishment activities would reduce the risk and severity of coastal flooding. Thus, The Program would have no impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;

No Impact. The Program would not alter existing drainage patterns, as it does not involve modification of any stream or river courses, nor would it introduce impervious surfaces that could increase runoff volumes. Beach nourishment activities would primarily involve the placement of compatible sand along the shoreline and would be designed to maintain natural hydrologic flow paths. Construction activities would be temporary and localized, and SC BMPs would be implemented to control runoff and prevent water quality impacts. Therefore, The Program would not create or contribute runoff that exceeds the capacity of existing or planned stormwater systems, nor would it result in substantial additional sources of polluted runoff. Thus, The Program would have no impact on storm drainage systems and runoff.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact. Activities conducted as part of The Program would not risk the release of pollutants in the event of a flood, inundation, or tsunami. Opportunistic sand used for The Program would be analyzed against a set of criteria, including chemistry, non-sand content, and debris and organic content (see Preliminary Implementation Guidelines, Appendix A; Section 4.0) to determine if it is beach compatible. Contaminated sand (exceeding human health and biological thresholds) would not be used for The Program. Thus, There would be no impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The use of water for The Program would be minimal, if any is needed at all. Where water is used, it would be to prevent 'fugitive dust' from staging sites or during transport. Onsite water sources may also be required by Cal/OSHA and the California Fire Code on construction sites where fire hazards exist to avoid the spread of wildfire in the event that one is started by the construction equipment. Where applicable, BMPs would be coordinated with the Santa Ana Regional Water Quality Control Board (receiver and stockpile sites located in Costa Mesa, Huntington Beach, Newport Beach, and Irvine) and San Diego Regional Water Quality Control Board (receiver and stockpile sites located in Dana Point and San Clemente). SC BMPs would include erosion and sediment control measures designed to minimize turbidity, sedimentation, and potential pollutant runoff to coastal waters.

The Program would not involve groundwater extraction or recharge activities and would not interfere with the management objectives outlined in the Orange County Groundwater Management Plan⁷⁰ or other sustainable groundwater management plans. Sand material would be tested and approved for compatibility to prevent contamination of surface or groundwater resources.

With adherence to these regulatory frameworks and implementation of required SC BMPs, The Program would not conflict with or obstruct the implementation of any water quality control plan or sustainable groundwater management plan. Thus, The Program would have no impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

⁷⁰ Orange County Water District (OCWD). 2024. *Groundwater Management Plan*. Accessed July 21, 2025. <https://www.ocwd.com/what-we-do/groundwater-management/groundwater-management-plan/>

3.11 Land Use and Planning

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Would the Project physically divide an established community?

No Impact. The Program may result in temporary disruption to beach access where sand nourishment construction is active, but these temporary, short-term activities would not physically divide an established community. Beach nourishment provided by The Program would provide beneficial impacts to support healthy communities by maintaining and enhancing public beaches for communities to gather and recreate. The Program would not physically divide an established community; thus, it would have no impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

b) Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The Program is designed to be consistent with all applicable local, regional, and state land use plans, policies, and regulations aimed at avoiding or mitigating environmental impacts related to coastal resource protection, habitat conservation, and public safety. It would comply with key plans and policies, including the Orange County Local Coastal Program (2018), which states that beach nourishment is the preferred method of shore stabilization in Orange County. The Program would also comply with local coastal programs (LCPs) based on applicable jurisdiction for receiver and stockpile sites (i.e., Dana Point (1991)⁷¹, Huntington Beach (2012)⁷², and Newport Beach (2018)⁷³). These LCPs are developed in accordance with the California Coastal Act and are designed to protect coastal resources, enhance public access and recreation, preserve sensitive habitats, and maintain shoreline resilience in the face of sea level rise and erosion.

The Program would not only comply with the LCPs, but it would also help advance key LCP goals by protecting coastal resources, maintaining shoreline protection and resilience, and preserving public access and

⁷¹ City of Dana Point. 1991. City of Dana Point General Plan accessed July 29, 2025 at https://www.danapoint.org/files/assets/city/v1/community-development/documents/planning/general-plan/general-plan_scanned-2019.pdf

⁷² City of Huntington Beach. 2012. City of Huntington Beach General Plan Coastal Element accessed July 29, 2025 at https://www.huntingtonbeachca.gov/departments/community_development/planning_zoning/coastal_element.php

⁷³ City of Newport Beach. 2018. City of Newport Beach Local Coastal Program Coastal Land Use Plan accessed July 29, 2025 at <https://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/local-coastal-program/coastal-land-use-plan>

recreation. The Program would be consistent with, and necessary to achieve, the coastal management goals and policies established in the LCPs of each jurisdiction. Thus, The Program would have no impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

3.12 Mineral Resources

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. There are two mines noted in the California Department of Conservation Mines Online Viewer located about 6.5 miles inland from the nearest Program site (stockpile site: SC.S.1 San Clemente – Avenue Vista Hermosa and Avenida La Pata), a specialty sand mine in southern San Juan Capistrano and a clay pit in unincorporated southeastern Orange County. These resources would not be impacted by The Program, as neither is included in The Program as either a stockpile or receiver site. No mineral sources of value to the community would be lost as a result of The Program because The Program consists solely of sand stockpiling and beach nourishment activities. Thus, The Program would not have an impact.⁷⁴

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

b) Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. According to the California Geological Survey’s *Updated Mineral Land Classification Map for the Southern California Region* and respective general plans for the cities of Costa Mesa (2015)⁷⁵, Dana Point

⁷⁴ California Department of Conservation: Mines Online accessed at <https://maps.conservation.ca.gov/mol/index.html> on 12/20/2024

⁷⁵ City of Costa Mesa. 2015. 2015-2035 General Plan accessed July 29, 2025 at <https://www.costamesaca.gov/government/departments-and-divisions/economic-and-development-services/planning/general-plan/2015-2035-general-plan>

(1991)⁷⁶, Huntington Beach (2017),⁷⁷ Irvine (2000)⁷⁸, Newport Beach (2006)⁷⁹, San Clemente (2014)⁸⁰, Seal Beach (2003)⁸¹, and Orange County (2012)⁸², The Program area is not located within a zone designated for regionally or locally significant mineral resource recovery (i.e., MRZ-2 zones). The beach receiver sites consist of developed urban shorelines, recreational beaches, and parklands. The stockpile sites consist of developed park, institutional, and residential/commercial zones. No Program sites are identified in any local general or specific plans as having existing or potential mineral resource recovery uses.

Additionally, beach nourishment uses imported sand for coastal protection and public access purposes and does not involve excavation or extraction of mineral resources from designated mineral resource zones. As such, The Program would not preclude access to, or otherwise result in the loss of availability of, any locally important mineral resource recovery site. Further, the sand used for beach placement would otherwise naturally be transported to the shoreline beaches if not for manmade infrastructure such as dams and flood control channels. Thus, The Program would have no impact related to the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

⁷⁶ City of Dana Point. 1991. City of Dana Point General Plan accessed July 29, 2025 at https://www.danapoint.org/files/assets/city/v/1/community-development/documents/planning/general-plan/general-plan_scanned-2019.pdf

⁷⁷ City of Huntington Beach. 2017. City of Huntington Beach General Plan accessed July 29, 2025 at https://www.huntingtonbeachca.gov/departments/community_development/planning_zoning/general_plan.php#outer-741

⁷⁸ City of Irvine. 2000. City of Irvine General Plan accessed July 29, 2025 at <https://cityofirvine.org/community-development/current-general-plan>

⁷⁹ City of Newport Beach. 2006. City of Newport Beach General Plan accessed July 29, 2025 at <https://www.newportbeachca.gov/government/departments/community-development/planning-division/general-plan-codes-and-regulations/general-plan>

⁸⁰ City of San Clemente. 2014. City of San Clemente Centennial General Plan accessed July 29, 2025 at <https://www.san-clemente.org/home/showpublisheddocument/48385/638212181505430000>

⁸¹ City of Seal Beach. 2003. City of Seal Beach General Plan accessed July 29, 2025 at <https://www.sealbeachca.gov/Departments/Community-Development/Planning-Development/General-Plan>

⁸² County of Orange. 2012. County of Orange General Plan accessed July 29, 2025 at <https://ocds.ocpublicworks.com/service-areas/oc-development-services/planning-development/codes-and-regulations/general-plan>

3.13 Noise

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive ground-borne vibration or ground-borne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) Would the Project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact . Noises associated with The Program would be associated with temporary construction activities that would take place directly adjacent to single family and multi-family residential zones for most locations.⁸³ As such, these noises may impact local residences, businesses, and recreational users. Most of the noise generated from implementation of The Program would come from the diesel engines that power the construction equipment (i.e., dump trucks, bull dozers, loaders, and conveyor belts as needed). Noise levels from construction equipment typically ranges between 85-90 dBA at 50 feet from the engine when under a heavy load.⁸⁴ When trains are used, the anticipated noise levels for the idling trains would be between 80 – 95 dBA at 50 feet. Noise generated by construction and train idling would temporarily exceed ambient noise levels at nearby receptors. However, construction would occur only during permitted hours defined by the respective local noise ordinances (Table 3-11: Days and Times Approved for Construction by Jurisdiction).

⁸³ City of Dana Point – Community Viewer. Land Use Map. <https://danapoint.maps.arcgis.com/apps/webappviewer>. Accessed January 2, 2025;

City of Huntington Beach Zoning Map. Accessed January 3, 2025;

City of Newport Beach. Map Viewer.

https://nbgis.newportbeachca.gov/NewportHTML5Viewer/?viewer=publicsite&runWorkflow=Show_Coastal_LandUse. Accessed January 3, 2025;

City of San Clemente. Zoning Lookup Tool.

<https://sanclemente.maps.arcgis.com/apps/instant/lookup/index.html?appid=48ff65d9ee754e36bec707ac786c652b>. Accessed January 3, 2025;

City of Seal Beach Zoning Map (Surfside).2010. <https://www.sealbeachca.gov/Portals/0/Documents/Zoning%20Map%20-%20Surfside.pdf>. Accessed January 3, 2025;

City of Seal Beach Zoning Map (Old Town & Bridgeport). 2010.

<https://www.sealbeachca.gov/Portals/0/Documents/Zoning%20Map%20-%20Old%20Town-Bridgeport.pdf>. Accessed January 3, 2025

⁸⁴ Federal Highway Administration (FHWA). *Highway Construction Noise Handbook*. Final Report. August 2006. FHWA-HEP-06-015. Available at: <https://rosap.ntl.bts.gov/view/dot/8837>

Table 3-11: Days and Times Approved for Construction by Jurisdiction

Jurisdiction	Days and Times Approved for Construction
Orange County	Monday – Saturday: 7:00 a.m. – 8:00 p.m.
City of Costa Mesa	Monday – Friday: 7:00 a.m. – 7:00 p.m. Saturday: 9:00 a.m. – 6:00 p.m.
City of Dana Point	Monday – Friday: 7:00 a.m. – 8:00 p.m.
City of Huntington Beach	Monday – Saturday: 7:00 a.m. – 8:00 p.m.
City of Irvine	Monday – Friday: 7:00 a.m. – 7:00 p.m. Saturday: 9:00 a.m. – 6:00 p.m.
City of Newport Beach	Monday – Friday: 7:00 a.m. – 6:30 p.m. Saturday: 8:00 a.m. – 6:00 p.m.
City of San Clemente	Monday – Friday: 7:00 a.m. – 6:00 p.m. Saturday: 8:00 a.m. – 6:00 p.m.
City of Seal Beach	Monday – Friday: 7:00 a.m. – 8:00 p.m. Saturday: 8:00 a.m. – 8:00 p.m.

Because construction noise is exempt from numeric noise limits during these permitted hours, The Program would not violate local noise ordinances despite temporary noise increases. Further, noise would be temporary in nature and localized, with no long-term or operational noise increase. The completed beach nourishment project would not introduce any new stationary noise sources. There would be no increase in traffic or permanent equipment associated with The Program’s operations. Therefore, no permanent increase in ambient noise would occur.

The Program would result in a temporary increase in ambient noise due to construction activities; however, construction would occur within the hours permitted by local ordinances (RCM NOI-1), and associated noise would be exempt from quantitative thresholds. No permanent noise sources would result from The Program. Adherence to RCM NOI-1 would ensure that The Program would have less than significant impact related to the generation of a substantial temporary or permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. No project-specific mitigation would be required.

Avoidance, Minimization and/or Mitigation Measures

The following regulatory compliance measure is required:

RCM NOI-1: All construction activities, including equipment warm-up, will be limited to the hours permitted by the local jurisdiction. Unless otherwise approved in writing by the City or County (depending on the jurisdiction where construction is taking place), construction will only occur during the dates and times listed in **Error! Reference source not found.** No construction will occur on Sundays or federal holidays.

b) Would the Project result in generation of excessive ground-borne vibration or ground-borne noise levels?

Less Than Significant Impact With Mitigation. Construction activities under the purview of The Program would not include excavation, compaction, or pile driving, which are factors that can create the most significant vibrations from construction work. Activities conducted as part of The Program include transportation and placement of sand using dump trucks and earth-moving equipment, such as bulldozers, and will occur more than 25 feet away from residences and historical buildings. According to the Caltrans Transportation and

Construction Vibration Guidance Manual (2020),⁸⁵ the vibration potential from this type of equipment would range from 0.076 in/sec peak particle velocity (PPV) to 0.089 in/sec PPV at 25 ft away. These levels would not exceed the most conservative significance threshold (0.12 in/sec PPV; Table 3-12: Vibration Thresholds for Damage to Structures) that research shows may impact structure. It is also not likely that this equipment would cause architectural impacts to historical buildings as they are well below the threshold for potential vibration impacts (Table 3-12). Trains may also be used to transport sand to some locations. The vibration potential for idling trains (0.004 in/sec PPV – 0.024 in/sec PPV)⁸⁶ is well below the 0.12 in/sec PPV significance threshold for damage to buildings.

Table 3-12: Vibration Thresholds for Damage to Structures

Structure Type	Damage Potential Threshold (PPV in in/sec)
Extremely fragile historic buildings	0.12
Fragile buildings	0.20
Historic and some old buildings	0.50
Older residential structures	0.50
New residential structures	0.50
Modern industrial/commercial buildings	2.00

Source: Caltrans. *Transportation and Construction Vibration Guidance Manual*. California Department of Transportation, September 2013. Accessed July 22, 2025.

However, vibration may still be perceptible and potentially annoying to sensitive receptors (e.g., residences, schools) located within 25 feet of active construction zones. According to the Caltrans Transportation and Construction Vibration Guidance Manual (2020; Table 20, pg 38), the vibration potential from the construction equipment and the trains would be considered ‘barely perceptible.’ Therefore, vibration impacts from implementation of The Program would be less than significant.

Avoidance, Minimization and/or Mitigation Measures

The following mitigation measure is required:

MM NOI-1: Where construction activities and train idling is planned within 25 feet of occupied structures or sensitive uses, the managing entity or construction contractor will notify property owners and provide the schedule, duration and contact information for noise-related concerns.

c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

Less Than Significant Impact. The North Star Beach parking lot (NB.S.1) would serve as a stockpile site in the City of Newport Beach and is located at the southern perimeter of the Land Use Plan area for John Wayne Airport. West Seal Beach (SB.1) and East Seal Beach (SB.2) receiver site locations are on the periphery of the Joint Forces Training Base in Los Alamitos.⁸⁷ The presence of trucks and construction with earth-moving equipment may increase noise in the area, but the noise would be short-term and temporary. All construction

⁸⁵ Caltrans. 2020. Transportation and Construction Vibration Guidance Manual. <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf>

⁸⁶ International Union of Railways. 2017. Railway Induced Vibration: State of the Art Report. Accessed July 22, 2025. Railway induced vibration - State of the art report

⁸⁷ Airport Land Use Commission for Orange County Airport Planning Areas, Figure 1. 2007. https://files.ocair.com/media/2021-02/airportlu_20200604.pdf?VersionId=cMd6uGpbgOWGd3jMOS6TPJF3y5nMyA7F, Accessed December 16, 2024

activities conducted under the purview of The Program would be in compliance with local noise ordinances and policies. Thus, The Program would have less than significant impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

3.14 Population and Housing

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial upland population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The Program would nourish eroding beaches to maintain their value to natural and human communities. It would not result in the development of new homes, businesses, roads, or infrastructure. The Program would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). Thus, The Program would have no impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

b) Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The scope of The Program is to store, transport, and place sand on already disturbed public beaches and stockpile sites. There would be no new infrastructure, development, or construction activities that would displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Thus, The Program would have no impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

3.15 Public Services

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services?

i) Fire protection

Less Than Significant Impact. The transport of sand may increase traffic along the haul routes (see Table 2-7: Construction and Transportation Information for Receiver Locations) that could impact emergency response times, but these impacts would be temporary. All activities conducted under the purview of The Program would be in compliance with state and local regulations, including the development of traffic plans, if required by the local municipality, to keep emergency routes clear. Thus, no additional or altered fire facilities would be required as a result of The Program. Thus, The Program impact would be less than significant.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

ii) Police protection

Less Than Significant Impact. Typical construction activities, such as those that would be conducted as part of The Program does not require police services. The transport of sand may increase traffic along the haul routes (see Table 2-7: Construction and Transportation Information for Receiver Locations) that could impact police response times in the event of an emergency, but with these impacts would be temporary.

All activities conducted under the purview of The Program would be in compliance with state and local regulations, including the development of traffic plans, if required by the local municipality, to keep emergency routes clear. Thus, no additional or altered police facilities would be required as a result of The Program. Thus, the impact would be less than significant.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

iii) Schools

No Impact. As previously stated, The Program involves temporary construction activities associated with storing, transporting, and placing sand on eroding beaches. These activities would not include growth inducing developments, such as homes, businesses, roads, or other infrastructure. Therefore, no addition of or altering of schools would be required as a result of The Program. Thus, there would be no impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

iv) Parks

Less Than Significant Impact. The Program would enhance public parks by replenishing sand on eroding beaches that are not being naturally replenished. Temporary closures may occur as a result of construction to place the sand for safety reasons, however these closures would be short-term, allow access to surrounding areas, and occur no more than once every one to five years, depending on sand availability and other factors that will affect timing of sand placement. The temporary closures for construction would not necessitate the development of new parks, and the ultimate result of The Program would be maintained or enhanced recreational value provided by the public beaches. Therefore, The Program would have less than significant impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

v) Other public facilities

Less Than Significant Impact Additional resources for traffic control and construction processes are required including measures for addressing Lifeguards ability to provide important public safety services. In most cases, lifeguard services would remain active during construction, but services could be interrupted by placement of sand on the beaches. Project managers would plan accordingly to provide increased pedestrian assistance with construction traffic control. Obstruction of the line-of-site for lifeguards could be a temporary but significant impact as the result of The Program. SC PS-1 would be implemented to avoid blocking line-of-sight to the ocean at lifeguard towers and SC PS-2 would temporarily relocate mobile lifeguard towers during construction. With the implementation of SCs PS-1 and PS-2, temporary interruptions to lifeguard services would have a less than significant impact.

Avoidance, Minimization and/or Mitigation Measures

The following standard conditions are required:

SC PS-1: Construction equipment will not block line-of-sight to the ocean at lifeguard towers. Sight lines from the viewing platforms of the lifeguard towers will be maintained and there will be no interference with views for the lifeguards.

SC PS-2: Mobile lifeguard towers will be temporarily relocated during construction to maintain public safety (only if relocation is necessary to conduct sand placement construction activities).

3.16 Recreation

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less Than Significant Impact. There would be no construction of infrastructure that would induce growth or accelerate the use of the public beaches such that substantial physical deterioration would occur or be accelerated as a result of increased use. The Program would maintain or enhance the recreational value of the beaches in Orange County as it will nourish beaches that are currently eroding with little to no natural sand replenishment. Thus, there would be less than significant impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less Than Significant Impact With Mitigation. The Program would maintain or enhance the recreational value of the beaches in Orange County as it will nourish beaches that are currently eroding with little to no natural sand replenishment. There will be no construction of infrastructure that would induce growth or accelerate the use of the public beaches such that substantial physical deterioration would occur or be accelerated as a result of increased use. However, the beach nourishment activities under The Program could result in temporary closures or physical changes that could result in temporary impacts to the environment and recreational uses. Those impacts are described below.

Temporary Closures: The beaches where the sand placement construction activities will take place are important areas for recreational activities (e.g., sunbathing, surfing, jogging/running, swimming) that serve local residents, as well as visitors from within and outside of the County. Construction would require temporary closures during sand placement that could result in temporary loss of recreational opportunities. However, these activities would ultimately maintain or enhance the recreational value of the beaches. The following mitigation measures would be implemented to maintain safe public access to the beaches for recreation in locations surrounding construction areas and reduce the impact to less than significant:

MM REC-1: Should a pipeline be used for sand placement, the pipeline will be covered with sand or other suitable mat material as needed at intervals to create walkover areas to facilitate public beach and water access.

MM REC-2: Public access to beaches and the ocean will be maintained adjacent to active sand placement area as long as public safety is not compromised.

Temporary changes to beach profiles: Scarps, or escarpments (steep or vertical drop-offs in the sand), develop naturally along sandy beaches. Substantial changes in beach profile, such as those that may occur as a result of the beach nourishment activities performed under The Program, can impact the height of these formations. Large scarps could pose a safety hazard due to substantial elevation changes in beach profiles and result in potentially significant temporary impacts. The following mitigation measures would be implemented to reduce the impact to less than significant:

MM REC-3: Signs will be posted advising the public of the presence of steep sand slopes (e.g., scarps) should they develop on beaches where sand has been placed.

PGM REC-4: Potentially dangerous scarps that may form after sand placement will be knocked down/layed back/graded by the beach managing entity.

Surfing: Surfing is a popular and important activity along many of the beaches that would receive sand under The Program. Localized sand movement and sandbar development, from both natural shoreline processes and beach nourishment, can impact wave breaking conditions and surfing conditions. The placement of sand for beach nourishment purposes that would be conducted with The Program could thus affect surfing. However, based on historic surfing monitoring, the limited volume of sand to be placed at any one time or location, and given the source material would need to be compatible with the receiving beach sand, changes to surfing conditions are expected to be only temporary, if any. Over the longer term, conditions would be restored as the placed sand disperses along the shoreline and offshore and an equilibrium beach profile is established. Temporary beach closures due to active construction would not preclude surfing in the area outside of the active construction area such as if dredged source material was placed. The placement of sand that would be conducted by the Program for the purposes of beach nourishment would not cause substantial losses of local surfing opportunities and could ultimately improve surfing conditions on eroded beaches with steepened slopes. The Program would require monitoring of surf conditions when specific criteria (e.g., sand volume) are triggered. The monitoring data would be used to inform future beach placement activities to avoid impacts to surf conditions.

Avoidance, Minimization and/or Mitigation Measures

The following mitigation and guideline measures are required:

MM REC-1: Should a pipeline be used for sand placement, the pipeline will be covered with sand or other suitable mat material as needed at intervals to create walkover areas to facilitate public beach and water access.

MM-REC-2: Public access to beaches and the ocean will be maintained adjacent to active sand placement area as long as public safety is not compromised.

MM REC-3: Signs will be posted advising the public of the presence of steep sand slopes (e.g., scarps) should they develop on beaches where sand has been placed.

PGM REC-4: Potentially dangerous scarps that may form after sand placement will be knocked down/layed back/graded by the beach managing entity.

3.17 Transportation

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit roadway, bicycle and pedestrian facilities?

No Impact. The Program would involve transporting sand from stockpile sites to receiver beaches using trucks and equipment along designated haul routes (see Table 2-7: Construction and Transportation Information for Receiver Locations). Temporary and localized traffic increases may occur during nourishment events but would not result in long-term impacts to circulation systems.

The Cities of Dana Point; Huntington Beach; Irvine; Newport Beach; San Clemente; Seal Beach; and Orange County all have circulation and mobility elements in their respective general plans.⁸⁸ The Program is consistent with circulation goals identified in the local circulation plans, which emphasize safe and efficient multimodal transportation. Plan goals include minimizing construction impacts, preserving beach access, and supporting complete streets policies. All activities would comply with local and regional circulation plans through implementation of traffic control measures (per CCR Section 21400 and 21401 and CCR Sections 1598 and 1599), to ensure safe, temporary access for vehicles, bicyclists, and pedestrians during construction.

⁸⁸ City of Dana Point. 1991. General Plan: Circulation Element. Accessed July 25, 2025 at https://www.danapoint.org/files/assets/city/v1/community-development/documents/planning/general-plan/general-plan_scanned-2019.pdf
 City of Huntington Beach. 2017. General Plan: Circulation Element. Accessed July 25, 2025 at https://cms3.revize.com/revize/huntingtonbeachca/Documents/Departments/Community%20Development/Planning%20Zonning/General%20Plan/Generalplan/Circulation_Element.pdf
 City of Irvine. 2022. General Plan: Circulation Element. Accessed July 25, 2025 at <https://legacy.cityofirvine.org/civica/filebank/blobdload.asp?BlobID=35716>
 City of Newport Beach. 2022. General Plan: Circulation Element. Accessed July 25, 2025 at <https://legacy.cityofirvine.org/civica/filebank/blobdload.asp?BlobID=35716>
 City of San Clemente. 2014. Centennial General Plan: Mobility & Complete Streets Element. Accessed July 25, 2025 at <https://www.san-clemente.org/home/showpublisheddocument/47962/637787021885030000>
 City of Seal Beach. 2003. General Plan: Circulation Element. Accessed July 25, 2025 at <https://www.sealbeachca.gov/Portals/0/Documents/Circulation%20Element.pdf>
 County of Orange. 2025. General Plan: Transportation Element. Accessed July 25, 2025 at <https://ocds.ocpublicworks.com/sites/ocpwoods/files/2025-05/Chapter%20IV%20Transportation%20Element%20May%202025.pdf>

Construction impacts would be temporary and would not result in permanent changes to roadways or circulation. Operationally, there would be no impact from the replenished beaches as they are not anticipated to facilitate growth or increase the number of beach goers that would contribute to traffic and circulation impacts. The Program would not interfere with bicycle or pedestrian networks. Thus, The Program would result in no impact related to conflicts with applicable circulation policies or plans.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

No Impact. Construction-related vehicle trips associated with The Program would be temporary and short-term in duration. Activities would include hauling sand from designated stockpile sites to the nourishment area, as well as equipment transport and worker commute trips. These activities would generate vehicle trips over the construction period, primarily consisting of heavy-duty trucks, haul vehicles, and a limited number of worker vehicles. A maximum of approximately 160 truck trips per day would be generated during a nourishment event conducted under The Program, which would occur once every 1 to 5 years (the maximum truck trip estimate is based on 300,000 cy of sand; see Table 2-8: Truck Trips). While nourishment activities may occur every 1-5 years, each nourishment activity under The Program would be temporary. Impacts from The Program's construction vehicle use are assessed under the air quality and greenhouse gas impact sections of this document (see 3.3 Air Quality and 3.8 Greenhouse Gas Emissions). There would be no operational vehicle use or growth-inducing activities that might increase operational vehicle use.

Pursuant to CEQA Guidelines Section 15064.3(b)(3), construction traffic may be evaluated qualitatively when existing VMT models are not appropriate. In this case, quantitative operational VMT analysis is not appropriate because traffic generated by The Program is only associated with construction, is temporary, would cease upon completion of construction, and would not result in a long-term change in vehicle travel patterns. The Program would not induce new permanent vehicle travel, nor would it alter land use patterns or transportation infrastructure in a manner that would increase long-term VMT.

Given the temporary nature of construction activities and the absence of long-term VMT generation, construction-related VMT would not result in a significant transportation impact under CEQA. The Program would have no impact in relation to conflict or consistency with CEQA Guidelines Section 15064.3, subdivision (b).

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

c) Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves of dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact With Mitigation. The presence of trucks and construction equipment may result in a temporary increase in hazards along haul routes and beaches during construction due to the proximity of people and equipment. All contractors operating under the purview of The Program would be required to implement safety measures, such as developing Traffic Control Plans to reduce the risk of safety conflicts between construction activities and the public (RMC TRA-1). Implementation of MM REC-1 would maintain safe public access to beaches surrounding active construction areas by separating the public from equipment hazards during construction. Because of the short-term, temporary nature of the construction and the required implementation of traffic control plans, potential impacts resulting from The Program would be less than significant with the implementation of RCM TRA-1 and MM REC-1.

Avoidance, Minimization and/or Mitigation Measures

The following regulatory compliance and mitigation measures are required:

RCM TRA-1: Prior to the start of any construction activity that will affect public roadways, the Contractor will prepare and implement a site-specific Traffic Control Plan (TCP) in accordance with local and state requirements (California Vehicle Code Section 21400 and 21401; California Code of Regulations Sections 1598 and 1599).

MM REC-1: Should a pipeline be used for sand placement, cover the pipeline with sand or other suitable mat material as needed at intervals to create walkover areas to facilitate public beach and water access.

d) Would the Project result in inadequate emergency access?

Less Than Significant Impact. Construction activities under The Program would include the transport and placement of sand to replenish eroding beaches. Per Caltrans (California Vehicle Code Section 21400 and 21401) as applicable, and Cal/OSHA (California Code of Regulations Sections 1598 and 1599), traffic control plans and flaggers are required for any construction that would impact traffic flow or safety (RCM TRA-1). These traffic plans are required to address any potential impacts to emergency access and evacuation routes when construction activities impact public rights-of-way. Any construction activities conducted under The Program would be required to operate in accordance with these regulations and the state and local emergency plans. Thus, The Program would have less than significant impact with compliance to regulations requiring traffic control plans in areas where construction activities would impact public rights-of-way, as required by RCM-TRA-1, included. Thus, The Program would have less than significant impact.

Avoidance, Minimization and/or Mitigation Measures

The following regulatory compliance measure is required.

RCM TRA-1: Prior to the start of any construction activity that will affect public roadways, the Contractor will prepare and implement a site-specific Traffic Control Plan (TCP) in accordance with local and state requirements (California Vehicle Code Section 21400 and 21401; California Code of Regulations Sections 1598 and 1599).

3.18 Tribal Cultural Resources

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the Project cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Would the Project cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1 for the purposes of this paragraph, the lead agency will consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Would the Project cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Less Than Significant Impact. Pursuant to the requirements of Assembly Bill (AB) 52 and PRC Section 21080.3.1, OCPW sent notification letters to California Native American tribes traditionally and culturally affiliated with The Program area. The required notification period ended on May 7, 2025, and no tribes requested consultation under AB 52.

The Program consists of periodic beach nourishment activities within previously disturbed or developed coastal zones where sand would be placed on receiver sites and placed or removed from stockpiles at receiver sites. There would be no excavation or other ground disturbing activities. Given that there would be no ground disturbing activities and the disturbed status of The Program locations, the potential for encountering previously unidentified tribal cultural resources is low.

Although unlikely, if previously unknown tribal cultural resources are encountered during project construction, work in the immediate vicinity would be halted and appropriate procedures followed pursuant to PRC Section

21083.2 and Section 21084.3, including notification of the Native American Heritage Commission and any affiliated California Native American tribes, if applicable (SC CUL-1). Therefore, with the implementation of SC CUL-1 The Program would not cause a substantial adverse change in the significance of a tribal cultural resource, and impacts would be less than significant.

Avoidance, Minimization and/or Mitigation Measures

Adherence to the following standard condition is required by The Program:

SC CUL-1: If an archaeological resource is found, it will be examined by a Qualified Archaeologist. If it is determined by the Qualified Archaeologist to be indigenous in nature, a Native American representative will be consulted. If the Qualified Archaeologist determines the resource to be significant, avoidance and preservation in place will be the preferred manner of mitigating impacts pursuant to 15126.4(b)(3)(A). If avoidance is determined to be infeasible, the Qualified Archaeologist will prepare a data recovery and treatment plan tailored to the physical nature and characteristics of the resource. The data recovery plan will identify data recovery excavation methods, research questions, measurable objectives, and data thresholds to reduce any potential significant impacts to the resource. The resulting documentation will be submitted to the regional repository of the California Historical Resources Information System (CHRIS).

b) Would the Project cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

No Impact. In accordance with PRC Section 21080.3.1, OCPW provided notification to California Native American tribes traditionally and culturally affiliated with The Program area. No tribes requested formal consultation within the statutory timeframe.

The Program involves beach nourishment activities in highly disturbed coastal areas historically subject to natural and anthropogenic modification. Program construction is limited to the transport of sand, placement of sand on receiver sites, and placement or removal of sand from stockpiles at stockpile sites. There would be no excavation, grading, or other ground disturbing activities. Based on the absence of tribal consultation requests, the existing disturbed nature of The Program footprint, and the lack of ground disturbing activities, OCPW finds no substantial evidence that The Program would cause an adverse change to a tribal cultural resource considered significant under PRC Section 5024.1(c).

Should previously unidentified tribal cultural resources be encountered during construction, appropriate measures would be taken consistent with applicable laws and procedures (i.e., PRC Sections 21083.2 and 21084.3), including coordination with Native American tribes if warranted. The Program would have no impact on tribal cultural resources under this criterion.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

3.19 Utilities and Service Systems

Would The Program:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

No Impact. The Program involves stockpiling, transporting, and placing sand to nourish eroding beaches. It would not require or result in the relocation of existing water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities. Construction activities may require some access to existing sources of electricity or water, but these requirements would be temporary and typical of similar construction activities, and would not require the installation of new or extensions of existing infrastructure. Thus, The Program would have no impact on the environment stemming from relocation or construction of utilities and service systems.

Avoidance, Minimization and/or Mitigation Measures

No mitigation is required.

b) Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact. Construction activities conducted as part of this proposed Program may require some access to water, but these requirements would be minimal and temporary (i.e., once every 1-5 years in most locations and annually at a few high need locations if it is available). Water would be used as needed to prevent 'fugitive dust' from staging sites or during transport. Onsite water sources may also be required by Cal/OSHA and the

California Fire Code on construction sites where fire hazards exist to avoid the spread of wildfire in the event that one is started by the construction equipment. The need for onsite water sources can and in most cases would be served by a water truck on site, and would not require access to or use of groundwater supplies or imported water supplies. There would be no need for additional water beyond temporary construction, as The Program involves the transport and placement of sand to nourish eroding beaches. The Program would have no need for, and no impact to water supplies during normal, dry, and multiple dry years. Thus, The Program would have no impact to water supplies during normal, dry, and multiple dry years.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

c) Would the Project result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?

No Impact. The Program would transport and place sand to nourish eroding beaches. Minimal water would be used to prevent 'fugitive sand' from escaping during transportation and potentially to meet Cal/OSHA and the California Fire Code requirements on construction sites where fire hazards exist to avoid the spread of wildfire in the event that one is started by the construction equipment. There is no infrastructure or water use beyond the construction phase. The Program would not generate wastewater or a need for wastewater treatment. Therefore, no change would be required to the demand in addition to the wastewater treatment provider's existing commitments. The Program would have no impact regarding wastewater treatment resources and demand.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

d) Would the Project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

No Impact. The Program would not include the demolition or construction of new facilities. Construction activities are limited to the transportation and placement of sand. The Program would not generate solid waste. Thus, The Program would have no impact on the attainment of solid waste reduction goals.

Avoidance, Minimization and/or Mitigation Measures

No mitigation is required.

e) Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. The Program would stockpile, transport, and place sand to replenish eroding beaches. It would not require the demolition or construction of new facilities and would not generate solid waste. The Program would reduce the amount of solid waste by repurposing sand for beneficial reuse in beach nourishment projects. Thus, The Program would have no adverse impact on the attainment of solid waste reduction goals. Therefore, this proposed Program would have no impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation is required.

3.20 Wildfire

Would The Program:

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. Some stockpile and receiver sites are located in fire hazard severity zones designated by CalFire (Table 3-13: Program Locations in Fire Hazard Severity Zones). Orange County its incorporated cities—including Huntington Beach, Newport Beach, Costa Mesa, and Irvine—maintain comprehensive emergency management frameworks aligned with the California Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS). Each jurisdiction has adopted an Emergency Operations Plan (EOP) and/or Local Hazard Mitigation Plan (LHMP),⁸⁹ which identify emergency evacuation routes, coordination strategies, and hazard-specific response protocols, including

⁸⁹ City of Dana Point. 2025. Local Hazard Mitigation Plan. Accessed on July 24, 2025 at <https://www.danapoint.org/files/assets/city/v/2/general-services/documents/2025-dana-point-lhmp-final.pdf>

City of Huntington Beach. 2022. Accessed on July 24, 2025 at <https://cms3.revize.com/revize/huntingtonbeachca/Documents/Departments/Fire/Our%20Community%20and%20Risk%20Reduction/Emergency%20Management/HB%202022%20LHMP%20City%20Council%20Adopted.pdf>

City of Irvine. 2020. Local Hazard Mitigation Plan. Accessed on July 24, 2025 at <https://cityofirvine.org/2025-local-hazard-mitigation-plan-update#:~:text=The%20LHMP%20allows%20public%20safety%20officials%20and%20city,to%20proactively%20decrease%20these%20threats%20before%20disasters%20occur.>

City of Newport Beach. 2022. Emergency Operations Plan. Accessed July 24, 2025 at <https://www.newportbeachca.gov/home/showpublisheddocument/72743/638059324946730000>

City of Newport Beach. 2016. Hazard Mitigation Plan. Accessed July 24, 2025. <https://ecms.newportbeachca.gov/WEB/DocView.aspx?id=2867550&dbid=0&repo=CNB>

wildfires. Dana Point, San Clemente, and Seal Beach are in the process of approving draft LHMPs. Additionally, Orange County has a multi-jurisdictional Hazard Mitigation Plan that addresses fire hazards in the County, including unincorporated areas.⁹⁰

Table 3-13: Program Locations in Fire Hazard Severity Zones⁹¹

Location ID	Location	Fire Hazard Zone
California State Parks		
CA.1	Bolsa Chica State Beach	Moderate/High
CA.3	Crystal Cove State Park	Moderate/High/Very High
Orange County Parks and Public Works		
OC.2	Salt Creek Beach	Moderate
OC.S.3	Audubon Basin (within City of Irvine)	Very High
City of Huntington Beach		
HB.1	Sunset Beach	Moderate/High
HB.2	Huntington Harbour Beaches	Moderate/High
City of San Clemente		
SC.S.1	Lot at Avenue Vista Hermosa and Avenida La Pata, San Clemente	Moderate/High/Very High

Construction activities under The Program would include the transport and placement of sand to replenish eroding beaches. Per Caltrans (California Vehicle Code Section 21400 and 21401) as applicable, and Cal/OSHA (California Code of Regulations Sections 1598 and 1599), traffic control plans and flaggers are required for any construction that would impact traffic flow or safety (RCM TRA-1). These traffic plans are required to address any potential impacts to emergency access and evacuation routes when construction activities impact public rights-of-way. Any construction activities conducted under The Program would be required to operate in accordance with these regulations and the state and local emergency plans. Thus, with the implementation of RCM TRA-1 The Program would not substantially impair an adopted emergency response plan or emergency evacuation plan in very high fire hazard severity zones. The Program would have less than significant impact.

Avoidance, Minimization and/or Mitigation Measures

The following regulatory compliance measure is required:

RCM TRA-1: Prior to the start of any construction activity that will affect public roadways, the Contractor will prepare and implement a site-specific Traffic Control Plan (TCP) in accordance with local and state requirements (California Vehicle Code Section 21400 and 21401; California Code of Regulations Sections 1598 and 1599).

⁹⁰ County of Orange and Orange County Fire Authority. 2021. Local Hazard Mitigation Plan. Accessed on July 24, 2025. <https://www.ocsheriff.gov/sites/ocsd/files/2022-03/2021%20County%20of%20Orange%20and%20Orange%20County%20Fire%20Authority%20Local%20Hazard%20Mitigation%20Plan.pdf>

⁹¹ Cal Fire. 2022. *Fire Hazard Severity Zone Maps (State Responsibility Area and Local Responsibility Area)*. November 21 2022 edition. CAL FIRE, Sacramento, CA. Accessed July 24, 2025

b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, due to slope, prevailing winds, and other factors, would the Project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Less Than Significant Impact. The Program would stockpile, transport, and place sand for the purposes of beach nourishment. Beach environments where the majority of these activities would take place are damp and sandy, with minimal to no vegetation. These conditions are not generally susceptible to fires, nor would the contemplated activities of The Program provide conditions that would exacerbate wildfire risks. The use of standard construction equipment would be necessary to place the sand on the beaches, but fire risks associated with this equipment is low. Construction equipment used to nourish beaches under The Program would require contractors to comply with fire codes, carry fire suppression equipment on board or at the worksite, onsite training in appropriate responses to accidental fires (RCM HAZ-1) and fuels and flammable materials would be stored at least 50 feet away from vegetation and brush in containers per California Fire Code Sections 5704 and 5706 requirements (SC HAZ-1). These standard construction procedures would greatly reduce the risk of fires spreading if a fire is sparked by construction. Thus, The Program would have less than significant impact.

Avoidance, Minimization and/or Mitigation Measures

The following regulatory compliance measure and standard conditions are required:

RCM HAZ-1: All Program locations will comply with the California Fire Code (Title 24, California Code of Regulations [CCR], Part 9) and the Cal/OSHA Construction Safety Orders for fire prevention (Title 8, CCR, Section 6777). The construction contractor will implement all applicable fire prevention and suppression measures, including maintaining fire suppression equipment on-site and training construction personnel in fire safety procedures. Compliance will be verified by the construction manager through regular site inspections during active construction.

SC HAZ-2: Fuels, oils, and other flammable materials will have secondary containment measures and will not be stored onsite. Storage should comply with California Fire Code Sections 5704 and 5706.

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. Some receiver and stockpile sites are located within high fire hazard severity zones (Table 3-13: Program Locations in Fire Hazard Severity Zones). Activities associated with the Program would include storage, transportation, and placement of sand for beach nourishment purposes. The Program would not include the installation or maintenance of any infrastructure, and therefore no increased or exacerbated risk of fire as a result. Thus, there would be no impact.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

d) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less Than Significant Impact. Some of The Program sites are located in high fire hazard severity zones (Table 3-13: Program Locations in Fire Hazard Severity Zones). The Program proposes to replenish eroding beaches with sand from various sources. The sand would be transported from the source or stockpile sites and placed on the beaches. The replenished beaches would reduce the risk of flooding to nearby residences and shoreline infrastructure by providing a natural pervious barrier between the Pacific Ocean and structures where wave runup is reduced before reaching inland structures. In this way, The Program would actually decrease the likelihood of some inland structures flooding during a storm event causing higher than average tides, but would have no impact on downslope or downstream flooding or landslides. Sand placed on beaches would not result in exposing people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes, thus impacts would be less than significant.

Avoidance, Minimization and/or Mitigation Measures

No mitigation required.

3.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant Impact With Mitigation: The Program will place sand along the shoreline to restore eroded beach areas. Temporary impacts could occur to onshore and nearshore habitats, benthic organisms, shorebirds, and special-status species from sand placement, construction activity, and increased turbidity. Biological surveys (Merkel & Associates, 2025) identified potential for special-status species (e.g., California least tern, western snowy plover, California grunion) and sensitive habitats (e.g., eelgrass beds) in the areas included in The Program. PGM BIO-1 through PGM BIO-8, and MM BIO-1 and MM BIO-2 require pre-construction surveys, biological monitoring, exclusion buffers, turbidity controls, and work restrictions during sensitive bird nesting or grunion spawning periods (see 3.4 Biological Resources).

Sand placement under The Program would occur on previously disturbed areas such as beaches and stockpile sites. The San Clemente Pier is a historical structure within a Program beach receiver site, however The Program is not expected to cause vibration or other effects that could damage it. Placement of sand may enhance shoreline protection around historical resources, including piers and shoreline structures, further reducing potential impacts. Impacts to historical resources are less than significant (see 3.5 Cultural

Resources). Thus, The Program would have no impact on important examples of the major periods of California's history or prehistory.

The Program's activities are limited to surface disturbance in previously disturbed areas and would not include any ground disturbance. In the unlikely event that archaeological resources are discovered, a qualified archaeologist would assess the findings, consult with Native American representatives as appropriate, and implement avoidance, preservation in place, or a data recovery plan to mitigate impacts (SC CUL-1). With implementation of these measures, impacts to archaeological resources, including those that may be relevant to the major periods of California's history or prehistory, are less than significant with mitigation (see 3.5 Cultural Resources).

With mitigation incorporated, The Program would not substantially degrade environmental quality, reduce habitat for fish or wildlife species, cause population declines, threaten plant or animal communities, reduce the range of a rare or endangered species, or eliminate important examples of California history or prehistory.

Avoidance, Minimization and/or Mitigation Measures

The following program compliance, standard condition, and mitigation measures are required:

PGM BIO-1: At the stockpile site OC.S.4 (Audubon Basin), in order to avoid impacts to paniculate tarplant, a sensitive species, a survey will be performed by a qualified biologist prior to any sand storage. If found, any paniculate tarplant will be fenced off with ribbon or yellow rope and t-posts and stockpiling and construction activities should be avoided in the fenced-off area.

PGM BIO-2: Sensitive bird species monitoring will be implemented if sand placement is anticipated to occur during the California least tern or Western snowy plover nesting seasons on beach receiver sites with the potential for least tern or snowy plover nesting. Sensitive bird species monitoring will also occur if sand placement will occur during the snowy plover overwintering season on beach receiver sites with the potential for snowy plover overwintering. The monitoring protocol will be approved by the applicable regulatory agencies prior to permit issuance. The protocol is anticipated to include pre-construction surveys, recurring surveys, the establishment of buffers, and the authority to halt work to avoid or minimize impacts.

PGM BIO-3: Grunion monitoring will be implemented for any beach nourishment event occurring within the spawning season (per the CDFW published grunion spawning schedule for the year of the placement event) on any sandy beach where spawning could potentially occur and with sand placement or equipment access seaward of the MHTL. Regulatory agencies will be notified of monitoring events. Any deviations from the monitoring protocols in the Implementation Guidelines will require agency approval.

PGM BIO-4. Turbidity monitoring will be implemented to avoid significant impacts to water quality if sand placement is seaward of the MHTL and in accordance with the scale of the nourishment event and percentage of fines in the source material. If the turbidity monitoring staff determines ocean water quality thresholds are exceeded, they have the authority to halt sand placement until water quality is restored. Regulatory agencies will be notified of monitoring events. Any deviations from the monitoring protocols in the Implementation Guidelines will require agency approval.

PGM BIO-5: At site OC.S.4 Audubon Basin, in order to avoid impacts to adjacent native habitats and/or downstream aquatic jurisdictional resources a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the sides of the maintenance road and basin spillway/overflow channel that drains to native riparian habitat.

To avoid impacts to the Greenville-Banning Channel, the cement lined channel adjacent to site OC.S.2 D03 D/S California at E01 Bike Trail, a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the edge of the maintenance road adjacent to the channel.

To avoid impacts to open water and salt marsh habitats in the Bolsa Chica/Westminster Channel adjacent to stockpile site OC.S.1 C02/C04 Confluence, a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the hinge point of the adjacent channel. The triangular portion of this site will only be used for stockpile storage of sediment with less than 35% fines if stored over the wet season.

PGM BIO-6: If sand placement occurs in the vicinity of known surfgrass, kelp, or hard (rocky) substrate (habitat of particular concern), monitoring of that habitat will occur in accordance with the sand placement scale and proximity to the surfgrass, kelp or hard (rocky) substrate. The monitoring protocol will be approved by the applicable regulatory agencies prior to permit issuance.

PGM BIO-7: If sand placement occurs in the vicinity of known or potential eelgrass, monitoring of eelgrass will occur in accordance with the California Eelgrass Mitigation Policy (CEMP) (NOAA 2014, or most up-to-date policy).

PGM BIO-8: Tidal inlet monitoring that typically occurs, may need to be increased or rescheduled appropriately following implementation of sand placement events that have the potential to impact tidal inlets to coastal marshes to ensure that nourishment events do not result in significant impacts to tidal exchange considering the scale of the nourishment event and distance to the tidal inlet, and approved by the applicable regulatory agencies prior to permit issuance.

MM BIO-1: At stockpile sites, to avoid direct impacts to migratory birds and/or raptor active nests protected under the federal MBTA and CFG Code Sections 3503 and 3513, removal of stockpiled material that supports active nests within The Program's impact area should occur outside of the breeding season for applicable species, as far as is reasonably feasible. Where removal during the nesting season is unavoidable, a suitably qualified biologist will conduct nesting bird surveys prior to commencement. If nesting birds are identified, the biologist will implement a suitable buffer zone around the nest(s) and a biological monitor would be on site daily to ensure that adverse impacts to the sensitive resource do not occur.

MM BIO-2: Placement of sand within each stockpile site will be located to the greatest extent possible within relatively flat terrain that is not in close proximity to and does not slope toward a sensitive biological resource such as a jurisdictional aquatic resource or native habitat. Stockpiles not scheduled to be utilized within 14 days of placement will be considered non-active and the following protective measures will be implemented:

- Temporary perimeter sediment barriers such as compost-filled wattles temporary silt dykes, biodegradable fiber rolls, burlap sandbags/, gravel bags, or biofiltration bags will be installed to provide erosion and sediment control and to protect the stockpile from wind and rain.
- Only biodegradable materials should be used for stockpile BMP protection, Any non-biodegradable BMP will be maintained and removed when no longer necessary.

SC CUL-1: If an archaeological resource is found, it will be examined by a Qualified Archaeologist. If it is determined by the Qualified Archaeologist to be indigenous in nature, a Native American representative will be consulted. If the Qualified Archaeologist determines the resource to be significant, avoidance and preservation in place will be the preferred manner of mitigating impacts

pursuant to 15126.4(b)(3)(A). If avoidance is determined to be infeasible, the Qualified Archaeologist will prepare a data recovery and treatment plan tailored to the physical nature and characteristics of the resource. The data recovery plan will identify data recovery excavation methods, research questions, measurable objectives, and data thresholds to reduce any potential significant impacts to the resource. The resulting documentation will be submitted to the regional repository of the California Historical Resources Information System (CHRIS).

b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?

Less Than Significant Impact With Mitigation: The Program's activities are limited to the transport, temporary stockpiling, and placement of sand for beach nourishment at previously disturbed areas. These actions are short-term, localized, and designed to enhance shoreline stability and coastal habitat conditions. The Program's mitigation measures and BMPs outlined in the above analysis would be implemented during construction to avoid potential impacts and minimize the potential for adding cumulative effects in combination with other projects. Probable future projects of a similar nature would also be temporary and expected to follow comparable best management practices, mitigation measures, and regulatory compliance requirements to minimize the potential for cumulative impacts.

Traffic impacts from The Program would be temporary and minor, limited to the movement of construction vehicles to and from the stockpile and beach placement sites (see 3.17 Transportation). To minimize potential traffic disruptions and ensure safety, The Program would comply with RCM TRA-1, requiring the Contractor to prepare and implement a site-specific TCP in accordance with local and state requirements would provide continuous access for emergency vehicles. With the implementation of RCM TRA-1, traffic-related impacts would be less than significant.

Emissions of greenhouse gases (GHGs) and criteria pollutants from construction activities would be well below the applicable CEQA thresholds of significance due to the short duration, limited scale of construction vehicle use, and the use of existing roadways and previously disturbed sites (see 3.3 Air Quality and 3.8 Greenhouse Gas Emissions). The Program's incremental contribution to regional GHG and air pollutant emissions would therefore be minor. When considered alongside past, current, and reasonably foreseeable future projects, The Program would not result in a cumulatively considerable contribution to regional air quality or climate impacts.

Cumulative environmental impacts to coastal processes can occur from excessive sedimentation at sensitive nearshore and offshore habitat areas, including lagoon mouths. Sedimentation occurs naturally at these locations, but sedimentation significantly above natural processes may cause sufficient stress to habitat. Sporadic and gradual application of sediment placed, as proposed with The Program, would result in dispersion that resembles natural processes, resulting in a lower degree of disturbance as compared to a quick pulse of a large quantity of sand. Additionally, PGM BIO-4 – PGM BIO-8 and MM BIO-2 would be implemented to avoid and minimize impacts to coastal processes as a result of sedimentation from The Program's beach nourishment activities. Thus, The Program would not result in cumulatively considerable impacts to coastal processes.

Because The Program's activities are both limited in scope and duration, The Program's incremental contribution to regional environmental effects would be negligible. With the implementation of mitigation measures, regulatory compliance measures, and BMPs outlined in the above analysis, there would be no cumulatively considerable impacts to biological resources (PGM BIO-1 – PGM BIO-8 and MM BIO-1 and MM BIO-2), cultural resources (SC CUL-1 and RCM CUL-1), hazardous materials (SC HAZ-1, SC HAZ-2, and RCM HAZ-1), energy use (RCM ENRG-1 and RCM ENRG-2), noise (RCM NOI-1 and MM NOI-1), public

services (SC PS-1 and SC PS-2), recreation (MM REC-1-MM REC-3 and PGM REC-1), or water quality (SC HYD-1-SC HYD-3), When considered with past beach nourishment projects, ongoing maintenance activities, and reasonably foreseeable projects along the Orange County coast, the cumulative impact remains low. Beach nourishment provides both direct and indirect benefits to human beings by maintaining and enhancing public beach access, recreational opportunities, shoreline protection, and the safety of coastal communities. Thus, even though The Program adds to overall construction and traffic activity, its contribution is not cumulatively considerable, and compliance with RCM TRA-1 ensures that impacts that are individually limited do not create a significant cumulative effect.

Avoidance, Minimization and/or Mitigation Measures

The following mitigation measures are required:

MM BIO-1: At stockpile sites, to avoid direct impacts to migratory birds and/or raptor active nests protected under the federal MBTA and CFG Code Sections 3503 and 3513, removal of stockpiled material that supports active nests within The Program's impact area should occur outside of the breeding season for applicable species, as far as is reasonably feasible. Where removal during the nesting season is unavoidable, a suitably qualified biologist will conduct nesting bird surveys prior to commencement. If nesting birds are identified, the biologist will implement a suitable buffer zone around the nest(s) and a biological monitor would be on site daily to ensure that adverse impacts to the sensitive resource do not occur.

MM BIO-2: Placement of sand within each stockpile site will be located to the greatest extent possible within relatively flat terrain that is not in close proximity to and does not slope toward a sensitive biological resource such as a jurisdictional aquatic resource or native habitat. Stockpiles not scheduled to be utilized within 14 days of placement will be considered non-active and the following protective measures will be implemented:

- Temporary perimeter sediment barriers such as compost-filled wattles temporary silt dykes, biodegradable fiber rolls, burlap sandbags/, gravel bags, or biofiltration bags will be installed to provide erosion and sediment control and to protect the stockpile from wind and rain.
- Only biodegradable materials should be used for stockpile BMP protection, Any non-biodegradable BMP will be maintained and removed when no longer necessary.

MM NOI-1: Where construction activities involving trains are planned within 25 feet of occupied structures or sensitive uses, the managing entity or construction contractor will notify property owners and provide the schedule, duration and contact information for noise-related concerns.

MM REC-1: Should a pipeline be used for sand placement, the pipeline will be covered with sand or other suitable mat material as needed at intervals to create walkover areas to facilitate public beach and water access.

MM-REC-2: Public access to beaches and the ocean will be maintained adjacent to active sand placement area as long as public safety is not compromised.

MM REC-3: Signs will be posted advising the public of the presence of steep sand slopes (e.g., scarps) should they develop on beaches where sand has been placed.

The following program compliance, regulatory compliance, and standard condition BMP measures would also be implemented:

PGM BIO-1: At the stockpile site OC.S.4 (Audubon Basin), in order to avoid impacts to paniculate tarplant, a sensitive species, a survey will be performed by a qualified biologist prior to any sand

storage. If found, any paniculate tarplant will be fenced off with ribbon or yellow rope and t-posts and stockpiling and construction activities should be avoided in the fenced-off area.

PGM BIO-2: Sensitive bird species monitoring will be implemented if sand placement is anticipated to occur during the California least tern or Western snowy plover nesting seasons on beach receiver sites with the potential for least tern or snowy plover nesting. Sensitive bird species monitoring will also occur if sand placement will occur during the snowy plover overwintering season on beach receiver sites with the potential for snowy plover overwintering. The monitoring protocol will be approved by the applicable regulatory agencies prior to permit issuance. The protocol is anticipated to include pre-construction surveys, recurring surveys, the establishment of buffers, and the authority to halt work to avoid or minimize impacts.

PGM BIO-3: Grunion monitoring will be implemented for any beach nourishment event occurring within the spawning season (per the CDFW published grunion spawning schedule for the year of the placement event) on any sandy beach where spawning could potentially occur and with sand placement or equipment access seaward of the MHTL. Regulatory agencies will be notified of monitoring events. Any deviations from the monitoring protocols in the Implementation Guidelines will require agency approval.

PGM BIO-4. Turbidity monitoring will be implemented to avoid significant impacts to water quality if sand placement is seaward of the MHTL and in accordance with the scale of the nourishment event and percentage of fines in the source material. If the turbidity monitoring staff determines ocean water quality thresholds are exceeded, they have the authority to halt sand placement until water quality is restored. Regulatory agencies will be notified of monitoring events. Any deviations from the monitoring protocols in the Implementation Guidelines will require agency approval.

PGM BIO-5: At site OC.S.4 Audubon Basin, in order to avoid impacts to adjacent native habitats and/or downstream aquatic jurisdictional resources a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the sides of the maintenance road and basin spillway/overflow channel that drains to native riparian habitat.

To avoid impacts to the Greenville-Banning Channel, the cement lined channel adjacent to site OC.S.2 D03 D/S California at E01 Bike Trail, a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the edge of the maintenance road adjacent to the channel.

To avoid impacts to open water and salt marsh habitats in the Bolsa Chica/Westminster Channel adjacent to stockpile site OC.S.1 C02/C04 Confluence, a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the hinge point of the adjacent channel. The triangular portion of this site will only be used for stockpile storage of sediment with less than 35% fines if stored over the wet season.

PGM BIO-6: If sand placement occurs in the vicinity of known surfgrass, kelp, or hard (rocky) substrate (habitat of particular concern), monitoring of that habitat will occur in accordance with the sand placement scale and proximity to the surfgrass, kelp or hard (rocky) substrate. The monitoring protocol will be approved by the applicable regulatory agencies prior to permit issuance.

PGM BIO-7: If sand placement occurs in the vicinity of known or potential eelgrass, monitoring of eelgrass will occur in accordance with the California Eelgrass Mitigation Policy (CEMP) (NOAA 2014, or most up-to-date policy).

PGM BIO-8: Tidal inlet monitoring that typically occurs, may need to be increased or rescheduled appropriately following implementation of sand placement events that have the potential to impact tidal inlets to coastal marshes to ensure that nourishment events do not result in significant impacts to tidal exchange considering the scale of the nourishment event and distance to the tidal inlet, and approved by the applicable regulatory agencies prior to permit issuance.

RCM CUL-1: Human Remains. In the event that human remains are encountered on The Program site, work within 50 feet of the discovery shall be redirected and the County Coroner notified immediately consistent with the requirements of California Code of Regulations (CCR) Section 15064.5(e). State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98. If the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC), which shall determine and notify a Most Likely Descendant (MLD). With the permission of the property owner, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and non-destructive analysis of human remains and items associated with Native American burials. Consistent with CCR Section 15064.5(d), if the remains are determined to be Native American and an MLD is notified, the County shall consult with the MLD as identified by the NAHC to develop an agreement for treatment and disposition of the remains. Prior to the issuance of any permits, the Director of the Orange County Public Works Department, or designee, shall verify that all plans specify the requirements of CCR Section 15064.5(e), State Health and Safety Code Section 7050.5, and PRC Section 5097.98, as stated above.

SC CUL-1: If an archaeological resource is found, it will be examined by a Qualified Archaeologist. If it is determined by the Qualified Archaeologist to be indigenous in nature, a Native American representative will be consulted. If the Qualified Archaeologist determines the resource to be significant, avoidance and preservation in place will be the preferred manner of mitigating impacts pursuant to 15126.4(b)(3)(A). If avoidance is determined to be infeasible, the Qualified Archaeologist will prepare a data recovery and treatment plan tailored to the physical nature and characteristics of the resource. The data recovery plan will identify data recovery excavation methods, research questions, measurable objectives, and data thresholds to reduce any potential significant impacts to the resource. The resulting documentation will be submitted to the regional repository of the California Historical Resources Information System (CHRIS).

RCM ENRG-1: The construction contractor will ensure that all construction trucks comply with CARB's idling restrictions (Title 17 CCR Section 93116), limiting idling to 5 minutes, except under safety-related or operational conditions.

RCM ENRG-2: The rail operator will reduce unnecessary locomotive idling where feasible, per 40 CFR Part 1033. Where practical, the use of Tier 4 or equivalent low-emission locomotives, automatic shutdown/startup systems, or electrification will be encouraged.

RCM HAZ-1: All Program locations will comply with the California Fire Code (Title 24, California Code of Regulations [CCR], Part 9) and the Cal/OSHA Construction Safety Orders for fire prevention (Title 8, CCR, Section 6777). The construction contractor will implement all applicable fire prevention and suppression measures, including maintaining fire suppression equipment on-site and training construction personnel in fire safety procedures. Compliance will be verified by the construction manager through regular site inspections during active construction.

SC HAZ-1: Fueling and maintenance of construction vehicles will occur in designated areas at least 25 feet away from surface waters, with spill prevention measures in place

SC HAZ-2: Fuels, oils, and other flammable materials will have secondary containment measures and will not be stored onsite. Storage should comply with California Fire Code Sections 5704 and 5706.

RCM NOI-1: All construction activities, including equipment warm-up, will be limited to the hours permitted by the local jurisdiction. Unless otherwise approved in writing by the City or County (depending on the jurisdiction where construction is taking place), construction will only occur during the dates and times listed in Table 3-1: Days and Times Approved for Construction by Jurisdiction. No construction will occur on Sundays or federal holidays.

RCM TRA-1: Prior to the start of any construction activity that will affect public roadways, the Contractor will prepare and implement a site-specific Traffic Control Plan (TCP) in accordance with local and state requirements (California Vehicle Code Section 21400 and 21401; California Code of Regulations Sections 1598 and 1599).

SC HYD-1: The contractor will place impervious ground cover and/or spill containment under construction equipment that is not in use to prevent leaks from entering surface and groundwater sources.

SC HYD-2: The contractor will regularly maintain construction equipment per manufacturer guidelines to prevent leaks from happening.

SC HYD-3: The contractor will avoid construction equipment traversing in the wetted sand areas below high tide unless required for construction activities.

SC PS-1: Construction equipment will not block line-of-sight to the ocean at lifeguard towers. Sight lines from the viewing platforms of the lifeguard towers will be maintained and there will be no interference with views for the lifeguards.

SC PS-2: Mobile lifeguard towers will be temporarily relocated during construction to maintain public safety (only if relocation is necessary to conduct sand placement construction activities).

PGM REC-1: Potentially dangerous scarps that may form after sand placement will be knocked down/laid back/graded by the beach managing entity.

c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact With Mitigation: The Program would not result in environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. Construction activities associated with sand placement and stockpiling would occur within previously disturbed beach areas and existing infrastructure. No new buildings or infrastructure would be built and ground-disturbing activities would not occur.

Construction-related greenhouse gas (GHG) emissions and air quality impacts would be well below established significance thresholds. Sand placement and stockpiling involve short-duration use of standard construction equipment with relatively low emissions, and The Program would not introduce long-term air pollutant sources. Accordingly, these impacts are not considered cumulatively considerable when viewed in combination with past, present, or reasonably foreseeable projects (see 3.3 Air Quality and 3.8 Greenhouse Gas Emissions).

Traffic impacts would be minimized through implementation of a site-specific TCP prepared by the Contractor in accordance with local and state requirements (see 3.17 Transportation; RCM TRA-1). The TCP would

provide continuous access for emergency vehicles and consistency with local and county emergency response plans.

Noise impacts would be minimized through implementation of standard construction scheduling and notification practices (see 3.13 Noise). All construction activities, including equipment warm-up, will be limited to the hours permitted by the local jurisdiction and will avoid Sundays and federal holidays unless otherwise approved (RCM NOI-1). In addition, if construction activities involving trains are planned within 25 feet of occupied structures or sensitive uses, the managing entity or construction contractor will notify property owners of the schedule, duration, and provide contact information for noise-related concerns (MM NOI-1).

To ensure public safety and maintain recreational access during construction, several mitigation measures will be implemented (see 3.15 Public Services and 3.16 Recreation). Sight lines from lifeguard towers will be maintained at all times, and construction equipment will not obstruct views of the ocean or public areas (MM PS-1). Mobile lifeguard towers will be temporarily relocated if necessary to maintain lifeguard visibility and public safety (SC PS-2). Public access to beaches and the ocean will be preserved adjacent to active sand placement areas whenever safety allows (MM REC-2), and any pipelines used for sand placement will be covered at intervals to create walkover areas for public use (MM REC-1). Warning signs will be posted to alert the public to steep sand slopes or scarps that may form on recently nourished beaches (MM REC-3), and any potentially dangerous scarps will be graded or removed by the managing entity to prevent injuries (PGM REC-1).

With these mitigation, regulatory, and standard condition BMP compliance measures in place, The Program would not create substantial direct or indirect hazards to human health and safety. Temporary visual obstructions, limited access, and minor traffic delays would be effectively managed, ensuring that the incremental effects of The Program are minimal. Therefore, impacts on human beings would be less than significant.

Avoidance, Minimization and/or Mitigation Measures

The following mitigation is required:

MM NOI-1: Where construction activities involving trains are planned within 25 feet of occupied structures or sensitive uses, the managing entity or construction contractor will notify property owners and provide the schedule, duration and contact information for noise-related concerns.

MM REC-1: Should a pipeline be used for sand placement, the pipeline will be covered with sand or other suitable mat material as needed at intervals to create walkover areas to facilitate public beach and water access.

MM REC-2: Public access to beaches and the ocean will be maintained adjacent to active sand placement area as long as public safety is not compromised.

MM REC-3: Signs will be posted advising the public of the presence of steep sand slopes (e.g., scarps) should they develop on beaches where sand has been placed.

The following program compliance, regulatory compliance, and standard condition BMP measures would also be implemented:

SC PS-1: Construction equipment will not block line-of-sight to the ocean at lifeguard towers. Sight lines from the viewing platforms of the lifeguard towers will be maintained and there will be no interference with views for the lifeguards.

SC PS-2: Mobile lifeguard towers will be temporarily relocated during construction to maintain public safety (only if relocation is necessary to conduct sand placement construction activities).

RCM TRA-1: Prior to the start of any construction activity that will affect public roadways, the Contractor will prepare and implement a site-specific Traffic Control Plan (TCP) in accordance with local and state requirements (California Vehicle Code Section 21400 and 21401; California Code of Regulations Sections 1598 and 1599).

RCM NOI-1: All construction activities, including equipment warm-up, will be limited to the hours permitted by the local jurisdiction. Unless otherwise approved in writing by the City or County (depending on the jurisdiction where construction is taking place), construction will only occur during the dates and times listed in Table 3-1: Days and Times Approved for Construction by Jurisdiction. No construction will occur on Sundays or federal holidays.

PGM REC-1: Potentially dangerous scarps that may form after sand placement will be knocked down/laid back/graded by the beach managing entity.

4.0 MITIGATION, MONITORING, AND REPORTING PROGRAM (MMRP)

The following Mitigation, Monitoring, and Reporting Program has been prepared in compliance with PRC Section 21081.6. It describes the requirements and procedures to be followed by OCPW to ensure that all mitigation measures adopted as part of The Program will be carried out as described in this IS/MND. Because The Program is also subject to several regulatory compliance measures and standard conditions, these measures are also included in this section.

Table 4-1: Mitigation, Monitoring, and Reporting Program lists each of the mitigation measures (MM), regulatory compliance measures (RCM), best management practices (BMPs), and program measures that are already included in the project per the Preliminary Implementation Guidelines (PGM),⁹² and specified in this IS/MND. Mitigation measures are specific actions required to avoid, reduce, or offset significant environmental impacts identified in the environmental review. Regulatory compliance measures refer to mandatory actions that ensure adherence to existing laws, regulations, and standards, and while not CEQA mitigation, they contribute to environmental safeguards. Best management practices are voluntary or project-specific strategies that promote sustainability and minimize potential environmental effects, often implemented as part of standard operating procedures. It also identifies the applicable locations, reporting requirements, timing, and the party or parties responsible for implementation and monitoring of each measure.

⁹² Preliminary Implementation Guidelines are available at:

Table 4-1: Mitigation, Monitoring, and Reporting Program

Measure #	Mitigation Measure/Regulatory Compliance Measure/Best Management Practice	Reporting	Applicable Location/s	Timing	Responsible Party	Verification of Compliance		
						Initials	Date	Remarks
PGM BIO-1	At the stockpile site OC.S.4 (Audubon Basin), in order to avoid impacts to paniculate tarplant, a sensitive species, a survey will be performed by a qualified biologist prior to any sand storage. If found, any paniculate tarplant will be fenced off with ribbon or yellow rope and t-posts and stockpiling and construction activities should be avoided in the fenced-off area.	Survey results submitted to Construction Manager and agency file	Audubon Basin, (OC.S.3)	Pre-construction	Site managing entity (i.e., County of Orange)			
MM BIO-1	At stockpile sites, to avoid direct impacts to migratory birds and/or raptor active nests protected under the federal MBTA and CFG Code Sections 3503 and 3513, removal of stockpiled material that supports active nests within The Program's impact area should occur outside of the breeding season for applicable species, as far as is reasonably feasible. Where removal during the nesting season is unavoidable, a suitably qualified biologist will conduct nesting bird surveys prior to commencement. If nesting birds are identified, the biologist will implement a suitable buffer zone around the nest(s) and a biological monitor would be on site daily to ensure that adverse impacts to the sensitive resource do not occur.	Survey report before work begins; weekly monitoring reports if nests present	All stockpile sites	During construction if occurring during breeding season for applicable species (typically January 15-September 15); Surveys to be conducted within 3 days prior to construction if required	Site and Stockpile managing entity (i.e., County of Orange, CA State Parks, City of Huntington Beach, City of Newport Beach, and City of San Clemente, City of Irvine)			

Measure #	Mitigation Measure/Regulatory Compliance Measure/Best Management Practice	Reporting	Applicable Location/s	Timing	Responsible Party	Verification of Compliance		
						Initials	Date	Remarks
PGM BIO-2	Sensitive bird species monitoring will be implemented if sand placement is anticipated to occur during the California least tern or Western snowy plover nesting seasons on beach receiver sites with the potential for least tern or snowy plover nesting. Sensitive bird species monitoring will also occur if sand placement will occur during the snowy plover overwintering season on beach receiver sites with the potential for snowy plover overwintering. The monitoring protocol will be approved by the applicable regulatory agencies prior to permit issuance. The protocol is anticipated to include pre-construction surveys, recurring surveys, the establishment of buffers, and the authority to halt work to avoid or minimize impacts.	Monitoring logs and any stop-work notices to entity	<p>Snowy plover monitoring: Bolsa Chica State Beach (CA.1), Huntington State Beach (CA.2), Crystal Cove State Park (CA.3), Doheny State Beach (CA.4), Salt Creek Beach (OC.2), Sunset Beach (HB.1), West Newport Beach (NB.1), Balboa Beach (NB.3), Cyprus Shore/Cottons (SC.4), West Beach (SB.1), East Beach (SB.2), and Surfside Beach (SB.3)</p> <p>Least tern monitoring: Huntington State Beach (CA.2)</p>	<p>Pre-construction and during construction</p> <p>Snowy plover and least tern nesting season: spring/summer months (Feb 1-Sept 15)</p> <p>Snowy plover overwintering season: fall/winter months (Sept 16-Jan 31)</p>	Site managing entity (i.e., CA State Parks, County of Orange, City of Huntington Beach, City of Newport Beach, City of Seal Beach, City of San Clemente)			

<p>PGM BIO-3</p>	<p>Grunion monitoring will be implemented for any beach nourishment event occurring within the spawning season (per the CDFW published grunion spawning schedule for the year of the placement event) on any sandy beach where spawning could potentially occur and with sand placement or equipment access seaward of the MHTL. Regulatory agencies will be notified of monitoring events. Any deviations from the monitoring protocols in the Implementation Guidelines will require agency approval.</p>	<p>Monitoring summaries submitted post-sand placement event</p>	<p>Bolsa Chica State Beach (CA.1), Huntington Beach State Beach (CA.2), Crystal Cove State Park (CA.3), Doheny State Beach (CA.4), San Clemente State Beach (CA.5), Salt Creek Beach (OC.2), Capistrano Beach County Park (OC.4), Poche Beach (OC.5) Sunset Beach (HB.1), West Newport Beach (NB.1), Balboa Beach (NB.3), Corona del Mar Beach (NB.4), Little Corona del Mar Beach (NB.5), Capistrano Shores (SC.1), San Clemente North Beach (SC.2), San Clemente Central City Beaches (SC.3), Cyprus Shore/Cottons (SC.4), East Beach (SB.2), Surfside Beach (SB.3)</p>	<p>Pre-construction during grunion season (Typically March – August; see CDFW annual schedule)</p>	<p>Site managing entity (i.e., County of Orange, CA State Parks, City of Seal Beach, City of Huntington Beach, City of Newport Beach, City of San Clemente, City of Irvine)</p>			
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<p>PGM BIO-4</p>	<p>Turbidity monitoring will be implemented to avoid significant impacts to water quality if sand placement is seaward of the MHTL and in accordance with the scale of the nourishment event and percentage of fines in the source material. If the turbidity monitoring staff determines ocean water quality thresholds are exceeded, they have the authority to halt sand placement until water quality is restored. Regulatory agencies will be notified of monitoring events. Any deviations from the monitoring protocols in the Implementation Guidelines will require agency approval.</p>	<p>Turbidity logs to entity</p>	<p>Bolsa Chica State Beach (CA.1), Huntington Beach State Beach (CA.2), Crystal Cove State Park (CA.3), Doheny State Beach (CA.4), San Clemente State Beach (CA.5), Newport Dunes (OC.1), Salt Creek Beach (OC.2), Capistrano Beach County Park (OC.4), Sunset Beach (HB.1), Huntington Beach Bluffs (HB.3), West Newport Beach (NB.1), Balboa Beach (NB.3), Corona del Mar Beach (NB.4), Capistrano Shores (SC.1), San Clemente North Beach (SC.2), San Clemente Central City Beaches (SC.3), Cyprus Shore/Cottons (SC.4), East Beach (SB.2), Surfside Beach (SB.3)</p>	<p>During construction</p>	<p>Site managing entity (i.e., County of Orange, CA State Parks, City of Seal Beach, City of Huntington Beach, City of Newport Beach, City of San Clemente, City of Irvine)</p>			
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<p>PGM BIO-5</p>	<p>In order to avoid impacts to adjacent native habitats and/or downstream aquatic jurisdictional resources at site OC.S.3 (Audubon Basin), a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the sides of the maintenance road, and the basin overflow/spillway channel that drains to native riparian habitat, such as a silt fence, compost-filled or biodegradable wattle, or other similar erosion and siltation controlling construction BMPs.</p> <p>To avoid impacts to Greenville-Banning (D03) cement lined channel adjacent to site OC.S.2 (D03 D/S California at E01 Bike Trail), a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and the side of the maintenance road common to the channel.</p> <p>To avoid impacts to open water and salt marsh habitats in the Bolsa Chica/Westminster Channel, adjacent to stockpile site OC.S.1 (C02/C04 Confluence), a buffer large enough to install, maintain, and inspect stockpile BMPs will be established between any stockpiled soil and hinge point of the adjacent channel. The triangular portion of this site will only be used for stockpile storage of sediment with less than 35% fines if stored over the wet season.</p>	<p>Weekly inspection reports</p>	<p>Lot at Confluence (Bolsa Chica & Edinger) (OC.S1), Lot adjacent to the Santa Ana Bike Trail and Greenville Banning Channel (OC.S.2), Audubon Basin (OC.S.3)</p>	<p>Pre-construction and during construction</p>	<p>Contractor and Site managing entity (i.e., County of Orange)</p>			
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Measure #	Mitigation Measure/Regulatory Compliance Measure/Best Management Practice	Reporting	Applicable Location/s	Timing	Responsible Party	Verification of Compliance		
						Initials	Date	Remarks
MM BIO-2	<p>Placement of sand within each stockpile site will be located to the greatest extent possible within relatively flat terrain that is not in close proximity to and does not slope toward a potentially sensitive biological resource such as a jurisdictional aquatic resource or native habitat. Stockpiles not scheduled to be utilized within 14 days of placement will be considered non-active and the following protective measures will be implemented:</p> <ul style="list-style-type: none"> • Temporary perimeter sediment barriers such as compost-filled wattles temporary silt dykes, biodegradable fiber rolls, burlap sandbags/, gravel bags will be installed to provide erosion and sediment control and to protect the stockpile from wind and rain. • Only biodegradable materials should be used for stockpile BMP protection, Any non-biodegradable BMP will be maintained and removed when no longer necessary. 	Inspection and maintenance of logs	All stockpile sites	During construction	Site and Stockpile managing entity (i.e., County of Orange, CA State Parks, City of Huntington Beach, City of Newport Beach, and City of San Clemente, City of Irvine)			

Measure #	Mitigation Measure/Regulatory Compliance Measure/Best Management Practice	Reporting	Applicable Location/s	Timing	Responsible Party	Verification of Compliance		
						Initials	Date	Remarks
PGM BIO-6	If sand placement occurs in the vicinity of known surfgrass, kelp, or hard (rocky) substrate (habitat of particular concern), monitoring of that habitat will occur in accordance with the sand placement scale and proximity to the surfgrass, kelp or hard (rocky) substrate. The monitoring protocol will be approved by the applicable regulatory agencies prior to permit issuance.	Monitoring report to the appropriate agencies	Salt Creek Beach (OC.2), Capistrano Beach County Park (OC.4), West Newport Beach (NB.1), Balboa Beach (NB.3), Corona del Mar Beach (NB.4), Little Corona del Mar Beach (NB.5), Crystal Cove State Park (CA.3), Doheny State Beach (CA.4), San Clemente State Beach (CA.5), Capistrano Shores (SC.1), San Clemente North Beach (SC.2), San Clemente Central City Beaches (SC.3), Cyprus Shore/Cottons (SC.4)	Pre- and post-construction	Site managing entity (i.e., County of Orange, CA State Parks, City of Newport Beach, City of San Clemente, City of Irvine)			

Measure #	Mitigation Measure/Regulatory Compliance Measure/Best Management Practice	Reporting	Applicable Location/s	Timing	Responsible Party	Verification of Compliance		
						Initials	Date	Remarks
PGM BIO-7	If sand placement occurs in the vicinity of known or potential eelgrass, monitoring of eelgrass will occur in accordance with the California Eelgrass Mitigation Policy (CEMP) (NOAA 2014, or most up-to-date policy).	CEMP-compliant reports submitted to the appropriate agencies post-placement event	Newport Dunes (OC.1), Baby Beach (OC.3), Huntington Harbour Beaches (HB.2), Newport Harbor Beaches (NB.2)	Pre- and post-construction	Site managing entity (i.e., County of Orange, City of Huntington Beach, and City of Newport Beach)			
PGM BIO-8	Tidal inlet monitoring that typically occurs, may need to be increased or rescheduled appropriately following implementation of sand placement events that have the potential to impact tidal inlets to coastal marshes to ensure that nourishment events do not result in significant impacts to tidal exchange considering the scale of the nourishment event and distance to the tidal inlet, and approved by the applicable regulatory agencies prior to permit issuance.	Monitoring results provided to the appropriate agencies post-sand placement event	Bolsa Chica State Beach (CA.1), Huntington Beach State Beach (CA.2), Newport Dunes (OC.1), Sunset Beach (HB.1), West Newport Beach (NB.1), Surfside Beach (SB.3)	During construction	Site managing entity where placement occurred, not where tidal inlet occurs, has responsibility to inform the tidal inlet manager. (i.e., County of Orange, CA State Parks, , City of Seal Beach, City of Huntington Beach, City of Newport Beach)			

Measure #	Mitigation Measure/Regulatory Compliance Measure/Best Management Practice	Reporting	Applicable Location/s	Timing	Responsible Party	Verification of Compliance		
						Initials	Date	Remarks
SC CUL-1	If an archaeological resource is found, it will be examined by a Qualified Archaeologist. If it is determined by the Qualified Archaeologist to be indigenous in nature, a Native American representative will be consulted. If the Qualified Archaeologist determines the resource to be significant, avoidance and preservation in place will be the preferred manner of mitigating impacts pursuant to 15126.4(b)(3)(A). If avoidance is determined to be infeasible, the Qualified Archaeologist will prepare a data recovery and treatment plan tailored to the physical nature and characteristics of the resource. The data recovery plan will identify data recovery excavation methods, research questions, measurable objectives, and data thresholds to reduce any potential significant impacts to the resource. The resulting documentation will be submitted to the regional repository of the California Historical Resources Information System (CHRIS).	Documentation of compliance	All sites	During construction	Contractor and site managing entity (i.e., County of Orange, CA State Parks, City of Seal Beach, City of Huntington Beach, City of Newport Beach, City of San Clemente, City of Irvine)			

<p>RCM CUL-1</p>	<p>Human Remains. In the event that human remains are encountered on The Program site, work within 50 feet of the discovery shall be redirected and the County Coroner notified immediately consistent with the requirements of California Code of Regulations (CCR) Section 15064.5(e). State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code (PRC) Section 5097.98. If the remains are determined to be Native American, the County Coroner shall notify the Native American Heritage Commission (NAHC), which shall determine and notify a Most Likely Descendant (MLD). With the permission of the property owner, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD may recommend scientific removal and non-destructive analysis of human remains and items associated with Native American burials. Consistent with CCR Section 15064.5(d), if the remains are determined to be Native American and an MLD is notified, the County shall consult with the MLD as identified by the NAHC to develop an agreement for treatment and disposition of the remains. Prior to the issuance of any permits, the Director of the Orange County Public Works Department, or designee, shall verify that all plans specify the requirements of CCR Section 15064.5(e), State Health and Safety Code Section 7050.5, and PRC Section 5097.98, as stated above..</p>	<p>Documentation of compliance</p>	<p>All sites</p>	<p>During construction</p>	<p>Contractor and site managing entity (i.e., County of Orange, CA State Parks, City of Seal Beach, City of Huntington Beach, City of Newport Beach, City of San Clemente, City of Irvine)</p>			
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Measure #	Mitigation Measure/Regulatory Compliance Measure/Best Management Practice	Reporting	Applicable Location/s	Timing	Responsible Party	Verification of Compliance		
						Initials	Date	Remarks
RCM ENRG-1	The construction contractor will ensure that all construction trucks comply with CARB's idling restrictions (Title 17 CCR Section 93116), limiting idling to 5 minutes, except under safety-related or operational conditions.	Inspection logs	All sites	During construction	Contractor			
RCM ENRG-2	The rail operator will reduce unnecessary locomotive idling where feasible, per 40 CFR Part 1033. Where practical, the use of Tier 4 or equivalent low-emission locomotives, automatic shutdown/startup systems, or electrification will be encouraged.	Coordination record	Doheny State Beach (CA.4), Capistrano Beach County Park (OC.4) , Poche Beach (OC.5), Capistrano Shores (SC.1), San Clemente North Beach (SC.2), San Clemente Central City Beaches (SC.3), Cyprus Shore/Cottons (SC.4), Lot within Great Park (MCAS El Toro) (I.S.1)	During construction	Site managing entity (i.e., County of Orange, CA State Parks, City of Seal Beach, City of Huntington Beach, City of Newport Beach, City of San Clemente, City of Irvine)			
SC HAZ-1	Fueling and maintenance of construction vehicles will occur in designated areas away from surface water, with spill prevention measures in place	Inspection logs	All sites	During construction	Contractor			

Measure #	Mitigation Measure/Regulatory Compliance Measure/Best Management Practice	Reporting	Applicable Location/s	Timing	Responsible Party	Verification of Compliance		
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SC HAZ-2	Fuels, oils, and other flammable materials will have secondary containment measures and will not be stored onsite. Storage should comply with California Fire Code Sections 5704 and 5706.	Inspection logs	All sites	During construction	Contractor			
RCM HAZ-1	All Program locations will comply with the California Fire Code (Title 24, California Code of Regulations [CCR], Part 9) and the Cal/OSHA Construction Safety Orders for fire prevention (Title 8, CCR, Section 6777). The construction contractor will implement all applicable fire prevention and suppression measures, including maintaining fire suppression equipment on-site and training construction personnel in fire safety procedures. Compliance will be verified by the construction manager through regular site inspections during active construction.	Inspection logs	All sites	During construction	Contractor			
SC HYD-1	The contractor will place impervious ground cover under construction equipment that is not in use to prevent leaks from entering surface and groundwater sources.	Daily log	All sites	During construction	Contractor			
SC HYD-2	The contractor will regularly maintain construction equipment per manufacturer guidelines to prevent leaks from happening.	Maintenance records	All sites	Pre-construction and during construction	Contractor			

Measure #	Mitigation Measure/Regulatory Compliance Measure/Best Management Practice	Reporting	Applicable Location/s	Timing	Responsible Party	Verification of Compliance		
						Initials	Date	Remarks
SC HYD-3	The contractor will avoid traversing in the wetted sand area except for required construction activities.	Daily log	All sites	During construction	Contractor			
MM NOI-1	Where construction activities involving trains are planned within 25 feet of occupied structures or sensitive uses, the managing entity or construction contractor will notify property owners and provide the schedule, duration and contact information for noise-related concerns.	Notification documentation	Doheny State Beach (CA.4), Capistrano Beach County Park (OC.4) , Poche Beach (OC.5), Capistrano Shores (SC.1), San Clemente North Beach (SC.2), San Clemente Central City Beaches (SC.3), Cyprus Shore/Cottons (SC.4), I.S.1	During construction	Beach managing entity (i.e., County of Orange, CA State Parks, City of San Clemente) or Contractor			
RCM NOI-1	All construction activities, including equipment warm-up, will be limited to the hours permitted by the local jurisdiction. Unless otherwise approved in writing by the City or County (depending on the jurisdiction where construction is taking place), construction will only occur during the dates and times listed in Table 3-1: Days and Times Approved for Construction by Jurisdiction. No construction will occur on Sundays or federal holidays.	Daily logs / non-compliance reporting	All sites	During construction	Contractor			

Measure #	Mitigation Measure/Regulatory Compliance Measure/Best Management Practice	Reporting	Applicable Location/s	Timing	Responsible Party	Verification of Compliance		
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SC PS-1	Construction equipment will not block line-of-sight to the ocean at lifeguard towers. Sight lines from the viewing platforms of the lifeguard towers will be maintained and there will be no interference with views for the lifeguards.	Daily field log	All beach receiver sites	During construction	Contractor			
SC PS-2	Mobile lifeguard towers will be temporarily relocated during construction to maintain public safety (only if relocation is necessary to conduct sand placement construction activities).	Relocation documentation	All beach receiver sites	During construction	Contractor in coordination with the beach managing entity (i.e., County of Orange, CA State Parks, City of Seal Beach, City of Huntington Beach, City of Newport Beach, City of San Clemente)			
MM REC-1	Should a pipeline be used for sand placement, the pipeline will be covered with sand or other suitable mat material as needed at intervals to create walkover areas to facilitate public beach and water access.	Daily log	All sites	During construction	Contractor			

Measure #	Mitigation Measure/Regulatory Compliance Measure/Best Management Practice	Reporting	Applicable Location/s	Timing	Responsible Party	Verification of Compliance		
						Initials	Date	Remarks
MM REC-2	Public access to beaches and the ocean will be maintained adjacent to active sand placement area as long as public safety is not compromised.	Daily log	All sites	During construction	Contractor			
MM REC-3	Signs will be posted advising the public of the presence of steep sand slopes (e.g., scarps) should they develop on beaches where sand has been placed.	Photo documentation	All sites	Pre-construction and during construction	Contractor or beach managing entity (i.e., County of Orange, CA State Parks, City of Seal Beach, City of Huntington Beach, City of Newport Beach, City of San Clemente)			
PGM REC-1	Potentially dangerous scarps that may form after sand placement will be knocked down/layed back/graded by the beach managing entity.	Maintenance log	All sites	During and after construction	Beach managing entity (i.e., County of Orange, CA State Parks, City of Seal Beach, City of Huntington Beach, City of Newport Beach, City of San Clemente)			

Measure #	Mitigation Measure/Regulatory Compliance Measure/Best Management Practice	Reporting	Applicable Location/s	Timing	Responsible Party	Verification of Compliance		
						Initials	Date	Remarks
RCM TRA-1	Prior to the start of any construction activity that will affect public roadways, the Contractor will prepare and implement a site-specific Traffic Control Plan (TCP) in accordance with local and state requirements (California Vehicle Code Section 21400 and 21401; California Code of Regulations Sections 1598 and 1599).	Inspection logs	All sites	Pre-construction and during construction	Contractor			

5.0 LIST OF PREPARERS

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7.0 APPENDICES