

5.0 MONITORING IMPLEMENTATION PROGRAM

This Monitoring Implementation Program (MIP) provides a summary of each Avoidance and Minimization Measure (AMM) for the Project and specifies the monitoring implementation responsibility for each measure. The California State Lands Commission (CSLC) will suggest a program for monitoring implementation of AMMs for this Project, to ensure that the AMMs are implemented as defined in the Revised Analysis of Impacts to Public Trust Resources and Values (APTR).

5.1 MONITORING IMPLEMENTATION RESPONSIBILITIES

5.1.1 Monitoring Authority

The purpose of the MIP is to ensure that measures provided in the Revised APTR to minimize or avoid adverse effects are implemented. A MIP is a working guide to facilitate not only the implementation of AMMs by the Applicant, but also the monitoring, compliance and reporting activities of the CSLC, or any monitors it may designate.

The CSLC may delegate duties and responsibilities for monitoring to environmental monitors or consultants as deemed necessary. Some monitoring responsibilities will be assumed by responsible agencies within affected jurisdictions, such as the city of Malibu and the California Coastal Commission (CCC). The CSLC will ensure that persons delegated monitoring and compliance duties are qualified.

Any AMM study or plan that requires the approval of the CSLC or CSLC staff must allow at least 60 days for adequate review time. When an AMM requires that a monitoring program be developed during the design phase of the Project, the Applicant must submit the final program to the CSLC or CSLC staff for review and approval for at least 60 days before construction begins. Other agencies and jurisdictions may require additional review time. The environmental monitor assigned to each spread is responsible for ensuring that the Applicant obtains appropriate agency reviews and approvals before construction begins.

The CSLC or its designee will also ensure that any deviation from the procedures identified under the monitoring program is approved by the CSLC. The environmental monitor assigned to the construction spread shall report any deviation or correction immediately to the CSLC or its designee.

5.1.2 Enforcement Responsibility

The CSLC or its designee will be responsible for enforcing the procedures approved for monitoring through the environmental monitor assigned to each construction spread. Any assigned environmental monitor shall note problems with monitoring, notify

1 appropriate agencies or individuals about any problems, and report the problems to the
2 CSLC or its designee(s).

3 **5.1.3 Funding and Implementation Responsibility**

4 The Applicant is responsible for funding and successfully implementing all AMMs in the
5 MIP, and assuring that these requirements are met by all construction contractors and
6 field personnel. Standards for successful avoidance or minimization of impacts are
7 implicit in many AMMs that include requirements such as obtaining permits or avoiding
8 a specific impact entirely. Other AMMs include detailed success criteria. Additional
9 impact avoidance and minimization success thresholds will be established by applicable
10 agencies with jurisdiction through the permit process and through the review and
11 approval of specific plans for the implementation of AMMs.

12 **5.2 GENERAL MONITORING PROCEDURES**

13 **5.2.1 Environmental Monitors**

14 Several of the monitoring procedures will be conducted during the construction phase of
15 the Project. The CSLC and the environmental monitor(s) are responsible for integrating
16 the avoidance and minimization monitoring procedures into the construction process in
17 coordination with the Applicant. To oversee the monitoring procedures and to ensure
18 success, the environmental monitor assigned to each construction spread must be on
19 site during construction activities that have the potential to create a major impact or an
20 impact for which mitigation is required. The environmental monitor is responsible for
21 ensuring that all procedures specified in the monitoring program are followed.

22 **5.2.2 General Reporting Procedures**

23 Individuals performing site visits and specified monitoring procedures will be reported to
24 the environmental monitor assigned to the relevant construction spread. The individual
25 conducting the visit or procedure will submit a monitoring record form to the
26 environmental monitor so details of the visit are recorded and progress is tracked. The
27 environmental monitor will develop and maintain a checklist to track all procedures
28 required for each mitigation measure, and to ensure that the timing specified for the
29 procedures is adhered to. The environmental monitor will note any problems that may
30 occur and take appropriate actions as directed by CSLC to rectify the problems.

31 **5.2.3 Public Access to Records**

32 The public will be allowed access to records and reports used to track the monitoring
33 program. Monitoring records and reports will be made available for public inspection by
34 the CSLC or its designee on request.

1 **5.3 MONITORING TABLE**

2 For each AMM, the Monitoring Table identifies 1) the full text of the AMM, 2) the location
3 where the impact occurs, 3) the monitoring and reporting action to be performed by the
4 monitoring agency, 4) how effectiveness of the AMM will be determined, 5) the
5 responsible agency for monitoring the AMM, and 6) the approximate timing of when the
6 agency implementing the AMM should provide plans. **All of the AMMs identified in the
7 Monitoring Table apply to Project impacts (discussed in Section 3.0) and the
8 impacts of each of the alternatives (discussed in Section 4.0) with the exception
9 of AMM MB-ALT-8, which only applies to Alternatives 8 and 9.**

Avoidance and Minimization Measure (AMM)	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Recreation and Public Access					
<p>AMM REC-1: Public Access during Construction and Renourishment. At least 2 weeks prior to commencing construction and renourishment operations, the construction contractor shall post signs notifying the public of the scheduled dates of nourishment operations at the public access points and at other highly visible locations along the beach. Construction contractors shall be responsible for maintaining the beach in acceptable condition for public use outside of construction activities (e.g., weekends) to the maximum extent feasible. Lateral access along the west end of Zuma Beach and Broad Beach shall be restored as soon as possible to permit continued, safe public passage. Construction monitors shall be employed to manage public access during construction activities.</p>	Broad Beach public trust land	Maintenance of beach access by construction contractor	Protect public access during construction and renourishment	CSLC	During initial construction and renourishment operations
<p>AMM REC-2: Public Access during Backpassing. At least 2 weeks prior to commencing backpassing operations, the construction contractor shall post signs notifying the public of the scheduled dates of backpassing at the public access points and at other highly visible locations along the beach. The construction contractors shall be responsible for maintaining lateral beach access to the maximum extent feasible to permit safe public passage (e.g., designated public access points, flagman, and construction vehicle management).</p>	Broad Beach public trust land	Maintenance of beach access by construction contractor	Protect public access during backpassing	CSLC	During annual backpassing operations
<p>AMM REC-3: Beach Profile Reporting. The Applicant shall submit quarterly monitoring reports prepared by an approved third party monitor to CSLC staff. Monitoring reports shall provide beach profile information obtained during that period, consistent with monitoring procedures outlined in Section 2.2.9, <i>Long-Term Beach Profile Monitoring and Beach Measurements</i>, of California State Lands Commission's <i>Analysis of Public Trust Resources and Values</i>. In addition to the spring and fall full beach profile measurements, a third full beach profile measurement shall be taken immediately after any backpassing event. Monitoring reports shall identify action items for subsequent periods, including but not limited to the initiation of backpassing or renourishment.</p>	Broad Beach public trust land and intertidal waters	Submittal of monitoring reports by Applicant	Ensure backpassing or renourishment events are performed when necessary	CSLC	Quarterly after completion of initial construction, and additionally after backpassing events
<p>AMM REC-4a: Requirement of Additional Nourishment. Additional nourishment events beyond those proposed by the Applicant may be required within the 20-year Project lifetime or the public benefits</p>	Broad Beach public trust	Review by CSLC staff of beach profile	Ensure sustained renourishment	CSLC	After re-nourishment

Avoidance and Minimization Measure (AMM)	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
associated with the Project may be lost.	land and private land	reporting	of public beach/dunes		
AMM REC-4b: Sea Level Rise Effects. The effects of sea level rise on Broad Beach shall be analyzed towards the end of the Project life (20 years) and reported to the California State Lands Commission (CSLC). This would include, but not be limited to, analysis of potential changes in property boundaries from the resultant changes in the elevation of the mean high tide line and the effects of increased erosion rates on the need for beach nourishment. Where changes in property boundaries occur that result in additional public trust lands being impeded from public use in the Broad Beach area, the CSLC shall determine appropriate Project measures to ensure no net loss of public trust lands available for public use in the Broad Beach area.	Broad Beach public trust land and private land	Analysis of sea level rise impacts by Applicant	Ensure Project can appropriately adjusted to or account for the effects of sea level rise	CSLC	Near the end of the Project life; 15 to 20 years
Marine Biological Resources					
AMM MB-2a: Compliance with Existing Laws. Prior to commencement of construction activities, the Applicant shall provide California State Lands Commission (CSLC) staff copies of permits or other applicable written approvals from the California Coastal Commission (CCC), California Department of Fish and Wildlife (CDFW), National Marine Fisheries Service (NMFS), and U.S. Army Corps of Engineers (USACE) that placement of fill west of the existing rock revetment is not inconsistent with the California Coastal Act (CCA), California Marine Life Protection Act (MLPA), Magnuson-Stevens Fishery Conservation and Management Act, and Federal Rivers and Harbors Act, respectively.	Broad Beach public trust land and intertidal waters	Review by CSLC staff of permits and written approvals	Ensure compliance with CCC, CDFW, NMFS, USACE, CCA and MPLA	CSLC	Prior to construction
AMM MB-2b: Multi-Agency Collaboration for Sensitive Marine Habitat Impacts. Prior to commencement of construction activities, the Applicant shall work with jurisdictional marine habitat protection agencies, including CCC, CDFW, NMFS, USACE, and CSLC for review and endorsement of all marine habitat baseline surveys, impact analyses, and appropriate monitoring and any compensation for impacts to sensitive marine habitats and species. Prior to commencement of construction activities, the Applicant shall provide to CSLC staff any resultant surveys, impact analyses, and monitoring and compensation protocols determined through the multi-agency process and required by jurisdictional agencies.	Broad Beach public trust land and intertidal waters	Submittal of surveying, impact analyses, and monitoring reports by Applicant	Establish baseline conditions for marine habitats	CSLC in conjunction with CCC, CDFW, NMFS, and USACE	Prior to construction

Avoidance and Minimization Measure (AMM)	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>AMM MB-2c: Sand Placement Footprint Limitation. If the Applicant receives agency approvals for placement of fill west of the existing rock revetment and if supported by the multi-agency coordination process of AMM MB-2b, construction contracts shall specify that all initial sand deposits during nourishment events shall be placed on the upper beach west of the existing revetment at Broad Beach area near Point Lechuza. Sand placement and mechanical distribution will be limited to areas falling within 120 feet of the bluffs and existing homes. To maximize sand dispersion over time and reduce the depth of burial of lower intertidal rocky habitat, sand to the west of the existing revetment shall be placed in two separate intervals so that only half the total amount of sand is placed at one time. The intervals shall be at the beginning of the placement, and then at the last stage of placement to allow the maximum time span between placements.</p>	Broad Beach public trust land and private land	Limitation of sand placement by contractor	Minimize disturbance of sensitive species and habitat	CSLC	During construction
<p>AMM MB-3: Monitoring for Grunion. If possible, construction activities shall be conducted outside the spawning season for grunion (March through August). If construction cannot be avoided during this period, pre-construction biological surveys for spawning grunion shall be conducted by a certified biologist. If spawning is observed, construction will halt in that area, and the spawning area plus a 250-foot buffer to each side of the spawning area will be protected from Project activities until after the next spring tides (approximately 10 days to 2 weeks).</p>	Broad Beach public trust land and intertidal waters	Monitoring for sensitive species by certified biologist	Minimize disturbance of sensitive species and habitat	CSLC	Prior to construction
<p>AMM MB-5a: Backpassing Management Plan. The Applicant shall retain a qualified biologist to prepare an initial backpassing management plan, with input from project engineers, to guide backpassing over the life of the project. This plan shall be designed to protect undisturbed beach habitat areas while also achieving the Project objectives for ongoing beach nourishment. This plan shall be prepared and submitted for review and approval to the California State Lands Commission (CSLC) staff, California Department of Fish and Wildlife (CDFW), and the California Coastal Commission (CCC) prior to commencement of Project construction activities. The plan shall have the following goals and standards:</p> <ul style="list-style-type: none"> • Protection of sandy beach habitat during backpassing events. 	Broad Beach public trust land and private land	<ol style="list-style-type: none"> 1) Plan review and approval by regulating agencies 2) Preparation of a Backpassing Management Plan by a qualified biologist 	Minimize disturbance of sensitive species and habitat	CSLC in conjunction with CCC and CDFW	Prior to construction

Avoidance and Minimization Measure (AMM)	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<ul style="list-style-type: none"> • Minimizing the aerial extent of beach disturbance (i.e., areas of excavation or fill) while maximizing sand availability for backpassing consistent with this goal and maintaining an acceptable beach profile and proportionate beach width. • Protection of contiguous areas of macro-invertebrate habitat, particularly within the lower, mid and upper intertidal zones. • Protection and retention of areas of beach wrack • Prior to backpassing, relocation of all beach wrack from areas proposed for excavation or fill to areas that will remain undisturbed using hand crews or light equipment only. • Retention of areas of undisturbed connectivity between portions of the dune habitat and the intertidal zone. • Avoidance of backpassing in spring and early summer to avoid periods of high macro-invertebrate productivity. • Consistent with approved nourishment plans, sand transported from backpassing will be placed high on the beach profile to minimize loss to coastal processes and impacts to rocky intertidal habitat • Backpassing vehicle corridors shall be clearly defined and limited to minimize beach disturbance • Backpassing will be limited to a maximum of one 3-week period annually <p>In no case shall more than 50 percent of the total dry sand and intertidal beach area be subject to disturbance by either excavation or fill.</p>					
<p>AMM MB-5b: Annual Backpassing Plans. The Applicant shall retain a qualified biologist to prepare brief annual backpassing plans, with input from project engineers, to guide each backpassing event over the life of the Project. Each annual backpassing plan shall achieve the goals of the Backpassing Management Plan (AMM MB-1a). Each plan shall be prepared and submitted for review and approval to California State Lands Commission (CSLC) staff, California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), and California Coastal Commission (CCC)</p>	<p>Broad Beach public trust land and private land</p>	<p>1) Plan review and approval by regulating agencies 2) Preparation of Annual Backpassing Plans by a qualified</p>	<p>Minimize disturbance to sensitive species and habitats</p>	<p>CSLC in conjunction with CDFW, USFW and CCC</p>	<p>Annually, prior to backpassing</p>

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Avoidance and Minimization Measure (AMM)	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
a minimum of three months prior to initiation of backpassing. The annual backpassing plan shall be designed to build upon the goals, standards and analysis within the initial backpassing management plan and be tailored to account for changing circumstance over time.		biologist			
AMM MB-5c: Beach Habitat Management Plan. Prior to commencement of construction activities, the Applicant shall prepare and submit to CSLC staff a Beach Habitat Management Plan (BHMP). The BHMP will set forth measures to minimize the impacts of backpassing and maintain biological productivity of intertidal and high intertidal habitats, including but not limited to prohibition of grooming, creation and maintenance of areas of beach wrack and beach strand habitat on areas of the berm outside of backpassing borrow and deposition zones.	Broad Beach public trust land and intertidal waters	Plan review and approval by regulating agencies	Minimize disturbance to sensitive species and habitats	CSLC	Prior to construction
AMM MB-ALT-8: Baseline Surveys for Sensitive Rocky Intertidal Habitats. In coordination with AMM MB-2b, the Project Applicant shall contract with qualified biologists to conduct regular monitoring of biological resources and habitat quality of sensitive rocky intertidal habitats west of 31346 Broad Beach Road. The transects shall be consistent with those used to establish baseline intertidal habitat conditions. Surveys shall be conducted prior to Project completion, following Project completion and again prior to renourishment. A control site shall be established that is acceptable to the California State Lands Commission (CSLC) staff. The summaries of these monitoring surveys shall be prepared and submitted to CSLC staff for review. Any adverse impacts to sensitive rocky intertidal habitats shall be provided to the agencies as part of AMM MB-2b (applies to Alternatives 8 and 9 only).	Broad Beach public trust land and intertidal waters	1) Monitoring of habitat by a qualified biologist 2) Submittal of monitoring summaries 3) Plan review and approval by regulating agencies	Minimize disturbance to sensitive species and habitats	CSLC	1) Twice per year 2) Annually
Terrestrial Biological Resources					
AMM TBIO-1a. Implementation of a Comprehensive Dune Restoration Plan. In order of off-set past impacts to foredune habitats from installation of emergency sand bag and rock revetments, the Applicant shall prepare and implement a Comprehensive Dune Restoration Plan (Plan). The Plan shall manage and implement the creation of the proposed new coastal dune system across the length of Broad Beach (Section 2, <i>Project Description</i>). The Plan shall include, but not be limited to, the	Broad Beach public trust land and private land	1) Plan review and approval by regulating agencies 2) Site inspections and monitoring reports by a	Mitigate long-term adverse impacts to the functional value of the dune system due to instillation of	CSLC in coordination with CCC, USFWS, CDFW and city of Malibu	1) Prior to construction 2) During construction and ongoing throughout Project

Avoidance and Minimization Measure (AMM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>following measures:</p> <ul style="list-style-type: none"> • Conform to any conditions of approval pursuant to the California Coastal Commission's (CCC) Coastal Development Permit for mitigation of ESHA related impacts. • If applicable, conform to U.S. Fish and Wildlife Service (USFWS) Biological Opinion requirements for protection of federal special status species and western snowy plover critical habitat. • In consultation with the California Department of Fish and Wildlife (CDFW) and USFWS, to the extent feasible, the Plan shall be designed and managed to support the state and federal special status species identified as impacted through installation of the emergency sand bag and rock revetments. • The Plan shall include a landscape plan that details specific planting plans, with native vegetation specific to foredune (e.g., red sand-verbena, pink sand-verbena, beach bur, and beach morning glory), dune crest, and back dune habitats. • The Plan shall require and outline specific measures for invasive species removal in on public and private lands in the degraded dune system (e.g., ice plant and pampas grass). It shall also outline specific measures regarding native species salvaging and revegetation, highlighting details regarding appropriate planting densities and planting methods. • The Plan shall outline that the Applicant is responsible for long-term monitoring and maintenance activities, including monitoring and survey methods, as well as detailed monitoring and maintenance schedules. • The Plan shall address the potential for dune habitat disturbance associated with vertical public and private access by limiting the number and frequency of walkways across the dune system. Access into the dune system shall be controlled through use of bollards, ropes, fencing, and signage. The Plan shall also address access for maintenance activities in and adjacent to the restored dune system. • The Plan shall establish a shared walkway across the landward edge of the restored dune system with access ways across the 		qualified biologist	the emergency revetment.		

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Avoidance and Minimization Measure (AMM)	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>dunes to the beach spaced not less than 300 feet.</p> <ul style="list-style-type: none"> The Plan shall detail specific adaptive management strategies, such as additional native vegetation installation or restoration and invasive species removal should monitoring find that restoration goals are not be met. 					
<p>AMM TBIO-1b. If Applicable, Conform to California Coastal Commission (CCC) Coastal Development Permit for Off-Site Mitigation of ESHA. If applicable, to ensure mitigation for loss of ESHA from installation of the emergency sand bag and rock revetments, the Applicant shall conform with any CCC Coastal Development Permit conditions of approval for Off-site mitigation of ESHA. The Applicant shall provide the CCC approved Off-site ESHA mitigation plan to California State Lands Commission (CSLC) staff prior to commencement of construction and staging activities.</p>	Broad Beach public trust land and private land	Approval of CDP by CCC, if applicable	Ensure mitigation for loss of ESHA	CSLC and CCC	Prior to construction
<p>AMM TBIO-2a. California State Lands Commission (CSLC)- Approved Biologist and Biological Monitors for Construction Activities. The Applicant shall retain a Project biologist and Project monitors approved by the CSLC staff, California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), and California Coastal Commission (CCC) to supervise sand deposition and all other construction related activities. The biological monitors shall be present to ensure that damage to any sensitive habitat or sensitive species is minimized and that construction crews strictly comply with all AMMs. Prior to commencement of construction and staging activities, the Applicant shall provide to CSLC staff a Biological Monitoring and Reporting Plan demonstrating conformance with the following requirements:</p> <ul style="list-style-type: none"> If applicable, conform with USFWS Biological Opinion requirements pertaining to construction activities and access for protection of federal special status species and western snowy plover critical habitat. If applicable, conform with CDFW Streambed Alteration Agreement conditions of approval for construction access across the mouth of Trancas Creek and all other construction activities. Conform with all project construction conditions of approval 	Broad Beach public trust lands and intertidal waters, Zuma Beach Parking Lot 12	<ol style="list-style-type: none"> Preparation and submittal of Biological Monitoring and Reporting Plan Plan review and approval by regulating agencies Presence of biological monitors during construction activities 	Minimize disturbance to sensitive species and habitats	CSLC, CDFW, USFWS, and CCC	<ol style="list-style-type: none"> Prior to construction During construction

Avoidance and Minimization Measure (AMM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>pursuant to the CCC's Coastal Development Permit.</p> <ul style="list-style-type: none"> • Prior to the commencement of construction-related activities, conduct protocol-level surveys for native plant species, with a special focus on sensitive species, in potential ESHA areas, beyond that which was surveyed by WRA, Inc. (2011, 2013). • Prior to the commencement of construction-related activities, conduct protocol-level surveys for globose dune beetle and western snowy plover. • Where feasible, prior to and during construction, collect and relocate sensitive plant, invertebrate, and reptile species that are likely to be impacted by the proposed nourishment and dune creation activities. • Conduct an additional protocol level survey for western snowy plover and California least tern prior to any construction during the breeding season between March and September. Should breeding individuals be identified, all work within a 300-foot-radius of the nest shall be halted and the Applicant shall immediately contact the USFWS and CDFW. Nourishment and dune construction activities within the 300-foot-radius shall resume only with approval from these agencies and with implementation of mitigation measures provided by these agencies if applicable. • Be present during all construction activities that may potentially cross ESHA as defined by in the Malibu Local Coastal Program, including the degraded dunes and Trancas Lagoon. • Ensure the implementation of all measures associated with AMM TBIO-1a, including the complete implementation of the Comprehensive Dune Restoration Plan, with associated maintenance and monitoring activities. The biological monitors shall record observations and the Project biologist shall submit a weekly report regarding the implementation of and compliance with all construction-related AMMs. Additionally, this report shall include any relevant biological observations, including a list of species encountered at Broad Beach. These reports shall eventually be incorporated into a mid-Project Sensitive Biological Resources Report (see AMM TBIO-3c). 					

Avoidance and Minimization Measure (AMM)	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>AMM TBIO-2b. Sensitive Resources Impact Avoidance. In consultation with the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), and California Coastal Commission (CCC), the Project biologist and the Project engineer shall clearly designate all ESHAs, including areas within 100 feet of the Trancas Lagoon as “sensitive resource zones” on the Project maps and construction plans. The Applicant shall provide a Sensitive Resource Impact Avoidance Map to CSLC staff for review and approval prior to commencement of Project construction and staging activities. Construction equipment and operations shall be prohibited in these zones to avoid impacts to special-status biological resources. During construction, heavy equipment shall be operated in accordance with standard best management practices as well as the following measures:</p> <ul style="list-style-type: none"> • Vehicles and construction equipment shall be confined to a pre-defined equipment access path no greater than the minimum width necessary to complete the necessary construction activities. • In areas of high vehicle traffic on dry sandy beach, driving mats will be laid down prior to the commencement of construction-related activities in order to avoid unnecessary adverse effects to the sandy beach environment. • The location of the sand stockpile shall be moved east toward Zuma Beach to an extent that would allow for passage of trucks and construction equipment without encroachment upon the delineated 100-foot ESHA buffer. If, given the proposed location of stockpiles and access points, trucks and construction equipment are unable to access the sand from the staging area without encroaching upon the 100-foot ESHA buffer, an alternate access point shall be selected along the eastern portion of Parking Lot 12. 	<p>Broad Beach public trust lands and intertidal waters, Zuma Beach Parking Lot 12</p>	<p>1) Designation of sensitive resource zones by qualified biologist and Project engineer 2) Prohibition or rescheduling of construction activities within sensitive resource zones</p>	<p>Minimize disturbance to sensitive species and habitats</p>	<p>CSLC in coordination with CDFW, USFWS, CCC</p>	<p>1) Prior to construction 2) During construction</p>
<p>AMM TBIO-2c. Protect Stockpiles of Excavated Material. Inland sand shall not be stockpiled within ESHAs or other sensitive resource zones, including federally designated western snowy plover habitat. Beach sand stockpiles should be protected to the extent feasible by synthetic impervious covers to prevent erosion by wind and/or</p>	<p>Zuma Beach sand stockpile area</p>	<p>Sand piles within designated areas only; protection and cover of sand stockpiles</p>	<p>Minimize disturbance to sensitive species and habitats</p>	<p>CSLC</p>	<p>During construction</p>

Avoidance and Minimization Measure (AMM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
rainfall. This notation shall be included on Project construction plans.					
AMM TBIO-2d. Storage of Materials or Heavy Equipment Prohibited Outside of Staging Area. Overnight storage of materials other than sand stockpiling, or heavy equipment on the beach or outside of the construction staging area at Zuma Beach Parking Lot 12 shall be strictly prohibited. This notation shall be included on Project construction plans.	Zuma Beach Parking Lot 12 and sand stockpile area	Overnight storage of materials and equipment in staging area only	Minimize disturbance to sensitive species and habitats	CSLC	During construction
AMM TBIO-3a. Biologist and Biological Monitors for Backpassing Activities. The Applicant shall retain a Project biologist and Project monitors approved by the California State Lands Commission (CSLC) staff, California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), and California Coastal Commission to supervise backpassing and all other construction related activities. The Project monitor shall ensure that damage to any sensitive habitat or sensitive species within or adjacent to construction zones is minimized. Prior to commencement of construction and staging activities, the Applicant shall provide to CSLC staff a Biological Monitoring and Reporting Plan demonstrating how the Project monitor will conform with the following requirements: <ul style="list-style-type: none"> • If applicable, conform with USFWS Biological Opinion requirements pertaining to construction and backpassing activities for protection of federal special status species and western snowy plover critical habitat. • If applicable, conform with CDFW Streambed Alteration Agreement conditions of approval for construction access across the mouth of Trancas Creek and all other construction activities. • Conform with all project construction and backpassing conditions of approval pursuant to the CCC's Coastal Development Permit. • Conduct preconstruction trainings with the construction crew leaders so they can readily identify sensitive plant and wildlife species. • Conduct preconstruction surveys of the sandy beach and dune habitats as well as in the vicinity of Trancas Lagoon. • Flag the toe of the dune on the seaward side of all foredune vegetation. 	Broad Beach public trust lands and private lands	1) Preparation and submittal of Biological Monitoring and Reporting Plan and its approval by CSLC and regulating agencies 2) Monitoring of construction and backpassing activities by a qualified biologist and Project monitors	Minimize disturbance to sensitive species and habitats	CSLC in coordination with CDFW, USFWS, CCC	1) Prior to construction 2) During construction and backpassing

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Avoidance and Minimization Measure (AMM)	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<ul style="list-style-type: none"> Conduct a preconstruction meeting with all construction crew leaders and construction crewmembers to discuss the implementation of appropriate mitigation measures. 					
<p>AMM TBIO-3b. Avoidance of Sensitive Resource Zones and Vegetation. Following the completion of pre-construction biological surveys, in consultation with the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), and California Coastal Commission, the Project biologist shall clearly designate “sensitive resource zones” on the Project maps and construction plans. These zones would include any ESHAs or otherwise sensitive biological resources. Sensitive resource zones are defined as areas where construction would be limited, depending on the particular environmental conditions and construction requirements. No native vegetation shall be impacted or removed during backpassing-related activities.</p> <p>Wetland areas shall be prohibited from use for disposal or temporary placement of excess sand. All equipment used in or near Trancas Lagoon shall be clean and free of leaks and/or grease. Emergency provisions shall be in place prior to the onset of construction and at all times during construction to deal with accidental spills. The Applicant shall provide a Sensitive Resource Impact Avoidance Map to the California State Lands Commission (CSLC) staff for review and approval prior to commencement of Project construction and staging activities.</p>					
<p>AMM TBIO-3c. Sensitive Biological Resources Report. Following the third complete year of Project implementation, the Applicant shall prepare a Sensitive Biological Resources Report. The report shall include the results of past protocol-level surveys, as well as biological surveys conducted prior to each backpassing event. The report shall assess the presence of sensitive species and habitat and analyze the trends in occurrence of sensitive species or habitat. The document shall also include any biologically relevant information gathered during construction monitoring activities. This report shall be submitted to the California State Lands Commission (CSLC) staff within six months following the third complete year of Project implementation and shall be used to direct the timing of future</p>	Broad Beach public trust lands and private lands	Preparation and submittal of Sensitive Biological Resources Report and its review and approval by CSLC	Determine timing of backpassing events and minimize disturbance to sensitive species and habitats	CSLC	Between 3 and 3.5 years after initial construction

Avoidance and Minimization Measure (AMM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
backpassing and renourishment events in order to minimize impacts to biological resources to the maximum extent feasible.					
<p>AMM TBIO-4a. Emergency Action Plan Measures Regarding Protection of Biological Resources. Before commencement of project construction and staging activities, the Applicant shall submit to the California State Lands Commission (CSLC) staff an Emergency Action Plan (EAP) to address protection of sensitive biological resources that would potentially be disturbed during a hazardous spill or subsequent cleanup activities. At a minimum, the EAP shall include:</p> <ul style="list-style-type: none"> • Industry-standard best management practices to avoid potential spills. • Specific measures to avoid impacts on state and federal special status species and western snowy plover critical habitat, and ESHAs, during response as well as cleanup operations. • Identification, where feasible, of low-impact, site-specific, and species-specific remediation techniques. • Identification of standards of a spill response personnel-training program. • An outline of a restoration plan, including preemptive identification of access and staging points and procedures for timely reestablishment of functional habitat values. • A contact list, coordinated with related projects, of key points of contact and emergency response agencies to be retained at all job sites during construction activities. 	Broad Beach public trust lands and private lands	Preparation and Submittal of EAP and its review and approval by CSLC staff	Protect sensitive species and habitats	CSLC	Prior to construction
<p>AMM TBIO-4b. Maintain Equipment and Adhere to Work Plan. All equipment used on-site shall be properly maintained such that no leaks of oil, fuel, or residues will occur. Provisions shall be in place to remediate any accidental spills, in both the terrestrial and marine environments. All equipment shall only be stored in the appropriate equipment staging areas.</p> <p>The Applicant shall submit a work plan to the California State Lands Commission (CSLC) staff, California Coastal Commission (CCC), California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), Los Angeles Regional Water Quality</p>	Broad Beach public trust lands and private lands, Zuma Beach Parking Lot 12, access roads near	1) Submittal and approval of work plan by regulating agencies 2) Adherence to work plan	Minimize disturbance to sensitive species and habitats	CSLC in coordination with CDFW, CCC, USFWS, LARWQCB, City of Malibu	1) Prior to construction 2) During construction

5.0 Monitoring Implementation Program

Avoidance and Minimization Measure (AMM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Control Board, and city of Malibu for review and approval prior to the commencement of construction and staging activities. The Applicant shall also demonstrate to the approving agencies how construction personnel will be trained on the requirements of the work plan. The work plan shall include a list of all heavy equipment and shall require all equipment to be stored and fueled in the Zuma Beach Parking Lot 12, which shall be conspicuously demarcated. Heavy equipment and construction activities shall be restricted to the defined construction areas, as demarcated by the Project engineer. Additionally, vehicles and personnel shall only use existing access roads to the maximum degree feasible. The work plan shall be retained on the project site at all times during construction and staging activities.	Broad Beach				
AMM TBIO-5a. Maintain the Hydrology of Trancas Lagoon. Prior to commencement of construction and staging activities at Broad Beach, the Applicant shall prepare a Trancas Lagoon Beach Berm Management Plan in coordination with the Santa Monica Mountains Resource Conservation District, U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), and the California Coastal Commission (CCC). The Plan shall be submitted to CSLC staff, the CDFW, USFWS, USACE, and CCC for review and approval prior to commencement of construction and staging activities. The proposed Beach Berm Management Plan shall identify the anticipated rate of sand deposition in front of the mouths of these water bodies and include potential measures to maintain the connection between these wetlands and the marine environment, as determined by the approving agencies.	Broad Beach public trust lands, Trancas Lagoon	Provision of fair share contribution	Restore sensitive habitats near or in Trancas Lagoon	CSLC in coordination with SMMRCD	Prior to construction
AMM TBIO-5b. Coordination of Backpassing and Berm Breaching. Prior to commencement of construction and staging activities, the Applicant shall coordinate with California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), the California Coastal Commission (CCC), and the Santa Monica Mountains Resource Conservation District to determine if backpassing sand should be obtained to aid in breaching of the Trancas Lagoon.	Broad Beach public trust lands, Trancas Lagoon	Coordination with regulating agencies	Maintain connection between Trancas Lagoon and Pacific Ocean	CSLC in coordination with CDFW, USFWS, USACE, CCC, and SMMRCD	Prior to construction

Avoidance and Minimization Measure (AMM)	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>AMM TBIO-7. Restrict Access Across the Newly Restored Dune System. Through Applicant consultation with the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), the California Coastal Commission (CCC), and California State Lands Commission (CSLC), access to and across the restored dune system shall be restricted to approved vertical access ways designated with a low-key rope and bollard fence as a means of protecting dune habitat and limiting the adverse impacts associated with increased private and public access to the restored dune system. Such a rope and bollard fence shall be placed at the toe of the dune and along all approved vertical access ways in order to restrict all access to the dunes and accomplish the goal of reducing impacts to the proposed dune habitat. The Applicant shall provide a Dune Restoration Access Plan, approved by the specified agencies to CSLC staff prior to commencement of construction and staging activities.</p>	<p>Broad Beach public trust lands and private lands</p>	<p>1) Preparation and submittal of Dune Restoration Access Plan 2) Plan review and approval by regulating agencies 3) Restriction of access across restored dune</p>	<p>Protect dune habitat</p>	<p>CSLC in coordination with CDFW, USFWS, and CCC</p>	<p>1) Prior to construction 2) Prior to construction 3) During Project-life</p>
<p>Marine Water Quality</p>					
<p>AMM MWQ-1a: Prepare and Implement Turbidity Monitoring Plan. A Turbidity Monitoring Plan shall be implemented during Project construction and nourishment/renourishment activities to monitor any effects to water clarity in offshore of and down coast from Broad Beach. The Plan shall be submitted to the California State Lands Commission (CSLC) staff for approval, in consultation with the Los Angeles Regional Water Quality Control Board, at least 2 weeks before Project mobilization and shall include, at a minimum, the following elements:</p> <ul style="list-style-type: none"> • Details on how the Applicant will continually evaluate construction-related turbidity relative to natural (background) turbidity occurring in unaffected areas during Project construction and nourishment/renourishment activities; • Requirements for a qualified observer to record turbidity from a suitable vantage point during each day of dredging and construction; and • Specific adaptive management activities and/or corrective action measures should include monitoring to indicate unacceptable 	<p>Broad Beach public trust lands and down coast beaches</p>	<p>1) Preparation and submittal of Turbidity Monitoring Plan 2) Recording of turbidity during dredging and construction by a qualified observer</p>	<p>Limit turbidity impacts and disturbance of sediment</p>	<p>CSLC, LARWQCB</p>	<p>Prior to construction</p>

Avoidance and Minimization Measure (AMM)	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
turbidity levels above ambient conditions.					
<p>AMM MWQ-1b. Prepare Pollution Prevention Plan and Implement Best Management Practices (BMPs). The Applicant shall prepare a Pollution Prevention Plan, or Stormwater Pollution Prevention Plan (SWPPP), in accordance with Project plans and specifications and applicable regulations (e.g., State Construction Stormwater National Pollutant Discharge Elimination System permit requirements). The Plan shall be submitted to California State Lands Commission (CSLC) staff for review and approval at least 2 weeks prior to commencement of onsite Project activities. The Plan shall include a list of all heavy equipment and shall require all equipment to be stored and fueled in the Zuma Beach Parking Lot 12, which shall be conspicuously demarcated. The Project contractor shall ensure that the BMPs described in the Plan are implemented. Documentation that the BMPs are being implemented shall be maintained on site and shall be readily accessible for review by CSLC staff and any other authorities having jurisdiction. BMPs shall include, but not be limited to:</p> <ul style="list-style-type: none"> • Heavy equipment and construction activities shall be restricted to the defined construction areas, as demarcated by the Project engineer. Additionally, vehicles and personnel shall only use existing access roads to the maximum degree feasible. • All equipment used onsite shall be properly maintained such that no leaks of oil, fuel, or residues will occur. No vehicle fueling shall occur on the beach or dune areas. Provisions shall be in place to remediate any accidental spills, in both the terrestrial and marine environments. • Waste, such as removed materials, chemicals, litter, and sanitary waste at the Project site, shall be properly disposed of at a permitted off-site facility. 	Broad Beach public trust lands, Zuma Beach Parking Lot	<p>1) Preparation and submittal of Pollution Prevention Plan or SWPPP</p> <p>2) Implementation of BMPs by contractor</p>	Limit accidental release of contaminants	CSLC and LARWQCB	<p>1) Prior to construction</p> <p>2) During construction</p>
<p>AMM MWQ-2: Construction Limitations. In the event that the Trancas Lagoon mouth is breached during the initial construction period or at any time during backpassing operations, the Broad Beach Geologic Hazard Abatement District (BBGHAD) will halt construction during high flow episodes where the body of</p>	Mouth of Trancas Lagoon	Potential halt to construction	Reduce water quality impacts to Trancas Lagoon	CSLC	During construction and backpassing events

Avoidance and Minimization Measure (AMM)	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
construction equipment would come in contact with flow into or out of the Lagoon. Construction activities would be halted until the creek is no longer in a breached state and there is at least 30 feet of dry sand between the lagoon mouth and Pacific Ocean, and California State Lands Commission (CSLC) staff authorizes recommencement of construction activity.					
Scenic Resources					
AMM SR-2a: Shielded Lights during Night Operations. During night operations, lights placed on the beach shall be shielded and directed at the immediately relevant work area. When daily construction activities cease after work hours, lights shall be shut off, dimmed, or shielded to the maximum extent feasible.	Broad Beach public trust lands	Shielding of lights by contractor	Reduce visibility of night lighting	CSLC	During construction
AMM SR-2b: Nightly Equipment Removal. Mobile heavy equipment placed on the beach shall be returned to the staging area at the end of each workday, both for public safety and for aesthetic considerations.	Broad Beach public trust lands	Nightly equipment removal by contractor	Reduce the amount of time equipment is visible	CSLC	During construction
Air Quality					
AMM AQ-1a: South Coast Air Quality Management District (SCAQMD) Compliance. Prior to placement of any sand on areas of Broad Beach under the jurisdiction of the CSLC, the Applicant shall provide CSLC staff copies of approvals or a letter of non-objection from the SCAQMD for construction and sand transport activities associated with the Broad Beach Restoration Project.	Broad Beach public trust lands	Review by CSLC staff of approvals or letters of non-objection from the SCAQMD	Ensure compliance of Project with SCAQMD	CSLC	Prior to Construction
AMM AQ-1b: Ventura County Air Pollution Control District (VCAPCD) Compliance. Prior to placement of any sand on areas of Broad Beach under the jurisdiction of the CSLC, the Applicant shall provide CSLC staff copies of approvals or a letter of non-objection from the VCAPCD for transport of sand from inland quarries in Ventura County.	Broad Beach public trust lands	Review by CSLC staff of approvals or letters of non-objection from the VCAPCD	Ensure compliance of Project with VCAPCD	CSLC	Prior to Construction
AMM AQ-1c: Nitrogen Oxides (NO_x), Volatile Organic Compounds (VOCs), and Particulate Matter (PM) Control. The Applicant shall implement a NO _x reduction program including the following, or equivalent, measures: <ul style="list-style-type: none"> All off-road construction equipment shall be tuned and 	Broad Beach public trust lands	Implementation of NO _x , VOC, and PM reduction program by	Reduce NO _x , VOC, and PM emissions	CSLC	During construction

5.0 Monitoring Implementation Program

Avoidance and Minimization Measure (AMM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>maintained according to manufacturers' specifications.</p> <ul style="list-style-type: none"> Any temporary electric power shall be obtained from the electrical grid, rather than portable diesel or gasoline generators. All off-road diesel construction equipment with greater than 100-horsepower engines shall meet Tier 4 requirements. If the SCAQMD determines or concurs that a Tier 4 fleet or portion thereof cannot be obtained, the Applicant shall use construction equipment that meets Tier 3 emissions requirements or use other California Air Resources Board (CARB)-verified emission control technologies to achieve the same level of emission reduction. Limit onsite truck idling to less than 5 minutes. A copy of the certified tier specification, best available control technology documentation, or the CARB or SCAQMD operating permit for each piece of equipment shall be provided when each piece of equipment is mobilized. 		contractor			
<p>AMM AQ-1d: Fugitive Dust Emission Control. The Applicant shall submit and implement a Fugitive Dust Control Plan that includes SCAQMD controls for fugitive dust, according to Rule 403. Fugitive dust control measures in the plan shall include the following:</p> <ul style="list-style-type: none"> Require minimum soil moisture of 12 percent for earthmoving, by using a moveable sprinkler system or water truck. Moisture content can be verified by lab sample or moisture probe (69% reduction). Limit on-site vehicle speeds roads to 15 miles per hour (mph) with radar enforcement (57% reduction) and posting of speed limits. All trucks hauling sand and other loose materials are to be tarped with a fabric cover and maintain a freeboard height of 12 inches (91% reduction). Water storage piles by hand or apply cover when wind events are declared, according to SCAQMD Rule 403 when instantaneous wind speeds exceed 25 mph (90% reduction). Appoint a construction relations officer to act as a community liaison concerning onsite construction issues, such as dust 	Broad Beach public trust lands	Preparation, review and approval of a Fugitive Dust Control Plan and its implementation by contractor	Reduce fugitive dust generation	CSLC in conjunction with SCAQMD	Prior to and during construction

Avoidance and Minimization Measure (AMM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
generation.					
<p>AMM AQ-3: Diesel Particulate Emission Controls. The Applicant shall install California Air Resources Board (CARB)-verified Level 3 diesel catalysts on all diesel-powered off-road equipment or use diesel engines that have an equivalent particulate matter (PM) emission rate (Tier 4 engines). (See www.arb.ca.gov/diesel/verdev/vt/cvt.htm for a current list of CARB-verified Level 3 diesel catalysts.) Catalysts or engine certifications shall demonstrate achieving 85 percent reduction for diesel PM.</p>	Broad Beach public trust lands	Installation and use of diesel catalysts by contractor	Reduce Toxic Air Contaminant emissions from diesel engines	CSLC	During construction
Traffic and Parking					
<p>AMM TR-1. Traffic Management Plan. The Project Applicant shall provide proof that a traffic management plan has been submitted for review and approval by the California State Lands Commission, California Department of Transportation (Caltrans), and the Los Angeles County Department of Beaches and Harbors. The plan shall include the following elements, considering the initial nourishment, the renourishment event, and backpassing events:</p> <ul style="list-style-type: none"> • Notification Posts. The Applicant shall post signage to notify beach users of construction areas and the presence and use of construction equipment. • Notification of Agencies. The plan shall identify concerned agencies and include procedures for notification of and coordination with such agencies. • Safety Cordoning. The Applicant shall cordon off construction areas where heavy equipment is being used, as necessary, to ensure safety of beach users. • Roadway Signage. The Applicant shall post adequate signage to notify motorists of the closure of Parking Lot 12, heavy truck traffic along constrained road segments (e.g., rural road intersections) and changes to the traffic configuration in the Broad Beach vicinity as well as locations of coastal access parking in the area. • Construction Manager. A construction manager shall be designated with authority over truck transportation with the 	BBGHAD's Broad Beach Restoration Project Area	Plan review and approval by regulating agencies	Reduce impacts to transportation and circulation network in the vicinity of Broad Beach	CSLC	Prior to and During Construction

Avoidance and Minimization Measure (AMM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>authority to redirect or halt trucking as needed. The manager shall be provided with communication equipment (e.g., radios) to manage the trucking operation.</p> <ul style="list-style-type: none"> • Truck Communications. All trucks shall be equipped with radios or other communication equipment to permit contact and coordination with the construction manager. • Truck Idling Locations. The plan shall identify acceptable truck idling and pull over locations along Pacific Coast Highway (PCH) and other segments of the haul route. These areas shall be designated for use by trucks in case of equipment failures and excessive queuing occurring at the staging areas. • Driver Safety Briefing. All truck drivers shall receive a safety briefing on existing uses along the truck haul routes, particularly areas with significant pedestrian activity. • Control Access to Parking Lot 12. The Applicant shall ensure that appropriate measures are employed to prevent access (especially vehicular) to the staging area and parking lot 12 during periods when construction is not occurring in order to improve public safety. This could include signage and barriers. When safety is not an issue, public access shall otherwise be maintained to the maximum extent feasible. • Pedestrian and Bicycle Accommodations. The Applicant shall provide appropriate accommodations for bicyclists and pedestrians to ensure their safety within the modified traffic configuration and in the Broad Beach vicinity. • Damage Repair. The Applicant shall repair any damage to the PCH/Site Access connection or the construction staging area caused during the construction phase of the Project. 					
Noise					
<p>AMM N-1a: Use of Noise-Attenuating Devices on Construction Equipment. To the maximum extent feasible, equipment, and trucks used for Project construction shall use best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-</p>	<p>BBGHAD's Broad Beach restoration Project Area</p>	<p>Review and approval of final construction plans, including use of noise-attenuating</p>	<p>Acceptable noise level would be experienced by the public</p>	<p>CSLC</p>	<p>Prior to and during construction</p>

Avoidance and Minimization Measure (AMM)	Location	Monitoring/Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
attenuating shields or shrouds).		devices.			
AMM N-1b: City of Malibu Approval for Exceedance of City Noise Ordinance. Prior to commencement of construction activities, the Applicant shall obtain and provide to CSLC staff all necessary approvals from the city of Malibu for proposed truck trips and staging activities between 7:00pm and 9:00pm at the Zuma Beach Parking Lot 12 and staging area Monday through Friday.	Broad Beach public trust lands and PCH	Receipt of approvals from City of Malibu for extended construction hours.	Inconsistency with the City of Malibu Noise Ordinance would be resolved	CSLC, City of Malibu	Prior to construction
Public Health and Safety Hazards					
AMM HAZ-2: Develop Hazardous Material Spill Prevention Control and Countermeasure Plan (SPCCP). A Hazardous Material SPCCP shall be prepared prior to implementing the Project to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during Project construction and shall be submitted to California State Lands Commission staff at least 2 weeks before commencement of beach restoration activities. At a minimum, the SPCCP shall: <ul style="list-style-type: none"> Describe storage procedures, construction site housekeeping practices, and other Best Management Practices (BMPs). Common BMPs may include use of containment devices for hazardous materials, training of construction staff regarding safety practices to reduce the chance for spills or accidents, and use of nontoxic substances where feasible. Identify processes for inspections and monitoring of BMPs to ensure minimal impacts to the environment occur. Describe actions required if a reportable spill occurs, such as which authorities to notify and the proper clean-up procedures. State procedures for containing, diverting, isolating, and cleaning up any spills that might occur, such that major adverse impacts on surface and groundwater quality would be minimized or avoided. 	Broad Beach public trust lands	Plan review and approval by regulating agencies	Reduce impacts on public health and safety from potential spills of hazardous materials	CSLC	Prior to construction
AMM HAZ-3a: Demarcation of Public Access Routes. Public access routes around construction areas shall be clearly marked.	Broad Beach public trust lands	Demarcation of public access routes	Provide safe access to public trust resources	CSLC	During construction

Avoidance and Minimization Measure (AMM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>AMM HAZ-3b: Provision of Contact for Reporting Hazards. The Applicant will provide the public with contact information in order to report immediate hazards related to the Project. This information shall be provided via public notice in a local paper and on signs at Broad Beach at least one week (7 days) prior to the commencement of any Project-related activities.</p>	<p>BBGHAD's Broad Beach Restoration Project Area</p>	<p>Provision of public notice in local papers and on signs</p>	<p>Improve public safety</p>	<p>CSLC</p>	<p>Prior to construction</p>
<p>AMM HAZ-4: Response to Sediment Contamination. Nourishment activities shall be temporarily halted in the event that construction workers, personnel, or other persons identify any indication that hazardous or dangerous materials are present in the imported sediment, or if contaminated sand is inadvertently deposited at Broad Beach, pending an evaluation by the California State Lands Commission (CSLC) staff, in consultation with the California Department of Fish and Wildlife (CDFW) Office of Spill Prevention and Response, to determine the extent of the contamination and most appropriate remediation methods before nourishment activities would be allowed to resume.</p>	<p>Broad Beach public trust lands</p>	<p>Potential halt of construction activities</p>	<p>Reduce impacts of hazardous or dangerous materials</p>	<p>CSLC in coordination with CDFW and OSPR</p>	<p>During construction</p>
<p>Utilities and Service Systems</p>					
<p>AMM UTL-3: Master Drainage Plan (MDP). The Applicant shall prepare and submit a MDP to the California State Lands Commission (CSLC) staff for review and approval. This plan shall include measures to minimize potential for water backup in storm drains, and associated drainage/flooding concerns, as well as minimizing or avoiding damage to newly created dune Environmentally Sensitive Habitat Areas (ESHAs) and beach habitats. This MDP shall address all existing and proposed modifications to public storm drains and pipes in the lease area, including those seaward of the mean high tide line. It shall be prepared by a qualified Civil Engineer and be based upon data and analysis provided by a registered hydrologist. At a minimum, the MDP shall:</p> <ul style="list-style-type: none"> Identify the exact location and size of all public drains along Broad Beach, including its relationship to State sovereign land and Lateral Access Easements (LAE), hydrological data on the watersheds and flow characteristics of each drain, particularly high flood flows (e.g., 100-year event) and potential for flooding 	<p>Broad Beach public trust lands</p>	<p>Preparation and submittal of MDP</p>	<p>Reduce adverse effects to public drainage systems such as water backup and flooding</p>	<p>CSLC in conjunction with city of Malibu</p>	<p>Prior to construction</p>

Avoidance and Minimization Measure (AMM)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>or drainage problems or erosion of dune and beach areas.</p> <ul style="list-style-type: none"> • Design plans (overhead and cross-sections) for proposed modifications to public storm drains, including existing storm drains incorporated into the project design. • Identify specific drainage proposals for each storm drain and how they would affect public trust resources. • Identify measures to safely and adequately convey drainage through and across the proposed dune system and beach, including methods to avoid or minimize impacts to public trust resources and the ESHAs. 					

