3.1 LAND USE/RECREATION

This section describes existing environmental conditions related to land use and recreation within and surrounding Buena Vista Lagoon and the areas identified for materials disposal/reuse. This section also identifies pertinent policies and regulations governing land use and recreation activities in the designated project areas and evaluates the impacts associated with implementation of the Enhancement Project alternatives. This analysis is based on current information as of May 2013, when the NOP was issued.

3.1.1 EXISTING CONDITIONS

The relevant policies and regulations dictating land use and recreational uses at the project site and materials disposal sites are discussed within this section. A comprehensive description of applicable regulatory laws, plans, policies, and regulations is provided in Appendix B, Regulatory Setting. Additional regulatory requirements pertaining to other specific topic areas, such as noise, air quality, water quality, etc., are discussed in their respective analysis sections.

Certain regulatory actions related to land use would be required prior to project initiation by various regulatory agencies. SANDAG would decide whether to certify the EIR and approve the project, then would issue a Notice of Determination. Agencies with jurisdictions or ownership within the lagoon, such as the Cities of Oceanside and Carlsbad, CDFW, NCTD, ~~California State Lands Commission (~~CSLC~~)~~, and Caltrans would need to grant permits for work to be performed within their jurisdiction or rights-of-way. After certification of this EIR, SANDAG would need to obtain a Coastal Development Permit (CDP) from the CCC for both the lagoon enhancement and materials disposal component of the project, pursuant to the process outlined in the PWP/TREP and the REMP, which provides for mitigation planning and implementation through the I-5 North Coast Corridor Project PWP/TREP process. The CCC would also decide whether to issue a Consistency Certification in accordance with Section 30600(a) of the California Coastal Act (CCA) or a Waiver of Federal Consistency Provisions. The lagoon and littoral zone materials placement sites also involve some areas of public trust lands under CSLC jurisdiction and authorization from the CSLC would be required for implementation of the Enhancement Project.

Regulatory Setting

A full description of the regulatory setting for this document can be found in Appendix B. The following laws, regulations, policies, and plans are applicable to this resource area:

- Coastal Zone Management Act

- Marine Protection, Research, and Sanctuaries Act
- California Coastal Act
- California Code of Regulations: Title 14 Section 630(b)(103)
- California State Lands Commission Public Trust Doctrine
- Surface Mining and Reclamation Act
- City of Carlsbad, General Plan and Local Coastal Program, Land Use Plan
- City of Carlsbad, General Plan, Land Use Element
- City of Carlsbad, General Plan, Open Space and Conservation Element
- City of Oceanside, Local Coastal Program, Land Use Plan
- City of Oceanside, General Plan, Land Use Element
- City of Oceanside, General Plan, Recreational Trails Element
- City of Oceanside, General Plan, Environmental Resource Management Element

Buena Vista Lagoon Study Area

Buena Vista Lagoon is located in northern San Diego County at the terminus of Buena Vista Creek, within the jurisdictional boundaries of the Cities of Carlsbad and Oceanside. The lagoon extends east from the Pacific Ocean coastline past I-5 to Jefferson Street. Refer to Figure 2-2 for project site boundaries.

Land Ownership

A number of private individuals and agencies own various portions of the lagoon. Large lengths of the lagoon boundaries are lined with individual parcels and privately owned property. The Weir Basin is partially privately owned by the St. Malo HOA. The weir structure within the inlet channel is privately owned as well. These parcels and this westernmost portion of the lagoon are integral to controlling the water regime within the lagoon and are therefore considered part of the project area.

The lagoon east of the railroad tracks is owned and managed by CDFW, whose lands are designated as an ecological reserve. The ecological reserve boundaries are generally similar to the project site boundaries throughout the basins east of the railroad corridor. However, the western ecological reserve boundary ends at the railroad alignment and does not extend west into the Weir Basin (CDFW 2011).

Additionally, various public rights-of-way traverse the lagoon. These rights-of-way include ownership by NCTD along the railroad corridor, Cities of Carlsbad and Oceanside along Carlsbad Boulevard (Coast Highway in Oceanside), and Caltrans along the I-5 corridor.

The CCC retains permanent coastal permit jurisdiction over development proposed on tidelands, submerged lands, and public trust lands, and the CCC also acts on appeals from certain local government coastal permit decisions. This retained jurisdiction applies to the Buena Vista Lagoon and requires that a CDP be issued directly by the CCC in addition to permitting authorizations under the Oceanside and Carlsbad LCPs. Alternatively, the CCC could issue a consolidated CDP.

Land Uses

Land Use Designations

California Department of Fish and Wildlife

The Buena Vista Lagoon was designated as the State of California's first ecological reserve in 1968 and continues to be managed as an ecological preserve by CDFW (CDFW 2001) as detailed in CCR Title 14, Section 630(b)(103).

City of Oceanside

~~The~~ Generally, most of the northern~~western~~ portion of the lagoon is located within the jurisdictional boundaries of the City of Oceanside. The Oceanside General Plan Land Use Map designates the lagoon area as Open Space (Oceanside 2009). The Oceanside Local Coastal Plan (LCP) map also designates Buena Vista Lagoon within Oceanside as Open Space (Oceanside 1985).

City of Carlsbad

The City of Carlsbad General Plan Land Use Map designates the portion of Buena Vista Lagoon within the City as Open Space. The Land Use Map also indicates the lagoon as a Special Resource Area (Carlsbad 2014b). The City of Carlsbad Zoning Map also zones the lagoon area as Open Space (Carlsbad 2014c) and the Carlsbad LCP map designates the Buena Vista Lagoon as Open Space (Carlsbad 2014d).

Currently, the City of Carlsbad is in the process of updating their General Plan. The new General Plan has not yet been approved but is in draft form. Review of the Draft General Plan shows that there are similar Open Space land use designations for Buena Vista Lagoon and the Draft Open Space, Conservation, and Recreation Element contains an Existing and Planned Future Recreational Trails Map that shows the planned future Regional Coastal Rail Trail and Sea Wall

trail alignment traversing the lagoon along the existing railroad corridor (Carlsbad 2014e). Communication with City staff indicated further plans as part of the ongoing Trails Master Plan update process for a trail extending along the southern shore of the lagoon from the intersection of Jefferson Street/Marron Street connecting to Maxton Brown Park. It is currently envisioned that the 8-foot-wide trail would be located off the road, between Jefferson Street and the lagoon perimeter and could also provide areas of overlook. The trail would connect with Caltrans' planned pedestrian improvements over I-5 at Jefferson Street included in the North Coast Corridor Public Works Plan (Jantz 2014; Caltrans 2014a).

Existing Land Use

Various land uses surround the perimeter of Buena Vista Lagoon. Generally, to the northwest is the City of Oceanside and to the south is the City of Carlsbad. The westernmost extent of the project site is open beach area adjacent to the Pacific Ocean. An existing weir maintains a separation between the lagoon and ocean. Additionally, depending on environmental conditions and maintenance activities, a sand berm develops that also influences the separation between the lagoon and the ocean. Along the western and northern portions of the Weir Basin are single-family residential homes with property abutting the lagoon.

The northern boundary of the lagoon between the railroad corridor and I-5 is generally bordered by single- and multi-family residential developments, with some commercial development near I-5. East of I-5 on the northern boundary of the lagoon is SR 78 with large-scale commercial developments immediately north of the roadway.

The eastern end of the lagoon and project area is bounded by Jefferson Street on the south and east. Buena Vista Creek enters the lagoon at the eastern lagoon edge via a channel undercrossing under Jefferson Street. Expansive commercial development continues to the east of the lagoon.

Jefferson Street continues along the southern boundary of the lagoon between the eastern end and I-5. Hosp Grove Park is located at the southeastern corner of the lagoon and provides an area of open space and recreational use along the south side of Jefferson Street adjacent to the lagoon. Open space areas interspersed with residential development continue along Jefferson Street west to I-5. West of I-5, the southeastern portion of the lagoon is lined with residential developments on a bluff, including single- and multi-family dwellings. Commercial developments exist near the southern boundary of the lagoon close to Carlsbad Boulevard.

As shown in Figure 2-2, the NCTD railroad alignment extends north-south through the lagoon and serves as physical separation between the Weir Basin and Railroad Basin. The lagoon is also bisected north-south by Carlsbad Boulevard, which forms a physical barrier between the

Railroad Basin and the Coast Highway Basin. I-5 is the third and easternmost infrastructure corridor that crosses the lagoon. It also bisects the lagoon north-south and forms the division between the Coast Highway Basin and I-5 Basin.

Existing Recreational Uses

Nature Center

The Buena Vista Audubon Society Nature Center (Nature Center) is located adjacent to the lagoon along Coast Highway 101 (named Carlsbad Boulevard in the City of Carlsbad) in Oceanside and was opened in 1988. The Nature Center served over 75,000 visitors in their first 15 years of operation and 3,000 students visit annually (Buena Vista Audubon Society 2014). The Nature Center is open 6 days a week and provides an exhibit area, library, and conference room. Activities such as guided nature walks and classroom programs are offered by the Nature Center.

Fishing

Recreational fishing within the lagoon is allowed and is a popular pastime; however, commercial fishing is not permitted. Various fish populations are found in the lagoon (see Section 3.5 Biological Resources); bass fishing is the most prevalent. Fishing from shore is allowed at two designated locations as regulated by CDFW. The two currently designated shoreline fishing locations are at the bridge on northbound Carlsbad Boulevard and off of Lagoon View Drive near the intersection with Jefferson Street (CDFW 2014b). There are also informal trails and other publically accessible locations that are often used for fishing and lagoon access. Because of the many private properties that surround the lagoon perimeter, some fishing access occurs via small paths from residences. The lagoon is also subject to General Statewide Restrictions dictating the daily bag limit of various fish species that can be taken (CDFW 2014b).

Swimming, wading, diving, or other water contact recreation is not allowed within the lagoon (RWQCB 1994).

Parks

Maxton Brown Park is located at the corner of Laguna Drive and State Street in the City of Carlsbad on the southwest edge of the Coast Highway Basin. It is a 1-acre park with grassy areas, picnic tables, and benches with views of Buena Vista Lagoon.

Immediately south of the I-5 Basin, Hosp Grove Park is located at Jefferson Street and Marron Road in Carlsbad. The 5.5-acre park provides extensive trails and eucalyptus groves. The park

also includes children's play areas and picnic tables. There are views of the lagoon from various areas and trails throughout the northern portion of the park. A paved public parking lot is available on the northern edge of the park, accessible from Jefferson Street.

Trails

While no existing formal trails traverse the lagoon, many informal dirt trails and pathways are used to access the lagoon perimeter, such as those described in the fishing discussion. Additional surrounding recreational trail opportunities are available for viewing the lagoon and for activities such as birding and nature observation. Hosp Grove Trail provides 5.5 miles of winding trails located throughout Hosp Grove Park, with some segments located along the southern edge of Buena Vista Lagoon. A trailhead at Hosp Grove Park that includes parking is located immediately south of Jefferson Street adjacent to the lagoon. The unpaved trail climbs to more than 100 feet in elevation and offers views of the adjacent Buena Vista Lagoon and the Pacific Ocean (Carlsbad 2014f).

Portions of Jefferson Street adjacent to the lagoon have existing sidewalks and bike lanes. Bike and pedestrian access is also provided along Carlsbad Boulevard via Class 2 bike lanes, a sidewalk, and the Coastal Rail Trail Reach 1 completed in spring of 2014. These are also shown on the Carlsbad Citywide Trails and Parks Map (Carlsbad 2011). The ongoing Carlsbad Trails Master Plan update process anticipates a trail extending along the southern shore of the lagoon, connecting with the Caltrans' planned pedestrian improvements over I-5 at Jefferson Street included in the North Coast Corridor Public Works Plan (Jantz 2014; Caltrans 2014a).

Beach

Though often closed to tidal action, the inlet channel to the lagoon abuts the beach area west of the weir. Analysis included in the Inlet Trafficability Memo (Appendix O) indicates that tides, waves, and/or fluvial flood events cause water to flow in this area, with water depths and velocities that can interrupt lateral access and sometimes create hazardous conditions. Analysis of field data, online imagery and fluvial modeling indicate that, under existing conditions, pedestrian access across the inlet is unavailable between 2 to 5 percent of the time (Appendix O).

North of the inlet, the beach is within City of Oceanside jurisdiction and within the City of Carlsbad to the south. Forming the eastern boundary of the beach are wide stretches of sand with areas of riprap placed to protect and separate adjacent structures. The sandy beach in this location is mostly used for typical beach-related recreation activities, such as sunbathing, swimming, wading, picnicking, stand-up paddle boarding, and other similar recreation. Some surfing does occur in the in the lagoon vicinity; however, more popular surf spots are located to

the north and south. ~~Currently, north-south pedestrian access between Carlsbad and Oceanside is uninterrupted along this stretch of beachfront.~~

Materials Disposal/Reuse Study Area

Materials placement associated with the lagoon enhancement activities could occur onshore, nearshore, or offshore. The Pacific Ocean and its shores are the focus of recreational activity and also define land uses in the materials placement sites. As such, much of this discussion focuses on recreational uses; however, adjacent land uses and the applicable jurisdiction governing each site are identified.

Due to their proximity to the project site and previous use for materials placement under separate permitted projects (e.g., 2012 RBSP), two beach sites, Oceanside and North Carlsbad, were determined suitable for materials placement for the Enhancement Project. Information included in the discussion below references SANDAG's 2012 RBSP EA/Final EIR (SANDAG 2011) that placed material at these same two locations, as well as *Buena Vista Lagoon Enhancement Project Surfing Change Assessment Report* (Everest 2014b).

Littoral Zone Nourishment

Oceanside Beach and Nearshore Sites

Existing Land Use

The proposed Oceanside materials placement beach site is located within the coastal zone as designated in the City of Oceanside Land Use Element of the General Plan (Oceanside 2002a). In compliance with the CCA, the City adopted an LCP in 1985. The coastal zone boundary runs parallel to Coast Highway and west to the ocean. In general, the LCP requires that development not interfere with public access to and along the shoreline.

As described in the 2012 RBSP EA/Final EIR, the Oceanside beach materials placement site itself is used for recreational beach-related activities, while the area immediately east is mostly composed of a mix of new and older residential uses. Riprap (large boulders) has been placed to protect beachfront residences and structures. Scattered commercial and retail activities, mostly associated with tourism, also exist along adjacent roadways. Although the entire site is a "beach" there are several named locations along the length. The Strand, a beachfront road that extends from Seagaze Drive to Wisconsin Avenue, abuts the northern end of the materials placement site. Wisconsin Avenue Beach is located at Wisconsin Avenue and The Strand. This is Oceanside's least frequented beach because of the narrow width, particularly when the tide is high and the

water reaches up to the riprap. South of Wisconsin Avenue, Oceanside Boulevard Beach offers more actual beach area than its neighbor, Buccaneer Beach. Buccaneer Beach is a small pocket beach situated in the southern end of the proposed materials placement site where Loma Alta Creek reaches the ocean. Buccaneer Park is located just across the street (east) of Buccaneer Beach. Located north of the proposed materials placement site are Tyson Street Beach/Park and the Oceanside Pier (SANDAG 2011).

The Oceanside nearshore placement site is located in the open ocean water in the nearshore zone off the Oceanside beach placement site, north of the outfall pipeline, as shown in Figure 2-13~~1~~. The nearshore site is approximately 500 feet offshore, but still located in the littoral zone. The Oceanside nearshore placement site is consistent with the Oceanside nearshore beach replenishment site H identified in the Navy Homeporting EIS (Navy 1995).

Existing Recreation Uses

Generally, recreational activities at the Oceanside onshore and nearshore materials placement sites include a variety of activities such as walking/jogging, swimming, surfing, stand-up paddle boarding, windsurfing, sunbathing, beach combing, fishing, SCUBA and skin diving, picnicking, boating, sailing, and bicycling. The 2012 RBSP EA/Final EIR identifies public access stairs located at the end of Tyson Street, Pine Street, Ash Street, Haynes Street, Cassidy Street, one block south of the Loma Alta Creek outlet, and Vista Way. Ramp access exists at Wisconsin Avenue, Forster Street, and just north of Loma Alta Creek. In addition, there is an access road at Oceanside Boulevard. A number of additional access paths and stairs have been constructed in front of private homes. Lifeguard Tower No. 7 is located at the base of Wisconsin Avenue Beach. Lifeguard Tower No. 9 is located at the base of Oceanside Boulevard on top of a concrete and riprap structure, and Tower No. 11 is located farther south at Buccaneer Beach on top of a concrete and riprap structure. Towers No. 9 and No. 11 are located approximately 50 feet from the shoreline and remain in their locations year-round (SANDAG 2011).

Surfing

Surfing is a recreational activity that occurs along the beach near the lagoon inlet and the proposed materials placement locations. Because surfing conditions vary from site to site and are dependent on localized sand movement and sandbar development, this activity is discussed in additional detail.

The surf condition along all of the Oceanside beach and nearshore site vicinity is beach break with little variation except at the Oceanside Pier and South Jetty of Oceanside Harbor. The pier and harbor south groin and north jetty can create well-shaped sandbars and also physically

refract swells that may otherwise close out at a nearby beach break. Oceanside is one of the most consistent surf spots in San Diego County, jutting out far enough to catch most south swells and all west and northwest swells. The beach break is generally good up to 6 feet, but because it is so exposed, it is often big, walled (closed out), or blown out due to winds (Everest 2014b). The beach breaks, which span the entire coastline, are most popular in the summer but can be surfed year-round contingent on sandbars, swell, and wind conditions. Due to beach access, the most popular beach break spots tend to be Buccaneer Beach, Wisconsin Avenue, and Tyson Street. However, on good surf days in the summer, the crowd spreads out from these main spots and the entire city shoreline can be relatively crowded (SANDAG 2011).

North Carlsbad Site

Existing Land Use

The North Carlsbad materials placement site is located in the City of Carlsbad within the coastal zone as designated in the City of Carlsbad General Plan (Carlsbad 2014b). The City's permitting authority extends to landward of the mean high tide line, while the CCC retains jurisdiction seaward of that line. The proposed materials placement site is located within the Mello II Segment (Carlsbad 2014d). In general, the LCP requires that development not impact biological or cultural resources, interfere with the public access to and along the shoreline, or impact visual or natural resources in the coastal zone (SANDAG 2011). Carlsbad State Beach is located immediately south of the materials placement site.

Existing Recreation Use

Public access stairs to the beach are located at Ocean Street, Beech Avenue, Pacific Avenue, Grand Avenue, and Carlsbad Village Drive. In addition, adjacent to each access stairway is a public drainage easement that includes a storm drain pipe and associated outlet structure. A public access ramp providing a walkway to the beach is located at Pine Avenue. Several residential properties also have private stairways for beach access; a few reach the beach surface. All properties in the reach have constructed sea walls and riprap to protect against erosion. Lifeguard Tower No. 38 is located on the sand at the southern end of the materials placement site on Pine Avenue. The tower is surrounded by riprap and remains in the same location throughout the year. The area located adjacent to the proposed materials placement beach site is composed of new and older residential uses and a military (Army/Navy) preparatory school (SANDAG 2011).

Offshore Disposal

LA-5 has been identified as the potential offshore materials disposal site for the Enhancement Project. LA-5 is regulated by EPA and the Corps and is an EPA-designated ocean disposal site located approximately 10 nautical miles offshore, southwest of San Diego Bay. This site can be used for the disposal of dredged material. The project must establish that the dredged material would not exceed the capacity of the site and the material is in compliance with EPA and Corps criteria and regulations prior to approval to dispose of material by EPA and the Corps (EPA 1987).

This site is shown in Figure 2-10 and is designated for the disposal of sediment dredged from waters of the U.S. that is unsuitable for beneficial use yet is deemed clean enough to not cause significant harm to aquatic organisms. Because LA-5 is located 10 nautical miles offshore, the discussion of land use and recreation at this location does not apply as the site is surrounded entirely by open ocean. Recreational or commercial ocean fishing may occur in locations near LA-5.

3.1.2 SIGNIFICANCE CRITERIA

A significant impact to land use and recreation would occur if implementation of the Enhancement Project would result in any of the following:

A. Physical division of an established community;

B. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect;

C. Temporary or permanent substantial loss or deterioration of recreational use areas or major conflicts with adjacent recreational uses in the construction or post-construction period;

D. Substantial displacement of public recreation activities or opportunities where there was a lack of comparable recreation opportunities due to capacity constraints, access limitations, or location; physical deterioration of other existing neighborhood and regional parks or other recreational facilities; or substantial adverse physical effects on the environment of other existing neighborhood and regional parks or other recreational facilities due to displacement of activities; or

E. Substantial increase in potential threats to the safety of recreational users during or following construction.

Thresholds for land use are based on the CEQA Guidelines Appendix G sample questions. Recreational thresholds are specific to the type of recreational uses that occur within and around the lagoon and materials placement sites, and are based on thresholds used for similar enhancement projects in the region.

3.1.3 IMPACT ANALYSIS

Lagoon Enhancement

Freshwater Alternative

Land Use

The lagoon currently functions as a freshwater wetland and open space/reserve area. Under the Freshwater Alternative, this function would continue, with modifications to habitat distributions within the lagoon. Implementation would not result in the permanent conversion of the lagoon from a wetland to another land use post-enhancement. The overall existing land use of the lagoon would not change; it would remain a coastal wetland and open space/reserve area. The lagoon enhancement would not change or modify the lagoon's designation, purpose, or public use as an ecological reserve. The project area is identified in applicable planning documents, as detailed in Table 3.1-1, as an area to be preserved and protected as open space with surrounding passive recreational use. The Freshwater Alternative would not alter the lagoon's use or function in a manner inconsistent with applicable regulations and laws or existing and future local land use plans. As shown by the laws, plans, and policies listed in Table 3.1-1, many of the land use regulations applicable to the project study area are geared toward the conservation and preservation of the lagoon area and associated coastal, biological, and recreational resources. The overall lagoon enhancement resulting from the Freshwater Alternative would not cause conflicts with land use regulations or policies that could result in substantial adverse environmental effects.

Table 3.1-1
Lagoon Enhancement: Consistency with Applicable Land Use Regulations, Plans, or Programs

Applicable Regulation, Law, Plan, or Program	Project Consistency
FEDERAL	
Coastal Zone Management Act	Consistent (all alternatives): The CCC retains permanent coastal permit jurisdiction over the Buena Vista Lagoon. Project activities are regulated by Local Coastal Programs (LCPs) implemented by local agencies.
Marine Protection, Research, and Sanctuaries Act (MPRSA, or Ocean Dumping Act)	Consistent (all alternatives): Under the Materials Disposal and Reuse Scenarios Approach 1 – Without an Overdredge Pit, dredged materials of poor quality (i.e., relatively small grain size) and not suitable for reuse would be disposed of in LA-5. LA-5 is an Environmental Protection Agency-designated ocean disposal site that allows dumping of materials from projects in adherence to regulations.
STATE	
California Coastal Act (CCA)	Inconsistent (Saltwater and Hybrid Alternatives only): Chapter 3, Article 2, Sections 30210–30214 of the CCA specifically address public access to coastal areas, including access to coastal areas and recreation opportunities and that development is not to interfere with public access. Public access would be impacted due to potential unsafe crossing conditions with an open inlet. Consistent (Freshwater Alternative): Public access to coastal areas would remain, similar to current conditions. Inconsistent (Freshwater and Hybrid Alternatives only): Section 30233 of the CCA only allows diking, filling, or dredging of open coastal waters, wetland, and estuaries where there is no feasible less environmentally damaging alternative, where feasible mitigation measures have been provided to minimize adverse environmental effects, and is limited to very few purposes, of which the only one that would pertain to the proposed Enhancement Project is "restoration purposes." These alternatives include replacement or addition of new weir structures. Consistent (all alternatives): In accordance with Section 30233 (a)(6) of the CCA, enhancement activities are regulated by LCPs implemented by local agencies. Under Section 30233, dredging and spoils disposal, planned to avoid significant disruption to marine and wildlife habitats and water circulation, is allowed for enhancement purposes. Consistent (all alternatives): Consistency Certification, Section 30600(a) of the CCA, or Waiver of Federal Consistency Provisions would need to be granted by the California Coastal Commission.

Applicable Regulation, Law, Plan, or Program	Project Consistency
California State Lands Commission (CSLC) Public Trust Doctrine	Consistent (all alternatives): The CSLC has an oversight responsibility for tide and submerged lands legislatively granted in trust to local jurisdictions (Public Resources Code §6301). Title to all abandoned archaeological sites and historic or cultural resources on or in the tidal or submerged lands of California is vested in the State and under the jurisdiction of the CSLC (Public Resources Code §6313).
California Department of Fish and Wildlife (CDFW), Fishing Regulations	Consistent (all alternatives): CDFW designates authorized shoreline fishing locations at the Buena Vista Lagoon. It is anticipated that the proposed ~~subtidal~~ deep-water fish areas would be approved as authorized fishing locations by CDFW.
California Code of Regulations, Title 14, Section 630(b)(103) – Ecological Reserve	Consistent (all alternatives): The lagoon enhancement would not change or modify the lagoon's designation, purpose, or public use as an ecological reserve as designated in Section 630(b)(103) and would be consistent with the general regulations set forth for ecological reserves.
LOCAL	
City of Oceanside General Plan and Local Coastal Program Land Use Plan (LCP LUP)	Consistent (all alternatives): Buena Vista Lagoon is designated as Ecological Resource/Open Space/Parks. Lagoon enhancement activities would not change current use or function or result in incompatibilities with surrounding land use. In addition, the General Plan includes policies that permit dredging of the lagoon for habitat enhancement purposes (Policy V.C.1) and preserving lagoon critical habitat through erosion and siltation control (Objective III. 3.13). Inconsistent (Saltwater and Hybrid Alternatives only): The General Plan and LCP have various policies requiring public access to beach and coastal areas and recreational facilities. Construction and operation of an open inlet would create restricted north-south beach accessibility.
City of Carlsbad General Plan and LCP LUP	Consistent (all alternatives): Buena Vista Lagoon is designated as Open Space and Special Resource Area and enhancement activities would not change the overall current use or function or result in incompatibilities with surrounding land use. The Carlsbad General Plan and the LCP LUP encourage and support access and trails around Buena Vista Lagoon and along the shoreline, in coordination with applicable resource management agencies (LCP, Policies 7-3 and 7-6). Inconsistent (Saltwater and Hybrid Alternatives only): The General Plan and LCP have various policies requiring public access to beach and coastal areas and recreational facilities. Construction and operation of an open inlet would create restricted north-south beach accessibility.

During the construction period, various temporary impacts could occur, such as increased noise, visual changes, etc. (as discussed in the appropriate sections throughout this EIR);

however, the overall open space nature of the lagoon would continue. Public information would be available on SANDAG's project website to assist nearby residents in understanding the purpose of the project and the timeline, and to disseminate pertinent project information. This would aid in minimizing land use conflicts with neighboring residential areas by providing advanced notice, explanation, and timelines of activities and potential disruptions. With vegetation removal and replacement of the existing weir, the continuation of the lagoon land uses would remain compatible with the surrounding areas and not cause modification of land uses in nearby areas. **Construction and long-term enhancement of the lagoon would not result in physical division of the established community or conflict with applicable land use documents, and impacts would be less than significant (Criteria A and B).**

Recreation

Fishing

Implementation of the Freshwater Alternative would maintain the freshwater habitat of the lagoon. Currently, fishing in the lagoon is dominated mainly by freshwater largemouth and smallmouth bass populations along with bluegill. To enhance existing recreational fishing opportunities, the Freshwater Alternative would dredge three fishing ~~subtidal~~ areas approximately 9 feet deep, creating approximately 4.5 acres of deep, open water fish habitat that would provide a better range of depths for fish habitat enhancement and providing deep water refugia. Creation of deep water, spawning, and rearing habitat would have long-term beneficial effects on fish resources in Buena Vista Lagoon and contribute to maintaining/increasing the quality of recreational fishing opportunities. Design criteria for these deeper freshwater fishing areas are provided in Section 2.5.4. One fishing area would be located within the southwest portion of the Coast Highway Basin and would be accessed from Maxton Brown Park or the proposed Boardwalk. The second fishing area would be located in the northern part of the Railroad Basin off Coast Highway and would be accessed via a new trail proposed as part of the Enhancement Project to provide fishing recreation access (see Figure 2-7 for depiction of trail location). To access the trail, it is anticipated that people would park in the Nature Center parking lot and cross Carlsbad Boulevard in a new pedestrian crosswalk and continue westward to the lagoon shore via a pervious surface trail extending through the currently vacant lot north of the lagoon (it is anticipated that this vacant lot would be acquired as part of the Enhancement Project). The third fishing area would be located in the eastern portion of the I-5 Basin and would supplement the existing fishing location near Lagoon View Drive and Jefferson Street. The public use of these fishing areas would be subject to designation by CDFW as authorized shoreline fishing locations. **The creation of deeper fish areas and increased fishing amenities would help to maintain continued fishing throughout the lagoon as the fish populations reestablish; therefore long-term impacts would be less than significant (Criteria C and D).**

During construction activities within the lagoon, some individual fishing locations may experience disruptions as certain areas would be temporarily restricted for public safety or fish may vacate an area due to the dredging operations. Disturbance and noise can displace fish and cause relocation to habitats inaccessible to bank and boat anglers. Reduced access could temporarily decrease angling catch rates. However, these fishing disruptions are anticipated to be localized, occurring temporarily in the vicinity of active construction operations. Other fishing opportunities would continue throughout remaining portions of the lagoon not under construction. **Though temporarily modified, recreational fishing opportunities would be available throughout portions of the lagoon during construction, thus impacts would be less than significant (Criteria C and D).**

Trails

As previously described, no existing formal trails traverse or immediately surround the lagoon. The nearest formal trails overlooking the lagoon are part of Hosp Grove Park on the southeast corner of the lagoon and would not be disrupted or modified as part of the Enhancement Project. Many informal paths lead from surrounding areas to the lagoon edge and would also not be substantially modified or permanently impacted by the Enhancement Project. As shown in Figure 2-16, staging areas and access roads are dispersed in various locations around the lagoon as needed and would be sited at existing access points and previously disturbed areas, where feasible to limit disturbance. However, this results in the temporary disruption and restriction of some existing informal lagoon access points. Examples include the staging area immediately west of Carlsbad Boulevard on the north edge of the lagoon, the staging and vegetation drying area at the northeast corner of the lagoon along Lagoon View Drive, and staging along the south side of the inlet channel. While these specific areas would not be publicly accessible during portions of the construction period, a wide variety of other informal paths and access locations would remain unaffected by construction activities and would allow access to the lagoon at various locations.

As detailed in Section 2.5.1, a Boardwalk would be constructed parallel to Carlsbad Boulevard to increase connectivity between the Cities of Oceanside and Carlsbad and enhance public access to the lagoon. The Boardwalk would extend between the Nature Center on the north side of the lagoon and Maxton Brown Park on the south side, creating a continuous pedestrian-only route providing north-south access (see Figure 2-3). The Boardwalk would provide a separated pedestrian facility, elevated above vegetation to provide visibility to the interior of the lagoon. The Boardwalk would be accessed at three locations connecting to Carlsbad Boulevard, as well as paths connecting to Maxton Brown Park and the Nature Center on either end to facilitate pedestrian flow and accessibility. Six overlooks would be incorporated into the Boardwalk to

accommodate benches and vista points to enhance passive recreation at the lagoon. The Boardwalk would accommodate a range of recreational activities, including fishing, walking, nature study (e.g., bird watching), education, and interpretation of the site's unique ecological habitat. The new Boardwalk would be consistent with policies contained within the Oceanside General Plan Recreation Element that encourage links to pedestrian amenities such as the lagoon and would provide hiking opportunities at Buena Vista Lagoon. The Recreation Element also includes the completion of the planned regional trail that specifically identifies the Boardwalk between Oceanside and Carlsbad across the lagoon (Oceanside 2002b).

As described in the fishing discussion, a new trail would be constructed to provide access to the proposed deep-water ~~subtidal~~ fish area in the northern portion of the Railroad Basin (see Figure 2-7). Parking to access the new trail would be in the Nature Center parking lot and the trail would consist of a pedestrian crosswalk across Carlsbad Boulevard from the Nature Center and continue westward to the lagoon shore via a pervious surface trail extending through the currently vacant lot north of the lagoon (it is anticipated that this vacant lot would be acquired as part of the Enhancement Project). The trail portion would be open to pedestrian use only.

The Freshwater Alternative would not modify or replace the Carlsbad Boulevard bridge. The bridge and its pedestrian and bicycle capacities would be maintained in the existing condition.

Thus, trails and access through and around the lagoon would be permanently maintained and improved with the construction of the new Boardwalk feature that would provide north-south pedestrian access through the lagoon where none currently exists. The proposed Boardwalk would serve to improve pedestrian access and recreational opportunities throughout the lagoon fishing area access trail would provide additional access to enhanced fishing opportunities. **The Freshwater Alternative would not create the loss or deterioration of recreational trail uses, cause a substantial displacement of recreational trail activities or opportunities, or create recreational safety issues, and impacts would be less than significant (Criteria C, D, and E).**

Beach

Under the Freshwater Alternative, the existing 50-foot weir at the ocean outlet would be replaced with a wider, 80-foot weir to improve flood performance. During construction of the new weir, the staging and work area would be generally located along the south side of the inlet as shown in Figure 2-13. Some construction activities may extend onto the sandy beach area and public access would be temporarily restricted in the immediate area for safety. However, ample beach area exists both north and south of the weir location and temporary work (1 to 2 months) would not substantially restrict or diminish the use of the beach in the vicinity for recreation purposes. Once constructed, the larger weir would not be a substantial change from existing conditions.

The beach area to the west of the weir location would continue to be a sandy beach area with full public access, as currently exists.

Existing beach access along the southern side of the inlet channel via a dirt path may also be temporarily restricted during weir construction and dredging/vegetation removal activities in the Weir Basin. Because there are numerous other public access points to the beach, both to the north and south, this temporary restriction in access at this location would not result in a substantial loss of beach accessibility.

Construction and operation of this alternative with the improved weir would not result in the deterioration of recreational use areas along the beach (Criterion C), cause access limitation to recreational opportunities (Criterion D), or create a new safety threat to recreational users (Criterion E), and impacts would be less than significant.

Surfing

The replacement of the existing weir with a larger weir to better control flooding would not cause a substantial change to the surf conditions in the area. The Freshwater Alternative would continue to allow for periodic overflow from the inlet to the beach during flood conditions. **Thus, surfing opportunities near the lagoon inlet under the Freshwater Alternative would not be diminished or degraded and impacts would be less than significant (Criteria C and D).**

Long-term Benefits

The Freshwater Alternative would result in the creation of 4.5 acres of deep, open-water fish habitat, enhancing existing recreational fishing opportunities. In addition, a new trail would be constructed to provide access to the proposed fishing area in the northern Railroad Basin. Under all alternatives, the construction of a Boardwalk parallel to Carlsbad Boulevard would increase pedestrian access to the lagoon, advancing the City of Carlsbad and City of Oceanside's goal of providing enhanced public access to the lagoon.

Saltwater Alternative

Land Use

Lagoon

The lagoon currently functions as a freshwater wetland and open space/reserve area. The Saltwater Alternative would primarily result in a change to the inlet function, water characteristics, and habitat distributions within the lagoon. Implementation would not result in the permanent conversion of the lagoon from a wetland to another land use post-enhancement. The overall existing land use of the lagoon would not change; it would remain a coastal wetland and open space/reserve area. The lagoon enhancement would not change or modify the lagoon's designation, purpose, or public use as an ecological reserve. The project area is identified in applicable planning documents, detailed in Table 3.1-1, as an area to be preserved and protected as open space with surrounding passive recreational use.

Previous lagoon management objectives outlined in a non-legally binding memo dating from when the lagoon was first designated as an Ecological Reserve over 40 years ago included the maintenance of a freshwater system (Wildlife Conservation Board 1972). However, the lagoon does not have an adopted management plan providing a specific or official management directive.

The Saltwater Alternative would not alter the lagoon's use or function in a manner inconsistent with applicable regulations and laws or existing and future local land use plans. As shown by the laws, plans, and policies listed in Table 3.1-1, many of the land use regulations applicable to the project study area are geared toward the conservation and preservation of the lagoon area and associated coastal, biological, and recreational resources. While modifications to the lagoon would be completed as part of this alternative, the overall lagoon enhancement resulting from the Saltwater Alternative would not cause conflicts with land use regulations or policies that could result in substantial adverse environmental effects.

During the construction period, various temporary impacts could occur, such as increased noise, visual changes, etc. (as discussed in the appropriate sections throughout this EIR); however, the overall open space nature of the lagoon would continue. With enhancement of the lagoon, the continuation of the lagoon land uses would remain compatible with the surrounding areas and not cause modification of land uses in nearby areas. **Construction and long-term enhancement of the lagoon would not result in physical division of the established community or conflict with applicable land use documents, and impacts would be less than significant (Criteria A and B).**

Inlet

As part of the Saltwater Alternative, the existing 50-foot weir at the ocean outlet would be removed and replaced with a 100-foot-wide open inlet to provide tidal exchange with the ocean while improving flood performance.

Approximately 1,000 feet of beach may be closed during inlet construction, reaching 500 feet north and south, respectively, of the tidal inlet centerline. Direct use of the beach at the new inlet area would be restricted during the period of inlet construction, approximately 3 to 5 months. During this time, public access would not be possible through the construction area and no north-south access would be available on the beach area at the inlet location.

The tidal inlet would be constructed with a maximum width of 100 feet and an initial bottom elevation at -2.0 feet NGVD. The inlet channel is expected to be in a constant state of change in terms of width, bottom elevation, water elevation, and water velocity due to factors such as tides, waves, and sand supply. During storm conditions, it is expected that the inlet channel would be relatively deep and wide with high water velocities and not safe to cross. During non-storm conditions, it is expected that the average water depth could range from 0 feet (meaning dry inlet channel) to 5 feet. During spring tide conditions, the average water depth would reach up to 6 feet or more. Under these conditions, the inlet channel could be traversed some of the time. During neap tides and mean tides, the inlet channel would be relatively narrow and shallow with relatively low water velocities. Under these conditions, the inlet channel could be traversed by adults and some children for a portion of each day. It is estimated that approximately 37 percent of the time, crossing conditions would be considered potentially hazardous for some beach users (Everest 2014c, d). See Section 3.15 Public Health and Safety for additional discussion and details of public safety specific to inlet crossing

Once operational, the new inlet across the beach would not substantially alter the continued coastal beach land use of the general area. Stretches of sandy beach to both the north and south of the inlet location and the modification of an approximate 100-foot swatch of beach would not constitute a substantial loss of beach-related land use due to the surrounding beach areas that would continue to be available and unchanged. This beach area would continue to provide a generally contiguous expanse, serving both Oceanside and Carlsbad. The occasional inlet inaccessibility would not cause a substantial separation between two communities as the beach area would continue to be open to users without features or elements that are community specific. Additionally, when conditions are appropriate, the inlet could continue to serve as beach area and provide opportunity for wading and beach play, as is evidenced at other local coastal lagoon inlets such as San Elijo Lagoon. This would be generally consistent with the current uses

of the beach area in this location and **would not result in substantial land use changes, incompatibility, or a division of the existing communities (Criterion A), and impacts would be less than significant.**

Crossing the new inlet area would likely be inaccessible or unsafe at times for beachgoers or recreationalists, depending on conditions, as detailed above. Persons walking on the beach would need to wade or swim through the inlet during certain conditions (high water volumes and velocities). These conditions would decrease the ability of beachgoers to cross the inlet on a daily and seasonal basis. Beachgoers and recreationalists are currently accustomed to uninterrupted beach access with the ability to traverse the beach in a north-south manner throughout the entire lagoon vicinity. Under unsafe crossing conditions, a person would have to detour from the beach area to Carlsbad Boulevard using paths and streets for approximately 1 mile for north-south access.

This new restriction to north-south access along the beach during construction and after construction when the inlet is in operation would be in conflict with goals and policies of various land use documents that require the maintenance of public access and availability of coastal resources. For example, the CCA, which is implemented through the Oceanside and Carlsbad LCPs, specifically provides for public access and recreational opportunities in coastal areas in Chapter 3, Article 2, Sections 30210–30214 and specifically addresses public access to coastal areas, including maximum access to coastal areas, access to recreation opportunities, and development not to interfere with public access. **These inconsistencies with access-related land use policies due to the restricted north-south beach accessibility that would result from the construction and operation of an open inlet under the Saltwater Alternative are considered substantial, and impacts would be significant (Criterion B).**

Carlsbad Boulevard Bridge

The channel extending under Carlsbad Boulevard and the bridge spanning the channel would be expanded to 110 feet and replaced as part of the Saltwater Alternative. The replacement bridge would accommodate two vehicular travel lanes (one in each direction), as well as two bike lanes, a sidewalk, and a separated pathway consistent with the City of Carlsbad planned buildout configuration. Construction of the replacement bridge is anticipated to require approximately 6 to 9 months and would result in the temporary closure of lanes; however, both vehicular and bicycle access would be maintained in both directions. A temporary bicycle path would be constructed on the outside lane of the open lane along Carlsbad Boulevard during bridge construction to allow access between the Cities of Oceanside and Carlsbad (PDF-5). Provision of the temporary bike path would minimize disruption to bicycle traffic and provide safe access throughout construction. Pedestrian access across the bridge would be temporarily

prohibited during the construction period for safety purposes and is further discussed in Section 3.10 Traffic and Circulation. The replacement bridge would not modify land use as a similar bridge in this location already exists and the replacement bridge would not cause or prompt the modification of the land uses in the area. While temporary disruptions in traffic flow may occur during construction, this would be short term in nature and would not cause physical division or other incompatible north-south access issues as both vehicular and bicycle access would remain throughout construction and pedestrian access would be fully restored upon completion. For these reasons, **construction and operation of the replacement Carlsbad Boulevard bridge as proposed by the Saltwater Alternative would not create land use inconsistencies or incompatibility and impacts would be less than significant (Criteria A and B).**

Recreation

Fishing

Implementation of the Saltwater Alternative would result in the conversion of the lagoon from a freshwater system to a saltwater system. This change would affect the type of fish living in the lagoon and would modify recreational fishing opportunities that currently exist. As detailed in Section 3.5 Biological Resources, the salinity levels associated with the Saltwater Alternative would extirpate most freshwater fish species and encourage saltwater fish species to enter and utilize Buena Vista Lagoon during various life history stages.

Under the Saltwater Alternative, conversion from a freshwater to marine fishery would evolve as tidal influence attracts saltwater species typical of southern California bays and lagoons. Based on available information from nearby lagoons, it is expected that locally targeted recreational marine species would populate the proposed subtidal areas and attract recreational anglers. Comparable nearby lagoons with similar inlet sizes as the proposed Enhancement Project inlet configurations (under Saltwater and Hybrid Alternatives only) include Agua Hedionda and Batiquitos lagoons. The Recreational Fisheries Information Network (RecFIN) is a project of the Pacific States Marine Fisheries Commission and provides sample data for fisheries along the coast of California. Their records for Agua Hedionda lagoon indicate recreational anglers have been active for well over 10 years, targeting and catching sandbass, corbina, halibut, and seabass among other species (RecFin 2014). Batiquitos Lagoon was restored to a tidal lagoon in December 1996 after a new engineered inlet was opened. Batiquitos Lagoon was sampled for fish as part of a 10-year post-restoration monitoring plan (Merkel & Associates 2009). Stock fish introduced into the lagoon were equipped with a magnetic tag and many of the larger fish collected during the 10-year monitoring plan did not have a magnetic tag, suggesting natural recruitment possibly attracted by the hatchery size fish. Results of that 10-year monitoring effort confirm that many recreationally targeted species were present with size and abundance that

would attract anglers (Merkel & Associates 2009). Additionally, anecdotal information collected by CDFW staff from Batiquitos Lagoon game wardens and local fishermen indicate that legal fish are removed from Batiquitos Lagoon regularly, including halibut, spotted bass, barred sand bass, various sharks and rays, diamond turbot, striped mullet, and spotfin croaker (CDFW 2014c). In addition, CDFW staff familiar with the local lagoons confirmed that sport fish of appropriate size are targeted and caught within similar lagoon systems (CDFW 2014d, e). Because of the comparable inlet conditions, the data from Agua Hedionda Lagoon and monitoring results from Batiquitos Lagoon provide scientific reasoning adequate to anticipate that saltwater marine species would also populate Buena Vista Lagoon under the new saltwater condition in size and abundance to support recreational fishing. Additionally, CDFW General Statewide Restrictions dictating the daily bag limit on various species would apply to fishing in the lagoon (CDFW 2014b) and would help encourage fish population sustainability by limiting the number of fish taken from the lagoon.

Similar to the Freshwater Alternative, the Saltwater Alternative would incorporate deeper subtidal fish areas designed to encourage saltwater fish presence in the lagoon. Two subtidal areas would be created under the Saltwater Alternative. The first fishing area would be located in the northern part of the Railroad Basin off Coast Highway and the second would be located in the eastern portion of the I-5 Basin and would supplement the existing fishing location near Lagoon View Drive and Jefferson Street. The public use of these fishing areas would be subject to designation by CDFW as authorized shoreline fishing locations. Creation of deep water habitat, approximately 4 acres, would have long-term, beneficial effects on saltwater fish resources. The monitoring results from Batiquitos Lagoon found that maintaining adequate oceanic influence and water depth within the lagoon system was critical to sustaining the ecosystem function and services, including fisheries production. The monitoring also found a wide variety of species were present throughout their life cycle within the restored lagoon environment that included provision of additional habitat and nursery functions (Merkel & Associates 2009). Although open water habitat would be reduced by approximately 56 acres under this alternative, this would not adversely impact saltwater fish species because a naturally functioning, healthy saltwater ecosystem would be created providing high-quality, suitable habitat and suitable hydrologic conditions. Similar to the Freshwater Alternative, a new trail would provide access to the subtidal fishing area in the northern portion of the Railroad Basin (see Figure 2-8).

Similar to the discussion under the Freshwater Alternative, during construction activities within the lagoon, some individual fishing locations may experience disruptions as certain areas would be temporarily restricted for public safety or fish may vacate an area due to the dredging operations, while other fishing opportunities would continue throughout remaining portions of the lagoon not under construction. Additionally, short-term fishing opportunities may be reduced

as the lagoon enhancement is completed and the conversion to a saltwater system occurs. However, based on similar situations in other local lagoons, it is anticipated that the saltwater fish populations would begin to establish quickly. After restoration of Batiquitos Lagoon, the monitoring program found that following the mouth opening, the overall fish density showed rapid recruitment and remained steady over the 10-year monitoring program (Merkel & Associates 2009). **Though temporarily reduced and restricted, recreational fishing opportunities would be available throughout portions of the lagoon during construction, and fish populations are anticipated to begin reestablishment quickly after completion of enhancement activities; thus, short-term fishing impacts would be less than significant (Criteria C and D).**

Freshwater recreational angling opportunities would be eliminated under the Saltwater Alternative. However, as described above, the conversion to a saltwater system is anticipated to encourage saltwater fish species popular among recreational anglers to enter and utilize the lagoon in sufficient numbers and size classes to provide viable recreational angling opportunities Therefore, even though the species of fish available within the lagoon would be modified from freshwater to saltwater species, recreational fishing would be expected to continue to be viable in the lagoon. **Thus, implementation of the Saltwater Alternative is anticipated to provide opportunity to maintain continued fishing throughout the lagoon as the saltwater fish populations establish (potentially taking up to 2 years), and impacts would be less than significant (Criteria C and D).**

Trails

As previously described, no existing formal trails traverse through the lagoon. The nearest formal trails are part of Hosp Grove Park on the southeast corner of the lagoon and portions of the trail system overlook the lagoon. These formal trails would not be disrupted or modified as part of the Enhancement Project. Many informal paths lead from surrounding areas to the lagoon edge and would also not be substantially modified or impacted by the Enhancement Project. Because of the effort to locate construction staging in previously disturbed areas, some staging areas may be located in places that have been used as access points along the lagoon edges. As shown in Figure 2-16, the staging areas are dispersed in various locations around the lagoon as needed and appropriate. While these specific areas would not be publicly accessible during construction, a wide variety of other informal paths and access locations would remain unaffected by construction activities.

As described for the Freshwater Alternative and detailed in Section 2.5.1, a Boardwalk would be constructed parallel to Carlsbad Boulevard to increase connectivity between the Nature Center in Oceanside and Maxton Brown Park in Carlsbad and enhance public access to the lagoon (see

Figure 2-3). The Boardwalk would accommodate a range of recreational activities, including fishing, walking, nature study (e.g., bird watching), education, and interpretation of the site's unique ecological habitat. The new Boardwalk would be consistent with policies contained within the Oceanside General Plan Recreation Element (Objective 8.3) that encourage links to pedestrian amenities such as the lagoon.

As described for the Freshwater Alternative, the Saltwater Alternative would also include a new trail to provide access to the proposed subtidal fish area in the northern portion of the Railroad Basin and consist of a pedestrian crosswalk across Carlsbad Boulevard from the Nature Center and a pervious surface trail extending to the lagoon shore (see Figure 2-8).

The Saltwater Alternative would also replace the Carlsbad Boulevard bridge. The replacement bridge would provide two bike lanes, a sidewalk, and a separated pathway. Once completed, these pedestrian and bicycle facilities would continue to accommodate and provide north-south access across the lagoon on Carlsbad Boulevard, similar to the pedestrian facilities on the existing bridge. During construction, vehicle and bicycle access across the bridge would be maintained throughout the duration of construction, while pedestrian access would be temporarily prohibited for safety. The short-term loss of pedestrian crossing along the Carlsbad Boulevard bridge would not result in substantial conflicts with land use policies or recreation opportunities as the bridge serves to provide general north-south access and would not highly restrict the availability of access to surrounding areas (see Section 3.10 Traffic and Circulation for additional discussion).

Trails and access through and around the lagoon would be permanently maintained and improved with the construction of the new Boardwalk feature that would provide north-south pedestrian access through the lagoon where none currently exists. The proposed Boardwalk and fishing area access trail would serve to improve pedestrian access and recreational opportunities throughout the lagoon. **The Saltwater Alternative would not create the loss or deterioration of recreational trail uses, cause a substantial displacement of recreational trail activities or opportunities, or create recreational safety issues, and impacts would be less than significant (Criteria C, D, and E).**

Beach

As described above, the Saltwater Alternative would create a new inlet that would modify the existing beach continuity and existing beach use through permanent conversion of this approximately 100-foot-wide area to a lagoon inlet. The new inlet would be considered a change from existing conditions; however, sufficient beach area for continued recreational use would be available on both sides of the inlet. Recreation such as wading and beach-related play may be

possible within the inlet channel. However, the opening of the tidal inlet channel across the beach would at times create a physical barrier due to water depth and velocity and intermittently render the inlet unsafe for some recreationalists crossing from north to south, both on a seasonal and daily basis. Beachgoers and recreationalists are currently accustomed to uninterrupted beach access with the ability to traverse the beach in a north-south manner throughout the entire lagoon vicinity. If the inlet was not safe to cross, a person would have to detour from the beach area to Carlsbad Boulevard using paths and streets for approximately 1 mile for north-south access.

Beach access that currently exists along the southern side of the inlet via a dirt path may also be temporarily restricted for staging and work areas (Figure 2-16) during dredging/vegetation removal activities in the Weir Basin. Because there are numerous other public access points to the beach, both to the north and south, this temporary restriction in access at this location would not result in a substantial loss of beach accessibility.

For the reasons outlined above, construction and operation of the Hybrid Alternative with the new inlet crossing of the beach would not result in the deterioration of recreational use areas along the beach (Criterion C), or cause substantial displacement of public recreation activities or opportunities (Criterion D), and less than significant impacts would result. The new inlet would periodically create a new safety threat to recreational users (Criterion E) and the impact would be significant.

Surfing

Creation of an open inlet condition as proposed under the Saltwater Alternative would likely result in the formation of an ebb bar off the mouth of the lagoon. An ebb bar is a sand bar formation in deeper water resulting from the cross-current action of an outgoing or incoming tide that deflects material from its parallel movement. The presence of an ebb bar can have effects on beach breaks and surfing conditions. Based on the proposed open inlet, the resulting ebb bar at Buena Vista Lagoon is predicted to extend 250 feet offshore, stretch 1,700 feet alongshore, and be centered at the lagoon mouth with a total volume estimated at approximately 30,000 cy. At larger and more pronounced ebb bars such as Agua Hedionda Lagoon, Batiquitos Lagoon, and Bolsa Chica Wetlands, the ebb bars have substantially improved surfing conditions in comparison to the surrounding beach breaks (Everest 2014b). The ebb bar at Buena Vista Lagoon would be even smaller than that of San Dieguito Lagoon, which is barely considered as a separate surf spot from the surrounding beach break. Changes to surfing resources as a result of the Buena Vista Lagoon ebb bar are expected to be negligible to minor. If changes occur they would likely be beneficial, adding some minor variation to nearshore bottom contours. **Thus, surfing opportunities near the lagoon inlet under the Saltwater Alternative would not be diminished or degraded, and impacts would be less than significant (Criteria C and D).**

Long-term Benefits

Under the Saltwater Alternative, the lagoon would transform from a freshwater to marine fishery and would likely attract targeted recreational marine species, providing new fishing opportunities to recreational anglers. Similar to the Freshwater Alternative, the Saltwater Alternative would create approximately 4 acres of deep water fish habitat, which would encourage saltwater fish presence in the lagoon, as well as a new trail segment to access the fishing area in the northern Railroad Basin. Under all alternatives, the construction of a Boardwalk parallel to Carlsbad Boulevard would increase pedestrian access to the lagoon, advancing the City of Carlsbad and City of Oceanside's goal of providing enhanced public access to the lagoon.

Hybrid Alternative

Land Use

Lagoon

The Hybrid Alternative (Options A and B) would primarily result in a change to the inlet function, water characteristics, and habitat distributions within the lagoon. Similar to the discussion for the Saltwater Alternative, implementation would not result in the permanent conversion of the lagoon from a wetland to another land use post-enhancement as it would remain a coastal wetland and open space/reserve area. The lagoon enhancement would not change or modify the lagoon's designation, purpose, or public use as an ecological reserve. The Hybrid Alternative would not alter the lagoon's use or function in a manner inconsistent with applicable regulations and laws or existing and future local land use plans, as listed in Table 3.1-1. The overall lagoon enhancement resulting from the Hybrid Alternative would not cause conflicts with land use regulations or policies that could result in substantial adverse environmental effects.

Previous lagoon management objectives dating from when the lagoon was first designated as an Ecological Reserve over 40 years ago included the maintenance of a freshwater system (Wildlife Conservation Board 1972). However, the lagoon does not have an adopted management plan providing a specific or official management directive.

During the construction period, various temporary disruptions could occur, such as increased noise, visual changes, etc. (as discussed in the appropriate sections throughout this EIR); however, the overall open space nature of the lagoon would continue. **Construction and long-term enhancement of the lagoon would not result in physical division of the established**

community or conflict with applicable land use documents, and impacts would be less than significant (Criteria A and B).

Inlet

Similar to the Saltwater Alternative, the Hybrid Alternative would remove the existing weir and create an open tidal inlet. Construction of the inlet under the Hybrid Alternative would be similar to that described for the Saltwater Alternative, requiring closure of approximately 1,000 feet of beach for approximately 3 to 5 months. During this time, public access would not be possible through the construction area and no north-south access would be available on the beach area at the inlet location.

The inlet constructed under the Hybrid Alternative would be similar to that described under the Saltwater Alternative and is expected to be in a constant state of change with varying situations of high water velocities and dry conditions. The new inlet across the beach would not substantially alter the continued coastal beach land use of the general area. Stretches of sandy beach to both the north and south of the inlet location would remain unchanged and the modification of an approximate 100-foot swatch of beach would not constitute a substantial loss of beach-related land use or cause a substantial separation between two communities as the beach area would continue to be open to users without features or elements that are community specific. **This would not result in substantial land use changes, incompatibility, or a division of the existing communities (Criterion A) and impacts would be less than significant.**

The new inlet area would likely be inaccessible or unsafe to cross at times for beachgoers or recreationalists, depending on conditions as detailed under the Saltwater Alternative. Beachgoers and recreationalists are currently accustomed to uninterrupted beach access with the ability to traverse the beach throughout the entire lagoon vicinity. If the inlet was not safe to cross, a person would have to detour from the beach area to Carlsbad Boulevard using paths and streets for approximately 1 mile for north-south access. Similar to the Saltwater Alternative, this new restriction to north-south access along the beach during construction and after construction when the inlet is in operation would be in conflict with goals and policies of various land use documents. This access restriction would be inconsistent with Chapter 3, Article 2, Sections 30210–30214 of the CCA that specifically address public access to coastal areas as well as public access policies in the City of Carlsbad General Plan LCP LUP and City of Oceanside General Plan LCP LUP (see Table 3.1-1). **These inconsistencies due to the restricted north-south beach accessibility that would result from the construction and operation of an open inlet under the Hybrid Alternative are considered substantial, and impacts would be significant (Criterion B).**

Carlsbad Boulevard Bridge

The channel extending under Carlsbad Boulevard and the bridge spanning the channel would be expanded to 110 feet and replaced as part of the Hybrid Alternative. The replacement bridge would accommodate two vehicular travel lanes, two bike lanes, a sidewalk, and a separated pathway consistent with the City of Carlsbad's planned build-out configuration (Carlsbad 2014a). The replacement bridge would not modify land use as a similar bridge in this location already exists and the replacement bridge would not cause or prompt the modification of the land uses in the area. Construction of the replacement bridge would result in the temporary closure of lanes (6 to 9 months); however, this would not cause physical division or other incompatible north-south access issues as both vehicular and bicycle access would remain throughout construction PDF-5) and be fully restored upon completion. **For these reasons, construction and operation of the replacement Carlsbad Boulevard bridge as proposed by the Hybrid Alternative would not create land use inconsistencies or incompatibility, and impacts would be less than significant (Criteria A and B).**

Recreation

Fishing

Implementation of the Hybrid Alternative would result in the partial conversion of the lagoon from a freshwater system to a saltwater system. Under the Hybrid Alternative (Options A and B), a saltwater system would be created west of I-5 and the freshwater system east of I-5 would be maintained. This change would impact the type of fish populations living in the lagoon west of I-5 and, thus, would subsequently modify the recreational fishing that currently occurs within those basins. Freshwater fish species assemblages in the I-5 Basin east of I-5 would not be affected by implementation of the Hybrid Alternative (Options A and B). Under both hybrid alternative scenarios, freshwater fishing would continue to be a recreational opportunity in areas east of I-5.

Areas west of I-5 would no longer be suitable for freshwater species due to the increased salinity from tidal flow and would transition to a marine fishery. Freshwater fish species would be extirpated from the basins west of I-5 and replaced by saltwater guilds. Conversion to a saltwater system would encourage saltwater fish species to enter and utilize these basins during various life history stages. Marine fishery characteristics would be similar to those discussed for the Saltwater Alternative. For reasons described under the Saltwater Alternative discussion, it would be anticipated that saltwater marine species would populate the western basins of Buena Vista Lagoon under the new saltwater condition in size and abundance to support recreational fishing. Additionally, CDFW General Statewide Restrictions dictating the daily bag limit on various

species would apply to fishing in the lagoon (CDFW 2014b) and would help encourage fish population sustainability by limiting the number of fish taken from the lagoon.

Open water habitat throughout the lagoon would be reduced by approximately 40 acres. Loss of open water habitat would not impact saltwater or freshwater fish species because a naturally functioning, healthy ecosystem would be created providing high-quality, suitable habitat and suitable hydrologic conditions. Creation of three deep water habitat areas in the lagoon, approximately 5 acres and similar in location to those described for the Freshwater Alternative, would have the same long-term, beneficial effects on fish resources as described above under the permanent direct impacts section for the other enhancement alternatives. The public use of these fishing areas would be subject to designation by CDFW as authorized shoreline fishing locations. Similar to the Freshwater Alternative, a new trail would provide access to the subtidal fishing area in the northern portion of the Railroad Basin (see Figure 2-9).

Similar to the discussion under the Freshwater Alternative, during construction activities within the lagoon, some individual fishing locations may experience disruptions as certain areas would be temporarily restricted for public safety or fish may vacate an area due to the dredging operations, while other fishing opportunities would continue throughout remaining portions of the lagoon not under construction. Additionally, short-term fishing opportunities may be reduced as the lagoon enhancement is completed and the partial conversion to a saltwater system occurs. However, based on similar situations in other local lagoons, it is anticipated that the saltwater fish populations in the western basins would begin to establish quickly. After restoration of Batiquitos Lagoon, the monitoring program found that following the mouth opening, the overall fish density showed rapid recruitment and remained steady over the 10-year monitoring program (Merkel & Associates 2009). **Though temporarily restricted, recreational fishing opportunities would be available throughout portions of the lagoon during construction, and fish populations are anticipated to begin reestablishment quickly after completion of enhancement activities; thus, short-term fishing impacts would be less than significant (Criteria C and D).**

Freshwater recreational angling opportunities would be eliminated from the three basins west of I-5 under the Hybrid Alternative (Options A and B). Effects on the freshwater recreational fishery in the I-5 Basin under the Hybrid Alternative (Options A and B) would be similar to those described under the Freshwater Alternative. Freshwater habitat quantity and quality would increase in this basin and there would be long-term beneficial effects on the freshwater recreational fishery. As described above, the conversion to a saltwater system is anticipated to encourage saltwater fish species popular among recreational anglers to enter and utilize the western lagoon basins in sufficient numbers and size classes to provide viable recreational angling opportunities Therefore, even though the species of fish available within the Coast, Weir,

and Railroad Basins would be modified from freshwater to saltwater species, recreational fishing would continue to be viable in the lagoon. **Thus, implementation of the Hybrid Alternative is anticipated to provide opportunity to maintain continued fishing throughout the lagoon, in both freshwater and saltwater conditions once the fish populations reestablish (potentially taking up to 2 years), and impacts would be less than significant (Criteria C and D).**

Trails

As previously described, no existing formal trails traverse through the lagoon. The nearest formal trails are part of Hosp Grove Park on the southeast corner of the lagoon and portions of the trail system overlook the lagoon. No formal trails would be disrupted or modified as part of the Hybrid Alternative. Many informal paths lead from surrounding areas to the lagoon edge and would also not be substantially modified or impacted by the Enhancement Project. Because of the effort to locate construction staging in previously disturbed areas, some staging areas may be located in places that have been used as access points along the lagoon edges (Figure 2-16), but there would continue to be a wide variety of other informal paths and access locations unaffected by construction activities.

As described for the Freshwater Alternative and detailed in Section 2.5.1, a Boardwalk would be constructed parallel to Carlsbad Boulevard to increase connectivity between the Cities of Oceanside and Carlsbad and enhance public access to the lagoon. The Boardwalk would accommodate a range of recreational activities, including fishing, walking, nature study (e.g., bird watching), education, and interpretation of the site's unique ecological habitat. The new Boardwalk would be consistent with policies contained within the Oceanside General Plan Recreation Element (Objective 8.3) that encourage links to pedestrian amenities such as the lagoon.

As described for the Freshwater Alternative, the Hybrid Alternative would also include a new trail to provide access to the proposed subtidal deep-water fish area in the northern portion of the Railroad Basin and consist of a pedestrian crosswalk across Carlsbad Boulevard from the Nature Center and a pervious surface trail extending to the lagoon shore (see Figure 2-9).

Similar to the Saltwater Alternative, the Hybrid Alternative would also replace the Carlsbad Boulevard bridge. The replacement bridge would provide two bike lanes, a sidewalk, and a separated pathway. Once completed, these pedestrian and bicycle facilities would continue to accommodate and provide north-south access across the lagoon on Carlsbad Boulevard, similar to the pedestrian facilities on the existing bridge. During construction, pedestrian access across the bridge would be temporarily restricted for safety.

Thus, trails and paths through and around the lagoon would be permanently maintained and improved with the construction of the new Boardwalk feature that would provide north-south pedestrian access through the lagoon where none currently exists. The proposed Boardwalk and fishing area access trail would serve to improve pedestrian access and recreational opportunities throughout the lagoon. **The Hybrid Alternative would not create the loss or deterioration of recreational uses, cause a substantial displacement of recreation activities or opportunities, or create recreational safety issues, and impacts would be less than significant (Criteria C, D, and E).**

Beach

As described for the Saltwater Alternative, the Hybrid Alternative would also create a new inlet that would modify the existing beach continuity and existing beach use through permanent conversion of this approximately 100-foot-wide area to a lagoon inlet. Sufficient beach area for continued recreational use would be available on both sides of the inlet; however, the opening of the tidal inlet channel across the beach would at times create a physical barrier due to water depth and velocity and intermittently render the inlet unsafe for some recreationalists crossing from north to south, both on a seasonal and daily basis. Beachgoers and recreationalists are currently accustomed to uninterrupted beach access with the ability to traverse the beach in a north-south manner throughout the entire lagoon vicinity. If the inlet was not safe to cross, a person would have to detour from the beach area to Carlsbad Boulevard using paths and streets for approximately 1 mile for north-south access.

Beach access that currently exists along the southern side of the inlet via dirt path may also be temporarily restricted during inlet construction and dredging/vegetation removal activities in the Weir Basin. Because there are numerous other public access points to the beach, both to the north and south, this temporary restriction in access at this location would not result in a substantial loss of beach accessibility.

For the reasons outlined above, construction and operation of the Hybrid Alternative with the new inlet crossing of the beach would not result in the deterioration of recreational use areas along the beach (Criterion C), or cause substantial displacement of public recreation activities or opportunities (Criterion D), and less than significant impacts would result. The new inlet would periodically create a new safety threat to recreational users (Criterion E) and the impact would be significant.

Surfing

Creation of an open inlet condition as proposed under the Hybrid Alternative would have similar effects on surfing as described for the Saltwater Alternative with the likely formation of an ebb bar off the mouth of the lagoon. If changes occur they would likely be beneficial, adding some minor variation to nearshore bottom contours. **Thus, surfing opportunities near the lagoon inlet under the Hybrid Alternative would not be diminished or degraded, and impacts would be less than significant (Criteria C and D).**

Long-term Benefits

Under the Hybrid Alternative options, a saltwater system would be created west of I-5 and the freshwater system east of I-5 would be maintained, offering anglers both freshwater and saltwater fisheries. Three deep-water habitat areas would be created, totaling approximately 5 acres. These areas, similar to those created by the other two alternatives, would enhance fishing opportunities for recreational anglers. Similar to the other two alternatives, the Hybrid Alternative options would include a new trail to the subtidal deep-water fish area in the northern Railroad Basin. Under all alternatives, the construction of a Boardwalk parallel to Carlsbad Boulevard would increase pedestrian access to the lagoon, advancing the City of Carlsbad and City of Oceanside's goal of providing enhanced public access to the lagoon.

No Project Alternative

Under the No Project Alternative, enhancement of the lagoon would not occur. The existing weir would remain in place, no removal of sediment or vegetation would occur, no maintenance regime would be implemented to enhance the biological and hydrological functions of the lagoon, and improvements such as the Boardwalk would not be constructed. The lagoon inlet would remain in its existing location with ongoing management as described in Section 2.1.1, including some vegetation removal, informal trail maintenance, and periodic beach berm removal. With no improvements, such as the Boardwalk, the No Project Alternative would not necessarily advance the goals of local policies that encourage increased connectivity and access to the lagoon and conditions would remain the same. No changes to existing land use or incompatibilities with surrounding land uses or planning documents would occur. For these reasons, **the No Project Alternative would not create land use inconsistencies or incompatibility, and no impacts would occur (Criteria A and B).**

The No Project Alternative would not modify or change the existing recreation opportunities associated with the lagoon or in the local beach area. No temporary trail/pathway or beach restrictions or closures would be associated with this alternative as no construction would occur.

However, it is anticipated that the biological and hydrological functions of the lagoon would continue to degrade under the No Project Alternative and convert to more marsh or woodland-type habitat. This conversion would likely modify the type of recreation opportunities currently provided by the lagoon. For example, the variety of wildlife in the lagoon area available for recreational nature observation, photography, and birding would change based on the type of habitat present.

Fishing opportunities would continue in their current condition but may deteriorate in the long term due to vegetation encroachment and water quality degradation. Some fishing opportunities may become more restricted, but existing deeper open water areas would likely remain due to water depths that would continue as open water and support fish populations. The extent to which fishing opportunities would decrease is speculative, and would depend on the rate and pattern of sedimentation and vegetation encroachment.

The No Project Alternative would not provide increased recreational opportunities, such as new fishing holes, Boardwalk, or improved habitat and ecological diversity that could be experienced by bird watchers, nature enthusiasts, and recreationists. While recreational opportunities are anticipated to change based on the continued degradation of the lagoon system, these modifications to recreational opportunities are not considered significant. The No Project Alternative would not result in the substantial deterioration of recreational use areas (Criterion C), cause access limitation to recreational opportunities (Criterion D), or create a new safety threat to recreational users (Criterion E), and impacts would be less than significant.

Materials Disposal/Reuse

This section focuses on potential land use or recreation impacts associated with materials disposal and reuse of dredged sediments.

Under all build alternatives, portions of the lagoon would be dredged to achieve the proposed habitat distribution of each individual alternative. Approximately 562,000 cy of sediment would be removed from the lagoon under the Freshwater Alternative; approximately 781,000 cy of sediment would be removed as part of the Saltwater Alternative; and approximately 833,000 cy of sediment would be removed under the Hybrid Alternative (Options A and B). Depending on the characteristics of the dredged material (see details in Section 2.7.2), it would be used beneficially as a source of beach material or disposed of as waste on-site or off-site.

Littoral Zone Nourishment

Land Use

Materials placement in the nearshore at Oceanside and/or onshore at Oceanside and North Carlsbad beaches would not result in the permanent conversion of land, conflict with existing or future planned land uses, or be incompatible with adjacent land uses. Local jurisdictions and the CCC have adopted policies and goals specifically in support of sand replenishment and erosion control. Table 3.1-2 provides a discussion of applicable land use regulations, laws, and existing and future local plans for the materials placement component of the enhancement project. As shown by the laws, plans, and policies listed in Table 3.1-2, many of the land use regulations applicable to materials placement specifically permit or allow materials placement for the purpose of coastal protection and enhancement of recreational resources. Other policies act to protect biological and coastal resources. All enhancement alternatives would place surplus material at nearshore or onshore locations in a manner consistent with the applicable laws and regulations. The temporary placement of pipelines and construction equipment associated with the short-term materials placement operations along the beach area and the overall resulting materials placement associated with this alternative would not cause conflicts with land use regulations or policies that could result in substantial adverse environmental effects. Overall, **beneficial reuse of dredged materials would be consistent with applicable regulations and plans, would not result in physical division of the established community, or create conflict with applicable land use documents. Land use impacts would be less than significant (Criteria A and B).**

Recreation

ACCESS

There are a variety of recreational activities at the nearshore and onshore materials placement sites including surfing, stand-up paddle boarding, swimming, diving, surf fishing, sport fishing, sailing, picnicking, sun bathing, and general beach use. During materials placement operations, temporary beach closures would occur on portions of the materials placement site; however, following placement of beach-quality materials, recreational beach areas would be completely reopened and sandy beach area increased. No beach trails would be affected during materials placement activities.

Table 3.1-2
Materials Placement Policy Consistency

Applicable Regulation, Law, Plan, or Program	Project Consistency
FEDERAL	
Coastal Zone Management Act	Consistent (all alternatives): Project activities are regulated by Local Coastal Programs (LCPs) implemented by local agencies.
Marine Protection, Research, and Sanctuaries Act (MPRSA, or Ocean Dumping Act)	Consistent (all alternatives): Under Approach 1, dredged materials of poor quality (i.e., relatively small grain size) not suitable for reuse would be disposed of in LA-5. LA-5 is an Environmental Protection Agency-designated ocean disposal site that allows dumping of materials from projects in adherence to regulations.
STATE	
California Coastal Act (CCA)	Consistent (all alternatives): In accordance with Section 30233 (a)(6) of the CCA, enhancement activities are regulated by LCPs implemented by local agencies. Section 30233(b) of the CCA specifies that dredge spoils suitable for beach nourishment should be transported for such purposes to appropriate beaches or into suitable longshore current systems. Consistency Certification, Section 30600(a) of the CCA, or Waiver of Federal Consistency Provisions would need to be granted by the California Coastal Commission.
LOCAL	
City of Oceanside General Plan and LCP	Consistent (all alternatives): The City's Land Use Element and LCP encourage beach replenishment and it is an important goal of local coastal planning (Land Use Section 3.17, A; LCP Findings I.B.3-4, II.B.1, II.B.6, II.C.5).
City of Carlsbad General Plan and LCP	Consistent (all alternatives): The City's Land Use Element and LCP encourage natural resource protection and address beach sand erosion measures (Land Use Chapter III, C.9 and C.11; LCP Chapter II-2, Policy 4-1 II).
Coastal Regional Sediment Management Plan (RSM Plan) and Shoreline Preservation Strategy	Consistent (all alternatives): The Enhancement Project would support the goals of the RSM Plan by allowing for reuse of beach-quality material along the San Diego coastline.

Because of public safety concerns associated with heavy equipment operations on the beach (i.e., pipelines and dozers to distribute sand on the beaches), portions of each of the disposal/reuse sites would be closed temporarily to the public during construction consistent with standard construction practices (Table 2-9). Restricted public access and delineated construction areas would serve to keep the public at a safe distance from the active construction area to avoid accidents. As described in the project description in Chapter 2, access points to the beaches would remain and allow continued public access and use of safe adjacent areas of the beach not involved in active construction. The total reach of beach within materials placement sites would not be closed for the entire duration of construction. Closure areas (approximately 500 feet at a

time) would shift as replenishment activities move along the shoreline, and would be maintained on a 24-hour basis within immediately affected portions of the materials placement sites. Beach areas north and south of the immediate work area would remain open and accessible throughout materials placement activities.

At the Oceanside beach site, the bottom of the public or private access stairs, such as those at the ends of Tyson Street, Pine Street, Ash Street, Haynes Street, and Cassidy Street, may be covered by sand, which would tend to stabilize the stairways. Public access to the beach via these stairways and access points would not be affected by materials placement at their base.

At the North Carlsbad beach site, materials placement could raise the beach surface and cover the bottom portion of some of the access stairways with sand; however, beach access would not be restricted. With materials placement, some stairs currently ending above the beach surface may reach the sand surface and result in enhanced access. Beach access via the road at Pine Avenue would not be impacted, since sand placement would not extend past the base of the road and access would not be restricted.

Restrictions would result in a temporary redistribution of beach activities to adjacent areas that would continue to provide ample beach availability. SANDAG would coordinate the schedule at individual materials placement sites to the extent possible to avoid major holidays and special events (PDF-8) to minimize overlap with times when the beaches are most active. At materials placement sites, access restriction would be a temporary localized effect and would not result in a permanent substantial condition. Once materials placement is complete, no residual restrictions or closures of the beach would occur and recreation opportunities or access would not be permanently affected. Ultimately, materials reuse would enhance the public's sandy beach recreational opportunity. For the reasons described in the paragraphs above, **materials placement at the onshore and/or nearshore sites would not create temporary or permanent substantial loss or deterioration of recreational use areas, major conflicts with adjacent recreational uses. Impacts to recreation uses would be less than significant (Criterion C).**

Materials placement would require a pipeline to extend from the lagoon to the materials placement site, either at Oceanside nearshore or onshore or onshore at North Carlsbad. To reach Oceanside, the pipeline would extend north from the lagoon along the beach approximately 2.5 miles. The North Carlsbad site is almost immediately adjacent to the south of the lagoon inlet location. The placement of the pipeline along the beach area could potentially restrict access for some beach users wanting to cross from the back beach area to the actual shoreline. Some recreationalists may not physically be able to step over or may not be able to lift or maneuver their belongings over the pipeline. This would be particularly disruptive along the 2.5-mile stretch necessary to reach the Oceanside site. Thus, **materials placement at the onshore and/or**

nearshore sites would cause a temporary displacement of public recreation activities due to access limitations. Temporary impacts to recreation access would be significant (Criterion D).

RECREATION SAFETY

As described above, public safety on the beach areas near active materials placement operations would be maintained through the temporary closure of portions of each of the disposal/reuse sites during construction) to keep the public safely away from the dangers of an active construction site. Additional standard construction practices related to materials placement (identified in Table 2-9) include spreading materials and checking for potential hazards (e.g., foreign objects in the sand) prior to opening areas of beach with placed materials. Also, signs would be posted advising the public of the presence of steep sand slopes (e.g., scarps) should they develop on beaches where sand is being placed. Placement of signs would provide warning to the public of potential hazards so it could be avoided without incident.

Placement of materials in the Oceanside nearshore site would be achieved through the transport of dredged material via pipeline to the nearshore area. Sand would then be discharged close to the sea bottom. Multiple standard safety measures would be implemented to ensure the safety and avoidance of the ocean pipeline and other water-based construction activities by recreationalists and boaters, including coordination with fishermen; issue a Notice to Mariners to promote awareness of the potential hazards, and clearly marked pipelines used during materials transport to the nearshore site, including both floating and submerged, as "navigational hazards" ensuring good visibility of potential hazards.

Sand placement around stationary lifeguard towers within the Oceanside materials placement site would be conducted by placing sand around the towers without removing them. Sand placement at Towers No. 7 and 9 would not be higher than the lifeguard's line-of-sight (PDF-7) since the towers are raised over the concrete/riprap structure. The sand would provide additional protection against storm surge damage and would temporarily benefit the lifeguard towers. At the Carlsbad North site, Lifeguard Tower No. 38 near the southern end of the site is surrounded by riprap and its platform is approximately 15 feet above the sand. Material would be placed close to the tower to provide additional protection against damage and would not be higher than the lifeguard's line-of-sight (PDF-7) to maintain the necessary clear views of the beach and water for the lifeguards.

Because of the recreational safety precautions incorporated as part of the project to protect recreationalists using the beach near materials placement areas and because the materials placement would not interfere with existing lifeguard facilities and would preserve line-of-sight

views for lifeguards, **no new threats to the safety of recreational users would occur during or following construction. Impacts would be less than significant (Criterion E).**

SURFING

Onshore and nearshore materials placement could affect surfing through modification of existing sandbars and reefs by sand placement and deposition, access being denied during construction, poor water quality, or by wave backwash generated during and after construction of the beach fill. The majority of information for this analysis is fully detailed in the Surfing Change Assessment Report (Everest 2014b).

Materials placement at the Oceanside nearshore site could provide a significant surfing benefit if the nearshore mound were designed and constructed appropriately or could be neutral to benign on surfing. Waves would likely focus on the mound and form a peak if the mound is shallow enough, and could provide ridable shoulders if the mound outline is in a shallow angle toward shore or curved/rounded. Waves would likely refract (wrap) around the mound and break over the shallow portion in a peeling left and right. Depending on the depth of the mound's crest, it can break at various tides. A very shallow mound crest can break at all tides, while a slightly deeper mound crest may only break at mid to low tides. Even if the mound does not generate an average quality breaking wave at high tide, the wave refraction over the mound can lead to creation of multiple peaks along the beach landward of the mound. The nearshore mound created by materials placement in the nearshore would be a temporary feature that would gradually disperse. For deposition in the nearshore, Approach 1 (no overdredge pit) would generate between 30,000 to 51,000 cy of material for deposition in the nearshore, dependent on the alternative selected, which would likely have a negligible change to surfing resources due to the small volume. Approach 2 (overdredge pit) would generate a much higher volume of material for placement in the nearshore, ranging from 387,000 to 578,000 cy and could result in a negligible change to beneficial changes to surfing resources, depending on how the mound is constructed. In either case, the mound should not be a detriment to surfing and no substantial negative impacts on surf conditions would be expected from nearshore placement.

Materials placement at the Oceanside or Carlsbad North onshore sites would be at the same locations as numerous previous beach nourishments. As detailed in the Surfing Change Assessment Report (Everest 2014b), under either approach, the volumes to be placed onshore are generally similar in magnitude as the 2001 RBSP and 2012 RBSP. For both RBSP beach nourishments in these locations, the change to surfing resources was negligible. Since the proposed beach nourishments at Oceanside or Carlsbad are on the same order of magnitude as those from the RBSPs, it is expected that the change to surfing resources should be similar to that

found during the 2001 RBSP and 2012 RBSP. Thus, no substantial negative impacts on surf conditions would be expected from onshore placement.

At the Oceanside beach and nearshore materials placement sites, access restrictions due to construction equipment would be temporary and localized with full access restored at completion of the Enhancement Project. The surf zone would not be closed during beach nourishment, but an area of the surf zone would likely be closed during nearshore placement. Surfers would be able to access surfing sites entering the water from either end of the materials placement construction area.

Lagoon sediment was tested for chemistry to verify potential dredged material was free of contaminants (Everest 2013). The material was found to be appropriate for beach and nearshore placement, so no health threats to surfers would result (Everest 2014b). Turbidity would be generated during placement activities, which could result in temporary impacts to water clarity. Turbidity would be monitored during construction in accordance with the Project's Regional Water Quality Control Board permit. Short-term increases in turbidity would only last as long as project construction and would return to normal within a day or two after completion. Changes to surfing from poor water clarity would be minor and temporary.

As detailed in the Surfing Change Assessment Report (Everest 2014b), because the nourishment sediment grain sizes are approximately equal to the existing grain sizes within the littoral zone, no long-term changes in backwash, wave breaking intensity, and wave vortex ratio would be expected as a result of the Enhancement Project grain sizes.

Based on the information presented above, the placement of materials at onshore or nearshore locations as proposed under the any of the enhancement alternatives would not have a substantial negative effect on surf conditions, would not cause a deterioration of that recreational opportunity, and would not create safety hazards to surfers. **Thus, materials placement would not create temporary or permanent substantial loss or deterioration of recreational use areas, major conflicts with adjacent recreational uses, or substantial displacement of public recreation activities or opportunities. Impacts to surfing recreation would be less than significant (Criteria C, D, and E).**

Offshore Disposal

Under Approach 1, sediment that is unsuitable for beneficial use (<70 percent sand) would be dredged and transported to a barge offshore via a pipeline and monobuoy system that connects the excavation site to the barge. Once the barge has reached an acceptable load, it would be

towed to LA-5. Once the barge reaches LA-5, the sediment would be discharged within the disposal site.

Land Use

As described in Section 3.1.1, LA-5 is designated for the disposal of appropriate sediment dredged from waters of the U.S. Because LA-5 is located 10 nautical miles offshore, the discussion of land use at this location does not apply as the site is surrounded entirely by open ocean. The disposal of sediment at LA-5 would occur in accordance with applicable regulatory requirements and would not result in land use conflicts. **Offshore disposal at LA-5 as proposed under Approach 1 would not result in physical division of the established community or conflict with applicable land use documents, and impacts would be less than significant (Criteria A and B).**

Recreation

Recreation opportunities at LA-5 are limited to ocean fishing due to the location of the site 10 nautical miles offshore. While some restrictions would be in place during disposal operations (i.e., boaters and recreationists would be restricted from areas directly in the vicinity of pipelines and transport equipment) as part of standard construction practices, this would be a short-term temporary impact occurring periodically over 9 months. This activity would not preclude ocean fishing in other areas, as restrictions would be localized around the pipeline system and barge. Practices would include those listed in Table 2-9, such as restriction of public access at active placement sites and around the monobuoy to keep the public at a safe distance from construction hazards. In compliance with regulatory requirements, a Notice to Mariners would be issued for ocean transport activities associated with materials disposal at LA-5.

Disposal of material at LA-5 would have no effects on surfing since no materials would be placed in the littoral zone. **Materials disposal activities at LA-5 would not create the loss or deterioration of recreational uses, cause a substantial displacement of recreational activities or opportunities, or create recreational safety issues. Impacts would be less than significant (Criteria C, D, and E).**

No Project Alternative

Under the No Project Alternative, enhancement of the lagoon would not occur. No materials placement activities would occur under the No Project Alternative. This alternative would not generate the opportunity to fulfill beach nourishment goals and policies of various general plans and LCPs as shown in Table 3.1-2, nor would additional recreational beach area be created.

While none of the positive materials placement outcomes would result with this alternative, the continuation of existing conditions as a result of the No Project Alternative **would not result in land use conflicts and would not result in physical division of the established community or conflict with applicable land use documents (Criteria A and B) and would not create the loss or deterioration of recreational uses, cause a substantial displacement of recreational activities or opportunities, or create recreational safety issues. No land use or recreational impacts would occur (Criteria C, D, and E).**

3.1.4 MITIGATION MEASURES

Significant impacts to land use and recreation would occur under the Saltwater and Hybrid Alternatives due to the creation of an open ocean inlet and the resulting periodic interruption in beach access between Carlsbad and Oceanside due to unsafe conditions that would occur at times of high water volume and velocity.

Recommended mitigation measures that would reduce impacts associated with this decrease in beach access and related inconsistencies with applicable land use planning documents (CCA, City of Oceanside General Plan LCP LUP, and City of Carlsbad LCP LUP) include the construction of a pedestrian crossing to span the inlet and allow beachgoers to continue to travel north-south along this stretch of beach. To reduce permanent beach access-related impacts, the Enhancement Project shall implement the following mitigation measure (Saltwater and Hybrid Alternatives only):

Land Use-1 The project proponent will construct a pedestrian bridge that spans the proposed tidal inlet at a height above the calculated high tidal and flood flows to provide north-south lateral access for beach users. Bridge construction will occur prior to opening the tidal inlet.

A variety of potential bridge options were considered to determine a feasible design and location with the fewest potential impacts. Various options considered the feasibility of different bridge design considerations, including placement location, height, structural design, engineering constraints, land access and space availability, long-term viability, and maintenance and associated maintenance costs.

Locating a pedestrian bridge or overcrossing on the sandy beach area was determined not to be a feasible option for a variety of reasons. There are many complications associated with constructing a permanent structure in an unstable environment (sandy substrate does not provide a solid foundation, beach conditions are dynamic and shifting, etc.). The bridge would be susceptible to ongoing tidal wave action that could result in a continual undermining of the bridge structure. A structure on the beach area would require a substantially high level of

ongoing maintenance and associated costs to ensure structural integrity and safety of the bridge. For these reasons, a permanent bridge located on the beach was found to be infeasible.

Various temporary bridge types were considered. It would be possible to install a temporary seasonal bridge during times of high water volumes. However, the temporary seasonal bridge is considered infeasible due to continual maintenance efforts needed to install and then remove the bridge each season as well as potential structural instabilities due to ongoing tidal action and heavy water flows. It would also be possible to install a break-away bridge designed to withstand the majority of water flow through the inlet and then break apart if conditions become too strong. The break-away bridge is considered infeasible as there would be substantial safety concerns due to pieces of the bridge being washed away and presenting a safety risk to people or property near the inlet.

The potential to construct a bridge structure that would span the proposed tidal inlet at a height above the calculated high tidal and flood flows at a more eastward location off the beach is considered a feasible option, as presented in Mitigation Measure Land Use-1. The placement of the bridge at a more eastern location along the inlet would provide north-south access across the inlet for beach users while avoiding the continual ocean wave influence that could undermine the structure stability. The structure would be designed with a bridge deck high enough to avoid flood levels, calculated to be approximately 15 feet. The bridge would be designed in accordance with the Americans with Disabilities Act (ADA). There is very limited and constrained access on the northern side of the inlet due to existing private property development and inlet slope protection. However, it appears that a structure could be placed with the southern access located in the open area on the south side of the inlet and the northern access located on land along the northern side of the inlet. The placement of a bridge in this location would require the consideration of factors such as property ownership, right-of-way easements, and adequate space for access requirements, etc. With implementation of Mitigation Measure Land Use-1, safe public access would be available across the proposed inlet and the impact would be reduced to less than significant.

While the engineering and design of such a bridge with appropriate high-water flow clearance would be feasible, and it would eliminate the safety concern of the bridge breaking away during high water conditions and account for potential future sea level rise, the height of the bridge with a deck height of 15 feet and associated railings and supports up to 20 feet could result in potential visual impacts. These impacts are discussed in Section 3.9 Visual Resources. The potential of the mitigation bridge to result in impacts to other resource areas was considered and no other resource areas were determined to have potentially significant construction or operation impacts, as summarized in Table 3.1-3.

Table 3.1-3
Summary of Potential Mitigation Land Use-1 Impacts

Resource Area	Mitigation Land Use-1 Impact Evaluation	Additional Analysis Required?
Land Use/Recreation	The bridge would aid in providing continued beach continuity and access as required by local and state land use policies. The bridge would provide a safe crossing for beach recreationalists during periods of unsafe inlet crossing conditions.	No
Hydrology	The abutments and footings of the proposed bridge would be placed out of the inlet channel and on stable ground. The bridge would be located such that it that would not obstruct or redirect flood flows and the bridge deck would be high enough to avoid flood levels.	No
Oceanography/Coastal Processes	The bridge would be located east of the sandy beach area, and placement of the bridge on stable ground would not obstruct or redirect tidal flows or littoral cell processes.	No
Water and Aquatic Sediment Quality	Bridge construction would not measurably increase volumes of runoff or create erosion and sedimentation potential. Standard construction BMPs identified in Section 3.4 would be implemented as required by law to minimize water quality impacts.	No
Biological Resources	The general area where the bridge abutments and footings would be constructed is located within the overall construction impact area for the Saltwater and Hybrid Alternatives and would not affect biological resources beyond the construction area analyzed as part of the project.	No
Geology and Soils	The bridge would be properly engineered for the geologic and soil conditions of the area. Proper engineering and design in compliance with existing laws and regulations would minimize potential for geologic hazards or risks associated with the bridge.	No
Cultural Resources	The bridge abutments and footings would be within the construction impact area for the Saltwater and Hybrid Alternatives that has been evaluated for cultural resource impacts. During ground-disturbing activities, the cultural mitigation included for the Enhancement Project for ground-disturbing activities along the lagoon margins would also be implemented for bridge construction.	No
Paleontological Resources	The bridge abutments and footings would be within the construction impact area for the Saltwater and Hybrid Alternatives that has been evaluated for paleontological resource impacts. During ground-disturbing activities, the paleontological mitigation included for the Enhancement Project for ground-disturbing activities would also be implemented for bridge construction.	No
Visual Resources	The height of the bridge, with a deck height of 15 feet and associated railings and supports up to 20 feet, could result in potential visual impacts. These impacts are discussed in Section 3.9 Visual Resources.	Yes
Traffic and Circulation	The bridge would be for beach pedestrian traffic needing a safe crossing over the new inlet area. The bridge would not modify traffic patterns or create new or additional vehicular traffic. Construction of the bridge would not require a high volume of truck trips and is addressed by the assumptions in the construction traffic evaluation for the Enhancement Project.	No

Resource Area	Mitigation Land Use-1 Impact Evaluation	Additional Analysis Required?
Air Quality	Minor air quality emissions would result during construction of the bridge; however, these emissions would be short term with only limited use of heavy machinery and are addressed by the assumptions for the Enhancement Project. Only minor excavation and ground disturbance would be necessary for installation of the bridge foundations. Air quality mitigation included for the Enhancement Project for construction activities would be implemented for bridge construction. Operation of the bridge would not generate emissions.	No
Global Climate Change, Greenhouse Gas Emissions, and Sea Level Rise	As described for Air Quality, emissions associated with bridge construction would be minimal and further reduced through the implementation of mitigation identified for the Enhancement Project. The elevation of the bridge deck to avoid flood levels would also accommodate increased water levels associated with future sea level rise.	No
Noise	The bridge abutments and footings would be within the construction impact area for the Saltwater and Hybrid Alternatives that has been evaluated for noise impacts. Bridge construction noise would be of a similar nature to that of the dredging and inlet construction activities, but would occur only during daytime hours. The bridge would be open to pedestrians only once constructed. The beach and adjacent areas are currently open to pedestrian use without time restrictions. Use of the bridge by pedestrians would result in noise conditions similar to existing conditions.	No
Public Services and Utilities	The bridge would create a safe pedestrian crossing and would help minimize the need for emergency services such as EMT or lifeguard services. Construction or operation of the bridge would not require the use of or modification of existing utility infrastructure.	No
Public Health and Safety	The bridge would provide a safe crossing for beachgoers to traverse the new inlet area. The bridge would be designed with hand railings and other appropriate safety features.	No

Significant impacts to recreation access would occur under each of the Enhancement Project alternatives due to the necessary placement of a pipeline across beach areas for materials placement activities. To reduce temporary beach access-related impacts, the Enhancement Project shall implement the following mitigation measure (Saltwater and Hybrid Alternatives only):

Recreation-1 Pipeline segments will be covered with sand at consistent intervals to facilitate pedestrian access across.

The intermittent crossings would allow people to cross over along the length of the pipeline, providing for continued access to the beach. The temporary recreation access impact would be reduced to less than significant.