

1 **4.7 LAND USE AND RECREATION**

2 This Section describes the existing land and recreational uses in the vicinity of the
3 proposed San Francisco Bay and Delta Sand Mining Project (Project), summarizes
4 applicable land use plans and policies, evaluates Project consistency with these plans
5 and policies, and evaluates the compatibility of the proposed Project with adjacent and
6 surrounding land and recreational uses.

7 **4.7.1 Environmental Setting**

8 **Lease Areas**

9 Hanson Marine Operations (Hanson) and Jerico Products/Morris Tug and Barge (Jerico)
10 (the applicants) have applied to the California State Lands Commission (CSLC) for new
11 10-year mineral extraction leases to continue mining sand within certain delineated lease
12 parcels of Central San Francisco Bay (Central Bay), Suisun Bay, and the western
13 Sacramento-San Joaquin River Delta area (Delta).¹ The Applicants also propose to
14 continue sand mining of privately owned submerged lands within Suisun Bay (Middle
15 Ground Shoal).

16 Uses of these waters and submerged lands include shipping, commercial and
17 recreational fishing, recreational boating, other water-oriented recreation, and estuarine
18 and wildlife habitat. Dredging occurs regularly within the Bay and Delta navigation
19 channels, and parts of the Bay are used for the disposal of dredging spoils. Central Bay
20 shipping channels overlap several of the mining parcels, and designated underwater
21 cable areas are located adjacent to several of the Central Bay parcels. A shipping
22 channel parallels the Contra Costa County shoreline south of the Middle Ground parcel
23 and the southern end of the Sacramento Deep Water Ship Channel roughly coincides
24 with the eastern boundary of CSLC lease parcel PRC 7781 south of Collinsville.

25 **Surrounding Land Uses**

26 Although the proposed Project is located within water areas of the San Francisco and
27 Suisun Bays, and would not affect onshore land uses, the following overview of onshore
28 areas is provided for informational purposes. Onshore areas near the Central Bay lease
29 sites include Angel Island State Park to the east and north; Alcatraz Island, a unit of the
30 National Park Service's Golden Gate National Recreation Area (GGNRA), to the east;

¹ As discussed in Section 1.0, Introduction, after releasing the original Draft EIR in 2010, the CSLC adjusted several of its lease boundaries to avoid encroaching on federally-held submerged lands near Angel Island and Alcatraz Island.

1 residential neighborhoods of the Marin County cities of Tiburon and Belvedere to the
2 north; waterfront neighborhoods and commercial districts of the city of Sausalito and the
3 Fort Baker area of the GGNRA in Marin County to the west; and park and public open
4 space lands on the northern waterfront of San Francisco city and county to the south.

5 Onshore areas near the Suisun Bay and Delta lease sites consist primarily of marshlands
6 including managed wetlands that are flooded and cultivated by private duck clubs and the
7 California Department of Fish and Game (CDFG) as well as tidal marshes and seasonal
8 marshes. Also in proximity are agricultural and open space lands in unincorporated
9 Solano, Contra Costa, and Sacramento Counties north, south, and east of the lease
10 areas. In addition, an area of urban waterfront land in the city of Pittsburg and a wetland
11 preserve in the city of Antioch are in the Project vicinity south of the eastern-most lease
12 area. Popular recreational land uses in Suisun Marsh and vicinity include duck hunting,
13 fishing, water sports, upland game hunting, and wildlife observation (Solano County 1982).

14 **Offloading Sites**

15 In addition to the proposed new leases and permit renewals to continue sand mining
16 operations, transport of the mined sand to the offloading facilities and offloading of
17 barges is considered part of the Project. As shown in Table 4.7-1, the Applicants use
18 sand yards in industrial areas in Sonoma, Marin, Napa, Solano, San Francisco, and
19 Alameda Counties (see locations in Figure 2-10, Section 2.0, Project Description). As
20 noted in the Project Description, the offloading facilities operate under their own
21 entitlements and the Applicants are not proposing any changes to these facilities;
22 therefore, operations at the offloading facilities are not part of the proposed Project.

23 **4.7.2 Regulatory Setting**

24 **Federal**

25 *Army Corps of Engineers*

26 The Army Corps of Engineers (ACOE) issues permits regulating sand mining within the
27 Bay-Delta estuary pursuant to Section 10 of the Rivers and Harbors Act (33 U.S. Code
28 [U.S.C.], § 401, et seq.). Specifically, 33 U.S.C. Section 403, states the following (in part):

29 ...it shall not be lawful to excavate or fill, or in any manner to alter or modify the
30 course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal,
31 lake, harbor or refuge, or enclosure within the limits of any breakwater, or of the
32 channel of any navigable water of the United States, unless the work has been
33 recommended by the Chief of Engineers and authorized by the Secretary of the
34 Army prior to beginning the same (33 U.S.C. § 403).

1 **Table 4.7-1. Land Use Designations of Sand Offloading Sites**

Facility	Land Use Jurisdiction	Current Use	General Plan Land Use Designation
Jerico Petaluma Yard	Unincorporated Sonoma County within the Petaluma Urban Service Boundary	Industrial	General Industrial (Sonoma County) Industrial (City of Petaluma)
Jerico Napa Yard	Unincorporated Napa County south of the city of Napa city boundary	Industrial	Industrial
Jerico Collinsville Yard	Unincorporated Solano County in the unincorporated community of Collinsville	Industrial	Water Dependent Industrial
San Rafael Rock Quarry	Unincorporated Marin County south of the San Rafael city boundary	Industrial	MR-PD Reclamation Area: Mineral Resources - Planned Development Reclamation Area
Hanson Marina Vista Facility	City of Martinez	Industrial	Industrial
Hanson Oakland 5th at Embarcadero Yard	City of Oakland	Industrial	Open meadow
Hanson Oakland 4501 Tidewater Yard	City of Oakland	Industrial	Planned Waterfront Development
Hanson San Francisco Pier 92 Yard	City and County of San Francisco	Industrial	Industrial
Hanson San Francisco Sand Yard	City and County of San Francisco	Industrial	Industrial

Source: Sonoma County 2008, City of Petaluma 2008, Napa County 2008, Solano County 2008, Marin County 2007, City of Martinez 1973, Mepani 2009, City of Oakland and Port of Oakland 1999, City of Oakland 2011a, City and County of San Francisco 2009

2 To address potential conflicts with other navigation uses in the vicinity of the lease
3 parcels, the ACOE permits require the permittee to comply with the Operating Procedure
4 for the Vessel Traffic Safety System (VTSS) of San Francisco, monitored by the
5 U.S. Coast Guard (USCG) Captain of the Port, in order to avoid any hazard to
6 commercial or military navigation (Special Condition (2) (c)).

7 As discussed in Section 1.0, Introduction, the ACOE and other Federal agencies would
8 need to comply with the National Environmental Policy Act (NEPA) in considering
9 approval of the Project.

10 *U.S. Fish and Wildlife Service*

11 The U.S. Fish and Wildlife Service (USFWS) does not have direct permitting authority
12 over the proposed Project. However, under Section 7 of the Federal Endangered
13 Species Act (ESA), the ACOE must consult with the USFWS prior to issuing a permit.

1 (Refer to Section 4.1, Biological Resources, regarding potential impacts of the Project
2 on endangered species.)

3 *Coastal Zone Management Act of 1972 (CZMA)*

4 The Coastal Zone Management Act (CZMA), as amended, was enacted to encourage
5 coastal states and territories to develop and implement programs to manage the nation's
6 coastal resources. The Coastal Programs Division of the National Oceanic and
7 Atmospheric Administration (NOAA) Office of Ocean and Coastal Resource Management
8 administers the National Coastal Zone Management (CZM) Program, a voluntary
9 partnership between the Federal government and U.S. coastal states and territories
10 authorized by the Act. NOAA's Coastal Programs Division works with state CZM partners
11 to preserve, protect, develop, and, where possible, restore and enhance the resources of
12 the nation's coastal zone.

13 **State**

14 *California State Lands Commission*

15 The CSLC manages State-owned lands that underlie California's navigable and tidal
16 waterways. The State holds these lands, known as "sovereign lands" for the benefit of
17 all the people of the State, subject to the Public Trust for water related commerce,
18 navigation, fisheries, recreation, open space and other recognized Public Trust uses."
19 The CSLC has jurisdiction over all the lease parcels except for the Middle Ground
20 parcel, which is privately owned.

21 *San Francisco Bay Conservation and Development Commission*

22 The San Francisco Bay Conservation and Development Commission (BCDC) is the
23 federally designated State CZM agency for the San Francisco Bay segment of the
24 California coastal zone (NOAA 2009; BCDC 2011b). BCDC regulates all filling and
25 dredging within San Francisco Bay (including San Pablo and Suisun Bays and sloughs
26 and certain creeks and tributaries that are part of the Bay system) and development
27 within 100 feet of the shoreline, and administers the Suisun Marsh Preservation Act in
28 cooperation with local governments. BCDC was created by the McAteer-Petris Act of
29 1965 (Gov. Code § 66600 et seq.), initially to prepare a plan to guide the long-term use
30 of the Bay and regulate development in and around the Bay while the plan was being
31 prepared. That plan, the San Francisco Bay Plan (Bay Plan), was completed and
32 adopted by BCDC in 1968 and has been amended periodically since then, most
33 recently in October 2011 (BCDC 2011b). It includes policies on the use of the Bay,

1 ranging from ports and public access to design of proposed shoreline development and
2 transportation. Pursuant to the McAteer-Petris Act (as amended), BCDC is the
3 permanent agency responsible for maintaining and carrying out the provisions of the law
4 and the Bay Plan, and issues permits regulating sand mining in the Bay.

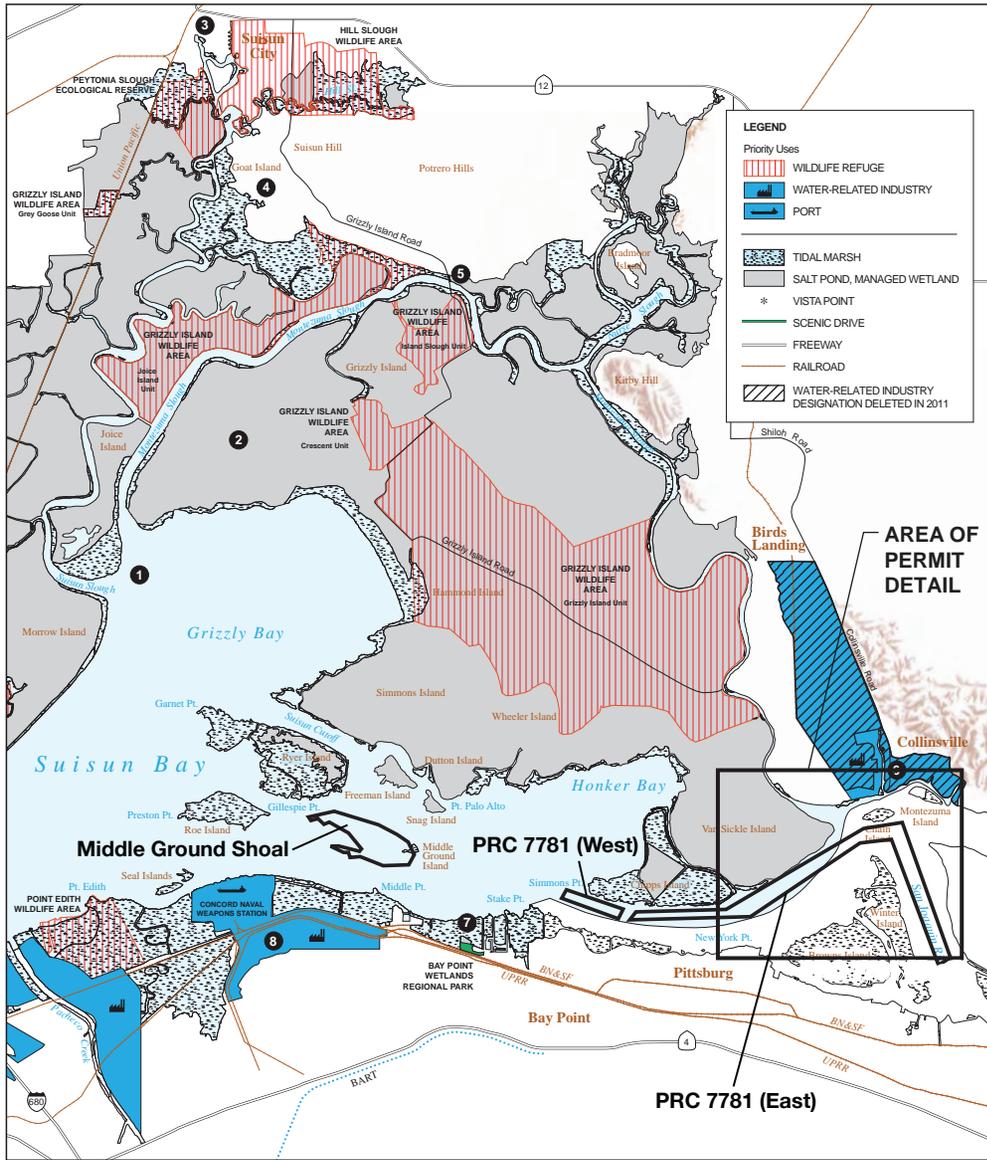
5 BCDC was also responsible for preparing the Suisun Marsh Protection Plan (SMPP)
6 (BCDC 1976) and is designated as the State agency to carry out the State's regulatory
7 responsibilities under the recommendations of the SMPP. The SMPP applies to the
8 eastern-most area encompassed by the Bay Plan, including Suisun Bay and Suisun
9 Marsh and associated waterways, and is considered a more specific application of the
10 general policies of the Bay Plan. Figure 4.7-1 shows the Bay Plan map of Suisun Bay
11 and Marsh (Bay Plan Map 3) and Figure 4.7-2 shows the SMPP map of Suisun Marsh.
12 Figures 4.7-1 and 4.7-2 indicate changes to land use designations in the vicinity of
13 Collinsville that BCDC adopted in July 2011 (refer to the SMPP discussion below).
14 BCDC's jurisdiction extends to the vicinity of CSLC Lease PRC 7781, about half of
15 which is within BCDC's jurisdiction (see inset in Figure 4.7-1).²

16 To address potential conflicts related to vessel traffic, the BCDC permits require that the
17 sand miners comply with the Operating Procedures for the San Francisco Bay VTSS,
18 monitored by the USCG, to avoid any hazard to commercial or military navigation. To
19 address potential conflicts with recreational fishing and/or boating in the vicinity of the
20 lease parcels, the current BCDC permits allow sand mining on weekends and State
21 holidays on the condition that the BCDC Executive Director does not receive comments
22 demonstrating conflicts between the sand mining activity and recreational boating
23 and/or fishing. If such evidence is received, the Executive Director may withdraw
24 approval for sand mining on weekends and State holidays. (To date, BCDC has not
25 received any such evidence and sand mining continues to be allowed on weekends and
26 holidays.) The permits also require that sand mining activities be carried out in
27 accordance with CDFG recommendations that are accepted by the BCDC Executive
28 Director to avoid interference with popular fishing areas.

29 *California Department of Fish and Game*

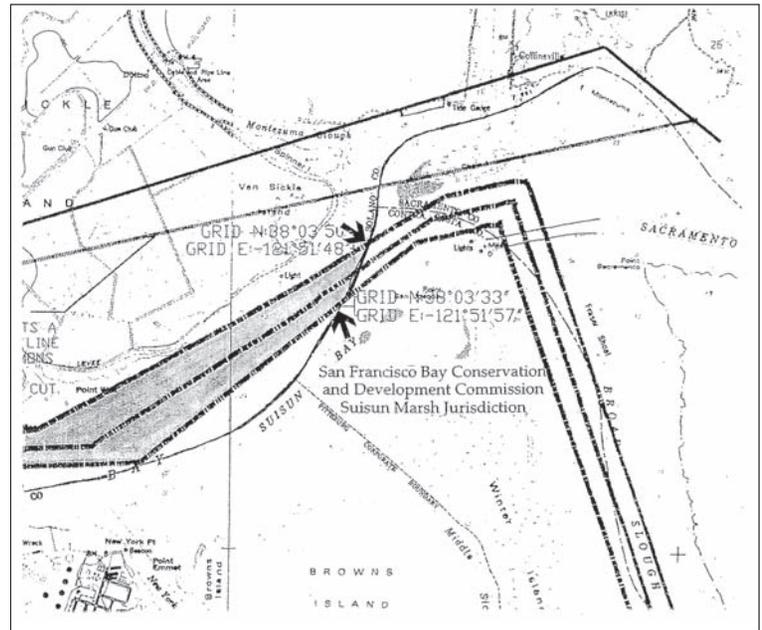
30 The CDFG administers the California ESA and comments on potential impacts on fish
31 and wildlife of projects authorized by other agencies. The Bay Plan requires BCDC to
32 consult with CDFG regarding any proposed project that may adversely affect an

² The eastern extent of BCDC's jurisdiction is defined as the "Sacramento River line," which is defined as a line between Stake Point and Simmons Point, extended northeasterly to the mouth of Marshall Cut; this line crosses CSLC Lease PRC 7781 near Collinsville.



NOTES: Location of lease parcels added.

Revision of Bay Plan Map 3 to remove some of the area previously designated for Water Related Industry, as shown above, was approved by BCDC in July 2011.



BCDC PERMIT M99-7 DETAIL (CSLC Lease Parcel PRC 7781 (East))

NOTE ABOUT BCDC JURISDICTIONAL BOUNDARY

Part of PRC 7781 is within and part is outside BCDC's jurisdiction. The Bay Plan defines the eastern extent of BCDC's jurisdiction as the "Sacramento River line," which is further defined as a line "between Stake Point and Simons point, extended northeasterly to the mouth of Marshall Cut" (refer to Bay Plan Map 3, reproduced here). Exhibit B of BCDC Permit M99-7 shows the jurisdictional line as it applies to PRC 7781 (see inset above). The area within Solano County (west of the line) is within BCDC's jurisdiction, and the area outside Solano County (east of the line) is not.

1 endangered or threatened plant, fish, or other aquatic organism or wildlife species.
2 CDFG prepared the Fish and Wildlife element that BCDC used as the basis for relevant
3 components of the SMPP. The Suisun Marsh Preservation Act assigns CDFG the
4 primary responsibility for carrying out fish and wildlife management programs in the
5 marsh.

6 *San Francisco Bay Plan*

7 The Bay Plan represents a comprehensive plan for the maintenance and protection of
8 San Francisco Bay and development of its shoreline, pursuant to the requirements of
9 the McAteer-Petris Act (BCDC 2011b). Table 4.7-3 (which is located at the end of
10 Section 4.7 due to its size) presents Bay Plan policies that are relevant to the proposed
11 Project.

12 *The Suisun Marsh Preservation Act*

13 In 1974, recognizing the threats to the Suisun Marsh from potential residential,
14 commercial, and industrial developments and the need to preserve the marsh as a
15 unique wildlife resource, the State legislature passed the Nejedly-Bagley-Z'berg Suisun
16 Marsh Preservation Act of 1974. The law directed BCDC to prepare the SMPP "to
17 preserve the integrity and assure continued wildlife use" of Suisun Marsh (BCDC 1976).
18 The CDFG prepared the Fish and Wildlife Element used by BCDC in preparing the plan.
19 In 1977 the Legislature passed the Suisun Marsh Preservation Act (Pub. Resources
20 Code, § 29000 et seq.), which adopted the provisions of the plan and required local
21 governments and districts having jurisdiction over the marsh to prepare local protection
22 programs (LPPs) consistent with the provisions of the act and policies of the plan. The
23 Act recognizes Suisun Marsh as a unique and irreplaceable resource that is important
24 for providing wintering habitat for waterfowl and critical habitat for other wildlife and for
25 the value of the diverse vegetation and aquatic conditions that prevail in the marsh.
26 Potential Project impacts related to the Act are listed below.

- 27 • The Project could have impacts on water quality in the vicinity of the marsh
28 (analyzed in Section 4.3, Hydrology and Water Quality).
- 29 • Proposed mining activities are located in the vicinity of Suisun Marsh, where
30 saltwater and freshwater mix as described. Potential impacts on salinity are
31 considered in Section 4.3, Hydrology and Water Quality).
- 32 • The Middle Ground lease parcel and about half of parcel PRC 7781 are within
33 the Primary Management Area of the Suisun Marsh (which is shown in
34 Figure 4.7-2). Part of CSLC Lease PRC 7781 is also located within the

1 Sacramento River, which flows into Suisun Bay and the Primary Management
2 Area.³

- 3 • The Project involves underwater mining of materials which meets the definition of
4 development in section. 29114(a) of the Act.

5 *The Suisun Marsh Protection Plan*

6 BCDC and the CDFG prepared the SMPP (BCDC 1976) in 1976, pursuant to the
7 Suisun Marsh Preservation Act of 1974, and the plan's policies were subsequently
8 enacted into law by the Suisun Marsh Preservation Act of 1977, as discussed above.

9 The State Legislature recognizes the SMPP as a more specific application of the
10 general, regional policies of the Bay Plan and both plans apply to the area within
11 BCDC's jurisdiction (Pub. Resources Code, § 29008). Figures 4.7-1 and 4.7-2 show the
12 area covered by the two plans. Table 4.7-3 presents SMPP policies that are relevant to
13 the proposed Project. In 2010, Solano County submitted an application to BCDC to
14 amend the Bay Plan and the SMPP to modify boundaries in the Collinsville area
15 designated for water-related industrial use to reconcile inconsistencies between BCDC's
16 plans and the County's 2008 General Plan.⁴ In July 2011, in response to the County's
17 application, BCDC approved changes to SMPP policies and the Bay Plan (BCDC
18 2011b) and SMPP maps (the area removed from the water-related industry designation
19 is shown in Figures 4.7-1 and 4.7-2). This revision of the land use designation does not
20 affect the mining lease parcels or the Collinsville offloading site.

21 **Local**

22 *Solano County Local Protection Plan Policies*

23 The SMPP assigns to local government the primary responsibility for carrying out the plan
24 (BCDC 1976). Almost all of Suisun Marsh is located within Solano County and the
25 County's LPP -- *Solano County Policies and Regulations Governing the Suisun Marsh*
26 (Solano County 1982) -- was certified by BCDC in November 1982. Table 4.7-3 presents
27 LPP policies that are relevant to the proposed Project. In 2008, the County adopted an

³ Section 29102 of the Act defines "Primary Management Area" as water-covered areas, tidal marsh, diked-off wetlands, seasonal marsh, and lowland grassland specified on the map identified in Section 16 of that chapter of the Statutes of the 1977-78 Regular Session enacting [this Act]."

⁴ As summarized in a BCDC staff report (BCDC 2011a), in Solano County's 2008 General Plan, approximately 1,100 acres of the water-related industrial priority use area were changed to Marsh Preservation (MP), approximately 1,200 acres were changed to Limited Agriculture (AL 160) land use, approximately 40 acres were changed to Residential – Traditional Community (R-TC-4) and Commercial Recreation Limited (CRL), and approximately 200 acres, located along the shoreline of the Sacramento River, remain designated for water-related industrial use.

1 updated general plan (Solano County 2008). Suisun Marsh policies are included as
2 Appendix C, Suisun Marsh Policy Addendum, of the new general plan (Solano County
3 2008). According to the general plan, those policies will provide the basis for an update of
4 the County's LPP, which is in progress. When the revised LPP is completed, the County
5 will submit it to BCDC for approval. As noted in the discussion of the SMPP above, BCDC
6 recently adopted changes to SMPP and Bay Plan maps to reconcile inconsistencies
7 between the BCDC maps and the County's General Plan. As the next step in this process,
8 Solano County is expected to update its component of the Suisun Marsh LPP and request
9 that BCDC certify the updated LPP. Policies relevant to the Project contained in Appendix
10 C, Suisun Marsh Policy Addendum, are similar or identical to the policies in Table 4.7-3.

11 *General Plan Land Use Designations*

12 As discussed above, the lease sites are within the San Francisco Bay, Suisun Bay, and
13 western Sacramento-San Joaquin Delta. As such, the lease areas are subject to the
14 policies and provisions of the Bay Plan, SMPP, and Solano County LPP. Except for
15 Solano County, the land use designations and related policies of the general plans of
16 the counties within which the lease areas are located do not extend to the lease sites.
17 The Solano County General Plan includes policies that pertain to water areas of Suisun
18 Bay, including the location of the mining lease parcels (Solano County 2008).

19 The following presents the applicable Solano County general plan policies and, for
20 informational purposes, each county's general plan land use designations of upland areas
21 in proximity to the lease parcels, as well as the land use designations of the offloading
22 sites. Counties and cities in proximity to the lease parcels are shown in Figure 4.7-3.

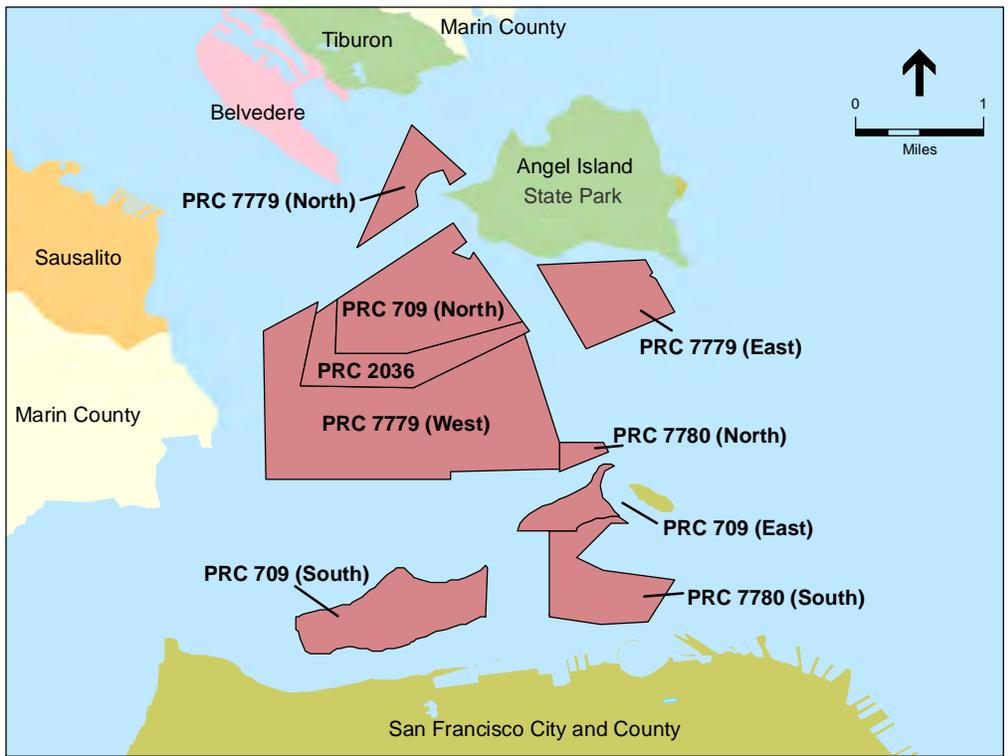
23 *Central Bay*

24 Marin County

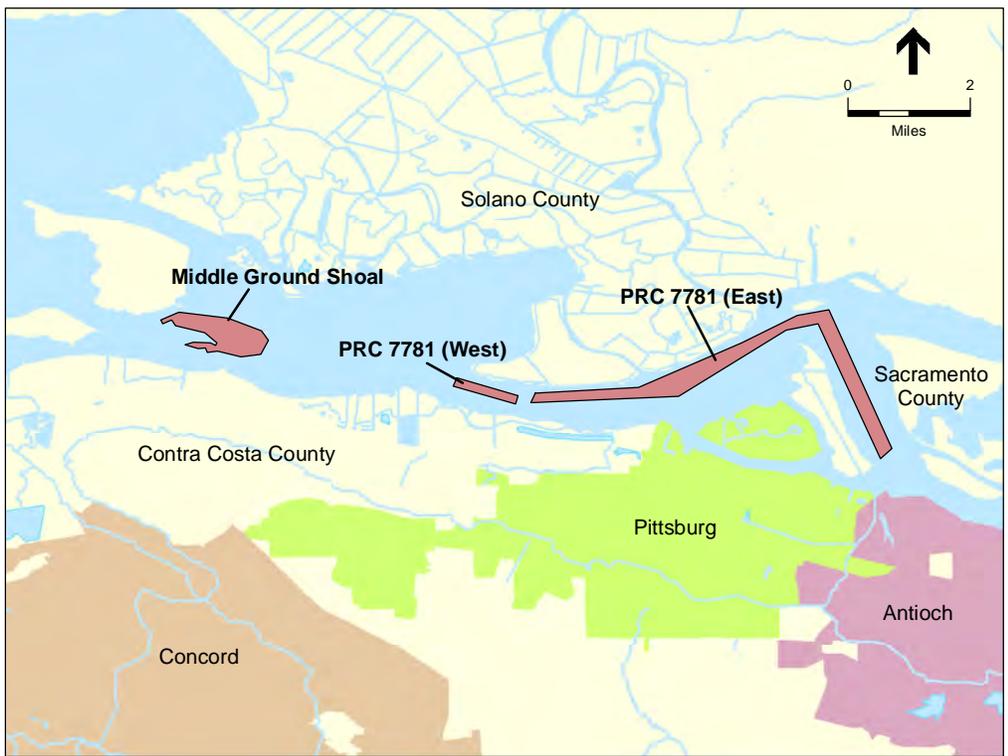
- 25 • The shoreline area of unincorporated Marin County land on the Tiburon
26 Peninsula, located north of Tiburon and CSLC lease parcel PRC 7779 (North), is
27 within the Baylands Corridor and designated SF3: Single Family Residential with
28 one dwelling unit per 1 to 5 acres on the Tiburon Peninsula Land Use Policy Map
29 (Map 6.5) of the Marin County General Plan (Marin County 2007).

- 30 • Land along the southern shore of Tiburon Peninsula within the town of Tiburon,
31 north of CSLC lease parcel PRC 7779 (North), is primarily designated Very High
32 Density and High Density Residential, with up to 12.4 dwelling units per acre and
33 up to 11.6 dwelling units per acre, respectively; a small portion of the town's
34 waterfront is designated as Open Space, Parks and Recreation, Public and
35 Quasi-public, and Village Commercial (Town of Tiburon 2005).

36



- Antioch
- Belvedere
- Concord
- Pittsburg
- San Francisco
- Sausalito
- Tiburon
- Unincorporated County Lands
- Lease Parcels



SOURCE: ESA 2011; ESRI 2009 San Francisco Bay and Delta Sand Mining EIR . 207475

Figure 4.7-3
Counties and Cities in Proximity to Lease Parcels

- 1 • Angel Island State Park, which is almost entirely within the town of Tiburon
2 Planning Area, is designated as Parks and Recreation on the Existing Open
3 Space and Protected Resources map (Diagram 3.1-1) of the Tiburon General
4 Plan and as Parks on the Park and Recreation Lands Map (Diagram 8.1-1) of the
5 General Plan (Town of Tiburon 2005).

- 6 • Land along the southern shore of the Tiburon Peninsula within the city of
7 Belvedere is designated residential in the Belvedere General Plan (City of
8 Belvedere 1994).

- 9 • The waterfront area of the city of Sausalito, located west of PRC 7779 (West),
10 includes a mix of uses with the following land use designations: medium high
11 density residential, high density residential, central commercial, public
12 institutional, public parks, and waterfront (City of Sausalito n.d.).

- 13 • Unincorporated Marin County land south of Sausalito, west of PRC 7779 (West),
14 is designated Open Space on the Southwest Marin County Land Use Policy Map
15 (Map 7.8) and as National Park Service Land (GGNRA) on the Open Space and
16 Parks map (Map 2-17) of the Marin County General Plan (Marin County 2007).

17 City and County of San Francisco

18 The northern waterfront of San Francisco, south of the CSLC Central Bay parcels (PRC
19 709 (South) and PRC 7780 (South)) consists of public open space and park lands
20 including part of the Presidio, Crissy Field, Aquatic Park, and Fort Mason, which are
21 Federal lands within the GGNRA; and the San Francisco Marina, which is under the
22 jurisdiction of the San Francisco Recreation and Park Commission. The Citywide
23 Recreation and Open Space Plan designates this waterfront area from Aquatic Park
24 west to (and including) the Presidio as Existing Public Open Space. The Fisherman's
25 Wharf area east of Aquatic Park is within the plan boundary of both the Port of
26 San Francisco's San Francisco Waterfront Land Use Plan (Port of San Francisco 2004)
27 and BCDC's San Francisco Waterfront Special Area Plan (BCDC 2000). The Waterfront
28 Land Use Plan shows Aquatic Park as Existing Open Space and Public Access and the
29 Fisherman's Wharf area as a waterfront mixed use opportunity area that includes a mix
30 of existing maritime, open space and public access, as well as long-term residential and
31 commercial uses. Permitted uses identified in the Waterfront Special Area Plan include
32 fish processing, limited commercial recreation, public access, replacement of existing
33 bay-oriented commercial recreation, berthing and docking for commercial fishing boats,
34 boat slips, and maritime uses (BCDC 2000).

1 Suisun Bay and Delta Leases

2 Solano County

3 Suisun Bay and the Sacramento River within the County's jurisdiction are designated
4 "Water Bodies and Courses" on the General Plan Land Use Diagram (Solano General
5 Plan 2008). The General Plan Land Use Element includes the following policies
6 pertaining to water bodies and courses

- 7
- 8 • LU.P-2. A cornerstone principle of this General Plan is the direction of new urban
9 development and growth toward municipal areas. In furtherance of this central
10 goal, the people of Solano County, by initiative measure, have adopted and
11 affirmed the following provisions to assure the continued preservation of those
12 lands designated "Agriculture," "Watershed," "Marsh," "Park & Recreation," or
13 "Water Bodies and Courses;" Land Use policy LU.P-3 and [specified agricultural
14 policies]. ... the provisions enumerated in this paragraph shall continue to be
15 included in the General Plan until December 31, 2028, unless earlier repealed or
16 amended by the voters of the County.
 - 17 • LU.P-3. The designation of specified lands and water bodies as "Agriculture,"
18 "Watershed," "Marsh," "Park & Recreation," or "Water Bodies & Courses" on the
19 Solano County Land Use Diagram [as adopted and amended] shall remain in
20 effect until December 31, 2028 except lands designated Agriculture [may be
redesignated as specified].

21 The upland area in Solano County north of the Suisun Bay and Delta lease areas is
22 almost entirely designated as Marsh, with a Resource Conservation Overlay
23 designation, in the Solano County General Plan Land Use Diagram. A smaller area in
24 the vicinity of Collinsville is designated as Water Dependent Industrial and as Marsh
25 (without a Resource Conservation Overlay), on the General Plan Land Use Diagram
26 and on the Collinsville Special Services Area (SSA) Land Use Diagram.

27 Contra Costa County

- 28
- 29 • Unincorporated Contra Costa County land south of the Middle Ground Shoal
30 private lease area is designated as Open Space except for a vacant industrial
31 site, which is designated Heavy Industry. The unincorporated county land south
32 of CSLC Lease PRC 7781 (West) is designated Open Space. Winter Island,
33 south and west of PRC 7781 (East) is designated Agriculture. The "mainland"
34 part of the county south of Winter Island and PRC 7781 (East) is designated
Open Space (Contra Costa County 2005).
 - 35 • Brown Island, located south of CSLC Lease PRC 7781, is within the city of
36 Pittsburg and designated Park and Open Space on the General Plan Diagram
37 (General Plan Figure 2-2). The waterfront area of the city of Pittsburg south of
38 PRC 7781 (East) is designated Industrial; Low-Density, Medium-Density, and

1 High-Density Residential; Community Commercial, and Public/Institutional (City
2 of Pittsburg 2004).

- 3 • The waterfront area of the city of Antioch, south of the easternmost section of
4 CSLC Lease PRC 7781 (East), is designated Rivertown/Urban Waterfront on the
5 General Plan Land Use Diagram (General Plan Figure 4.1). The northernmost
6 part of the Rivertown/Urban Waterfront area is designated Dow Wetlands
7 Preserve on the Rivertown/Urban Waterfront Focus Area map of the general plan
8 and is intended to stay in open space use (City of Antioch 2003).

9 Sacramento County

10 Sherman Island, east of CSLC Lease PRC 7781 (East), Broad Slough, and Winter Island
11 are within Sacramento County. On the Sacramento County General Plan Land Use
12 Diagram, the marshlands directly east of the lease area and Broad Slough, part of the
13 Sherman Island Waterfowl Management Area, are designated Natural Preserve. The
14 uplands of Sherman Island farther east are designated Recreation with a Resource
15 Conservation combining land use designation (Sacramento County 1993).⁵

16 **Offloading Sites**

17 As noted in Section 2.0, Project Description, no changes are proposed to existing
18 entitlements at the offloading sites, and onshore activities at these sites are not part of
19 the proposed Project. The following information is provided for considering the effects
20 on land uses of the delivery of sand mined under the Project to the offloading sites and
21 for informational purposes.

22 All of the offloading sites used by Hanson and Jerico are in industrial use (as sand
23 yards) within industrial areas, as noted above. Except for the Oakland parcels, the sites
24 are also designated for Industrial or Water Dependent Industrial use on the general plan
25 land use maps of the respective jurisdictions. Table 4.7-1 shows the General Plan Land
26 Use designations of the offloading sites. The two Oakland sites are in the planning area
27 of the Estuary Policy Plan, where changes to existing land uses are currently planned
28 (City of Oakland and Port of Oakland 1999). The Estuary Policy Plan Existing Land
29 Uses map shows industrial uses at both the Embarcadero and Tidewater sites. The
30 Embarcadero site is in the Oak to 9th Avenue District of the Estuary Policy Plan and is
31 designated as Open Meadow in conjunction with park and water-oriented uses planned
32 for the vicinity. The Tidewater site is designated as “Planned Waterfront Development

⁵ According to the General Plan, combining land use designations recognize the underlying zoning as the guide to land uses that are permitted on any particular piece of property. The use of the combining designation, “preserves selected natural resources without imposing unnecessary restrictions on the use of the land” (Sacramento County 1993).

1 (3)” with a narrow strip of “Urban Open Space” along the waterfront on the City of
2 Oakland General Plan Designations map and is within the area covered by the Central
3 Estuary Specific Plan (City of Oakland 2011a). Planning for this area commenced in
4 March 2009 and in July 2010; the City Council adopted a preferred land use alternative
5 for the Central Estuary Plan (City of Oakland 2011b). In the Preferred Alternative, the
6 Tidewater site is designated as Industrial (Light) / R&D and is adjacent to a larger area
7 designated as “Light Industrial and R&D Infill and Incubator” (City of Oakland 2010a).
8 No change in land use is indicated for the Tidewater site itself under the City’s preferred
9 alternative, which is shown as “Industrial (Light)” with a narrow strip shown as “Bay
10 Trail” along the waterfront (consistent with the open space shown on the General Plan
11 Designations map) on the map showing existing land uses and proposed changes for
12 the preferred alternative (City of Oakland 2010b). The City’s zoning ordinance
13 (Section 17.114.040, Right to Continue Nonconforming Use, Subject to Limitations)
14 provides for the continuation of a nonconforming use that was lawfully in existence on
15 the effective date of a rezoning or other zoning amendment that makes the use
16 nonconforming. Since the Embarcadero sand yard is an existing use for which no
17 changes are proposed, the City would likely consider continued offloading activities to
18 be a legal nonconforming use.

19 **4.7.3 Significance Criteria**

20 An adverse impact on land use or recreation is considered significant and would require
21 mitigation if Project construction or operation would result in:

- 22 • Conflicts with adopted land use plans or policies;
- 23 • Incompatible adjacent land uses as defined by planning documentation;
- 24 • Conflicts with planning efforts to protect recreational resources;
- 25 • Residual impacts on sensitive water-oriented recreation due to interference with
26 the sand replenishment at beaches down-current from mining operations; or
- 27 • Conflicts with any applicable habitat conservation plan or natural community
28 conservation plan.

29 Because there are no habitat conservation plans or natural community conservation
30 plans in the Project vicinity, the last criterion above is not considered further in this
31 analysis.

1 **4.7.4 Impact Analysis and Mitigation**

2 This section examines the potential for the Project to cause a significant impact to land
3 use, recreation, and related policies. Table 4.7-2, located at the end of Section 4.7.4,
4 summarizes land use and recreation impacts associated with the proposed Project.

5 **Impact LU-1: Incompatible land uses**

6 **Sand mining operations, which are industrial in nature, could be incompatible**
7 **with and therefore disruptive to adjacent or nearby non-industrial land uses (such**
8 **as residences, schools, hospitals, and other sensitive land uses) (Less than**
9 **Significant, Class III).**

10 The Project mining lease parcels are located offshore, within the waters of the
11 San Francisco Bay, Suisun Bay, and the western Sacramento-San Joaquin River Delta,
12 approximately 1,000 to 2,800 feet from the nearest developed land areas. (Refer to
13 Figure 4.7-3 for the general proximity of the parcels to the nearest lands areas.) In the
14 Central Bay, PRC 7779 (North) is approximately 1,200 and 1,400 feet from Tiburon and
15 Belvedere, respectively, and PRC 709 (South) and PRC 7780 (South) are approximately
16 1,100 feet and 1,500 feet, respectively, from San Francisco. PRC 7779 (North), the
17 nearest Central Bay parcel to any land area, is 135 feet from Angel Island, which is
18 largely undeveloped. In the Suisun Bay-Delta area, PRC 7781 (East) is approximately
19 2,000 feet north of the city of Pittsburg and 2,800 feet north of the city of Antioch, the two
20 incorporated cities in the vicinity of the delta lease parcels. Middle Ground Shoal is
21 approximately 2,000 feet north of open space lands and an industrial site in
22 unincorporated Contra Costa County (the nearest land area except for Middle Ground
23 Island). Middle Ground Island, which is immediately adjacent to the shoal, is
24 undeveloped. PRC 7781 (East) is from approximately 480 to 2,360 feet south of
25 undeveloped marshlands in unincorporated Solano County.

26 The distances between the mining parcels and the aforementioned urban areas would
27 attenuate the potentially disruptive effects of mining operations on any sensitive land uses
28 in these areas, and land uses in the undeveloped and agricultural areas in the vicinity of
29 the parcels are not sensitive land uses that would be disrupted by sand mining
30 operations. In addition, the Project would be the continuation of existing mining
31 operations; although the volume of sand proposed to be mined annually would be greater
32 than baseline levels, no changes are proposed to the location of the Applicants' currently
33 permitted mining operations (other than the adjustments to lease parcel boundaries to
34 avoid overlapping Federal lands, as described in Section 1.0, Introduction) or the manner
35 in which mining operations would be conducted. Because mining is conducted in

1 response to demand, the intensity of mining activities at a given location fluctuates
2 through the year and over time, and this would continue to be the case with
3 implementation of the proposed Project. The Applicants would transport the mined sand
4 to offloading facilities that are used for this purpose, consistent with existing operations.
5 No changes are proposed at the offloading facilities, which would operate under existing
6 entitlements. Therefore, the impacts of the Project associated with incompatible land uses
7 would be less than significant.

8 **Impact LU-2: Incompatible recreational uses**

9 **Sand mining operations would be located within the Bay and Delta waterways**
10 **and therefore could interfere with water based recreational activities in those**
11 **water areas, such as recreational fishing (from watercraft) and boating (Less than**
12 **Significant, Class III).**

13 Water-contact and non-contact recreational activities, including fishing and boating, are
14 recognized as important uses of the San Francisco Bay, the Suisun Marsh and Suisun
15 Bay, and vicinity. As such, the potential exists for sand mining operations to interfere
16 with recreational activities in the Project area, especially on weekends and holidays.
17 Current BCDC permits for the Bay and Delta mining parcels include a provision that the
18 BCDC Director may withdraw permission to operate on weekends or State holidays if he
19 or she receives comment from the public demonstrating that sand mining at a given
20 parcel is interfering with the recreational uses of the area. BCDC staff does not recall
21 receiving any complaints or reports of such conflicts over the past nine years (Goeden
22 2009). Given the absence of conflicts between sand mining operations and recreational
23 uses in the past, it is reasonable to assume that conflicts between recreational uses and
24 the proposed sand mining operations would continue to be avoided; this impact is
25 therefore considered less than significant.

26 **Impact LU-3. Residual impacts on recreation resources due to interference with**
27 **sand replenishment at down-current beaches**

28 **The extraction of sand from the mining sites could result in depletion of down-**
29 **current beaches if it interfered with sediment transport mechanisms by which sand**
30 **is supplied to such down-current areas and replaces material that is continually**
31 **eroded through ongoing physical processes (Less than Significant, Class III).**

32 As part of an evaluation of sand mining resources and impacts conducted for the EIR
33 analyses, Coast and Harbor Engineering (CHE) conducted a study that included an
34 evaluation of potential impacts of sand mining on San Francisco Bay circulation and
35 sediment transport/morphology (CHE 2009; see Appendix G for the complete report and

1 analysis). CHE evaluated sediment transport in a qualitative manner through direct
2 comparison of proposed and existing conditions using short-term and full-year
3 simulations. As discussed in Section 4.3, Hydrology and Water Quality, the short-term
4 and full-year simulations indicate that the change in net transport patterns is limited to
5 areas immediately adjacent to the lease areas. In addition, comparison of bed changes
6 between existing and after-mining conditions indicates that no morphological impacts, i.e.,
7 changes in terms of erosion or accretion, are likely outside the immediate vicinity of the
8 sand mining areas. Therefore, because the proposed Project would not have a
9 substantial effect on sediment transport outside the lease areas, the residual impacts of
10 sand mining on down-current beach depletion or erosion are considered less than
11 significant.

12 **Impact LU-4: Conflicts with regional or local land use plans or policies**

13 **Project inconsistency or conflict with adopted land use plans or policies could**
14 **result in environmental impacts that the plans and policies were adopted to**
15 **prevent (Potentially Significant, Class II).**

16 As discussed in Section 4.7.2, Regulatory Setting, the applicable land use plans in the
17 Project area consist of the Bay Plan, the SMPP, the Solano County LPP, and the
18 Solano County General Plan. The consistency of the Project with the applicable policies
19 contained in these plans is reviewed in Table 4.7-3 at the end of this Section. Without
20 mitigation, the Project would conflict with some applicable policies. As the table
21 indicates, implementation of mitigation measures (MMs) identified for other specific
22 Project impacts would also reduce Project conflicts with applicable land use plans and
23 policies to a less-than-significant level. No mitigation other than those identified for other
24 specific impacts (as indicated in Table 4.7-2) would be required.

25 **MMs for Impact LU-4: Conflicts with land use plans or policies**

26 Implement MMs BIO-6, BIO-8a, BIO-8b, BIO-9a, BIO-9b, HAZ-1, AIR-2, CUL-1 and
27 CUL-3.

28 **Rationale for Mitigation**

29 As stated in more detail in the respective impact sections, the identified MMs would
30 reduce identified significant or potentially significant impacts to a less-than-
31 significant level; these MMs would thereby also ensure consistency with the
32 applicable land use plans and policies concerning the protection of aquatic
33 organisms, sensitive fish species, wildlife and their respective habitats, and the
34 protection of other Bay and Delta natural resources.

- 1 • MMs BIO-6, BIO-8a, BIO-8b, BIO-9a, and BIO-9b would ensure consistency
2 with policies to protect wildlife, including fish and aquatic organisms, and
3 habitats that would otherwise be adversely affected by the Project, and with
4 policies to protect and restore important Bay-Delta habitat.
- 5 • MM HAZ-1 would ensure compliance with California Nontank Vessel
6 Contingency Plan (CANTVCP) requirements, which are designed to mitigate
7 the risk of accidental spills and control the discharge of hazardous materials.
8 This measure thereby ensures that oils and other hazardous materials are
9 properly managed and minimizes the potential for accidental releases to
10 occur. MM HAZ-1 would also ensure consistency with Bay Plan policies to
11 minimize effects of dredge mining on tidal marshes and tidal flats.
- 12 • MM AIR-2 would lower or offset Greenhouse Gas (GHG) emissions from the
13 Project to baseline levels, thereby mitigating the Project's contribution to
14 global warming.
- 15 • MM CUL-1 would minimize impacts if unrecorded historical and/or
16 archaeological resources are encountered.
- 17 • MM CUL-3 would minimize impacts if previously undiscovered human
18 remains are encountered.

19 In conclusion, MMs BIO-6 BIO-8a, BIO-8b, BIO-9a, BIO-9b, HAZ-1, AIR-2, CUL-1, and
20 CUL-3, would reduce the Project's respective environmental impacts to less-than-
21 significant levels, as discussed in the respective impact sections. Together these MMs
22 would ensure consistency with plans and policies specifying that mining operations be
23 conducted in an environmentally sound manner; that agencies protect public trust
24 resources; and that mining operations be carried out in a manner that minimizes
25 interference with critical wildlife activities.

26 **Table 4.7-2. Summary of Land Use and Recreation Impacts and Mitigation**
27 **Measures**

Impact	Mitigation Measures
LU-1: Incompatible land uses.	Less than Significant impact; no mitigation necessary.
LU-2: Incompatible recreational uses.	Less than Significant impact; no mitigation necessary.
LU-3: Residual impacts on recreation resources due to interference with sand replenishment at down-current beaches.	Less than Significant impact; no mitigation necessary.
LU-4: Conflicts with regional or local land use plans and policies.	MM BIO-6, BIO-8a, BIO-8b, BIO-9a, BIO-9b, HAZ-1, AIR-2, CUL-1, and CUL-3.

28

1 **4.7.5 Impacts of Alternatives**

2 **No Project Alternative**

3 Under the No Project Alternative sand mining at the existing CSLC and Middle Ground
4 Shoal sites would cease. Because sand mining in the Bay and Delta would cease, the
5 No Project Alternative would not impact down-current beach areas due to interference
6 with sediment transport within the Bay and Delta and also would not conflict with
7 applicable land use plans and policies of cities and counties around the Bay. It is
8 assumed that under this alternative the demand for construction sand would be met by
9 other local sources or that sand would be imported from more distant sources. Shipping
10 connected with the importation of construction sand to replace the Bay and Delta supply
11 (if sources outside the region were used) would incrementally increase shipping traffic in
12 parts of the Bay and/or Delta, depending on which ports were used for this purpose.
13 However, because such shipping activities would be conducted in compliance with
14 applicable statutes and regulations that govern shipping in the Bay and Delta, the
15 incremental increase in shipping traffic that could occur under this alternative would not
16 significantly impact land or recreational uses in or near the Bay and Delta.

17 **Long-term Management Strategy Conformance Alternative**

18 Under the LTMS Conformance Alternative, time and location restrictions would be
19 placed on the sand mining operations to conform with the LTMS work windows (periods
20 during which dredging activities can proceed under the LTMS). This would limit all
21 mining in the Central Bay to the period June through November, and would further limit
22 mining of the Central Bay parcels within Marin County (i.e., part or all of PRC 7779, part
23 of PRC 709, and most of PRC 2036) to the period June through October. Mining within
24 the Suisun Bay and Delta would be limited to the three-month period from September
25 through November.

26 As with the proposed Project, the LTMS Conformance Alternative would be compatible
27 with adjacent land uses and would not have significant impacts on down-current beach
28 areas due to interference with sediment transport within the Bay and Delta, since the
29 annual volume of sand mined would be no greater than under the Project. Outside the
30 work windows (when sand mining did not occur), there would be no potential for conflict
31 with recreational uses at or near the mining sites. During the work windows, however,
32 mining would likely be conducted more intensively (with individual mining events lasting
33 longer and the employment of more equipment, tugs, and barges) in order to extract the
34 annually permitted volume; this would increase the potential for conflicts with

1 recreational uses of Bay and Delta waters during the work windows. Although the
2 overall potential conflict with recreational uses would be similar, because the Central
3 Bay work windows coincide with summer and fall months when higher levels of
4 recreational uses of the water areas can be expected, this alternative may have an
5 incrementally greater potential for conflicts with recreational uses compared to the
6 Project.

7 Nevertheless, based on the experience with existing mining operations, it is assumed
8 that potential conflicts between recreational users and sand miners would continue to
9 be avoided under this alternative and, as under the Project, would be less than
10 significant. Because the LTMS Conformance Alternative would include comparable
11 activities in the same locations as the Project, it also would conflict with some applicable
12 plans and policies, although adherence to LTMS work windows may incrementally
13 reduce the severity of conflicts with plans or policies intended to protect biological
14 resources. Nevertheless, without mitigation, the impacts from this alternative would be
15 significant. As under the proposed Project, MMs BIO-6, BIO-8a, BIO-8b, BIO-9a, BIO-
16 9b, HAZ-1, AIR-2, CUL-1, and CUL-3 would apply to this alternative, and would reduce
17 the potential impact of this alternative to a less-than-significant level.

18 **Clamshell Dredge Mining Alternative**

19 Under the Clamshell Dredge Mining Alternative, a barge-mounted crane and clamshell
20 bucket would be used rather than a suction dredge; mining would be conducted at the
21 same CSLC and privately-owned lease parcel sites as proposed for the Project. As with
22 the proposed Project, the Clamshell Dredge Mining Alternative would be compatible
23 with adjacent land uses and would not have significant impacts on down-current beach
24 areas due to interference with sediment transport within the Bay and Delta, since the
25 permitted annual volume of sand mined would be the same as under the Project.
26 Potential conflicts with recreational uses would be similar to that of the Project, although
27 the longer duration and/or greater frequency of mining events that would be needed to
28 produce the same volume of sand under this alternative would increase the potential for
29 interference with water-based recreation in the vicinity of the mining sites.

30 Nevertheless, based on the experience with existing mining operations, it is assumed
31 that potential conflicts between recreational users and sand miners would continue to
32 be avoided under this alternative and, as under the Project, would be less than
33 significant. Because clamshell dredge mining is less efficient than suction head mining,
34 as noted above, the increased duration and frequency of mining events required for this
35 alternative would incrementally increase the potential for conflicts with applicable plans

1 and policies. MMs BIO-6, BIO-8a, BIO-8b, BIO-9a, BIO-9b, HAZ-1, AIR-2 CUL-1, and
2 CUL-3 identified for the proposed Project would apply to this alternative and would
3 reduce this impact to a less-than-significant level.

4 **Reduced Project Alternative**

5 The Reduced Project Alternative would reduce the allowable mining volumes in all lease
6 areas to a level equivalent to current baseline volumes (i.e., the average mined per year
7 at each Project parcel from 2002 to 2007), as described in Section 3.0, Alternatives and
8 Cumulative Projects. All other aspects of the Project would remain the same, including
9 mining methods, equipment, and locations. This alternative would have the same less-
10 than-significant impacts as the Project (Impacts LU-1, LU-2, and LU-3). This Alternative
11 would reduce, but not eliminate, the potential for conflict with regional and local land use
12 plans and policies (Impact LU-4).

13 Assuming that the construction industry's demand for sand would be met from other
14 sources if sand mining volumes are restricted to the level allowed under this alternative,
15 some of the demand would be met by other local sources and/or imported sand from
16 more distant sources. Shipping connected with the importation of construction sand to
17 supplement the Bay and Delta supply (if sources outside the region were used) would
18 incrementally increase shipping traffic in parts of the Bay and/or Delta, depending on
19 which ports were used for this purpose. As under the No Project Alternative, however,
20 because such shipping activities would be conducted in compliance with applicable
21 statutes and regulations that govern shipping in the Bay and Delta, the incremental
22 increase in shipping traffic that could occur under this alternative would not significantly
23 impact land or recreational uses in or near the Bay and Delta. However, MMs BIO-6,
24 BIO-8a, BIO-8b, BIO-9a, BIO-9b, HAZ-1, CUL-1, and CUL-3 would still be necessary to
25 reduce this impact to less than significant.

26 **4.7.6 Cumulative Projects Impact Analysis**

27 As discussed above and summarized in Table 4.7-3, impacts of the proposed Project
28 could result in conflicts with some adopted land use plans or policies regarding wildlife,
29 wildlife habitat, tidal marshes and flats, and public trust responsibilities and needs. These
30 impacts could be cumulatively considerable when combined with impacts of the
31 cumulative projects identified in Table 3-3 of Section 3.0, Alternatives and Cumulative
32 Projects. However, MMs BIO-6, BIO-8a, BIO-8b, BIO-9a, BIO-9b, HAZ-1, AIR-2, CUL-1,
33 and CUL-3 identified in this EIR to reduce the Project impacts would also reduce the
34 Project's contribution to cumulative conflicts with plans and policies to a less than

1 cumulatively considerable level. Because the Project would not conflict with nearby land
2 uses, it would not contribute to cumulative impacts on these areas.

3 Sand mining operations would have a less-than-significant impact on recreational uses
4 of water areas at or near the parcel sites. Other projects in San Francisco Bay,
5 identified in Table 3-3 of Section 3.0, Alternatives and Cumulative Projects, could
6 interfere with recreational uses of the water areas in the San Francisco Bay and Delta.
7 Because many of the projects involve work related to navigation channels, working port
8 facilities, or dredge materials disposal on land or in discrete select areas of the Bay or
9 ocean (the LTMS, Port of Oakland, Sacramento River Deep Water Ship Channel, and
10 San Francisco Bay to Stockton Navigation Improvement projects), or would affect
11 discrete areas of the Bay shoreline (the desalination and power plant projects), the
12 cumulative effect of the cumulative projects on recreational uses of the water areas of
13 the Bay and Delta is not substantial. Although construction of the Trans-Bay Cable
14 would likely involve areas used for recreational boating and fishing, impacts of this
15 project on recreational uses are likely to occur only during construction, and therefore
16 would be temporary, possibly with some minor interference during routine maintenance
17 activities thereafter. Expansion of the ferry service could interfere with recreational uses
18 of some areas, depending on the increase in frequency of the service and whether new
19 routes were added. Overall, it appears that the cumulative impact of the cumulative
20 projects on recreational use of water areas of the Bay and Delta would not be
21 substantial.

Table 4.7-3. Applicability of the Proposed Project and its Consistency with the Policies of the Bay Plan,¹ Suisun Marsh Protection Plan, Solano County Local Protection Plan, and Solano County General Plan

Policy	Relationship to Project	Project Consistency
Bay Plan Policies		
<i>Climate Change (amended October 2011)</i>	Policy 6. The Commission, in collaboration with the Joint Policy Committee, other regional, state and federal agencies, local governments, and the general public, should formulate a regional sea level rise adaptation strategy for protecting critical developed shoreline areas and natural ecosystems, enhancing the resilience of Bay and shoreline systems and increasing their adaptive capacity.	The Project may affect Bay ecosystems and resilience to climate change. Consistent. The adaptation strategy envisioned in the policy statement should include consideration of sand mining effects.
<i>Fish, Other Aquatic Organisms and Wildlife Policies (amended April 2002)</i>	1. To assure the benefits of fish, other aquatic organisms and wildlife for future generations, to the greatest extent feasible, the Bay's tidal marshes, tidal flats, and subtidal habitat should be conserved, restored and increased.	The Project is located in San Francisco Bay, where mining activities could affect fish, aquatic organisms, and wildlife. Both are consistent with implementation of MMs to reduce Project impacts on subtidal and other sensitive habitat (see Section 4.1, Biological Resources). Project activities would not occur in tidal marshes or flats. In addition, the Project would not result in significant adverse impacts on water quality, and implementation of MM HAZ-1 would reduce the potential for an accidental release of hazardous materials to a less-than-significant level (see Sections 4.3, Hydrology and Water Quality, and 4.4, Hazards and Hazardous Materials).
	2. Specific habitats that are needed to conserve, increase or prevent the extinction of any native species, species threatened or endangered, species that the CDFG has determined are candidates for listing as endangered or threatened under the California ESA, or any species that provides substantial public benefits, should be protected, whether in the Bay or behind dikes.	Because the mining parcels are located in the Bay, they would be located in the general vicinity, at least, of the sensitive habitats referenced in this policy.
	4. BCDC should: (b) Not authorize projects that would result in the "taking" of any plant, fish, other aquatic organism or wildlife species listed as endangered or threatened pursuant to the state or Federal ESAs, or the federal Marine Mammal Protection Act, or species that are candidates for listing under the California ESA, unless the project applicant has obtained the appropriate "take"	BCDC is a Responsible Agency under CEQA for this Project, and would consider potential impacts on species in conjunction with the permit approval process for Project-related activities. Consistent with implementation of MMs to reduce Project impacts on listed fish species to less-than-significant levels (see Section 4.1, Biological Resources).

Table 4.7-3. Applicability of the Proposed Project and its Consistency with the Policies of the Bay Plan,¹ Suisun Marsh Protection Plan, Solano County Local Protection Plan, and Solano County General Plan

	Policy	Relationship to Project	Project Consistency
	authorization from the USFWS, National Marine Fisheries Service (NMFS), or CDFG.		
<i>Water Quality Policies (amended June 2003)</i>	2. Water quality in all parts of the Bay should be maintained at a level that will support and promote the beneficial uses of the Bay as identified in the San Francisco Bay Regional Water Quality Control Board's (RWQCB) Water Quality Control Plan [for the] San Francisco Bay Basin and should be protected from all harmful or potentially harmful pollutants. The policies, recommendations, decisions, advice and authority of the State Water Resources Control Board and RWQCB, should be the basis for carrying out BCDC's water quality responsibilities.	Proposed mining activities could affect water quality in the vicinity of and downstream from the lease sites (analyzed in Section 4.3, Hydrology and Water Quality).	Consistent. The Project would not result in significant adverse impacts on water quality and implementation of MM HAZ-1 would reduce to a less-than-significant level the potential for an accidental release of hazardous materials, consistent with this policy (see Sections 4.3, Hydrology and Water Quality, and 4.4, Hazards and Hazardous Materials).
<i>Tidal Marshes and Tidal Flats Policies (amended October 2011)</i>	1. Tidal marshes and tidal flats should be conserved to the fullest possible extent. Filling, diking, and dredging projects that would substantially harm tidal marshes or tidal flats should be allowed only for purposes that provide substantial public benefits and only if there is no feasible alternative.	The proposed Project would entail material extraction activities that are similar in nature to some aspects of dredging operations and would be located in the general vicinity of tidal marshes and tidal flats.	Consistent. Project activities would occur in the subtidal zone of bays and waterways and would not have adverse impacts on tidal marshes or tidal flats, consistent with this policy.
	2. Any proposed fill, diking, or dredging project should be thoroughly evaluated to determine the effect of the project on tidal marshes and tidal flats, and designed to minimize, and if feasible, avoid any harmful effects.	The proposed Project would entail material extraction activities that are similar in nature to some aspects of dredging operations and would be located in the general vicinity of tidal marshes and tidal flats.	Consistent with mitigation. Project activities would occur in the subtidal zone of bays and waterways, not in tidal marshes or tidal flats. In addition, the Project would not result in significant adverse impacts on water quality and implementation of MM HAZ-1 would reduce the potential for an accidental release of hazardous materials; therefore, the Project would not adversely impact tidal marshes or flats in the general vicinity of the

Table 4.7-3. Applicability of the Proposed Project and its Consistency with the Policies of the Bay Plan,¹ Suisun Marsh Protection Plan, Solano County Local Protection Plan, and Solano County General Plan

Policy	Relationship to Project	Project Consistency
		Project, consistent with this policy (see Sections 4.3, Hydrology and Water Quality, and 4.4, Hazards and Hazardous Materials).
	5. The Commission should support comprehensive Bay sediment research and monitoring to understand sediment processes necessary to sustain and restore wetlands. Monitoring methods should be updated periodically based on current scientific information.	The proposed Project may affect Bay sediment transport and sediment supply. Consistent. Tracking of sand mining event locations and volumes, which would continue to be required if the Project is approved, provides valuable information that contributes to the understanding of sediment processes.
<i>Subtidal Areas Policies (amended April 2002)</i>	1. Any proposed filling or dredging project in a subtidal area should be thoroughly evaluated to determine the local and Bay-wide effects of the project on: (b) tidal hydrology and sediment movement; (c) fish, other aquatic organisms and wildlife; (d) aquatic plants; and (e) the Bay's bathymetry. Projects in subtidal areas should be designed to minimize and, if feasible, avoid any harmful effects.	The proposed Project would entail material extraction activities that are similar in nature to some aspects of dredging operations and would be located in subtidal areas. Benthic and hydrodynamic studies have been conducted in conjunction with preparation of this EIR. Consistent. This EIR and its supporting technical reports provide a thorough evaluation of the proposed Project's effects on the Bay's hydrology, sediment movement, and bathymetry, and effects on fish, other aquatic organisms, and wildlife (see Sections 4.1, Biological Resources, and 4.3, Hydrology and Water Quality).
	2. Subtidal areas that are scarce in the Bay or have an abundance and diversity of fish, other aquatic organisms and wildlife (e.g., eelgrass beds, sandy deep water or underwater pinnacles) should be conserved. Filling, changes in use, and dredging projects in these areas should therefore be allowed only if: (a) there is no feasible alternative; and (b) the project provides substantial public benefits.	The sand mining parcels are located in subtidal areas and the material extraction activities are similar in nature to some aspects of dredging operations. Because the mining parcels are located in the Bay, they would be located in the general vicinity, at least, of the sensitive habitats referenced in this policy. Consistent. The areas where sand mining is proposed have been subjected to extensive past disturbance, and are inhabited primarily by disturbance-tolerant organisms. While alternatives to the Project exist for obtaining sand, local sources of aggregate are in short supply. There is also a clear and substantial public benefit to maintaining a local source of construction material (see Sections 4.1, Biological Resources, and 4.2, Mineral Resources).
	5. BCDC should continue to support and encourage expansion of scientific information on the	Additional benthic and hydrodynamic studies have been conducted Consistent. Additional benthic and hydrodynamic studies were conducted in

Table 4.7-3. Applicability of the Proposed Project and its Consistency with the Policies of the Bay Plan,¹ Suisun Marsh Protection Plan, Solano County Local Protection Plan, and Solano County General Plan

Policy	Relationship to Project	Project Consistency
	<p>Bay's subtidal areas, including: (a) inventory and description of the Bay's subtidal areas; (b) the relationship between the Bay's physical regime and biological populations; (c) sediment dynamics, including sand transport, and wind and wave effects on sediment movement; (d) areas of the Bay used for spawning, birthing, nesting, resting, feeding, migration, among others, by fish, other aquatic organisms and wildlife; and (e) where and how restoration should occur.</p>	<p>in conjunction with preparation of this EIR. (Refer to Section 4.1, Biological Resources, Section 4.3, Hydrology and Water Quality, and Appendices E (Entrainment Study), F (Benthic Study), and G (Sand Mining Resources Evaluation and Impact Evaluation).)</p> <p>conjunction with preparation of this EIR (see Sections 4.1, Biological Resources, and 4.3, Hydrology and Water Quality).</p>
<p><i>Dredging Policies (amended April 2002)</i></p>	<p>1. Dredging and dredged material disposal should be conducted in an environmentally and economically sound manner. Dredgers should reduce disposal in the Bay and certain waterways over time to achieve the LTMS goal of limiting in-Bay disposal volumes to a maximum of one million cubic yards per year. LTMS agencies should implement other measures to manage the disposal of dredged material.</p>	<p>The proposed Project would entail material extraction activities that are similar in nature to some aspects of dredging operations. Because the mined sand is a product that would be delivered to onshore facilities for sale, the Project does not entail disposal of dredge spoils, which is the focus of the LTMS goal referenced in this policy.</p> <p>Consistent with mitigation. This EIR analyzes the environmental and socioeconomic effects of the proposed Project and identifies measures (MMs BIO-6, BIO-8a, BIO-8b, BIO-9a, BIO-9b, HAZ-1, AIR-2, CUL-1, and CUL-3) to mitigate the Project's impacts to less-than-significant levels. In addition, the mined sand would be delivered to onshore facilities to be offloaded and sold, not disposed of in the Bay or any waterways, consistent with this policy.</p>
	<p>2. Dredging should be authorized when the BCDC can find: (b) the materials to be dredged meet the water quality requirements of the San Francisco Bay RWQCB; (c) important fisheries and Bay natural resources would be protected through seasonal restrictions established by the CDFG, USFWS and/or NMFS, or through other appropriate measures.</p>	<p>The proposed Project would entail material extraction activities that are similar in nature to some aspects of dredging operations, including disturbance of the bay floor and potential adverse impacts on water quality (analyzed in Section 4.3, Hydrology and Water Quality).</p> <p>Consistent with mitigation. The coarse sediments targeted by the sand miners typically have relatively low potential for accumulating sediment-borne contaminants, compared to finer sediments found in other parts of the Bay-Delta estuary, and the Project's impacts on water quality would be less than significant. Implementation of MMs would reduce Project impacts on fisheries through avoidance,</p>

Table 4.7-3. Applicability of the Proposed Project and its Consistency with the Policies of the Bay Plan,¹ Suisun Marsh Protection Plan, Solano County Local Protection Plan, and Solano County General Plan

	Policy	Relationship to Project	Project Consistency
			minimization, and seasonal restrictions consistent with CDFG incidental take permits required for delta and longfin smelt (see Sections 4.1, Biological Resources, and 4.3, Hydrology and Water Quality).
	7. All proposed channels, berths, turning basins, and other dredging projects should be carefully designed so as not to undermine the stability of any adjacent dikes, fills or fish and wildlife habitats.	The proposed Project would entail material extraction activities that are similar in nature to some aspects of dredging operations, including potential impacts on fish and wildlife habitat.	Consistent. Sand mining activities are located too far from dikes, fill areas, or upland wildlife habitat to affect them. The Project's impact on the Bay/Delta geomorphology would be less than significant, and it would have no impacts on the stability and integrity of fish or wildlife habitat (see Sections 4.1, Biological Resources, and 4.3, Hydrology and Water Quality).
<i>Public Trust Policies</i>	1. When BCDC takes any action affecting lands subject to the public trust, it should assure that the action is consistent with the public trust needs for the area and, in case of lands subject to legislative grants, should also assure that the terms of the grant are satisfied and the project is in furtherance of statewide purposes.	The Project lease sites managed by CSLC are public trust lands of the State of California.	Consistent with mitigation. All the lease parcels except Middle Ground Shoal are on State-owned public trust lands managed by the CSLC. This EIR analyzes the Project's environmental and socioeconomic effects and identifies MMs BIO-6, BIO-8a, BIO-8b, BIO-9a, BIO-9b, HAZ-1, AIR-2, CUL-1, and CUL-3) to mitigate the Project's impacts to less-than-significant levels.
Suisun Marsh Protection Plan Policies			
<i>Environment Policies</i>	1. The diversity of habitats in the Suisun Marsh and surrounding upland areas should be preserved and enhanced wherever possible to maintain the unique wildlife resource.	Part of the Project is located in the Primary Management Area of Suisun Marsh, where mining activities could affect fish and other aquatic habitat (analyzed in Section 4.1, Biological Resources).	Consistent with mitigation. Implementing identified MMs would reduce Project impacts on sensitive habitats in the vicinity of Suisun Marsh to less-than-significant levels. The Project would not result in significant adverse impacts on water quality, and

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	Policy	Relationship to Project	Project Consistency
			implementation of MM HAZ-1 would reduce the potential for an accidental release of hazardous materials to a less-than-significant level (see Sections 4.1, Biological Resources, 4.3, Hydrology and Water Quality, and 4.4, Hazards and Hazardous Materials).
	2. The Marsh waterways, managed wetlands, tidal marshes, seasonal marshes, and lowland grasslands are critical habitats for marsh-related wildlife and are essential to the integrity of the Suisun Marsh. Therefore, these habitats deserve special protection.	Part of the Project is located in the Primary Management Area of Suisun Marsh, where mining activities could affect fish and other aquatic habitat (analyzed in Section 4.1, Biological Resources).	Consistent with mitigation. Although mining sites in Suisun Bay and the Sacramento River would be considered "Marsh waterways," the Project would not affect sensitive habitats such as managed wetlands, tidal marshes, seasonal marshes, and lowland grasslands, and implementation of identified MMs would reduce Project impacts on biological resources to less-than-significant levels. In addition, the Project would not result in significant adverse impacts on water quality. Implementation of MM HAZ-1 would reduce the potential for an accidental release of hazardous materials to a less than significant level (see Sections 4.1, Biological Resources, 4.3, Hydrology and Water Quality, and 4.4, Hazards and Hazardous Materials).
<i>Water Quality and Supply Policies</i>	4. Water quality standards in the Marsh should be met by maintaining adequate inflows from the Delta. Fresh water from projects designed to import or redistribute fresh water in the Marsh, and therefore to compensate for reduced inflow from the Delta should not be used unless it is established that the	Proposed mining activities are located in the vicinity of the Marsh. Potential impacts on the salinity of the water in the Project area are considered in Section 4.3, Hydrology and Water Quality).	Consistent. The Project does not entail curtailing water flows to the Marsh or importing or redistributing water. Project impacts on water quality would be less than significant, consistent with this policy (see Section 4.3, Hydrology and Water Quality).

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	Policy	Relationship to Project	Project Consistency
	importation or redistribution of water will not have a significant adverse impact on the Marsh.		
<i>Recreation and Access Findings</i>	Recreation and Access Finding 3: The demand for existing recreational uses of the Suisun Marsh is presently high and will probably increase in the future. There is also a high demand for water sports and passive recreational activities, such as nature walks, picnicking, and sightseeing. Participation in these activities would increase if better facilities were provided.	The Suisun Bay and Sacramento River mining parcels would be located in the vicinity of existing and future recreational uses of the marsh referenced in this finding.	Consistent. Suisun Marsh Protection Plan Policies related to this finding concern the acquisition of land for public access and recreation and other jurisdiction actions regarding provision of recreational opportunities, and therefore do not apply to this Project. Although recreational uses in the marsh recognized in this finding, particularly recreational fishing in area waterways, represent land uses with which the Project could potentially conflict, the absence to date of conflicts between existing sand mining operations and recreational activities indicates that the potential for such conflicts is not significant, consistent with SMPP recreation policies.
<i>Land Use and Marsh Management Policies</i>	1. The managed wetlands, tidal marshes, lowland grasslands and seasonal marshes should be included in a Primary Management Area. Within the Primary Management Area existing uses should continue and both land and water areas should be protected and managed to enhance the quality and diversity of the habitats.	Part of the Project is located in the Primary Management Area of Suisun Marsh.	Consistent. The Project would continue an existing use located within the Primary Management Area, consistent with this policy.
Solano County Local Protection Plan Policies			
<i>Agriculture and Open Space Land Use: Marsh and Wetland Habitats Land Use Proposals</i>	1. The County shall preserve and enhance wherever possible the diversity of wildlife and aquatic habitats found in the Suisun Marsh and surrounding upland areas to maintain these unique wildlife resources.	Part of the Project is located in the Primary Management Area of Suisun Marsh.	Consistent with mitigation. The Project would not affect sensitive habitats such as wetlands, tidal marshes, and seasonal marshes, and implementation of identified MMs would reduce Project impacts on biological resources to less-than

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Policy	Relationship to Project	Project Consistency
		significant levels. In addition, the Project would not result in significant adverse impacts on water quality. Implementation of MM HAZ-1 would reduce the potential for an accidental release of hazardous materials to a less-than-significant level (see Sections 4.1, Biological Resources, 4.3, Hydrology and Water Quality, and 4.4, Hazards and Hazardous Materials).
	2. The County shall protect its Marsh waterways, managed and natural wetlands, tidal marshes, seasonal marshes, and lowland grasslands which are critical habitats for marsh-related wildlife.	Part of the Project is located in the Primary Management Area of Suisun Marsh. Consistent with mitigation. Although mining sites in Suisun Bay and the Sacramento River would be considered "Marsh waterways," implementation of identified MMs would reduce Project impacts on sensitive and critical habitat to less than significant. In addition, the Project would not result in significant adverse impacts on water quality. Implementation of MM HAZ-1 would reduce the potential for an accidental release of hazardous materials to a less than significant level (see Sections 4.1, Biological Resources, 4.3, Hydrology and Water Quality, and 4.4, Hazards and Hazardous Materials).
<i>Recreational Land Use</i>	1. Within the Suisun Marsh, provision should be made for public and private recreational development to allow for public recreation and access to the Marsh for such uses as fishing, hunting, boating, picnicking, hiking and nature study.	Since part of the Project is located in Suisun Marsh, recreational uses of the water and nearby land areas may occur in the Project vicinity. Consistent. Past and existing sand mining operations have not resulted in conflicts with recreational fishing and boating, indicating that the Project would similarly be compatible with recreational uses in and near Suisun Marsh, consistent with this policy.

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Policy		Relationship to Project	Project Consistency
<i>Water Dependent Industrial Development</i>	2. Industrial development shall be located and developed in a manner that protects significant marshland and wetland habitats and the water quality of the area.	An existing industrial site at Collinsville would continue to be used as one of the identified offloading sites under the Project. No changes are proposed to the location, facilities, or activities at the offloading sites, and they are not part of the Project.	Consistent. Jerico uses a site within the area of Collinsville designated for water-dependent industrial development as one of its offloading sites. This site would continue to be used as an offloading site under the Project, consistent with this policy.
<i>Wildlife Habitat Management and Preservation</i>	1. The diversity of habitats in the Suisun Marsh and surrounding upland areas should be preserved and enhanced wherever possible to maintain the unique wildlife resource.	Part of the Project is located in the Primary Management Area of Suisun Marsh.	Consistent with mitigation. Implementing identified MMs would reduce Project impacts on sensitive habitat to less-than-significant levels; the Project would not result in significant adverse impacts on water quality; and implementation of MM HAZ-1 would reduce the potential for an accidental release of hazardous materials to a less-than-significant level (see Sections 4.1, Biological Resources, 4.3, Hydrology and Water Quality, and 4.4, Hazards and Hazardous Materials).
	2. The Marsh waterways, managed wetlands, tidal marshes, seasonal marshes, and lowlands and grasslands are critical habitats for marsh-related wildlife and are essential to the integrity of the Suisun Marsh. Therefore, these habitats deserve special protection.	Part of the Project is located in waterways within the Primary Management Area of Suisun Marsh.	Consistent with mitigation. Although mining sites in Suisun Bay and the Sacramento River are "Marsh waterways," implementation of identified MMs would reduce Project impacts on sensitive habitats to less than significant. In addition, the Project would not result in significant adverse impacts on water quality. Implementation of MM HAZ-1 would reduce the potential for an accidental release of hazardous

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	Policy	Relationship to Project	Project Consistency
			materials to a less-than-significant level (see Sections 4.1, Biological Resources, 4.3, Hydrology and Water Quality, and 4.4, Hazards and Hazardous Materials.)
<i>Water Quality</i>	4. The development of industrial facilities adjacent to or upstream from the Marsh should be planned to eliminate significant adverse environmental impacts on the water quality of the Suisun Marsh. Activities that could significantly alter the temperature, salinity or turbidity of the water should be prohibited. Industrial facilities that will increase the potential for spills of toxic and hazardous materials should not be permitted unless it is established that spills of such materials will not represent a significant threat to the Marsh.	The Project consists of an industrial activity within the Suisun Marsh Primary Management Area.	Consistent. The Project's impacts on water quality would be less than significant, as would the short-term effects of increased turbidity and sediment resettlement as a result of sand mining. Implementation of MM HAZ-1 would reduce the potential for an accidental release of hazardous materials to a less-than-significant level (see Sections 4.1, Biological Resources, 4.3, Hydrology and Water Quality, and 4.4, Hazards and Hazardous Materials).
	5. Any development in the Suisun Marsh watershed or secondary management area proposed for areas that have poor soil conditions for construction or that are seismically active, should be controlled to prevent or minimize earth disturbance, erosion, water pollution, and hazards to public safety. Local runoff, erosion, and sediment control ordinances should be established in the immediate Suisun Marsh watershed to protect the Marsh from these potential adverse effects.	Both dredging and mining are defined as a development in the Suisun Marsh Preservation Act (Pub. Resources Code, § 29114, subd. (a)) and would involve earth disturbance at the sand mining sites.	Consistent. Disturbance of sediments on the seafloor during sand mining could result in increased turbidity and SSC at the seafloor. However, the effects of increased turbidity and sediment resettlement as a result of sand mining are short-term and less than significant, consistent with this policy. (See Sections 4.1, Biological Resources, and 4.3, Hydrology and Water Quality.)
	6. Riparian vegetation in the immediate Suisun Marsh watershed should be preserved due to its importance in the maintenance of water quality and its value as Marsh-related wildlife habitat. Stream modification	Sand mining would involve modification of the beds of the waterways where the mining parcels are located (analyzed in Section 4.3, Hydrology	Consistent. Project activities would take place in the subtidal zone of area bays and waterways and would not affect riparian vegetation in the Suisun Marsh watershed.

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	Policy	Relationship to Project	Project Consistency
	should only be permitted if it is proved necessary to ensure the protection of life and existing structures from floods and only the minimum amount of modification necessary should be allowed.	and Water Quality).	
<i>Utilities, Facilities and Transportation</i>	<p>9. Policies toward diking, filling and dredging of sloughs, managed wetlands and marshes.</p> <p>a. No dredging, filling, or diking activity shall be conducted within the Primary Management Area of the Suisun Marsh except with the permission of the appropriate permitting authorities.</p> <p>b. In order to minimize adverse effects on desirable plant and wildlife communities and to minimize the potential for erosion and sedimentation, all diking, dredging and filling activities shall be carried out in conformity with the following general principles and standards. (9) Diking, filling and dredging activities shall be conducted so as to minimize interference with critical wildlife activities such as nesting and breeding.</p>	The proposed Project would entail material extraction activities that are similar in nature to some aspects of dredging operations. The Project is subject to authorizations by all permitting authorities.	Consistent with mitigation. Although the Project does not involve utilities, facilities, or transportation, this policy may apply since the Project involves extraction of materials through suction dredging, within the Primary Management Area of the marsh. The proposed Project would not be implemented unless and until the Applicants secure all relevant permits. Project activities occur within area bays and waterways, and would not affect the surrounding upland area. Implementing identified MMs would reduce Project impacts on aquatic habitat and sensitive fish species to less-than-significant levels, consistent with this policy (see Section 4.1, Biological Resources).
Solano County General Plan Policies			
Land Use Policy LU.P-2	Assures the continued preservation of lands designated as "Water Bodies and Courses" by continuing to include enumerated policies in the General Plan until December 31, 2028.	Suisun Bay and the Sacramento River within Solano County's jurisdiction are designated "Water Bodies and Courses" on the General Plan Land Use Diagram (Solano County General Plan 2008).	Consistent. The Project would not change the designation of the lease areas within Solano County, affect the preservation of these areas as water bodies and water courses, or change the designation of any water bodies or water courses, consistent with this policy.
Land Use Policy LU.P-3	Assures that the designation of specified water bodies and courses remains in effect until December 31, 2028.		

¹ The term "should" when used in Bay Plan policies denotes a mandatory action.

Source: BCDC 1976, BCDC 2011b, Solano County 1982, and Solano County 2008