CALENDAR ITEM
101

A 11, 16 — 10/19/12
PRC 709.1, 2036.1
7779.1, & 7780.1

S 7, 8 — D. Oetzel
C. Huitt
J. Frey

CONSIDER CERTIFICATION OF A FINAL ENVIRONMENTAL IMPACT REPORT AND ISSUANCE OF FOUR NEW GENERAL LEASES – MINERAL EXTRACTION TO HANSON MARINE OPERATIONS FOR SAND MINING OPERATIONS IN SAN FRANCISCO BAY

APPLICANT/LESSEE:
Hanson Marine Operations
3000 Busch Road
Pleasanton, California 94566

AREA, LAND TYPE, AND LOCATION:
An aggregate of approximately 2,601 acres of submerged lands in San Francisco Bay; Marin and San Francisco Counties for PRC Nos. 709.1, 2036.1, 7779.1, and 7780.1

AUTHORIZED VOLUMES FOR ENVIRONMENTALLY SUPERIOR ALTERNATIVE:
Commercial sand and gravel extraction for the following annual maximum volumes:

PRC 709.1: 290,331 cubic yards
PRC 2036.1: 252,637 cubic yards
PRC 7779.1: 390,440 cubic yards
PRC 7780.1: 127,248 cubic yards

AUTHORIZED VOLUMES FOR PROPOSED PROJECT ALTERNATIVE:
Commercial sand and gravel extraction for the following annual maximum volumes:

PRC 709.1: 340,000 cubic yards
PRC 2036.1: 450,000 cubic yards

PRC 7779.1: 550,000 cubic yards
PRC 7780.1: 200,000 cubic yards

LEASE TERM:

10 years, beginning January 1, 2013.

CONSIDERATION:

Annual land rent of $2.00 per acre.

For Lease Nos. PRC 709.1, 2036.1, 7779.1, and 7780.1 the Biannual Royalty is determined according to the following formula:

R = (Y)(B)

Where R = Royalty in dollars and cents paid to Lessor biannually.

Y = Total cubic yardage of Sand and Gravel extracted from the Leased Lands for the biannual period.

B = $2.09 per cubic yard.

Commencing January 1, 2013, the royalty shall be adjusted annually according to the Producer Price Index (PPI), finished goods, not seasonally adjusted. The base index to calculate the adjusted annual royalty rate shall be the PPI for the month of July 2008.

MINIMUM BIANNUAL ROYALTY AND RENT:

The minimum biannual royalty (MBR) and annual land rent for Lease Nos. PRC 709.1, 2036.1, 7779.1, and 7780.1 will be as follows:

LEASE	MBR (2013-2017)	MBR (2018-2022)	RENT
PRC 709.1	$60,680	$75,850	$1,661
PRC 2036.1	$52,800	$66,000	$464
PRC 7779.1	$81,600	$102,000	$2,552
PRC 7780.1	$26,600	$33,250	$524

BOND:

The bond amount for each lease will be as follows:

LEASE	**BOND (2013-2022)**
PRC 709.1	$75,850
PRC 2036.1	$66,000
PRC 7779.1	$102,000
PRC 7780.1	$33,250

INSURANCE: For each Lease, $1,500,000 for personal liability and property damage insurance (combined single limit) and $1,500,000 for an insurance policy for protection of water quality and the environment.

BACKGROUND:

The mining of sand for use as a construction material has occurred within Central San Francisco Bay and the Delta for more than seven decades. Channel and harbor dredging to remove sand and other sediment deposits from the Bay began in the 1800s, and construction sand mining within the Bay-Delta estuary began in the 1930s. Lease No. PRC 709.1 dates back to 1952; Lease No. PRC 2036 to 1957; Lease No. PRC 7779 to 1995; and Lease No. PRC 7780 to 1997.

On July 1, 1998, the State entered into the present State Sand and Gravel Extraction Leases Nos. PRC 709.1, 2036.1 and 7780.1 with Moe Sand Company, and State Sand and Gravel Extraction Lease No. PRC 7779.1 with Olin Jones Sand Company. Hanson Marine Operations (Hanson) entered into the construction and sand mining business in San Francisco Bay in 1999 when it acquired the two aforementioned companies that held the sand mining leases and succeeded to the Lessees' interest in the Leases.

The Leases were granted for a term of 10 years with an option to renew for one additional period of 10 years upon terms and conditions, including the modification of royalty, which would reasonably protect the interests of the State. In 2003, the Attorney General's Office, on behalf of the Commission, filed a lawsuit against Hanson Building Materials and other companies after a whistleblower reported that the company defrauded the state of millions of dollars in royalty payments for sand mined in Suisun and San Francisco Bays under Commission leases by failing to fully report sand taken from mining sites. In 2007, the Commission entered into a settlement to resolve these allegations. Under the terms of the settlement agreement, Hanson agreed to pay $42.2

million to the state. The existing term of the Leases ended on June 30, 2008. Hanson notified the California State Lands Commission (CSLC or Commission) of its election to exercise the renewal rights of each of the Leases. Pending completion of the environmental review and permitting process, the CSLC is allowing the continuation of sand mining on a month-to-month holdover basis. While in holdover, the terms of the leases, including annual PPI increases, have remained in effect.

Hanson currently owns two sand mining barges and three tugboats used in its sand mining operations. In April 2002, Hanson contracted with Foss Maritime Services (Foss) to perform the actual sand mining using Hanson's barges and tugboats. Under this arrangement, Foss mines sand for Hanson from sites leased by Hanson from the CSLC and the Grossi family, which owns Middle Ground Island located between Suisun Bay and Honker Bay.

On October 30, 2007, the Commission authorized the amendment of the leases to, among other things, modify the method of calculating the royalty from a percentage of gross revenue to a fixed rate based upon the mined volume of sand, and to require additional tracking, mapping, and reporting of all mining episodes, utilizing the Global Positioning System. The lease amendments allowed for Hanson to continue in holdover status pending Commission consideration of Lessee's application to renew the leases for an additional term.

Hanson Marine Operations was acquired by Lehigh Hanson, Inc. in September 2007. Hanson Marine Operations, Inc. is an indirect, wholly owned subsidiary of Lehigh Hanson, Inc. Lehigh Hanson, Inc. is a wholly owned, indirect subsidiary of Heidelberg Cement AG.

CSLC staff, in consultation with the National Park Service and U.S. Coast Guard, recently completed a review of historical data relevant to the Central Bay mining lease boundaries and determined that several lease boundaries needed to be revised to avoid encroaching onto lands granted by the legislature to the United States pursuant to Chapter 56, Statues of 1897 adjacent to Angel Island and Alcatraz Island. The land area reduced by these boundary adjustments is roughly five percent of the area previously described in Lease No. PRC 709 (about 42 of 873 acres were removed) and one percent of Lease No. PRC 7779 (about 20 of 1,357 acres were removed). The areas removed from the lease

premises are adjacent to the two islands and not where sand mining was occurring. The lease areas for Lease Nos. PRC 709.1 and PRC 7779.1 that are under consideration by the Commission have been revised accordingly.

RECOMMENDATION FOR NEW LEASES:

Hanson has applied to the CSLC for a renewal of their sand mining leases (Project), as well as modification of annual volume limits, for a term of 10 years. New leases, if granted, would allow Hanson to continue sand mining within the lease area boundaries up to the allowed annual volumes. Hanson is proposing to lease the following Central Bay parcels, all of which are sovereign lands under the jurisdiction of the CSLC and depicted in Exhibit A for reference and described more particularly in Exhibit B: PRC 709.1 (Presidio, Alcatraz North, and Point Knox North Shoals); PRC 2036.1 (Point Knox South); PRC 7779.1 (Point Knox Shoal); PRC 7780.1 (Alcatraz South Shoal). The proposed new leases involve the same lease parcels currently mined by Hanson, although the boundaries of some of the Central Bay parcels were adjusted in 2011 to avoid overlapping federal lands (see discussion above). The lease areas have a combined total of approximately 2,601 acres. Hanson's Proposed Project would allow mining a combined maximum volume of 1,540,000 cubic yards of sand and gravel per year from the leased parcels.

Staff recommends that the Commission authorize each of the leases for two different mining volume levels identified as the Reduced Project Alternative with an increased volume option up to Proposed Project levels. Initially, the proposed leases authorize the volumes set forth in the Reduced Project Alternative analyzed in the Environmental Impact Report, CSLC EIR No. 742, State Clearinghouse No. 2007072036 (EIR), and identified as the Environmentally Superior Alternative. At this level, the four leases combined would allow a total maximum mining volume of 1,060,656 cubic yards per year. This level is the same as the five-year annual average volume mined from 2002 to 2007, and substantially less than the levels permitted under the previous leases (1,390,000 cubic yards per year).

The leases recommended by staff include a provision that would allow an increase to the Proposed Project mining volumes, provided that the Lessee complies with two conditions that demonstrate the significant

environmental effects of the increased mining identified in the EIR have been mitigated to a less than significant level. The individual lease volumes for both the Environmentally Superior Alternative and the Proposed Project are shown above on pages 1-2.

The Proposed Project mining volumes would only be allowed if Hanson met the two conditions. The first condition relates to the requirement of a California Department of Fish and Game (CDFG) Incidental Take Permit (ITP). The EIR finds that Project impacts to delta smelt and longfin smelt would be significant and unavoidable (Impact BIO-8). Delta smelt is listed as a threatened species under the federal Endangered Species Act and an endangered species under the California Endangered Species Act. Longfin smelt was listed as a threatened species under the California Endangered Species Act in April 2010. Although mitigation measures (MMs) BIO-8a and BIO-8b in the EIR describe measures to avoid, minimize, and compensate for the take of delta smelt and longfin smelt, these measures would likely not reduce the impact to a less-than-significant level. Therefore, it is expected that Hanson will need an ITP from the CDFG. The CSLC staff is aware that Hanson has initiated consultation with CDFG with the intent of obtaining an ITP.

Although CSLC staff consulted extensively with CDFG during the development of the EIR, the CDFG relies on its own permitting process to identify the specific conditions of an ITP on a case-by-case basis. While the CSLC staff has proposed all that is feasible at this time to avoid or lessen the significant impact by imposing the mitigation specified in MMs BIO-8a and 8b, CDFG is the agency with the appropriate expertise and jurisdiction to determine whether there are feasible conditions of an ITP that would fully mitigate the impact of the taking. CDFG can only issue an ITP if it finds that the avoidance, minimization, and compensatory measures specified in the ITP will result in no net take of the species, and that activities covered by the ITP will not jeopardize the continued existence of the species (Fish & Game Code, § 2081). CSLC staff anticipates that CDFG will develop measures through the ITP process that fully mitigate the impacts of the taking, and thus reduce the impacts to a less-than-significant level under CEQA.

The CSLC as lead agency under CEQA has the responsibility to consider certification of the EIR and consider approval of the Project before CDFG can issue an ITP acting as a CEQA responsible agency. If

the Commission decides to approve the Project, the Commission must make a Statement of Overriding Considerations for the significant impact to delta smelt and longfin smelt because the impact will not be mitigated prior to the certification of the EIR.

CDFG, however, would not be bound to make the same significance determination, and, in all likelihood, would not be required to adopt a Statement of Overriding Considerations, if it finds that the measures it develops and includes in an ITP minimize and fully mitigate the impacts of the authorized take. If, therefore, Hanson receives an ITP from the CDFG for the Proposed Project mining volumes, the first of the two required lease conditions for the higher volume level would be met because the significant impact to delta smelt and longfin smelt would have been mitigated to a less than significant level.

The second lease condition relates to air quality. To avoid significant air quality impacts related to emissions of criteria pollutants, Hanson has proposed mining at or below baseline volumes until 2014, when certain upgrades to diesel engines used to power mining equipment are required to be completed by the California Air Resources Board (CARB) under Title 17, California Code of Regulations, section 93118.5. With the upgrades to cleaner burning engines, the mining volumes could increase to the proposed Project volumes without creating a significant impact related to emissions of criteria pollutants. Therefore, when Hanson provides documentation that it has submitted its Compliance Plan and Demonstration of Compliance to Operate to meet the CARB regulations for the engine upgrades, the second lease condition would be met allowing for the increase to Proposed Project volumes.

Upon Hanson's request for the increased Proposed Project volumes and presentation of the above documentation for the two conditions specified above, and if the documentation is sufficient to confirm compliance with all requirements, CSLC staff shall issue a compliance documentation letter authorizing the mining of the increased volumes.

OTHER PERTINENT INFORMATION:

The CSLC has prepared an Environmental Impact Report (EIR) for the Proposed Project in compliance with the California Environmental Quality Act (CEQA; Pub. Resources Code, § 21000 et seq.) and the

State CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.). The EIR examines the potential impacts of sand mining the premises of:

(1) The Hanson leases (PRC Nos. 709.1, 7779.1, 7780.1, 2036.1) located in Central San Francisco Bay;
(2) The Suisun Associates Lease (PRC No. 7781.1), located in Suisun Bay and the western Delta in the San Joaquin and Sacramento River channels upstream of Suisun Bay; and,
(3) Middle Ground Shoal in Suisun Bay, a privately owned parcel owned by the Grossi family.

A new lease for Suisun Associates (PRC 7781.1), a joint venture between Hanson and Jerico, Inc., may be submitted for the CSLC's consideration at a later date, pending receipt of information necessary to complete the application and determine the appropriate consideration for the mining of sand and gravel in this lease parcel. The Middle Ground parcel is analyzed in the EIR for the issuance of non-CSLC permits and entitlements necessary for the operation of sand mining. No CSLC lease is required for the Middle Ground parcel.

This EIR examines the potential environmental effects of the proposed new leases and continuing sand mining for an additional 10-year period. For the purposes of this EIR, the new leases and the issuance of other permits and entitlements necessary to continue sand mining are considered the "Project."

Several comments received on the Draft EIR suggested that sand mining could adversely impact the evolution of the San Francisco Offshore Bar (Bar) and result in shoreline erosion at Ocean Beach in San Francisco. The Bar is an area directly west of the Golden Gate Bridge where sand and sediments flow through at high velocities from the narrow gate into a wide and shallow horse-shoe shaped plateau where sediments are deposited. Comments on this potential adverse impact included the following reasons:

- Mining areas contain sand of appropriate size, and therefore may be a source of sediment deposited on the Bar;
- The volume of sand removed from the Bay is approximately equal to the amount eroded from the Bar during recent decades; and,

- Deepened mining areas may intercept sand being transported through the area of the mining leases, due to a change of flow hydrodynamics. Essentially, the holes created by mining may become a trap for sand and would not be available for transport to the Bar.

These concepts were raised in comments on the Notice of Preparation by the San Francisco Bay Conservation and Development Commission (BCDC) and the U.S. Geological Survey (USGS). Exploring these concepts was one of the principal aims of the initial hydrodynamic modeling and bathymetric analyses performed by Coast & Harbor Engineering (CHE) and described in Appendix G of the EIR. The CHE study was used in the EIR as the basis for Impact HYD-2 in Part III, Section 4.3, Hydrology and Water Quality: the conclusion reached in the EIR for Impact HYD-2 is that the extension of sand mining for a 10-year period is not expected to have a substantial effect on the amount of sand delivered to the Bar or coastal beaches, and the impact of the proposed Project on sediment transport and the geomorphology of the coastline and the floor of the Bay, Delta, and ocean would therefore be less than significant. The discussion of cumulative effects on sediment transport and coastal morphology found in Part III, Section 4.3, Hydrology and Water Quality, similarly concluded that the Project would not make a cumulatively considerable contribution to a cumulative impact on coastal morphology.

The Final EIR's Master Response 1 in Part II of the response to comments, reviews, and summarizes the CHE study presented in Appendix G of the EIR and presents supplemental analyses that confirm the EIR conclusions regarding Impact HYD-2 and the potential cumulative effects of the Project on sediment transport and coastal morphology. The results of these analyses clarify and quantify the conclusion reached in Appendix G of the EIR. If the Project is approved and sand mining continues at the Proposed Project volume for a 10-year period, there is likely to be a reduction of 5,000-7,000 cubic yards of sediment transported from Central Bay through the Golden Gate annually. This range represents approximately 0.2 – 0.3 percent of the long-term rate of erosion of the Bar, as calculated by experts in the field. Consistent with the conclusions presented in this EIR, CSLC staff consider this Project associated reduction in sediment transport, and any secondary effects on coastal morphology, to be a less than significant

impact, and a less than cumulatively considerable contribution to a cumulative impact.

Several other comments received on the Draft EIR concerned the environmental baseline for the Project. Master Response 2 in the Final EIR responds to this concern. The baseline is the point of departure, or starting point, for the EIR analysis. In an EIR, the conditions that would exist should a project be approved are compared to the baseline condition; the difference between the two is the increment of change that forms the basis for conclusions regarding the significance of impacts. The baseline may include the general physical environmental conditions, or setting, that existed at the time that the notice of preparation (NOP) for the Project was published.

CEQA allows the lead agency some leeway in its determination of the baseline by stating that the environmental setting at the time the NOP is published will "normally" constitute the baseline physical conditions against which the impacts of a project are evaluated. In some instances, as here, where the level of an existing operation can vary substantially from year to year, a lead agency may opt to consider an average level of operations over some period of years to characterize that existing operation. The mining volume used as the baseline for the analysis in the EIR is the average volume of sand mined per year from 2002 to 2007 (i.e., the average of the 5 years of mining that occurred prior to publication of the NOP for this EIR).

This approach recognizes that sand mining activity levels can fluctuate substantially from year to year depending on market demand and other factors: the average of several years best characterizes the overall level of mining activity at the time the NOP was published. The intensity of sand mining operations from 2002 to 2007 was less than the average of the entire 10 years of mining under the previous parcel leases, and was also less than permitted levels. This provides a conservative baseline, since the lower the baseline level of operations, the greater the difference between the baseline and the Project, and thus the more pronounced the impacts associated with the Project. As described in the EIR in Section 1.0, Introduction, the determination of the Project baseline was not arbitrary. CSLC staff considered comments on the 2010 Draft EIR and recent legal decisions, and carefully weighed the options for defining the baseline. Staff concluded that a baseline that accounts for

mining levels over several years provides a more accurate measure of the current level of mining activity against which to evaluate Project impacts. Further, the most recent five year period up to the year the NOP was published was determined to best reflect recent overall levels of mining activity and to be appropriate and consistent with CEQA as the environmental baseline for the analysis.

Section 4.0 of the Environmental Analysis, presents the analysis of the potential environmental impacts associated with the proposed Project over the next 10 years. Effects on all potentially affected environmental resources were evaluated to determine any impacts that would remain significant after mitigation. Implementation of all mitigation measures (MMs) identified in Section 4.0, Environmental Analysis, would reduce most significant impacts to less than significant levels. The Proposed Project would result in a significant impact to delta smelt and longfin smelt as a result of entrainment and mortality during sand mining operations that impacts adult life stages of the delta smelt and longfin smelt, thereby exceeding the established significance thresholds. These include: 1) A potential for the Project to "take" any part of the population of a special status species (such as State or federally endangered species) through direct effects or indirect harm through the disturbance or loss of its habitat. 2) A net loss occurs in the functional habitat value of a sensitive biological habitat, or any area of special biological significance. 3) A potential for the movement or migration of fish to be impeded. 4) A substantial loss occurs in the population or habitat of any native fish or vegetation or if there is an overall loss of biological diversity, with substantial defined as any change that could be detected over natural variability. Based upon the analysis of the information presented in this EIR and consultation with CDFG staff, the CSLC concluded that there is sufficient evidence to conclude that incidental take of both delta smelt and longfin smelt will occur as a result of Project activities. As described above, Hanson has initiated consultation with CDFG to obtain an Incidental Take Permit (ITP).

State CEQA Guidelines section 15126.6 subdivision (a) requires that an EIR describe and analyze a range of reasonable alternatives to the proposed Project that would feasibly attain most of the basic objectives of the Project but avoid or substantially lessen any of the project's significant effects. The State CEQA Guidelines (§ 15126.6, subd. (d)) also require that an EIR include sufficient information about each

alternative to allow meaningful evaluation, analysis, and comparison with the proposed Project. Section 15126.6 subdivision (e)(2) further states, in part, that "*If the environmentally superior alternative is the 'no project' alternative*, the EIR shall also identify an environmentally superior alternative among the other alternatives." (Emphasis added.) Table 6-1 of the EIR compares the Proposed Project with each of the alternatives evaluated in the EIR, including the No Project Alternative.

The No Project Alternative could avoid most of the significant impacts of the Project, including significant impacts to delta smelt and longfin smelt. This alternative would, however, require the Bay Area construction industry to acquire sand from other sources including land-based quarries in the Bay area and from more distant sources such as British Columbia, with consequent increases in air emissions, including greenhouse gases (GHGs) (Table 6-1 of the EIR) and potential health risk from diesel particulate matter. Therefore, the No Project Alternative is not considered environmentally superior to the other alternatives or to the proposed Project. Both the LTMS Conformance Alternative and the Clamshell Dredge Mining Alternative could reduce or avoid some impacts of the Project, but also may result in significant unavoidable air quality impacts.

The Reduced Project Alternative would reduce the intensity of the Proposed Project's significant impacts from sand mining, and would likely render mitigation measures easier to implement and achieve. Even though the Reduced Project Alternative may result in significant unavoidable air quality impacts associated with importing sand and obtaining sand from Bay Area quarries, the overall intensity of impacts would be less than the other alternatives. Therefore, the Reduced Project Alternative is considered the Environmentally Superior Alternative.

As described above in the section, "Recommendation for New Leases," issuance of an ITP by the CDFG for the Proposed Project mining volume would demonstrate that the significant impact to delta smelt and longfin smelt will have been mitigated to a less than significant level. An increase in the allowed mining volume to the Proposed Project level will have the benefit of eliminating the Reduced Project Alternative's significant impacts to air quality from importing sand and obtaining sand from Bay Area quarries. As described above, Hanson will also need to

meet CARB requirements related to engine upgrades before increased mining volumes would be allowed.

Because both the Proposed Project and Reduced Project Alternative have significant and unavoidable impacts after all feasible mitigation has been applied, the Commission will be required to make a Statement of Overriding Considerations to approve the leases. The Proposed Project will require a Statement of Overriding Considerations for one significant impact to delta smelt and longfin smelt. The Reduced Project Alternative (the Environmentally Superior Alternative) will require a Statement of Overriding Considerations for four significant impacts: to delta smelt and longfin smelt, for emissions of criteria pollutants, for potential impacts on climate change, and for potential health risk from diesel particulate matter. If the CSLC chooses to adopt the staff recommendation to authorize each of the leases for two different mining volume levels (i.e. reduced project alternative with increased volume option), starting with the Environmentally Superior Alternative, the CEQA findings and Statement of Overriding Considerations will include four significant impacts as set forth in Exhibit D.

SIGNIFICANT LANDS INVENTORY:
This activity involves lands identified as possessing significant environmental values pursuant to Public Resources Code section 6370 et seq., but such activity will not affect those significant lands. Based upon the staff's consultation with the persons nominating such lands and through the CEQA review process, it is the staff's opinion that the project, as proposed, is consistent with its use classification.

APPROVALS OBTAINED:

San Francisco Bay Conservation and Development Commission
San Francisco Bay Regional Water Quality Control Board
United States Army Corps of Engineers

APPROVALS REQUIRED:

California Department of Fish & Game

EXHIBIT:

A. Location and Site Map
B. Land Description
C. Mitigation Monitoring Program

D. CEQA Findings and Statement of Overriding Considerations

RECOMMENDED ACTION:

It is recommended that the Commission:

CEQA FINDING:

Certify that the EIR, CSLC EIR No. 742, State Clearinghouse No. 2007072036, was prepared for this Project in compliance with the provisions of CEQA, that the Commission has reviewed and considered the information contained therein and in the comments received in response thereto and that the EIR reflects the Commission's independent judgment and analysis.

Adopt the Mitigation Monitoring Program, as contained in Exhibit C, attached hereto.

Adopt the Findings, made in conformance with California Code of Regulations, Title 14, section 15091, and the Statement of Overriding Considerations made in conformance with California Code of Regulations, Title 14, section 15093, as contained in Exhibit D, attached hereto.

SIGNIFICANT LANDS INVENTORY FINDING:

Find that this activity is consistent with the use classification designated by the Commission for the land pursuant to Public Resources Code section 6370 et seq.

AUTHORIZATION:

1. Approve the issuance of new leases identified as the Reduced Project Alternative with increased volume option for the lands described in Exhibit B attached and by this reference made a part hereof, and the terms and conditions summarized below and more particularly set forth in the Leases on file with the Commission.

   A. A ten-year term beginning January 1, 2013.

   B. The minimum biannual royalty and land rent as set forth below and in the Leases.

LEASE	MBR (2013-2017)	MBR (2018-2022)	RENT
PRC 709.1	$60,680	$75,850	$1,661
PRC 2036.1	$52,800	$66,000	$464

PRC 7779.1	$81,600	$102,000	$2,552
PRC 7780.1	$26,600	$33,250	$524

C. A royalty rate as set forth in the Leases.

D. The volumes as set forth below and in the Leases and the Environmental Impact Report for the Environmentally Superior Alternative.

PRC 709.1: 290,331 cubic yards
PRC 2036.1: 252,637 cubic yards
PRC 7779.1: 390,440 cubic yards
PRC 7780.1: 127,248 cubic yards

E. Surety bond in the amount specified in the Leases.

F. For each Lease, Liability insurance in the amount of $1,500,000 with the State named as an additional insured and a separate policy of $1,500,000 for the protection of water quality and the environment.

G. Beginning with the quarter ending on March 31, 2013, and within 30 days of the end of each quarter (quarter), defined as the three months preceding March 31st, June 30th, September 30th, and December 31st of each year, the Lessee will provide in writing to the State Lands Commission:

1) The number of mining episodes that took place during the preceding quarter for each of the leases; and

2) The track line of each dredge with the start and end point of each sand mining event that took place during the preceding quarter mapped on the most currently available NOAA chart, including a scale and north arrow, with the boundaries of the leases overlaid on the chart. The name and registration number of such dredge should be identified to correspond to each track line. All data shall be reported in a font of sufficient size so that it is readily legible and the track line can be easily discerned.

3) The track lines will provide the location of the actual mining event and differentiate between the traveling or maneuvering periods of a mining episode and the actual sand mining periods. The recording equipment

for the mining episode must meet the minimum reporting accuracy of ten feet (horizontal control) during all loading and transportation operations, and shall record position, at a maximum time interval of ten seconds while within 2,000 feet of the lease area, and at one minute intervals otherwise. These plots and the raw data from the automated system shall also be made available for electronic download through the internet and by compact disc on a format such as "pdf" files to be approved by Commission staff. If the information is provided via the internet by the required report date, the compact disc copy can be provided in a timely manner after the required reporting date.

H. The authorized activity is contingent upon applicant's compliance with applicable permits, recommendations, or limitations issued by federal, State, and local governments.

2. Authorize the mining of sand and gravel at the levels of the Proposed Project volumes as stated below and in the Leases and the Environmental Impact Report for the Proposed Project

PRC 709.1: 340,000 cubic yards
PRC 2036.1: 450,000 cubic yards
PRC 7779.1: 550,000 cubic yards
PRC 7780.1: 200,000 cubic yards

Upon Hanson's request and the submittal to the Commission of:

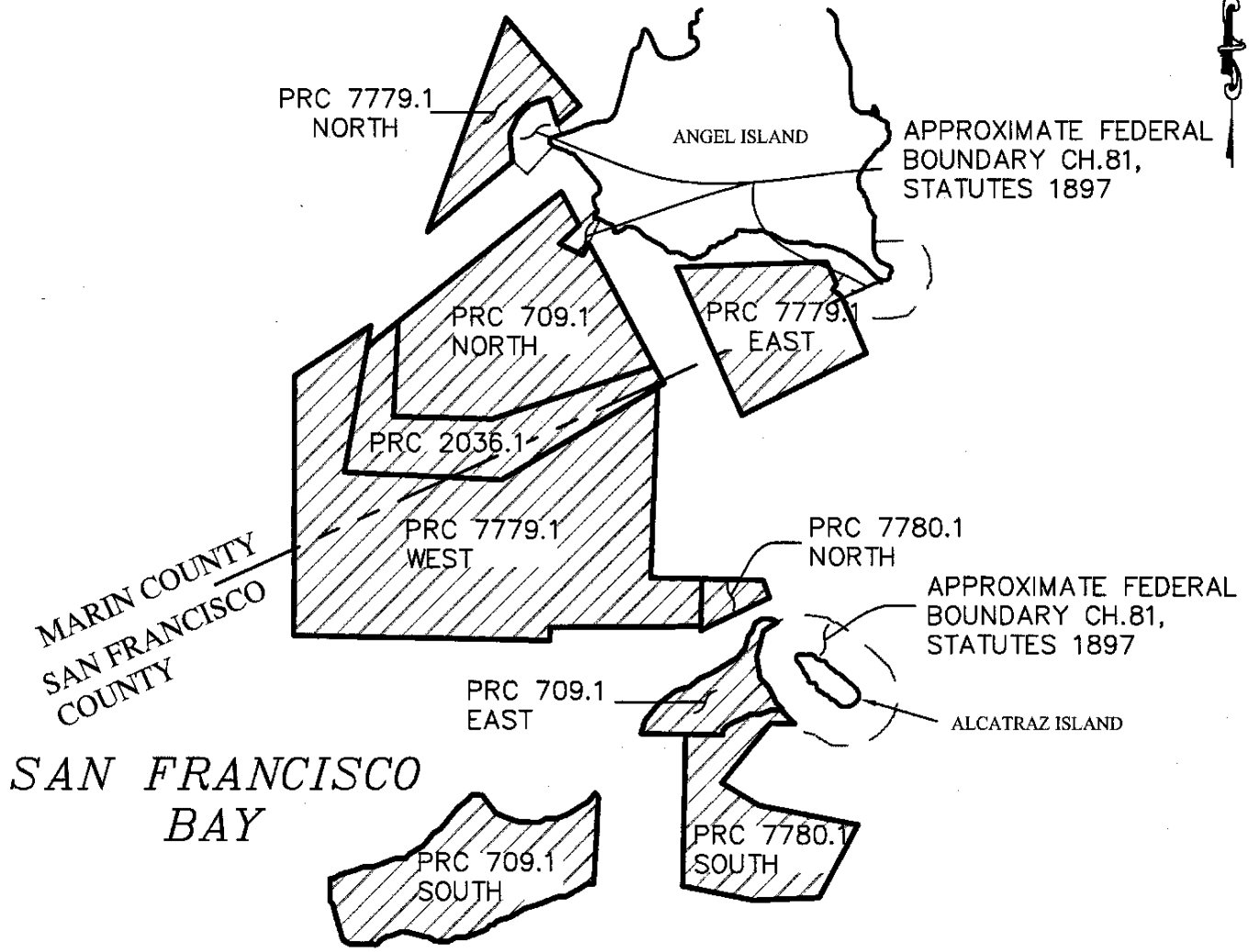
A. A copy of Lessee's Incidental Take Permit issued by the California Department of Fish & Game.

B. A letter to Lessor from Lessee reciting Lessee's submittal to the California Air Resources Board (CARB) of its Compliance Plan and Demonstration of Compliance to Operate under Title 17, California Code of Regulations, section 93118.5. If requested by Lessor, Lessee shall provide documentation demonstrating such compliance within 15 days of such request.

C. If the documentation is sufficient to confirm Lessee's compliance with all requirements, Lessor's staff shall issue a letter to Lessee authorizing the mining of the increased volume.

NO SCALE

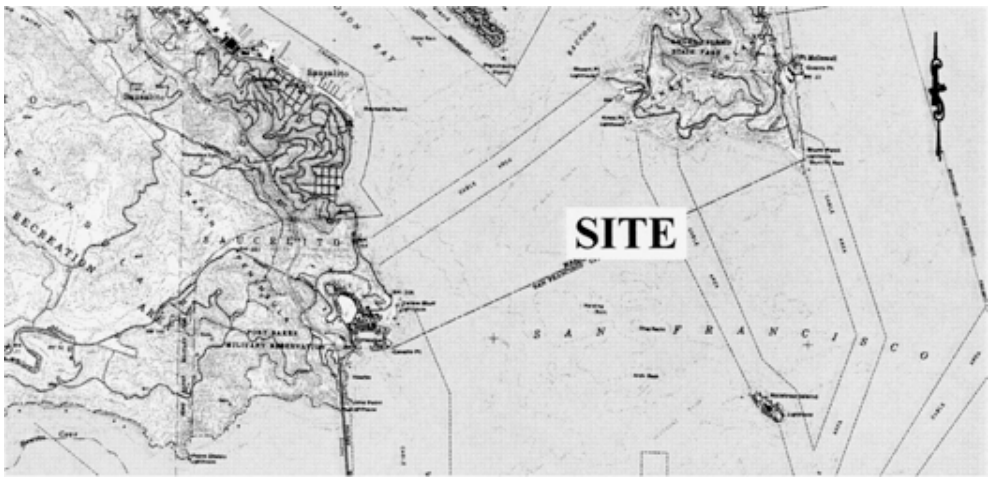
SITE



HANSON SAND MINING OPERATIONS

NO SCALE

LOCATION



MAP SOURCE: USGS QUAD

This Exhibit is solely for purposes of generally defining the lease premises, is based on unverified information provided by the Lessee or other parties and is not intended to be, nor shall it be construed as, a waiver or limitation of any State interest in the subject or any other property.

Exhibit A

PRC 2036.1, PRC 709.1
PRC 7779.1, PRC 7780.1
HANSON
GENERAL LEASE -
MINERAL EXTRACTION
SAN FRANCISCO &
MARIN COUNTIES

DJF 09/20/12

EXHIBIT B

PRC 709.1

LAND DESCRIPTION

Three parcels of submerged lands lying in the bed of the San Francisco Bay, San Francisco and Marin Counties, State of California, more particularly described as follows:

PARCEL 1 – PRC 709.1 NORTH

All that land bounded by the lines connecting, sequentially, the following points numbered 1 through 5 and by the line connecting said point 5 with said point 1.

	Latitude North	Longitude West
1)	37°51'28"	122°26'43"
2)	37°50'48"	122°26'15"
3)	37°50'35"	122°27'02"
4)	37°50'35"	122°27'31"
5)	37°50'57"	122°27'30"

EXCEPTING THEREFROM all that portion lying within the Federal Lands as described in Chapter 81, Statutes 1897.

PARCEL 2 – PRC 709.1 EAST

All that land bounded by the lines connecting, sequentially, the following points numbered 1 through 41 and by the line connecting said point 41 with said point 1.

	Latitude North	Longitude West
1)	37°49'23"	122°26'17"
2)	37°49'26"	122°26'16"
3)	37°49'28"	122°26'14"
4)	37°49'30"	122°26'12"
5)	37°49'33"	122°26'07"
6)	37°49'34"	122°26'03"
7)	37°49'36"	122°26'00"
8)	37°49'37"	122°25'57"
9)	37°49'38"	122°25'55"
10)	37°49'39"	122°25'53"
11)	37°49'41"	122°25'49"
12)	37°49'42"	122°25'48"
13)	37°49'43"	122°25'47"
14)	37°49'46"	122°25'46"

15)	37°49'47"	122°25'45"
16)	37°49'49"	122°25'44"
17)	37°49'50"	122°25'42"
18)	37°49'50"	122°25'41"
19)	37°49'50"	122°25'39"
20)	37°49'49"	122°25'37"
21)	37°49'48"	122°25'36"
22)	37°49'47"	122°25'35"
23)	37°49'45"	122°25'33"
24)	37°49'42"	122°25'31"
25)	37°49'40"	122°25'30"
26)	37°49'38"	122°25'29"
27)	37°49'36"	122°25'28"
28)	37°49'34"	122°25'28"
29)	37°49'32"	122°25'29"
30)	37°49'31"	122°25'30"
31)	37°49'30"	122°25'32"
32)	37°49'30"	122°25'34"
33)	37°49'29"	122°25'36"
34)	37°49'29"	122°25'39"
35)	37°49'28"	122°25'42"
36)	37°49'28"	122°25'45"
37)	37°49'27"	122°25'47"
38)	37°49'26"	122°25'50"
39)	37°49'25"	122°25'52"
40)	37°49'24"	122°25'53"
41)	37°49'23"	122°25'53"

EXCEPTING THEREFROM all that portion lying within the Federal Lands as described in Chapter 81, Statutes 1897.

PARCEL 3 – PRC 709.1 SOUTH

All that land bounded by the lines connecting, sequentially, the following points numbered 1 through 76 and by the line connecting said point 76 with said point 1.

	Latitude North	Longitude West
1)	37°48'48"	122°26'30"
2)	37°48'48"	122°26'32"
3)	37°48'46"	122°26'36"
4)	37°48'45"	122°26'38"
5)	37°48'45"	122°26'40"
6)	37°48'44"	122°26'43"
7)	37°48'43"	122°26'46"
8)	37°48'42"	122°26'50"
9)	37°48'41"	122°26'52"

10)	37°48'40"	122°26'54"
11)	37°48'39"	122°26'58"
12)	37°48'38"	122°26'59"
13)	37°48'48"	122°27'00"
14)	37°48'37"	122°27'01"
15)	37°48'36"	122°27'04"
16)	37°48'35"	122°27'07"
17)	37°48'35"	122°27'09"
18)	37°48'35"	122°27'10"
19)	37°48'34"	122°27'12"
20)	37°48'34"	122°27'14"
21)	37°48'34"	122°27'16"
22)	37°48'35"	122°27'18"
23)	37°48'35"	122°27'19"
24)	37°48'35"	122°27'21"
25)	37°48'36"	122°27'24"
26)	37°48'36"	122°27'26"
27)	37°48'35"	122°27'29"
28)	37°48'35"	122°27'30"
29)	37°48'34"	122°27'32"
30)	37°48'33"	122°27'33"
31)	37°48'33"	122°27'35"
32)	37°48'33"	122°27'37"
33)	37°48'33"	122°27'39"
34)	37°48'33"	122°27'41"
35)	37°48'34"	122°27'43"
36)	37°48'39"	122°27'45"
37)	37°48'42"	122°27'46"
38)	37°48'43"	122°27'47"
39)	37°48'45"	122°27'47"
40)	37°48'47"	122°27'47"
41)	37°48'48"	122°27'47"
42)	37°48'48"	122°27'46"
43)	37°48'49"	122°27'44"
44)	37°48'50"	122°27'40"
45)	37°48'51"	122°27'37"
46)	37°48'51"	122°27'34"
47)	37°48'52"	122°27'31"
48)	37°48'53"	122°27'28"
49)	37°48'53"	122°27'25"
50)	37°48'54"	122°27'24"
51)	37°48'56"	122°27'20"
52)	37°48'59"	122°27'17"
53)	37°49'00"	122°27'15"
54)	37°49'02"	122°27'13"
55)	37°49'04"	122°27'11"

56)	37°49'05"	122°27'10"
57)	37°49'07"	122°27'07"
58)	37°49'08"	122°27'06"
59)	37°49'08"	122°27'03"
60)	37°49'07"	122°27'02"
61)	37°49'06"	122°27'01"
62)	37°49'05"	122°27'00"
63)	37°49'04"	122°26'59"
64)	37°49'03"	122°26'56"
65)	37°49'02"	122°26'52"
66)	37°49'02"	122°26'50"
67)	37°49'02"	122°26'48"
68)	37°49'02"	122°26'46"
69)	37°49'03"	122°26'44"
70)	37°49'03"	122°26'41"
71)	37°49'04"	122°26'38"
72)	37°49'06"	122°26'34"
73)	37°49'07"	122°26'32"
74)	37°49'08"	122°26'31"
75)	37°49'09"	122°26'30"
76)	37°49'08"	122°26'29"

Said points are Geographic Coordinates referenced to the North American Datum of 1983 (NAD 83).

END OF DESCRIPTION

Prepared 02/27/2012 by the California State Lands Commission Boundary Unit.

EXHIBIT B

PRC 2036.1

LAND DESCRIPTION

A parcel of submerged lands lying in the bed of the San Francisco Bay, San Francisco and Marin Counties, State of California, more particularly described as follows:

PARCEL 1 – PRC 2036.1

All that land bounded by the lines connecting, sequentially, the following points numbered 1 through 8 and by the line connecting said point 8 with said point 1.

	Latitude North	Longitude West
1.	37°50'57"	122°27'30"
2.	37°50'35"	122°27'31"
3.	37°50'35"	122°27'02"
4.	37°50'48"	122°26'15"
5.	37°50'44"	122°26'12"
6.	37°50'21"	122°26'59"
7.	37°50'22"	122°27'45"
8.	37°50'51"	122°27'39"

Said points are Geographic Coordinates referenced to the North American Datum of 1983 (NAD 83).

END OF DESCRIPTION

Prepared 02/27/2012 by the California State Lands Commission Boundary Unit.

EXHIBIT B

PRC 7779.1

LAND DESCRIPTION

Three parcels of submerged lands lying in the bed of the San Francisco Bay, San Francisco and Marin Counties, State of California, more particularly described as follows:

PARCEL 1 – PRC 7779.1 NORTH

All that land bounded by the lines connecting, sequentially, the following points numbered 1 through 3 and by the line connecting said point 3 with said point 1.

	Latitude North	Longitude West
1)	37°52'08"	122°27'00"
2)	37°51'18"	122°27'22"
3)	37°51'48"	122°26'38"

EXCEPTING THEREFROM all that portion lying within the Federal Lands as described in Chapter 81, Statutes 1897.

PARCEL 2 – PRC 7779.1 EAST

All that land bounded by the lines connecting, sequentially, the following points numbered 1 through 4 and by the line connecting said point 4 with said point 1.

	Latitude North	Longitude West
1)	37°51'11"	122°26'09"
2)	37°50'37"	122°25'49"
3)	37°50'52"	122°25'13"
4)	37°51'13"	122°25'25"

EXCEPTING THEREFROM all that portion lying within the Federal Lands as described in Chapter 81, Statutes 1897.

PARCEL 3 – PRC 7779.1 WEST

All that land bounded by the lines connecting, sequentially, the following points numbered 1 through 11 and by the line connecting said point 11 with said point 1.

	Latitude North	Longitude West
1)	37°50'56"	122°27'38"
2)	37°50'44"	122°28'00"

3)	37°49'44"	122°27'59"
4)	37°49'44"	122°26'44"
5)	37°49'47"	122°26'44"
6)	37°49'48"	122°26'00"
7)	37°49'59"	122°26'00"
8)	37°49'59"	122°26'15"
9)	37°50'43"	122°26'14"
10)	37°50'21"	122°26'59"
11)	37°50'22"	122°27'45"

Said points are Geographic Coordinates referenced to the North American Datum of 1983 (NAD 83).

END OF DESCRIPTION

Prepared 02/27/2012 by the California State Lands Commission Boundary Unit.

EXHIBIT B

PRC 7780.1

LAND DESCRIPTION

Two parcels of submerged lands lying in the bed of the San Francisco Bay, San Francisco County, State of California, more particularly described as follows:

PARCEL 1 – PRC 7780.1 NORTH

All that land bounded by the lines connecting, sequentially, the following points numbered 1 through 4 and by the line connecting said point 4 with said point 1.

	Latitude North	Longitude West
1)	37°49'59"	122°26'00"
2)	37°49'47"	122°26'00"
3)	37°49'55"	122°25'40"
4)	37°49'59"	122°25'42"

PARCEL 2 – PRC 7780.1 SOUTH

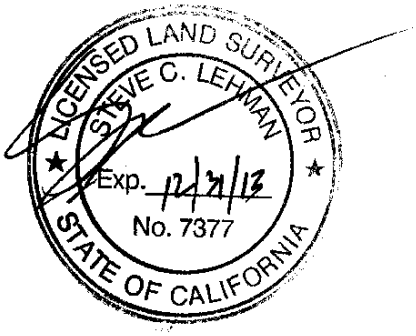
All that land bounded by the lines connecting, sequentially, the following points numbered 1 through 18 and by the line connecting said point 18 with said point 1.

	Latitude North	Longitude West
1)	37°49'29"	122°25'36"
2)	37°49'29"	122°25'39"
3)	37°49'28"	122°25'42"
4)	37°49'28"	122°25'45"
5)	37°49'27"	122°25'47"
6)	37°49'26"	122°25'50"
7)	37°49'25"	122°25'52"
8)	37°49'24"	122°25'53"
9)	37°49'23"	122°25'53"
10)	37°49'23"	122°26'04"
11)	37°48'48"	122°26'04"
12)	37°48'45"	122°25'43"
13)	37°48'46"	122°25'24"
14)	37°49'03"	122°25'13"
15)	37°49'07"	122°25'42"
16)	37°49'12"	122°25'53"
17)	37°49'26"	122°25'39"
18)	37°49'26"	122°25'32"

Said points are Geographic Coordinates referenced to the North American Datum of 1983 (NAD 83).

END OF DESCRIPTION

Prepared 02/27/2012 by the California State Lands Commission Boundary Unit.



7.0 MITIGATION MONITORING PROGRAM

As the Lead Agency under the California Environmental Quality Act (CEQA), the California State Lands Commission (CSLC) is required to adopt a program for reporting or monitoring regarding the implementation of mitigation measures (MMs) for the proposed San Francisco Bay and Delta Sand Mining Project (Project), if it is approved, to ensure that the adopted MMs are implemented as defined in this Environmental Impact Report (EIR). This Lead Agency responsibility originates in Public Resources Code section 21081.6(a) (Findings, Mitigation Monitoring and Reporting), and the State CEQA Guidelines sections 15091(d) (reporting on or monitoring mitigation) and 15097 (Mitigation Monitoring or Reporting).

7.1 MONITORING AUTHORITY

The purpose of a Mitigation Monitoring Program (MMP) is to ensure that measures adopted to mitigate or avoid significant impacts are implemented. A MMP can be a working guide to facilitate not only the implementation of mitigation measures by the Project proponents, but also the monitoring, compliance and reporting activities of the CSLC and any monitors it may designate.

The CSLC may delegate duties and responsibilities for monitoring to other environmental monitors or consultants as deemed necessary, and some monitoring responsibilities may be assumed by responsible agencies, such as affected jurisdictions and cities, and the California Department of Fish and Game (CDFG). The number of monitors assigned to the project will depend on the number of concurrent mining activities and their locations. The CSLC or its designee(s), however, will ensure that each person delegated any duty or responsibility is qualified to monitor compliance.

Any mitigation measure that requires the approval of the CSLC must allow at least 60 days for adequate review time. When a MM requires that a mitigation program be developed during the design phase of the project, the Applicant must submit the final program to CSLC for review and approval for at least 60 days before mining begins. Other agencies and jurisdictions may require additional review time. It is the responsibility of the environmental monitor assigned to each measure to ensure that appropriate agency reviews and approvals are obtained.

The CSLC or its designee will also ensure that any deviation from the procedures identified under the monitoring program is approved by the CSLC. Any deviation and its correction

shall be reported immediately to the CSLC or its designee by the environmental monitor assigned to the mining event.

7.2 ENFORCEMENT RESPONSIBILITY

The CSLC is responsible for enforcing the procedures adopted for monitoring through the environmental monitor assigned to each mining event. Any assigned environmental monitor shall note problems with monitoring, notify appropriate agencies or individuals about any problems, and report the problems to the CSLC or its designee.

7.3 MITIGATION COMPLIANCE RESPONSIBILITY

The Applicant is responsible for successfully implementing all the mitigation measures in the MMP, and is responsible for assuring that these requirements are met by all of its mining contractors and field personnel. Standards for successful mitigation also are implicit in many MMs that include such requirements as obtaining permits or avoiding a specific impact entirely. Other MMs include detailed success criteria. Additional mitigation success thresholds will be established by applicable agencies with jurisdiction through the permit process and through the review and approval of specific plans for the implementation of the MMs.

7.4 GENERAL MONITORING PROCEDURES

Environmental Monitors. Monitoring procedures will be conducted during the mining events. The CSLC and the environmental monitor(s) are responsible for integrating the mitigation monitoring procedures into the mining events in coordination with the Applicant. To oversee the monitoring procedures and to ensure success, the environmental monitor assigned to each mining event must be on site during that portion of an event that has the potential to create a significant environmental impact or other impact for which mitigation is required. The environmental monitor is responsible for ensuring that all procedures specified in the monitoring program are followed.

General Reporting Procedures. Site visits and specified monitoring procedures performed by other individuals will be reported to the environmental monitor assigned to the relevant mining events. A monitoring record form will be submitted to the environmental monitor by the individual conducting the visit or procedure so that details of the visit can be recorded and progress tracked by the environmental monitor. A checklist will be developed and maintained by the environmental monitor to track all procedures required for each MM and to ensure that the timing specified for the procedures is adhered to. The

environmental monitor will note any problems that may occur and take appropriate action to rectify the problems.

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

7.5 MITIGATION MONITORING TABLES

The following mitigation monitoring tables list the following information for each significant impact:

- Impact (impact number, title, and impact class);
- Mitigation Measure (summary text of the measure);
- Location (where the impact occurs and the mitigation measure should be applied);
- Monitoring/reporting action (the action to be taken by the monitor or Lead Agency);
- Effectiveness criteria (how the agency can know if the measure is effective);
- Responsible agency; and
- Timing (during operation, etc.).

Table 7-1. Mitigation Monitoring Program – Biological Resources

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
BIO-6: Sand mining could result in smothering or burial of, or mechanical damage to, infauna and epifauna, and reduced fish foraging. (Class II)	**BIO-6:** Establish a 100-foot buffer around hard bottom areas within and adjacent to Central Bay mining leases.	Hard bottom areas within and adjacent to Central Bay mining leases.	Applicant to submit quarterly E-trac data of Central Bay mining events.	Evidence that sand mining has taken place only outside the 100 foot buffer and hard bottom areas in the vicinity of Central Bay leases.	CSLC	Quarterly E-trac data to be submitted.
BIO-8: Regular operation of sand mining activities will cause entrainment and mortality of delta and longfin smelt. (Class I)	**BIO-8a:** Applicants shall implement operational measures to minimize the potential for entrainment and mortality of delta and longfin smelt. • Timing of dredging relative to X2; To protect delta and longfin smelt and potentially eggs and young larvae from mortality related to entrainment, sand mining activities shall be restricted upstream of the X2 location (i.e., the location of 2 parts per thousand (ppt) salinity) from December 1 through June 30 each year. This location changes during the water year in response to river flows and its location is tracked on the following website: http://cdec.water.ca.gov/cgi-progs/queryDaily?X2. The degree and duration of mining restrictions, and the specific locations where mining should be restricted during this sensitive seasonal period will be based on factors including the specific location of X2 relative to mining activities, species presence and relative abundance in the Project area based on sampling data from the nearest survey stations, and the overall status of the species (population trend).	Suisan Bay and Western Delta lease areas, including Middle Ground Shoal and Suisun Associates; Central Bay.	Applicants shall submit to CSLC written documentation that they have obtained an Incidental Take Permit and have complied with the conditions contained in the permit.	Evidence of a CDFG approved Incidental Take Permit and compliance with its conditions. BCDC would be unable to issue new permits for sand mining – needed for the Project to proceed – prior to the CDFG issuing an Incidental Take Permit for the Project.	CSLC / CDFG	Within 12 months of issuance of new leases approval.

Table 7-1. Mitigation Monitoring Program – Biological Resources

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	Specific seasonal restrictions will be set through consultation with the California Department of Fish and Game (CDFG) and would likely be a requirement of any Incidental Take Permit that may be issued for the Project. • Current restrictions on sand mining operations; As specified in the National Marine Fisheries Service Biological Opinion (NMFS 2006) and the U.S. Fish and Wildlife Service Letter of Concurrence (USFWS 2006), serve to avoid and minimize take of delta smelt. Currently there are no Federal restrictions on longfin smelt. Due to similar life stages, however, State delta smelt restrictions and conditions will be applied to both smelt species. These conditions include restrictions on pump priming, limiting the total mining volume, prohibiting mining in areas of shallow water depth and in proximity to shorelines, restricting mining to the designated lease areas which are away from sensitive habitat, and monitoring and reporting the location of each mining event. • Additional requirements and restrictions to minimize and avoid take. Will be set through consultation with the CDFG and would likely be a					

Table 7-1. Mitigation Monitoring Program – Biological Resources

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	requirement of any Incidental Take Permit that may be issued for the Project. To further minimize take, the Applicants shall keep the end of the pipe and drag head as close to the bottom as possible, and no more than three feet from the bottom, whenever feasible when priming the pump or clearing the pipe. Additional requirements and restrictions may be set through consultation with CDFG.					
	BIO-8b: Applicants shall provide off-site mitigation to compensate for the impacts of the taking that may be unavoidable.	Suisan Bay and Western Delta lease areas, including Middle Ground Shoal and Suisun Associates; Central Bay.	Applicants shall submit to CSLC written documentation that they have obtained an Incidental Take Permit and have complied with the conditions contained in the permit.	Evidence of a CDFG approved Incidental Take Permit and compliance with its conditions. BCDC would be unable to issue new permits for sand mining – needed for the Project to proceed – prior to the CDFG issuing an Incidental Take Permit for the Project.	CSLC / CDFG	Within 12 months of issuance of new leases approval.
BIO-9: Green sturgeon, Chinook salmon, and steelhead trout will be impacted during sand mining. (Class II)	**BIO-9a:** Sand mining halted during peak Chinook salmon migration.	Suisan Bay and Western Delta lease areas, including Middle Ground Shoal and Suisun Associates.	Beginning March 1 of each year that the sand mining leases are in effect, the applicants shall communicate weekly with USFWS and CSLC to determine the timing of that year's outmigration peak. CSLC shall confirm in writing, based on physical inspection and/or electronic tracking data	Evidence that no sand mining has taken place during the peak outmigration period, as defined and reported by USFWS.	CSLC	Sand mining closure period to be determined prior to April 1 of each year. Confirmation of closure by June 1 of each year.

Table 7-1. Mitigation Monitoring Program – Biological Resources

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
			(E-trac data) that no sand mining occurs during the peak outmigration period.			
	BIO-9b: Sand mining limited to daylight hours from January 1 to May 31.	Suisan Bay and Western Delta lease areas, including Middle Ground Shoal and Suisun Associates.	Applicant to submit quarterly E-trac data, including time of mining events. CSLC to confirm in writing that all mining events in Suisun Bay and Western Delta lease areas have occurred only during daylight hours from January 1-May 31 of each year.	Evidence that sand mining has taken place only during daylight hours during the period peak outmigration period January 1-May 31 of each year.	CSLC	Quarterly E-trac data to be submitted within one month of end of each quarter. CSLC written confirmation of compliance within two months of the end of each quarter.

Table 7-2. Mitigation Monitoring Program – Hazards and Hazardous Materials

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
HAZ-1: Potential for accidental leak or spill of hazardous materials. (Class II)	**HAZ-1:** Provide a California Non-tank Vessel Contingency Plan (CANTVCP) to the CSLC.	Not applicable	Jerico to provide evidence of CDFG approval of CANTVCP.	Evidence of approved CANTVCP.	CDFG/CSLC	Within three months of certification of the EIR.

Table 7-3. Mitigation Monitoring Program – Air Quality

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
AIR-2: Potential impacts on climate change. (Class II)	**AIR-2:** Prepare and implement a Greenhouse Gas Reduction Plan.	Project area	Applicants to submit and CSLC to review and approve GHG Reduction Plan. Applicants to provide annual evidence of confirmed GHG inventory and report of GHG Reduction Plan implementation.	Confirmed annual GHG inventories must demonstrate reduction or offset of GHG emissions to target level.	CSLC	Within three months of lease issuance.

Table 7-4. Mitigation Monitoring Program – Cultural Resources

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
CUL-1: Inadvertent discovery of historical resources or "unique archaeological resources." (Class II)	**CUL-1:** Cease operations and notify California State Lands Commission and Army Corps of Engineers.	Project area	Applicants to provide immediate notification of any inadvertent discovery and evidence that operations have ceased in the immediate area of the discovery. Applicants to provide annual report of all inadvertent discoveries and responses.	Evidence of appropriate response to inadvertent discovery, including reporting and ceasing operations in the vicinity of the discovery.	CSLC	Ongoing during lease period; annual reports to be submitted by January 31 of each year.
CUL-3: Inadvertent discovery of human remains. (Class II)	**CUL-3:** Cease operations and notify County Coroner.	Same as CUL-1	Same as CUL-1	Same as CUL-1	Same as CUL-1	Same as CUL-1

Table 7-5. Mitigation Monitoring Program – Land Use and Recreation

Impact	Mitigation Measure	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
LU-4: Conflicts with regional or local land use plans or policies. (Class II)	**LU-4.** Implement MM BIO-6, BIO-8a, BIO-8b, BIO-9a, BIO-9b, HAZ-1, AIR-2, CUL-1, and CUL-3.	Varies	See specific actions above for each mitigation measure.	See criteria above for each mitigation measure.	See responsible agencies above for each mitigation measure.	See above for each mitigation measure.

EXHIBIT D – SAN FRANCISCO BAY AND DELTA SAND MINING PROJECT

STATEMENT OF FINDINGS AND STATEMENT OF OVERRIDING CONSIDERATIONS

Reduced Project Alternative with Increased Volume Option

October 19, 2012

1.0 INTRODUCTION

The California State Lands Commission (CSLC or Commission) has prepared these Findings and this Statement of Overriding Considerations in compliance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines.[1] The CSLC, as the lead agency under CEQA, prepared an Environmental Impact Report (EIR) that discloses and analyzes the impacts to the environment that could result from implementation of the San Francisco Bay and Delta Sand Mining Project (Project).[2] The Commission adopts these Findings and Statement of Overriding Considerations specifically as set forth below as part of its discretionary decision to issue leases to Hanson Marine Operations (Hanson or Applicant).

The Project evaluated in the EIR involves Hanson, Jerico Products/Morris Tug and Barge (Jerico), and Suisun Associates (a joint venture between Hanson and Jerico) (collectively the Applicants on the EIR or Applicants[3]) entering into new 10-year mineral extraction leases of California sovereign lands in Central San Francisco Bay (Central Bay), Suisun Bay, and the western Sacramento-San Joaquin River Delta area (Delta) to continue dredge mining of construction-grade sand within delineated lease boundaries. These areas are currently mined by the Applicants.

- **Central Bay**: Hanson Leases PRC Nos. 709 (Presidio, Alcatraz North, and Point Knox North Shoals), 2036 (Point Knox South), 7779 (Point Knox Shoal), and 7780 (Alcatraz South Shoal). **Only the leases to Hanson are part of this Project approval.** The CSLC adjusted some Central Bay lease boundaries in 2011 to avoid overlapping with Federal lands.
- **Suisun Bay/Delta**: Suisun Associates Lease PRC No. 7781. **A new lease for Suisun Associates is not part of the CSLC's action at this time.** Lease PRC No. 7781 may be submitted for the CSLC's consideration at a later date, pending receipt of information necessary to complete the application.

[1] CEQA is found in Public Resources Code section 21000 et seq. The State CEQA Guidelines are found in Title 14 of the California Code of Regulations, commencing with section 15000.

[2] The Final EIR (September 2012; State Clearinghouse No. 2007072036) is available on the CSLC website (www.slc.ca.gov, under the "Information" tab and "CEQA Updates" link). It includes comments received during a 60-day public comment period on a Revised Draft EIR and responses to those comments.

[3] As used in the EIR, "Applicants" refers to both Hanson and Jerico. Since only the leases to Hanson are part of this Project approval, for purposes of these Findings and Statement of Overriding Considerations, the word "Applicants" in the specific impact findings and mitigation measures refers only to Hanson.

- **Middle Ground Shoal, Suisun Bay**: a privately owned parcel owned by the Grossi family. **This parcel is not part of the CSLC's action**. The parcel is analyzed in the EIR for the issuance of non-CSLC permits and entitlements necessary for the operation of sand mining.

2.0 PROJECT/EIR BACKGROUND

Leases PRC Nos. 709, 2036, 7779, 7780, and 7781 expired on June 30, 2008. The CSLC has allowed the current leaseholders, Hanson and Suisun Associates, to continue sand mining on a month-to-month basis pending completion of the environmental review and permitting processes for the new leases. The Applicants propose, as part of their applications for new leases, to increase the volumes of sand currently permitted to be mined at the lease parcels.

Along with the Project as proposed by the Applicants, the EIR identifies and analyzes a range of reasonable alternatives to the Project, based on input from agencies and the public during EIR scoping and public hearings. In addition to the CEQA-required "No Project" Alternative, three potentially feasible alternatives were identified that would reduce one or more significant effects while achieving most of the project objectives:

1. Long-Term Management Strategy (LTMS) Conformance Alternative;[4]
2. Clamshell Dredge Mining Alternative; and
3. Reduced Project Alternative.

Table 1 includes details of the Applicants' proposed mining volumes, previously permitted volumes, baseline mining volumes (based on actual mining level averages from 2002 to 2007 at each Project parcel), and Reduced Project volumes.

CEQA requires that "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives" (State CEQA Guidelines, § 15126.6, subd. (e)(2)). The No Project Alternative could avoid most of the significant impacts of the Project, including the significant and unavoidable impact to delta smelt and longfin smelt, Impact BIO-8. This alternative would, however, require the Bay Area construction industry to acquire sand from other sources including land-based quarries in the Bay area and more distant sources such as British Columbia, with consequent increases in air emissions, including greenhouse gases (GHGs) and diesel particulate matter. Therefore, the No Project Alternative is not considered environmentally superior to the other alternatives or to the proposed Project and, after analyzing the remaining alternatives, the EIR identifies the Reduced Project Alternative as the environmentally superior alternative, because this alternative would reduce the intensity of the Project's significant impacts and likely render mitigation measures easier to implement and achieve.

[4] This would require compliance with temporal and spatial restrictions on maintenance dredging activities contained in the *Long-Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region Management Plan 2001.*

Table 1 – Currently Permitted, Baseline, Proposed, and Reduced Project Annual Sand Mining Volumes (cubic yards per year)

	Applicants' Current Permit Limits	**Baseline Volume** (2002-2007 Average) [1]	**Proposed** [2]	**Reduced Project Alternative**	**Difference: Proposed vs. Reduced Project**
State Lands Commission Central Bay Lease Areas (and Current Leaseholder)					
PRC 709: Presidio, Alcatraz, Point Knox Shoals (Hanson)	540,000	290,331	340,000	290,331	49,669
PRC 2036: Point Knox South (Hanson)	300,000	252,637	450,000	252,637	197,363
PRC 7779: Point Knox Shoal (Hanson)	400,000	390,440	550,000	390,440	159,560
PRC 7780: Alcatraz South Shoal (Hanson)	150,000	127,248	200,000	127,248	72,752
PRC 5871 (CEMEX) [3]	NA	80,383	0	0	0
Subtotal: CSLC Central Bay Leases [4]	**1,390,000**	**1,141,039**	**1,540,000**	**1,060,656**	**479,344** [5]
State Lands Commission Suisun Bay/Delta Lease Area (and Current Leaseholder)					
PRC 7781: Suisun Bay/ Western Delta (Suisun Associates) [6]	100,000	85,746	300,000	85,746	214,254
Total: CSLC Central Bay & Suisun Bay/ Delta [4]	**1,490,000**	**1,226,785**	**1,840,000**	**1,146,402**	**693,598**
Private Suisun Bay Parcel and Current Leaseholder					
Grossi Middle Ground: BCDC Permit 10-90 (Hanson)	500,000	0	50,000	0	50,000
Grossi Middle Ground: BCDC Permit 16-78 (M) (Jerico)	250,000	199,866	150,000	199,866	-49,866
Total: Private Leases Middle Ground [4]	**750,000**	**199,866**	**200,000**	**199,866**	**134**
All Lease Totals [4]	**2,240,000**	**1,426,650**	**2,040,000**	**1,346,267**	**693,733** [5]

Notes: NA = Not Applicable. Source: CSLC 1998, 2008, 2011; BCDC 2008, 2009a, 2009b

[1] Please refer to EIR Table 1-1 for mining volumes by year at each parcel.

[2] Applicants proposed to mine up to 2,040,000 cubic yards per year beginning in 2014 when upgrades to diesel engines used to power mining equipment are scheduled to be completed; until 2014 the Applicants proposed to mine no more than the baseline level of 1,426,650 cubic yards per year.

[3] This parcel is not part of the Project as a new lease is not proposed for it; it is included here because it is part of the existing baseline.

[4] Cells may not total exactly due to rounding.

[5] This number differs from that in Table ES-1 in the EIR because mining in PRC 5871 is not part of the proposed Project.

[6] A new lease for Suisun Associates is not part of the CSLC's action at this time, a lease may be considered by the CSLC at a later date, pending receipt of information necessary to complete the application.

Specifically, the Reduced Project Alternative would reduce permitted annual mining volumes in all of the lease areas to a level equivalent to the baseline mining volumes (based on actual mining level averages from 2002 to 2007 at each Project parcel). Volumes under this Alternative differ from the baseline mining volumes because the Reduced Project Alternative does not include mining by CEMEX at PRC 5871, which is not part of the Project since no new lease is proposed at this site.

In approving the Project, the Commission determined that modifications to the Project as proposed by Hanson are necessary and appropriate. **Based on all available information, the Commission adopts a modified version of the Project, referred to as the "Reduced Project Alternative with Increased Volume Option," as set forth below and hereinafter referred to as the "Approved Project."** The Approved Project consists of the Reduced Project Alternative with the option of increasing the volumes to the Proposed Project levels upon Hanson's request and the submittal to the Commission of:

1. A copy of Hanson's Incidental Take Permit (ITP) issued by the California Department of Fish and Game.
2. A letter from Hanson to the CSLC reciting Hanson's submittal to the California Air Resources Board of its Compliance Plan and Demonstration of Compliance to Operate under California Code of Regulations, Title 17, section 93118.5.

Upon meeting these conditions, the Commission's Executive Officer or his delegate shall authorize the mining of the increased volumes as set forth in the Leases and the EIR. As required by State CEQA Guidelines sections 15091, subdivision (c) and 15093, subdivision (b), the CSLC's specific reasons for not adopting the Environmentally Superior Alternative are contained in Section 4 of these Findings and Statement of Overriding Considerations, beginning with Section 4.2, Alternatives and Mitigation Measures. Table 2 compares the proposed Project and Reduced Project volumes for Hanson's leases only.

Table 2 – Proposed Project Compared with Reduced Project Mining Volumes for Central Bay (cubic yards per year)

CSLC Leases for Central Bay *(Hanson)*	**Proposed**	**Reduced Project**
PRC 709: Presidio, Alcatraz, and Point Knox Shoals	340,000	290,331
PRC 2036: Point Knox South	450,000	252,637
PRC 7779: Point Knox Shoal	550,000	390,440
PRC 7780: Alcatraz South Shoal	200,000	127,248
Total: State Lands Central Bay Leases	**1,540,000**	**1,060,656**

In addition to the leases that are the subject of the CSLC's present action, other public agencies will or may need to issue an approval or have other oversight authority over sand mining activities before the Approved Project can proceed. These agencies may include, but are not necessarily limited to, the following (Table 3).

Table 3 – Other Agencies with Regulatory or Oversight Authority Over the Project

Regional	Bay Area Air Quality Management District (BAAQMD)
State	California Department of Fish and Game (CDFG) San Francisco Bay Conservation and Development Commission (BCDC) San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) State Mining and Geology Board (SMGB) Delta Stewardship Council
Federal	U.S. Army Corps of Engineers (ACOE) U.S. Coast Guard (USCG) U.S. Fish and Wildlife Service (USFWS) National Marine Fisheries Service (NMFS)

The Approved Project includes transportation of sand by the sand miners to offloading facilities and offloading of the sand mining barges. Other than the offloading of sand from the barges, the operations at offloading facilities, including ground transport of materials to and from offloading facilities, are not considered part of the Approved Project, since these facilities operate under their own land use permits, air district Permits To Operate, stormwater permits, and other entitlements, and Hanson is not seeking any changes to these existing entitlements.

3.0 FINDINGS REQUIRED UNDER CEQA

Findings are required by each "public agency" that approves a project for which an EIR has been certified that identifies one or more significant environmental impacts (Pub. Resources Code, § 21081, subd. (a); State CEQA Guidelines, § 15091, subd. (a)). These Findings, as a result, are intended to comply with the above-described mandate that for each significant effect identified in the EIR, the CSLC adopt one or more of the following Findings.

(1) Changes or alterations have been required in, or incorporated into, the project that avoid or substantially lessen the significant environmental effect as identified in the EIR.

(2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the CSLC. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

(3) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the EIR.

These Findings are also intended to comply with the requirement that each finding by the CSLC be supported by substantial evidence in the administrative record of proceedings, as well as accompanied by a brief explanation of the rationale for each finding. (State CEQA Guidelines, § 15091, subds. (a), (b).) To that end, these Findings provide the written, specific reasons supporting the CSLC's decision under CEQA to issue leases for the Approved Project.

3.1 Administrative Record of Proceedings

These Findings are based on the information contained in the EIR for the Project, as well as information provided by the Applicants and gathered through the public involvement process, all of which is contained in the administrative record. References cited in these Findings can be found in the EIR, Section 9.0, References. The administrative record is located in the Sacramento office of the California State Lands Commission, 100 Howe Avenue, Suite 100-South, Sacramento, CA 95825.

3.2 Summary of Findings

All environmental impacts of the Approved Project are listed below and include the impacts identified in the EIR for both the Reduced Project Alternative and the Proposed Project; the significance of each impact is classified as follows (Table 4).

Table 4 – Summary of Significance Findings

Definition	Class	Findings Required
Significant adverse impact that remains significant after mitigation	**I**	**Yes**
Significant adverse impact that can be eliminated or reduced below an issue's significance criteria	**II**	**Yes**
Adverse impact that does not meet or exceed an issue's significance criteria	**III**	No
No impact	**NI**	No

Based on initial scoping, the Project was anticipated to have no impact to the following resource areas typically considered in an EIR:

- Aesthetics
- Agriculture Resources
- Geology and Soils
- Noise
- Population and Housing
- Public Services
- Transportation
- Utilities and Service Systems

Furthermore, after conducting an analysis in the EIR, it was also determined that the Project will have less than significant impacts on the following resource areas:

- Hydrology and Water Quality
- Mineral Resources

For the remaining potentially significant effects, the Findings set forth below are:

1. Organized by significant impacts within the following EIR issue areas:
    - Biological Resources [**BIO**]
    - Hazards and Hazardous Materials **[HAZ]**
    - Air Quality and Greenhouse Gases **[AIR]**
    - Cultural Resources [**CUL**]; and
    - Land Use and Recreation [**LU**].

2. Numbered in accordance with the impact and mitigation numbers identified in the Mitigation Monitoring Program (MMP) in the EIR (see Section 7.0 of the EIR) (Findings may not be numbered sequentially, since impacts that are less than significant [Class III] or no impact [NI] do not require Findings); and
3. Followed by an explanation of the rationale for each Finding.

Wherever Finding (3) is made, the CSLC has determined that, even after implementation of all feasible mitigation measures and consideration of feasible alternatives, the identified impact would exceed the significance criteria set forth in the EIR. Furthermore, to the extent that potentially feasible measures have been alleged or proposed, the Findings explain why certain economic, legal, social, technological or other considerations render such possibilities infeasible. The significant and unavoidable impacts requiring Finding (3) are identified in the EIR and explained below. Having done everything it can to avoid and substantially lessen these effects consistent with its legal authority and CEQA, the CSLC finds in these instances that overriding economic, legal, social, and other benefits of the Approved Project outweigh the resulting significant and unavoidable impacts. The Statement of Overriding Considerations adopted as part of Exhibit D applies to all such unavoidable impacts, as required by CEQA (Pub. Resources Code, § 21081, subd. (b); State CEQA Guidelines, §§ 15092, 15093).

3.3 EIR Findings

These Findings are based on the information contained in the EIR for the Project, as well as information provided by the Applicants and gathered through the public involvement process, all of which is contained in the administrative record.

BIOLOGICAL RESOURCES

CEQA FINDING NO. BIO-6	**CLASS: II**
Impact No.:	**BIO-6: Sand mining could result in smothering or burial of, or mechanical damage to, infauna and epifauna, and reduced fish foraging.** Resettlement of discharged sediments from the barge overflow plume and disturbed sediments at the seafloor during sand mining could potentially result in the smothering, burial, or loss of soft substrate benthic infauna and epifauna, and hard substrate epifauna, and could indirectly reduce fish foraging.
Finding(s):	(1) Changes or alterations have been required in, or incorporated into, the Approved Project that avoid or substantially lessen the significant environmental effect as identified in the EIR.

FACTS SUPPORTING THE FINDING

The re-suspension of bottom sediments and the natural settlement of discharged fine fraction sediments in the discharge plume during sand mining could bury benthic infauna and epifauna down-current of the sand mining operation. Studies of offshore

sand mining for beach replenishment indicate that the eventual settlement of resuspended and released sediment during hydraulic dredging occurs over a fairly large area, depending on the oceanographic dynamics present (Nairn et al. 2001; Newell et al. 1998). Typically, the more energy in the water column, the larger the area over which the resuspended sediments settle out and the thinner the layer of deposition. Soft substrate infauna and epifauna are acclimated to occasional burial because they live in an environment of constant deposition. Because the areas within the Bay-Delta where sand mining occurs are characterized by high energy and tidal flow, any resuspended or discharged sediments from the overflow plume, especially the finer silt, clay, and organic sediments, would be kept in suspension and deposited back on the seafloor over a broad region of the Bay-Delta, or open ocean in the case of Central Bay.

Located within and adjacent to the Central Bay mining leases are the Bay-Delta's largest areas of natural sub-tidal hard substrate, such as Arch Rock, Harding Rock, Shag Rock, and Blossom Rock (Chin et al. 2004; National Oceanic and Atmospheric Administration [NOAA] 2007); no known natural or artificial hard benthic substrate is present within or adjacent to the Suisun Bay and western Delta mining lease parcels (NOAA 2007). The high natural currents present in the Central Bay mining leases are expected to keep any re-suspended material in suspension and re-deposited over a fairly broad area of the seafloor or out into the ocean. Therefore the suspended sediment concentrations caused by sand mining are not anticipated to result in more deposition at these hard bottom areas in Central Bay than occurs normally. Impacts to Bay-Delta hard bottom marine biota from increased turbidity and sediment re-suspension at the seafloor from the suction drag head and settling of the overflow plume would therefore be less than significant. Sand miners avoid these hard bottom areas because the sand deposits are of poor quality for mining and the rocky substrate can damage mining equipment (Hanson Environmental 2004). However, if sand mining were to occur in these areas, it could cause mechanical damage to the benthic community inhabiting the hard substrate areas, which could result in a significant impact to these biotic communities.

Mitigation Measures for Impact BIO-6. Because the EIR found mechanical impacts to hard substrate were potentially significant, the following mitigation measure was developed. Hanson shall submit e-trac data of Central Bay mining events quarterly to document compliance with this measure.

> **BIO-6: Establish a 100-foot buffer around hard bottom areas within and adjacent to Central Bay mining leases.** Sand mining dredging operations must maintain a sufficient buffer zone around all hard bottom areas, especially Harding, Shag, and Arch Rocks, such that dredging equipment does not come into physical contact with these sensitive hard bottom areas. This buffer zone will, at a minimum, be 100 feet from the outward edge of any hard bottom feature. In the event dredging equipment comes into physical contact with any hard bottom area during the term of the leases, it shall be immediately reported to the CSLC, who shall establish a new minimum buffer zone distance.

Implementation of Mitigation Measure (MM) BIO-6 would prevent mechanical damage to hard substrate areas, thereby avoiding damage to the associated benthic community.

Summary. Impacts to infauna and epifauna or reduced fish foraging from suspended sediment concentrations caused by sand mining are anticipated to be less than significant. Impacts associated with damage to hard substrate benthic communities will be reduced to less than significant with the implementation of MM BIO-6 (Class II).

CEQA FINDING NO. BIO-8	**CLASS: I**
Impact No.:	**BIO-8: Regular operation of sand mining activities will cause entrainment and mortality of delta and longfin smelt.** The Project would result in a significant impact to delta smelt and longfin smelt as a result of entrainment and mortality during sand mining operations impacting delta smelt and longfin smelt thereby exceeding the established significance level criteria thresholds.
Finding(s):	(1) Changes or alterations have been required in, or incorporated into, the Approved Project that avoid or substantially lessen the significant environmental effect as identified in the EIR.
	(2) Such changes or alterations are within the responsibility and jurisdiction of the California Department of Fish and Game and not the CSLC. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
	(3) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the EIR.

FACTS SUPPORTING THE FINDING

Hydraulic suction head dredging, as used for sand mining in the Bay-Delta, creates an environmental condition where adult and juvenile fish, as well as benthic infauna and epifauna, mobile macroinvertebrates, and planktonic larvae, are captured (entrained) along with the sand and water (Hanson Environmental 2004; LFR Levine Fricke 2004). Concerns about the potential ecological effect of fish and invertebrate taxa entrainment by suction dredges have prompted numerous studies since the late 1970s. Because of concerns by State and Federal agencies about the potential magnitude of entrainment by sand mining in the Bay-Delta, a literature-based study was conducted for the EIR analysis to estimate entrainment of demersal fish, planktonic larvae, megabenthic invertebrates, commercially important fish and invertebrate species, and special status fish species inhabiting Bay-Delta waters (Applied Marine Sciences [AMS] 2009).

The AMS study, which is included as Appendix E of the EIR, assessed the potential for sand mining to entrain and kill delta smelt and longfin smelt. Incidental take of these fish species resulting from entrainment is considered potentially significant: delta smelt is listed as a threatened species under the federal Endangered Species Act (ESA) and an endangered species under the California ESA; longfin smelt is listed as a threatened

species under the California ESA; and the critically low population numbers now being observed. Conclusions of the study are summarized below.

Delta Smelt

- The study predicted that mining in the Middle Ground Shoal and western Delta lease parcels would entrain an estimated 0.3 percent of the regional abundance index for delta smelt within the Bay-Delta region.
- The model developed in the study estimated that sand mining at proposed Project levels would entrain zero, three, and six individuals per year in the Central Bay, Middle Ground Shoal, and western Delta lease areas, respectively.

Longfin Smelt

- The study predicted that mining in each of the three lease areas (Central Bay, Middle Ground Shoal, and western Delta lease parcels) would entrain less than 0.3 percent of the regional abundance index for longfin smelt in each of the three mining lease areas (Central Bay, Middle Ground Shoal, and western Delta).
- The model developed in the study estimated that sand mining would entrain an average of 750, 72, and 20 individual longfin smelt annually in the Central Bay, Middle Ground Shoal, and western Delta lease areas, respectively.
- Entrainment estimates for longfin smelt were higher than for other species because longfin smelt swim throughout the water column periodically.

The study analyzed entrainment impacts associated with the volumes of sand mining proposed by the Applicants (see Table 2); entrainment impacts of the Reduced Project mining volumes would also occur but would be incrementally less than those of the proposed Project.

In 2006, the USFWS issued a Letter of Concurrence addressing effects of sand mining activities on delta smelt population that concluded that such activities were not likely to have an adverse effect on the threatened delta smelt or affect critical habitat that occurs in the Project area as long as specific permit conditions are implemented (USFWS 2006). These conditions (which are identified under “Existing Permit Conditions” in Section 4.1.4 of Section 4.1 of the EIR) include measures to avoid and minimize take of delta smelt by keeping mining activities away from sensitive near-shore and shallow-water habitats, limiting mining volumes, defining mining areas, and imposing limitations on priming the dredge pump.

Notwithstanding the 2006 Letter of Concurrence, the CSLC concludes, based upon the analysis of information presented in the EIR and more recent consultations with CDFG staff, that there is sufficient evidence that incidental take of both delta smelt and longfin smelt will occur as a result of Project activities. Most notably, CDFG and its partner federal agencies are involved in several programs to monitor the abundance and population trends of delta and longfin smelt, including the “Smelt Larva Survey” (Adib-Samii 2010a, Baxter 2009) and “20mm Survey” (Adib-Samii 2010b), which include sampling stations in the vicinity of the sand mining lease areas. These survey programs along with other Delta monitoring efforts, which can provide information on larval and

post-larval/juvenile smelt distribution and relative abundance in near real-time, indicate that delta and longfin smelt are present in varying numbers where mining would occur and, therefore, would be subject to entrainment and mortality.

Because sand mining activities are expected to result in the incidental take of delta and longfin smelt, the CSLC expects that Hanson will be required to obtain an ITP pursuant to section 2081 of the California Fish and Game Code to carry out the Approved Project in compliance with the California ESA. The CDFG would only issue an ITP if the Approved Project meets certain criteria, including finding that the impacts of the taking are minimized and fully mitigated through required permit measures; that Hanson has ensured funding adequate to carry out the required measures; and that implementation of the Approved Project would not jeopardize the continued existence of the species. Nonetheless, for purposes of these Findings, impacts related to the entrainment mortality of delta and longfin smelt are considered significant.

Because the EIR found entrainment-related impacts to delta and longfin smelt to be potentially significant, the following mitigation measures were developed to minimize and offset the amount of entrainment expected to result from implementation of the Approved Project.

Mitigation Measures for Impact BIO-8.

BIO-8a: Applicants shall implement operational measures to minimize the potential for entrainment and mortality of delta and longfin smelt.

- **Timing of dredging relative to X2.** To protect delta and longfin smelt and potentially eggs and young larvae from mortality related to entrainment, sand mining activities shall be restricted upstream of the X2 location (i.e., the location of 2 parts per thousand salinity) from December 1 through June 30 each year. This location changes during the water year in response to river flows and its location is tracked on the following website: http://cdec.water.ca.gov/cgi-progs/queryDaily?X2. The degree and duration of mining restrictions, and the specific locations where mining should be restricted during this sensitive seasonal period, will be based on factors including the specific location of X2 relative to mining activities, species presence and relative abundance in the Project area based on sampling data from the nearest survey stations, and the overall status of the species (population trend). Specific seasonal restrictions will be set through consultation with the California Department of Fish and Game (CDFG) and would likely be a requirement of any Incidental Take Permit that may be issued for the Approved Project.
- **Current restrictions on sand mining operations,** as specified in the National Marine Fisheries Service Biological Opinion (NMFS 2006) and the U.S. Fish and Wildlife Service Letter of Concurrence (USFWS 2006), serve to avoid and minimize take of delta smelt. Currently there are no Federal restrictions on longfin smelt. Due to similar life stages, however, State delta smelt restrictions and conditions will be applied to both smelt species. These

conditions include restrictions on pump priming, limiting the total mining volume, prohibiting mining in areas of shallow water depth and in proximity to shorelines, restricting mining to the designated lease areas which are away from sensitive habitat, and monitoring and reporting the location of each mining event.

- **Additional requirements and restrictions to minimize and avoid take** will be set through consultation with the CDFG and would likely be a requirement of any Incidental Take Permit that may be issued for the Approved Project. To further minimize take, the Applicants shall keep the end of the pipe and drag head as close to the bottom as possible, and no more than 3 feet from the bottom, whenever feasible when priming the pump or clearing the pipe. Additional requirements and restrictions may be set through consultation with CDFG.

BIO-8b: Applicants shall provide off-site mitigation to compensate for the impacts of the taking that may be unavoidable.

- **Compensatory mitigation measures** shall include restoration of delta and longfin smelt spawning and rearing habitat, and/or purchase of California Department of Fish and Game (CDFG)-approved mitigation credits, unless otherwise specified in an Incidental Take Permit, in an amount based on factors including the distribution and relative abundance of the species in areas subject to mining activities and the implementation of the above-specified minimization measures, such that the amount of compensatory mitigation required is roughly proportional to the impacts of the taking on the species. Determination of the restoration area or credits required will be accomplished through consultation with CDFG and is expected to be specified in the Incidental Take Permit. Currently, mitigation credits for delta and longfin smelt are available through the Liberty Island Mitigation Bank.

MMs BIO-8a and BIO-8b require actions that would reduce and offset impacts related to the entrainment and take of longfin and delta smelt. The moving pot-hole method drag-head is 4 feet high by 3 feet wide and is typically buried 12 to 18 inches deep, leaving substantial open area to entrain bottom oriented fishes. The stationary pot-hole method limits the amount of time the drag head or end of suction pipe is in unimpeded contact with the water column, but still involves priming and clearing the head, which could entrain delta and longfin smelt and would occur at least once per day when mining occurs and at every change in dredge location. Moreover, delta smelt eggs are adhesive and will attach to substrates in freshwater. CDFG has made a recent observation of a delta smelt egg attached to sand particles, and longfin smelt eggs in studies of Lake Washington stocks were predominantly attached to sand particles (CDFG 2009).

Consequently, dredging in freshwater upstream of X2 location during winter and spring (December 1 through June 30) could take delta and longfin smelt eggs, and delta smelt larvae which are also bottom oriented for a short period soon after hatching. MM BIO-8a would limit the priming and clearing to within 3 feet of the bottom which would minimize

but not eliminate entrainment of delta and longfin smelt; other actions required by MM BIO-8a, including seasonal and location restrictions, would reduce the magnitude of impacts related to the incidental take of delta and longfin smelt. BIO-8b would offset to some extent the impacts related to take of delta and longfin smelt; however, there are no current broadly applied programs to offset sand mining impacts to these species.

The CSLC, as the CEQA lead agency, must do all that is feasible to address significant impacts even where a permit from another agency may accomplish this goal. The CDFG will subsequently decide whether or not to issue an ITP for the Project. The ITP, if issued, must include conditions that would meet CDFG's statutory and regulatory criteria for issuance, including finding that the measures specified in the ITP fully mitigate the impacts of the taking and that the applicant for the ITP has ensured adequate funding to carry out the required measures. However, because the CDFG develops specific measures on a case-by-case basis through its permitting process, and acts after the CEQA lead agency acts, these yet-to-be developed measures could not be included in the EIR as mitigation. As a consequence, the above mitigation measures reflect the extent of feasible measures known to the CSLC at the time of Project approval. As stated in Section 2, Project/EIR Background, as a condition of the Approved Project, mining would be restricted to the Reduced Project volumes until Hanson receives an ITP from the CDFG.

The specific conditions for fully mitigating the impacts of the incidental take of delta and longfin smelt would be formulated based on the CDFG's review of Hanson's ITP application and the EIR. The determination of the exact timing of mining restrictions necessary to reduce the entrainment of delta and longfin smelt (which may vary from year to year), and of the quantity of compensation necessary to mitigate the impacts of the taking, lies with the specialized scientific expertise of the CDFG. Because this process will occur after the CSLC's action, the measures required in BIO-8a and BIO-8b are provided as performance standards that the CSLC expects will be met through specific conditions set forth in the ITP should one be issued. Until specific conditions and measures have been identified demonstrating that the performance standards are met, however, CSLC must and does find that impacts will remain significant even with implementation of the adopted mitigation measures.

The CSLC has identified or addressed potentially feasible mitigation measures and alternatives in the EIR that could avoid, substantially lessen, or further reduce the significant effect of Impact BIO-8, based on the environmental analysis in the EIR, and public and public agency input. The CSLC has not identified any feasible mitigation measures or project design elements that would reduce Impact BIO-8 to less than significant. The Reduced Project Alternative, identified as the Environmentally Superior Alternative, would still have a significant impact on delta and longfin smelt (Class I), but it would reduce the intensity of the Project's significant impacts and likely render mitigation measures easier to implement and achieve.

Another Project alternative evaluated in the EIR, the Clamshell Dredge Mining Alternative would greatly reduce the potential for fish entrainment as fish are likely to avoid and not become entrapped in the clamshell bucket. However, because the

clamshell method is less efficient than the suction dredging method, it takes about five times longer to mine the same amount of material; this method also uses larger diesel engines to operate the crane that controls the clamshell bucket. As a result, air emissions associated with active mining would expect to be of longer duration and at a higher rate. Increased emissions of criteria air pollutants, GHGs, and toxic air contaminants (TACs) could be significant. Furthermore, Central Bay currents would make clamshell dredge mining more difficult; mining could occur only in areas where surrounding currents are minimal or with the assistance of a tug to keep the crane barge stable and on station. Therefore, the CSLC finds the Clamshell Dredge Mining Alternative to be infeasible.

The CSLC notes that the issuance of the four Central Bay leases under the Approved Project will provide jobs for tug and barge operators and other employees associated with Hanson's mining operations, that otherwise might not be provided if the economy strengthens but Hanson is unable to supply construction-grade sand under the Reduced Project Alternative to meet local demand. This would negatively affect the Bay Area economy. The CSLC also notes that the permitted volumes under both the Reduced Project Alternative and the Approved Project are the same unless and until Hanson complies with the condition to obtain an ITP from the CDFG that demonstrates the significant impact of mining up to Proposed Project levels has been mitigated to less than significant. Therefore, the CSLC concludes the above-described evidence in the record renders the Reduced Project Alternative infeasible due to economic and other environmental/biological considerations as described in Section 4 of these Findings and Statement of Overriding Considerations, beginning with Section 4.2, Alternatives and Mitigation Measures.[5] Approval of the Approved Project is subject to the Statement of Overriding Considerations adopted as part of this Exhibit D.

Summary. Impacts to delta smelt and longfin smelt will remain significant and unavoidable (Class I) even with implementation of the recommended mitigation measures.

CEQA FINDING NO. BIO-9	**CLASS: II**
Impact No.:	**BIO-9: Green sturgeon, Chinook salmon, and steelhead trout will be impacted during sand mining.** The Project will cause the entrainment and mortality of green sturgeon, Chinook salmon and steelhead trout during sand mining.
Finding(s):	(1) Changes or alterations have been required in, or incorporated into, the Approved Project that avoid or substantially lessen the significant environmental effect as identified in the EIR.

[5] As explained in *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1000, "When it comes time to decide on project approval, the public agency's decisionmaking body evaluates whether the alternatives [analyzed in the EIR] are *actually* feasible….At this final stage of project approval, the agency considers whether '[s]pecific economic, legal, social, technological, or other considerations…make infeasible the mitigation measures or alternatives identified in the environmental impact report.' Broader considerations of policy thus come into play when the decisionmaking body is considering actual feasibility than when the EIR preparer is assessing potential feasibility of the alternatives" [citations omitted].

FACTS SUPPORTING THE FINDING

A recent AMS study estimated that Chinook salmon are entrained at a rate of one fish per year in the Middle Ground Shoal and western Delta mining leases as a result of sand mining activities, with no entrainment in Central Bay (AMS 2009b [EIR Appendix E]). The AMS study notes, however, that this estimate may be low due to potential underestimates of Chinook salmon presence in the CDFG data on which AMS based the entrainment estimates. In its Biological Opinion for commercial sand mining in the San Francisco Bay-Delta, the NMFS (2006) used a different modeling approach from that taken by AMS to estimate entrainment of special status species, including Chinook salmon and green sturgeon. Conclusions from NMS (2006) are summarized below.

- Between 143 and 273 Federal ESA-listed salmonid smolts could be entrained annually by all commercial sand mining in the western Delta and Suisun Bay mining leases, with 13 of the smolts being Central Valley steelhead trout, 43 to 87 being Sacramento River winter-run Chinook salmon, and 87 to 173 being Central Valley spring-run Chinook salmon.
- One Central California Coast steelhead trout smolt would be entrained every 100 years.
- One juvenile green sturgeon is estimated to be entrained annually by the Project proponent's sand mining activities.

Based upon the analysis of the information presented in the EIR and consultations with CDFG staff, the CSLC concludes that sufficient evidence exists that incidental take of Chinook salmon, steelhead trout, and green sturgeon would occur as a result of the Project as originally proposed by all the Applicants. Entrainment of these three species is considered significant given their listing status under the California and/or Federal ESAs. The implementation of operational conditions required by NMFS and USFWS described in the EIR, Section 4.1.4, Existing Permit Conditions, and included in MM BIO-8a, will reduce impacts of the Approved Project to green sturgeon, Chinook salmon, and steelhead trout to less than significant for the Central Bay leases. The additional measures identified in the EIR to reduce impacts to Chinook salmon, MMs BIO-9a and BIO-9b, apply only to sand mining in the western Delta and Suisun Bay, and not the Central Bay. Since the Approved Project includes only the four Central Bay leases, MMs BIO-9a and BIO-9b are not applicable.

Because the EIR found entrainment-related impacts to Chinook salmon, steelhead trout, and green sturgeon to be potentially significant, the following mitigation measures were developed to minimize the amount of entrainment expected to result from implementation of the Approved Project.

Mitigation Measures for Impact BIO-9

Implementation of the operational conditions required by NMFS and the USFWS will reduce effects of the Approved Project due to entrainment of Chinook salmon, steelhead trout, and green sturgeon to less than significant. These measures are incorporated in MM BIO-8a.

Summary. The implementation of the MM BIO-8a operational conditions required by NMFS and USFWS will reduce impacts of the Approved Project to Chinook salmon, steelhead trout, and green sturgeon to less than significant (Class II).

Cumulative Impacts: Impacts to Biological Resources as a result of the Approved Project would be cumulatively considerable. While the Approved Project and implementation of the above-described mitigation measures reduce total impacts to delta and longfin smelt and potential for entrainment, this impact remains Significant and Unavoidable, and therefore the CSLC concludes that the cumulative impacts related to Biological Resources are likewise Significant and Unavoidable. The Approved Project, even with incorporation of all mitigation measures summarized above and described in the EIR, will create impacts that when viewed in the context of past, present, and probable future projects are Significant and Unavoidable.

HAZARDS AND HAZARDOUS MATERIALS

CEQA FINDING NO. HAZ-1	**CLASS: II**
Impact No.:	**HAZ-1: Potential for accidental leak or spill of hazardous materials** The Project includes the routine use of hazardous materials that could create a significant hazard to the public or environment if accidentally spilled or released.
Finding(s):	(1) Changes or alterations have been required in, or incorporated into, the Approved Project that avoid or substantially lessen the significant environmental effect as identified in the EIR. (2) Such changes or alterations are within the responsibility and jurisdiction of the California Department of Fish and Game's Office of Spill Prevention and Response and not the CSLC. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

FACTS SUPPORTING THE FINDING

The sand mining barges and tugboats currently used by the Applicant would be used to conduct sand mining operations under the Approved Project. Hazardous materials associated with operations of barges with dredging equipment and tug boats include fuel, oils, solvents, coolants, and other materials. These materials are considered hazardous, and a significant impact may occur if they are accidentally released to the environment, as may occur due to equipment malfunction or an accident. Written inventories provided by Hanson and Jerico of hazardous materials carried on the sand mining barges and tugs are summarized in EIR Table 4.4-2. In accordance with regulations administered by the CDFG's Office of Spill Prevention and Response (OSPR), both Foss Maritime Company (Foss), which operates Hanson's sand mining vessels, and Jerico must have a current California Nontank Vessel Contingency Plan (CANTVCP) because they operate at least one non-self-propelled non-tank vessel that carries oil. Each company's compliance status is summarized below.

- Foss has a current CANTVCP and Letter of Approval from the OSPR (control # 08-05-0619) that applies to Hanson vessels *American River* (DS-10) and *Sand Merchant* (TS&G 230). By complying with the regulation, Foss is effectively mitigating the risk of accidental releases of hydraulic fluids, solvents, oils, and residual fluids present on its sand mining barges, because they have demonstrated adequate measures to prevent spills and adequate preparation to address any spill that may occur.
- Jerico's J5200 hopper barge has a reported length of 200 feet; assuming that it is greater than 300 gross tons and carries oil, it qualifies as a covered non-tank vessel under OSPR regulations. Jerico is in the process of preparing, but has not yet obtained, an approved CANTVCP for the J5200, and is therefore out of compliance with OSPR regulations and potentially unprepared for a leak or spill. This is considered a significant impact (Class II).

In addition, under the Clean Water Act, the U.S. Environmental Protection Agency requires all commercial vessels of 79 feet or more in length to secure a Vessel General Permit (VGP) that includes best management practices (BMPs) and corrective actions for control and containment of hazardous materials used during normal operations. Both Hanson and Jerico have VGPs in place that include BMPs for Discharges from Towing Vessels and Barges; implementation of these BMPs reduces the potential for routine operations to cause a significant discharge of hazardous materials to the Bay and Delta.

As discussed in Section 1, Introduction, Jerico is a partner with Hanson in Suisun Associates. Approval of the Suisun Associates lease is not part of the CSLC's action at this time. Therefore, MM HAZ-1 does not apply to Hanson to the extent Jerico's sand mining equipment is concerned.

Mitigation Measures for Impact HAZ-1.

> **HAZ-1: Provide a California Non-tank Vessel Contingency Plan (CANTVCP) to the CSLC.** Jerico shall, within three (3) months of certification of the Project Environmental Impact Report, provide to the California State Lands Commission a California Nontank Vessel Contingency Plan, reviewed and approved by the California Department of Fish and Game Office of Oil Spill Prevention and Response, demonstrating that adequate measures are in place to prevent and respond to accidental releases of hydraulic fluids, solvents, oils, and residual fluids.

MM HAZ-1 would ensure that Jerico has in place adequate measures to prevent spills and adequate preparation to respond to any spill or accidental release that may occur. The CANTVCP requirement is designed to mitigate the risk of accidental spills and control discharge of hazardous materials under normal operating conditions.

Summary. Complying with CANTVP regulatory requirements and implementing the BMPs specified in the CANTVCP and VGP will ensure that oils and other hazardous materials are properly managed, that the potential for accidental releases to occur is minimized, and that vessel operators are adequately prepared to respond in the event

of an accidental spill or release, thereby reducing impacts associated with the accidental release of hazardous materials to a less than significant level (Class II).

AIR QUALITY

CEQA FINDING NO. AIR-1	**CLASS: I**
Impact No.:	**AIR-1: Emissions of criteria pollutants.** Sand mining activities would result in emissions of criteria air pollutants that may conflict with or obstruct implementation of an applicable air quality plan or may violate an air quality standard or contribute significantly to an existing violation.
Finding(s):	(1) Changes or alterations have been required in, or incorporated into, the Approved Project that avoid or substantially lessen the significant environmental effect as identified in the EIR. (2) Such changes or alterations are within the responsibility and jurisdiction of the California Air Resources Board (CARB) and Bay Area Air Quality Management District and not the CSLC. Such changes have been adopted by such other agency or can and should be adopted by such other agency. (3) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the EIR

FACTS SUPPORTING THE FINDING

The EIR's analysis of air quality impacts examines and compares air emissions of criteria pollutants, associated with the proposed Project and Project alternatives. This analysis considered that (1) Hanson will be required by the CARB to upgrade its marine vessel engines according to CARB's compliance schedule (see Table 4.5-6 in EIR Section 4.5, Air Quality) and (2) emissions would not increase above baseline because Hanson will mine sand at or below baseline or Reduced Project volumes (see Tables 1 and 2). Implementation of the required upgrades would avoid or substantially lessen significant environmental effects identified in the EIR of increasing sand mining activities to Proposed Project volumes. As a result, the EIR found that the direct impacts of the Proposed Project and Reduced Project Alternative would be less than significant for emissions of criteria pollutants (Class III).

For the Reduced Project Alternative, however, the EIR identifies potential significant indirect impacts associated with emissions of criteria pollutants resulting from the importation of sand by vessels from outside the Project area (such as British Columbia) and/or increased production at Bay Area land-based quarries due to the construction industry's demand for sand (see EIR Section 4.5.5, Impacts of Alternatives; trends in aggregate imports are also discussed in EIR Section 4.2.1, Environmental Setting in Section 4.2, Mineral Resources). The Reduced Project Alternative would likely have greater air quality impacts than the Proposed Project, since it is assumed that sand would be mined from the Bay only up to the volume of the baseline scenario and that

the remainder of sand would be replaced with sand mined at land-based quarries (e.g., half from local quarries and half from British Columbia). Consequently, the Reduced Project Alternative would result in higher total emissions of PM_{10} (particulate matter less than 10 microns) and oxides of nitrogen (NO_x), than the Project as proposed.[6] Within the Bay Area Air Basin, PM_{10} emissions would be higher, and NO_x emissions would be lower than with the Project. The increase in PM_{10} in the Bay Area Air Basin under the Reduced Project Alternative would be significant (Class I).

The Commission cannot predict if the construction industry's demand for the type of sand mined by Hanson would increase, or that imports of sand outside the Project area would definitely occur. However, the potential significant impact associated with such emissions is a reasonably foreseeable consequence of the Reduced Project Alternative.

As discussed in Section 2.0, Project/EIR Background, the Commission is adopting a modified version of the Project, referred to as the "Reduced Project Alternative with Increased Volume Option," referred to as the "Approved Project." Because there will be a potentially significant indirect impact associated with the Reduced Project mining volumes as summarized above and explained in more detail in the EIR, this impact is considered significant (Class I). Should Hanson exercise the option to increase mining volumes to Proposed Project levels in the future, this indirect significant impact would be reduced to a level below significant.

Mitigation Measures for Impact AIR-1.

The Commission has included enforceable lease conditions in the Approved Project limiting Hanson to mining no more than baseline volumes until CARB-required engine upgrades have been implemented to ensure there is no direct significant environmental impact associated with emissions of criteria pollutants.

The Commission does not believe that there is any feasible mitigation available the Commission can impose to address the potential indirect significant impact related to non-Project-related importation of sand by vessels from outside the Project area (such as British Columbia) and/or increased production at land-based Bay Area quarries due to the construction industry's demand for sand because these impacts to air quality are outside its control and jurisdiction.

Regulation of air quality related to emissions from vessels importing sand from outside California into the Bay Area and of land-based quarry operations are within the responsibility and jurisdiction of the CARB and the Bay Area Air Quality Management

[6] As noted in Section 4.5, Air Quality, of the Project EIR, PM_{10} represents fractions of particulate matter that can be inhaled into air passages and the lungs and can cause adverse health effects; very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Some sources of particulate matter, such as construction activities, are local in nature, while others, such as vehicular or vessel traffic, have a more regional effect. NO_x is a precursor to ozone formation and is produced by fuel combustion in motor vehicles, industrial stationary sources (such as industrial activities), ships, aircrafts, and rail transit.

District (BAAQMD) and not the Commission. Such regulations have been adopted by CARB and BAAQMD or can and should be adopted by these agencies.

The CSLC finds that adoption of the Reduced Project Alternative, identified in the EIR as the Environmentally Superior Alternative, would not reduce Impact AIR-1 to less than significant, because the permitted volumes under both the Reduced Project Alternative and the Approved Project are the same unless and until Hanson exercises its option to increase the volumes to Proposed Project levels and complies with the condition to upgrade its engines (as documented by a letter from Hanson to the CSLC reciting Hanson's submittal to the California Air Resources Board of its Compliance Plan and Demonstration of Compliance to Operate under Cal. Code Regs., tit. 17, § 93118.5), which would demonstrate the significant impact of mining up to Proposed Project levels has been mitigated to less than significant. The indirect impacts associated with obtaining sand from other sources may be reduced by the Approved Project should Hanson exercise the option to mine at Proposed Project levels. Therefore, the CSLC concludes the above-described evidence in the record renders the Reduced Project Alternative infeasible due to economic and other environmental considerations as described in Section 4 of these Findings and Statement of Overriding Considerations, beginning with Section 4.2, Alternatives and Mitigation Measures.

Summary. Indirect impacts from the Approved Project will remain significant (Class I) because feasible mitigation to address the non-Project-related importation of sand by vessels from outside the Project area (such as British Columbia) and/or increased production at land-based quarries due to the construction industry's demand for sand is not available.

CEQA FINDING NO. AIR-2	**CLASS: I**
Impact No.:	**AIR-2: Potential impacts on climate change.** Sand mining activities would result in emissions of greenhouse gases (GHGs) that may have a significant impact on climate change, or would conflict with an applicable plan, policy, or program adopted by the State for the purpose of reducing GHGs.
Finding(s):	(1) Changes or alterations have been required in, or incorporated into, the Approved Project that avoid or substantially lessen the significant environmental effect as identified in the EIR.
	(2) Such changes or alterations are within the responsibility and jurisdiction of the California Air Resources Board (CARB) and Bay Area Air Quality Management District and not the CSLC. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
	(3) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the EIR.

FACTS SUPPORTING THE FINDING

The EIR's analysis of air quality impacts examines and compares air emissions of GHGs[7] associated with the Proposed Project and Project alternatives. Tugboat engines, barge engines, and auxiliary engines/generators used during mining and offloading events emit GHGs. As described in the EIR, any increase in GHG emissions above the baseline would be considered to have a significant effect on climate change. The Proposed Project could increase GHG emissions above the baseline by 2,847 metric tons of CO_2e per year, and up to 28,470 metric tons for the 10-year life of the project. Preparation and implementation of a Greenhouse Gas Reduction Plan demonstrating how Hanson will lower and/or offset Project-related GHG emissions will reduce impacts to less than significant. Therefore, the EIR identified this impact for the Proposed Project as a significant adverse impact that can be eliminated or reduced below an issue's significance criteria (Class II).

The Reduced Project Alternative would not have a direct significant effect related to GHGs, because sand mining would be at or below baseline levels. Similar to Impact AIR-1, however, the EIR identifies potential significant indirect impacts associated with emissions of GHGs resulting from the importation of sand by vessels from outside the Project area (such as British Columbia) and/or increased production at Bay Area land-based quarries due to the construction industry's demand for sand. Since the increase in GHG emissions from the Reduced Project would be from non-Project sources beyond the control and jurisdiction of the Commission, the EIR identifies this impact as significant and unavoidable (Class I).

As stated above for Impact AIR-1, the Commission cannot predict if the construction industry's demand for the type of sand mined by Hanson would increase, or that imports of sand outside the Project area would definitely occur. However, the potential significant impact associated with such emissions is a reasonably foreseeable consequence of the Reduced Project Alternative.

Because the Approved Project consists of authorizing the Reduced Project mining volumes with the option to increase to the Proposed Project volumes, there will be a potentially significant indirect impact associated with the Reduced Project mining volumes as summarized above and explained in more detail in the EIR (Class I). Should Hanson exercise the option to increase mining volumes to Proposed Project levels in the future, this indirect significant impact will be reduced to a level below significant and the direct impacts from mining at the Proposed Project levels will be reduced to a level below significant with implementation of MM AIR-2.

[7] A major concern with GHGs is that increases in GHGs cause global climate change.

Mitigation Measures for Impact AIR-2.

MM AIR-2. Prepare and Implement a Greenhouse Gas (GHG) Reduction Plan. Prior to startup of any new sand mining operations, the Applicants shall prepare and submit to the California State Lands Commission (CSLC) staff for approval a GHG Reduction Plan that demonstrates how the Applicants will lower and/or offset Project-related GHG emissions, such that GHG emissions will not exceed 5,400 metric tons of CO_2e in any calendar year during the 10-year lease period, or a total of 54,000 metric tons for the 10-year life of the Project. The GHG Reduction Plan shall include:

- A detailed baseline inventory that identifies and calculates all sources of GHG emissions during the last full calendar year of mining operations. This inventory shall be verified by an accredited third-party verification body, and reported to The Climate Registry.
- A description of the strategies that the Applicants will employ to reduce and/or offset GHG emissions. Examples of such strategies include:
    - "Cold ironing" of vessels, where power from the electrical grid is substituted for diesel power during off-loading and while vessels are docked.
    - Use of biofuels or biofuel blends as a substitute or partial substitute for fossil fuels used to power tugs and barges.
    - Purchase of carbon offset credits verified by the Climate Action Registry.
- Detailed calculations showing the expected reduction in GHG emissions that will result from the implementation of each strategy.

Each year during the 10-year lease period, the Applicants shall conduct another inventory of GHG emissions that shall be verified and reported to The Climate Registry. The Applicants shall provide the verified results of this inventory to the CSLC along with a description of how the GHG Reduction Plan is being implemented and documentation showing GHG offsets or reductions.

Implementation of MM AIR-2 would lower or offset GHG emissions directly related to sand mining above baseline levels up to the Proposed Project levels.

For sand mining at Reduced Project volumes, the non-Project related increase in GHG emissions would be from sources beyond the control and jurisdiction of the Commission, MM AIR-2 will not be applicable, and the impact will be significant and unavoidable. Regulation of air quality related to GHG emissions from vessels importing sand from outside California into the Bay Area and of land-based quarry operations are within the responsibility and jurisdiction of the CARB and the Bay Area Air Quality Management District (BAAQMD) and not the Commission. Such regulations have been adopted by CARB and BAAQMD or can and should be adopted by these agencies.

The CSLC finds that adoption of the Reduced Project Alternative, identified in the EIR as the Environmentally Superior Alternative, would not reduce Impact AIR-2 to less than

significant, because the permitted volumes under both the Reduced Project Alternative and the Approved Project are the same unless and until Hanson exercises its option to increase the volumes to Proposed Project levels upon demonstrating the significant impact of mining up to Proposed Project levels has been mitigated to less than significant. The indirect impacts associated with obtaining sand from other sources may be reduced by the Approved Project should Hanson exercise the option to mine at Proposed Project levels. Therefore, the CSLC concludes the above-described evidence in the record renders the Reduced Project Alternative infeasible due to economic and other environmental considerations as described in Section 4 of these Findings and Statement of Overriding Considerations, beginning with Section 4.2, Alternatives and Mitigation Measures.

Summary. Indirect impacts from the Approved Project will remain significant (Class I) because feasible mitigation to address the non-Project-related importation of sand by vessels from outside the Project area (such as British Columbia) and/or increased production at land-based quarries due to the construction industry's demand for sand is not available.

CEQA FINDING NO. AIR-3	**CLASS: I**
Impact No.:	**AIR-3:** Potential health risk from diesel particulate matter. Sand mining activities would result in emissions of diesel particulate matter (DPM), a toxic air contaminant (TAC) associated with use of diesel equipment, potentially exposing nearby sensitive receptors to health risks.
Finding(s):	(1) Changes or alterations have been required in, or incorporated into, the Approved Project that avoid or substantially lessen the significant environmental effect as identified in the EIR. (2) Such changes or alterations are within the responsibility and jurisdiction of the California Air Resources Board (CARB) and Bay Area Air Quality Management District and not the CSLC. Such changes have been adopted by such other agency or can and should be adopted by such other agency. (3) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the EIR.

FACTS SUPPORTING THE FINDING

The EIR's analysis of air quality impacts examines and compares exposure of people to TACs contained in emissions from diesel equipment used in mining activities associated with the proposed Project and Project alternatives. Sources of DPM would include emissions from diesel equipment used to mine sand. As described in the EIR, the increased health risk was modeled for the mining lease area that would represent the worst case risk from actual mining activities (PRC 709 South parcel) and Hanson's four offloading locations. The EIR finds that the direct impacts from mining activities at the Proposed Project levels are not a significant impact and would be reduced even further

with the CARB-required engine upgrades (Class III). Because mining at the Reduced Project Alternative volumes would be even less than the Proposed Project, it would also have an impact less than significant (Class III).

Similar to Impacts AIR-1 and AIR-2, however, the EIR identifies potential significant indirect impacts associated with emissions of TACs resulting primarily from increased production at Bay Area land-based quarries and/or from the importation of sand by vessels from outside the Project area (such as British Columbia) due to the construction industry's demand for sand. Since the increase in emissions of diesel particulate matter (TACs) from the Reduced Project would be from non-Project sources beyond the control and jurisdiction of the Commission, the EIR identifies this impact as significant and unavoidable (Class I).

The Commission cannot predict if the construction industry's demand for the type of sand mined by Hanson would increase, or if increased production at Bay Area land-based quarries and/or importation of sand by vessels from outside the Project area (such as British Columbia) would definitely occur. However, the potential significant impact associated with such emissions is a reasonably foreseeable consequence of the Reduced Project Alternative.

Because the Approved Project consists of authorizing the Reduced Project mining volumes with the option to increase to the Proposed Project volumes, there will be a potentially significant indirect impact associated with the Reduced Project mining volumes as summarized above and explained in more detail in the EIR (Class I). Should the Applicant exercise the option to increase mining volumes to Proposed Project levels in the future, this indirect significant impact will be reduced to a level below significant.

Mitigation Measures for Impact AIR-3.

The Commission does not believe that there is any feasible mitigation available the Commission can impose to address the potential indirect significant impact related to non-Project-related increased production at land-based Bay Area quarries and/or importation of sand by vessels from outside the Project area (such as British Columbia) due to the construction industry's demand for sand because these impacts to air quality are outside its control and jurisdiction. Regulation of air quality related to emissions of diesel particulate matter (TAC emissions) from Bay Area land-based quarry operations and/or vessels importing sand from outside California into the Bay Area are within the responsibility and jurisdiction of the CARB and the Bay Area Air Quality Management District (BAAQMD) and not the Commission. Such regulations have been adopted by CARB and BAAQMD or can and should be adopted by these agencies.

The CSLC finds that adoption of the Reduced Project Alternative, identified in the EIR as the Environmentally Superior Alternative, would not reduce Impact AIR-3 to less than significant, because the permitted volumes under both the Reduced Project Alternative and the Approved Project are the same unless and until Hanson exercises its option to increase the volumes to Proposed Project levels upon demonstrating the significant impact of mining up to Proposed Project levels has been mitigated to less than

significant. The indirect impacts associated with obtaining sand from other sources may be reduced by the Approved Project should Hanson exercise the option to mine at Proposed Project levels. Therefore, the CSLC concludes the above-described evidence in the record renders the Reduced Project Alternative infeasible due to economic and other environmental considerations as described in Section 4 of these Findings and Statement of Overriding Considerations, beginning with Section 4.2, Alternatives and Mitigation Measures.

Summary. Indirect impacts from the Approved Project will remain significant (Class I) because feasible mitigation to address the non-Project-related increased production at Bay Area land-based quarries and/or importation of sand by vessels from outside the Project area (such as British Columbia) due to the construction industry's demand for sand is not available.

Cumulative Impacts: Impacts to Air Quality as a result of the Approved Project would be cumulatively considerable. While the direct impacts from sand mining at Proposed Project volumes with implementation of the above-described mitigation measures reduce the total emissions in Impacts AIR-1, AIR-2 and AIR-3, to levels below significant, the indirect impacts all remain Significant and Unavoidable under the Reduced Project mining volumes; therefore, the Commission concludes that the cumulative impacts related to Air Quality are likewise Significant and Unavoidable. As described in the EIR, any air impact that exceeds significance thresholds is cumulatively significant because the significance thresholds used in the EIR were developed by considering the entire air basin.

CULTURAL RESOURCES

CEQA FINDING NO. CUL-1	**CLASS: II**
Impact No.:	**CUL-1: Inadvertent discovery of historical resources or "unique archaeological resources."** Sand mining activities could potentially result in the inadvertent discovery of archaeological historic-period resources (e.g., shipwrecks) or prehistoric Native American sites.
Finding(s):	(1) Changes or alterations have been required in, or incorporated into, the Approved Project that avoid or substantially lessen the significant environmental effect as identified in the EIR.

FACTS SUPPORTING THE FINDING

No historical resources or unique archaeological resources have been recorded in the Area of Potential Effects of the Approved Project, which includes all areas of ground-disturbing activity within the proposed lease area boundaries located in the Central San Francisco Bay, Suisun Bay, and western Delta. Although the Area of Potential Effects has a low potential to contain buried or submerged cultural resources, the possibility cannot be entirely discounted. Sand mining company personnel should, therefore, be alerted to the possibility of encountering cultural materials during

implementation of the Approved Project, and apprised of the proper procedures to follow in the event that such materials are found, as described in MM CUL-1.

Because the EIR found the discovery of cultural resource-related impacts to be potentially significant, the following mitigation measures were developed to minimize the amount of impacts to historic or prehistoric archeological artifacts expected to result from Project implementation.

Mitigation Measures for Impact CUL-1.

CUL-1: Cease operations and notify the California State Lands Commission (CSLC) and U.S. Army Corps of Engineers (ACOE). If an inadvertent discovery is made of items of historic or prehistoric archaeological potential, all work activities shall immediately cease in the area of discovery. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include shipwreck remains, including wood, iron, and steel-hulled ships as well as smaller ferrous materials such as anchors, iron ballast, chain, iron hull fasteners, rigging, and fittings of various types. The Applicant shall take the following actions:

1. After cessation of activity, the Applicant shall immediately contact the CSLC and ACOE. The Applicant shall not resume work in the area of the discovery until authorization is received from the CSLC and the ACOE.
2. If CSLC staff determines that an historical or archaeological resource may be present within the project site, the Applicant shall retain the services of a qualified archaeologist who meets the Professional Qualifications Standards contained in the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation. In the case of a shipwreck or other maritime resources, a qualified maritime archaeologist shall be retained. The archaeologist will make an immediate evaluation of the discovery and will advise CSLC staff whether it is a resource of potential scientific/historical/ cultural significance. The archaeologist will make a recommendation as to what action, if any, is warranted. Based on this information, CSLC staff may require, if warranted, specific additional measures to be implemented by the Applicant no more than 48 hours from receipt of the recommendation.
3. Measures might include: Preservation in situ of the archaeological resource (avoidance); archaeological data recovery; salvage and conservation of all or part of the resource if reasonably feasible (i.e., shipwreck); or further evaluation. CSLC staff may also require that the Applicant immediately implement a site security program if the resource is at risk from vandalism, looting, or other damaging actions.

4. Artifacts found on lands under the jurisdiction of the CSLC are considered the property of the State of California. Any disposition of these artifacts requires the approval of the CSLC.
5. The archaeologist shall submit an archaeological resources report to CSLC staff. This report shall include an evaluation of the historical significance of any discovered archeological resource, as well as a description of the archaeological and historical research methods employed.

MM CUL-1 will minimize impacts if unrecorded historical resources or unique archaeological resources are encountered by either preserving the site through avoidance or, if avoidance is not reasonably feasible, through data recovery of the site's scientifically consequential information.

Summary. Implementation of MM CUL-1 will reduce impacts of the Approved Project on cultural resources to a less-than-significant level.

CEQA FINDING NO. CUL-3	**CLASS: II**
Impact No.:	**CUL-3: Inadvertent discovery of human remains.** Sand mining activities could potentially result in the discovery of human remains.
Finding(s):	(1) Changes or alterations have been required in, or incorporated into, the Approved Project that avoid or substantially lessen the significant environmental effect as identified in the EIR.

FACTS SUPPORTING THE FINDING

The discovery of human remains is an extremely remote possibility within the Area of Potential Effects. However, since the nature of the Approved Project would involve ground-disturbing activities, such actions could unearth, expose, or disturb previously unknown human remains. Sand mining company personnel should be alerted to the possibility of encountering human remains during implementation of the Approved Project, and apprised of the proper procedures to follow in the event they are found.

Because the EIR found the impact associated with the inadvertent discovery of human remains to be potentially significant, the following mitigation measures were developed to minimize the impact from implementation of the Approved Project.

Mitigation Measures for Impact CUL-3.

CUL-3: Cease operations and notify County Coroner. If human remains are discovered during sand mining activities, State Health and Safety Code section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code section 5097.98. If the remains are determined to be those of a Native American, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then identify the person(s) thought to be the Most Likely Descendent (MLD) of the deceased Native American, who, within 48 hours, will recommend what course of action should be taken in dealing with the

remains. The Project Applicants, MLD, and CSLC staff will make all reasonable efforts to develop an agreement for the treatment, with all appropriate dignity, of any human remains and items associated with the remains (State CEQA Guidelines § 15064.5, subd. (d)). The agreement would take into consideration the appropriate removal, analysis, custodianship, and final disposition of the human remains and items associated with the remains. If an agreement cannot be reached, then the landowner or authorized representative shall reinter the human remains and associated items with appropriate dignity on the property in a location not subject to further and future subsurface disturbance (Pub. Resources Code, § 5097.98, subd. (e)).

MM CUL-3 will minimize impacts if previously undiscovered human remains are encountered by requiring procedures to notify the County Coroner and cease further disturbance until the County Coroner has made the necessary findings as to origin and disposition of the remains, and if the remains are those of a Native American, to follow a process to treat the remains with appropriate dignity.

Summary. Implementation of MM CUL-3 will reduce potential impacts associated with the inadvertent discovery of human remains to less than significant.

LAND USE AND RECREATION

CEQA FINDING NO. LU-4	**CLASS: II**
Impact No.:	**LU-4: Conflicts with regional or local land use plans or policies** Project inconsistency or conflict with adopted land use plans or policies could result in environmental impacts that the plans and policies were adopted to prevent.
Finding(s):	(1) Changes or alterations have been required in, or incorporated into, the Approved Project that avoid or substantially lessen the significant environmental effect as identified in the EIR.
	(2) Such changes or alterations are within the responsibility and jurisdiction of other agencies and not the CSLC. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

FACTS SUPPORTING THE FINDING

The applicable land use plans in the Project area consist of the San Francisco Bay Plan, Suisun Marsh Protection Plan, Solano County Local Protection Program, and Solano County General Plan. The consistency of the Project with the applicable policies contained in these plans is reviewed in Table 4.7-3 of the EIR. Without mitigation, the Approved Project would conflict with some applicable policies. Implementation of mitigation measures identified for other specific impacts would also reduce conflicts with applicable land use plans and policies to a less-than-significant level. No mitigation other than those identified for other specific impacts would be required.

Because the EIR found impacts from the Project would be inconsistent or conflict with adopted land use plans or policies, the following mitigation measures identified for other specific impacts apply.

Mitigation Measures for Impact LU-4. Implement MMs BIO-6, BIO-8a, BIO-8b, BIO-9a, BIO-9b, HAZ-1, AIR-2, CUL-1 and CUL-3.

MMs BIO-6, BIO-8a, BIO-8b, BIO-9a, and BIO-9b will ensure consistency with policies to protect wildlife, including fish and aquatic organisms, and habitats that would otherwise be adversely affected by the Approved Project, and with policies to protect and restore important Bay-Delta habitat.

MM HAZ-1 will ensure compliance with CANTVCP requirements, which are designed to mitigate the risk of accidental spills and control the discharge of hazardous materials. This measure thereby ensures that oils and other hazardous materials are properly managed and minimizes the potential for accidental releases to occur. MM HAZ-1 would also ensure consistency with Bay Plan policies to minimize effects of dredge mining on tidal marshes and tidal flats.

MM AIR-2 will lower or offset GHG emissions from the Approved Project to baseline levels, thereby mitigating the Approved Project's contribution to global warming.

MMs CUL-1 and CUL-3 will minimize impacts if, respectively, (1) unrecorded historical and/or archaeological resources are encountered and (2) previously undiscovered human remains are encountered.

These mitigation measures, taken together, will ensure consistency with plans and policies specifying that sand mining operations be conducted in an environmentally sound manner, that agencies protect public trust resources, and that sand mining operations be carried out in a manner that minimizes interference with critical wildlife activities.

Summary. Implementation of the identified mitigation measures will reduce conflicts with regional or local land use plans or policies to less than significant (Class II).

4.0 STATEMENT OF OVERRIDING CONSIDERATIONS

4.1 Introduction to Statement of Overriding Considerations

This section addresses the CSLC's obligations under Public Resources Code section 21081, subdivisions (a)(3) and (b). (See also State CEQA Guidelines, §§ 15091, subd. (a)(3), 15093.) Under these provisions, CEQA requires the CSLC to balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of the Approved Project (issuance of four Central Bay sand mining leases) against the backdrop of unavoidable significant environmental impacts. For purposes of CEQA, if the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable significant environmental effects, those effects may be considered acceptable and the decision making agency may approve the underlying project (State CEQA Guidelines § 15092, subd. (b)(2)(B)). CEQA, in this respect, does not prohibit the CSLC from approving the leases even if the resulting sand mining activities as authorized under the leases may cause significant and unavoidable environmental effects.

The Final EIR for the San Francisco Bay and Delta Sand Mining Project identifies significant impacts of the Project, as well as Project alternatives, that cannot feasibly be mitigated to below a level of significance.

The Reduced Project Alternative was examined in the EIR and found to be potentially feasible, to be capable of at least partially meeting the Project objective, and to be environmentally superior to the other alternatives. Based on the analysis conducted in preparation of the Final EIR, information provided by the Applicants (Hanson and Jerico), information obtained through the public review process, and other information in the record, this Statement of Overriding Considerations presents a list of (1) the specific significant effects on the environment attributable to the Approved Project that cannot feasibly be mitigated to below a level of significance, (2) benefits derived from the Approved Project, and (3) specific reasons for approving the Approved Project.

Although Hanson designed the Project to minimize environmental effects, and the CSLC has imposed mitigation measures to further reduce impacts, and the Approved Project is intended to further reduce impacts, impacts remain that are considered significant after application of all feasible mitigation. Significant impacts of the Approved Project fall into two categories: Biological Resources Impacts to Special Status Species; and Air Quality Impacts, including GHG emissions (see Table 5).

Table 5 – List of Significant Impacts Identified for the Approved Project

Impact		Impact Description
BIOLOGICAL RESOURCES (Special Status Species)		
BIO-8	Entrainment and mortality of delta and longfin smelt	The Approved Project will result in a significant impact to delta smelt and longfin smelt as a result of entrainment and mortality during sand mining operations.
AIR QUALITY AND GREENHOUSE GASES		
AIR-1	Emissions of criteria pollutants	The Approved Project will likely have greater air quality impacts than the proposed Project, since it is assumed that sand will be mined from the Bay and Delta only up to the volume of the baseline scenario and that the remainder of sand will be replaced with sand mined at land-based quarries (e.g., half from local quarries and half from British Columbia). Consequently, the Approved Project will indirectly result in higher total emissions of criteria pollutants, including PM_{10} and NO_x than the Project as proposed. Within the Bay Area Air Basin (Basin), PM_{10} emissions will be higher, and NO_x emissions will be lower than with the Project. Both PM_{10} and NOx emissions will likely be higher outside of the Basin, because of ocean transport of sand from British Columbia. The increase in PM_{10} in the Basin under the Approved Project will be significant. No feasible mitigation is available to the CSLC to address the increase in emissions associated with non-Project-related importation of sand by vessels from outside the Project area (such as British Columbia) and/or increased production at land-based Bay Area quarries because these impacts to air quality are beyond its control and outside its jurisdiction; the impact would be significant and unavoidable. Should Hanson exercise the option to increase mining volumes to Proposed Project levels in the future, this indirect significant impact will be reduced to a level below significant.
AIR-2	Potential impacts on climate change	The Approved Project will indirectly result in higher emissions of GHGs compared to the proposed Project, mostly due to the assumed ocean transport of some sand to the Bay Area from British Columbia. This will be a significant impact. Since the increase in GHG emissions associated with the Approved Project will be from sources beyond the control and outside the jurisdiction of the CSLC, MM AIR-2, which requires Hanson to report and reduce GHG emissions directly caused by mining activities, and which will reduce those GHG emissions to less than significant, will not be applicable, and the impact will be significant and unavoidable. Should Hanson exercise the option to increase mining volumes to Proposed Project levels in the future, this indirect significant impact will be reduced to a level below significant.
AIR-3	Potential health risk from diesel particulate matter	Since, under the Approved Project, sand offloading facilities would continue to be used to receive, stockpile, and ship sand or other aggregate materials, toxic air contaminant emissions in the vicinity of those facilities, and resultant human health risks, are assumed to be similar to the Project as proposed. However, a potentially significant indirect impact of the Approved Project relates to the assumed increase in production at Bay Area land-based quarries leading to

Impact		Impact Description
		higher health risks, since toxic air contaminant emissions from land-based quarries and land transportation may be more likely to impact residential developments and other sensitive receptors than offshore mining activities and ocean transportation; such human health effects could be significant. Because the operation of land-based quarries is beyond the control and jurisdiction of the CSLC, no feasible mitigation measures are available, and the impact is considered significant and unavoidable. Should Hanson exercise the option to increase mining volumes to Proposed Project levels in the future, this indirect significant impact will be reduced to a level below significant.

4.2 Alternatives and Mitigation Measures

As explained in *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1000, "When it comes time to decide on project approval, the public agency's decisionmaking body evaluates whether the alternatives [analyzed in the EIR] are *actually* feasible….At this final stage of project approval, the agency considers whether '[s]pecific economic, legal, social, technological, or other considerations…make infeasible the mitigation measures or alternatives identified in the environmental impact report.' Broader considerations of policy thus come into play when the decisionmaking body is considering actual feasibility than when the EIR preparer is assessing potential feasibility of the alternatives" [citations omitted].

The CSLC finds that all mitigation measures identified in the EIR that are applicable to the Approved Project (i.e. the Project as proposed) have been imposed to avoid or lessen impacts to the maximum extent feasible.[8] The CSLC further finds that other alternatives analyzed in the EIR[9], the No Project Alternative, the Clamshell Mining Alternative, and the LTMS Conformance Alternative, are infeasible or are not environmentally superior for the following reasons.

- The No Project Alternative could avoid most of the significant impacts of the Project as proposed, including biological resources impacts. This alternative would, however, require the Bay Area construction industry to acquire sand from other sources including land-based quarries in the Bay area and from more distant sources, such as British Columbia with consequent increases in air emissions, including GHGs and diesel particulate matter. It would likely transfer environmental impacts to other locations both within and outside the region and the state. The No Project Alternative does not have the capability of meeting the stated Project objective. Therefore, the No Project Alternative is not considered environmentally superior to the other alternatives or to the proposed Project.

[8] Impacts and mitigation measures are identified and discussed throughout Section 4.0 of the EIR. A summary of all impacts and mitigation measures is provided in the Mitigation Monitoring Program (MMP), adopted as part of this project approval, as set forth in Exhibit C (see also Section 7.0 in the EIR).

[9] See Table 6-1, Summary of Environmental Impacts for the Proposed Project and Alternatives, in the Final EIR for additional information.

- Both the LTMS Conformance Alternative and the Clamshell Dredge Mining Alternative could reduce or avoid some impacts of the Project as proposed, including biological resources impacts, but also may result in significant unavoidable air quality impacts: the LTMS Conformance Alternative would limit mining seasonally, potentially resulting in more intensive mining during these periods and consequently greater daily emissions of criteria air pollutants and toxic air contaminants. The Clamshell Dredge Mining Alternative would use different mining equipment which, while potentially reducing biological resources impacts related to entrainment of marine organisms in the suction dredge, would be less efficient, potentially resulting in a longer duration of mining events and consequently increased emissions of criteria air pollutants and diesel particulate matter.

The CSLC finds that the Reduced Project Alternative is environmentally superior to the other alternatives for the following reason:

- The Reduced Project Alternative would reduce the intensity of the Project's significant impacts, and would likely render mitigation measures easier to implement and achieve. Even though the Reduced Project Alternative may result in significant unavoidable air quality impacts associated with importing sand and obtaining sand from Bay Area quarries, the overall intensity of impacts would be less than the other alternatives. Therefore, the Reduced Project Alternative is considered the Environmentally Superior Alternative.

As required by section 15091, subdivision (c) and section 15093, subdivision (b) of the State CEQA Guidelines, the CSLC's specific reasons for not adopting the Environmentally Superior Alternative are contained in these Findings and Statement of Overriding Considerations.

In approving the Project, the Commission determined that modifications to the Project as proposed by Hanson are necessary and appropriate. As described above in Section 2.0, Project/EIR Background, **based on all available information, the Commission adopts a modified version of the Project, referred to as the "Reduced Project Alternative with Increased Volume Option," as set forth below and referred to as the Approved Project.** The Approved Project consists of the Reduced Project Alternative with the option of increasing the volumes to the Proposed Project levels upon Hanson's request and the submittal to the Commission of:

1. A copy of Hanson's Incidental Take Permit (ITP) issued by the California Department of Fish and Game.
2. A letter from Hanson to the CSLC reciting Hanson's submittal to the California Air Resources Board of its Compliance Plan and Demonstration of Compliance to Operate under Title 17, California Code of Regulations, section 93118.5.

Upon meeting these conditions, the Commission's Executive Officer or his delegate shall authorize the mining of the increased volumes as set forth in the Leases and the EIR.

In adopting this modified version of the Reduced Project Alternative, the CSLC has balanced the economic, legal, social, technological, and other benefits of the project, including region- or statewide environmental benefits, against the adverse environmental consequences as described in these Findings and Statement of Overriding Considerations.

The CSLC finds that compliance with the two conditions stated above will demonstrate the significant environmental effects identified in the EIR associated with mining at the Proposed Project volumes have been mitigated to a less than significant level. Therefore, should Hanson exercise the option to increase mining volumes to Proposed Project levels in the future, the significant impact to delta smelt and longfin smelt and the direct significant impact to air quality from sand mining activities will be less than significant.

The CSLC finds that adoption of the Reduced Project Alternative, identified in the EIR as the Environmentally Superior Alternative, would not reduce Impact BIO-8 and Impacts AIR-1 through 3 to less than significant. The permitted volumes under both the Reduced Project Alternative and the Approved Project are the same unless and until Hanson exercises its option to increase the volumes to Proposed Project levels upon demonstrating the significant impacts of mining up to Proposed Project levels has been mitigated to less than significant. The indirect impacts associated with obtaining sand from other sources may be reduced by the Approved Project should Hanson exercise the option to mine at Proposed Project levels. Therefore, the CSLC concludes the above-described evidence in the record renders the Reduced Project Alternative infeasible due to economic and other environmental considerations.

4.3 Beneficial Impacts of the Project

State CEQA Guidelines section 15093, subdivision (a) requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project against its unavoidable environmental risks when determining whether to approve the project.

Region-wide and State-wide Benefits

Sand and gravel mining has occurred in the San Francisco Bay and Delta for more than seven decades, providing jobs and supplying high quality sand to the Bay Area construction industry. The Approved Project will result in the issuance by the CSLC of four new 10-year leases of sovereign lands to Hanson for the purpose of mining sand and gravel. Continuing these existing mining operations for 10 years will have numerous benefits to the State of California and Bay-Delta region, including generation of substantial royalties to the state (see October 19, 2012, Agenda, Calendar Item 101, p, 2, Consideration).

The four leases combined will initially allow a total maximum mining volume of 1,060,656 cubic yards per year. This level is the same as the five-year annual average

volume mined from 2002 to 2007, and substantially less than the levels permitted under the previous leases (1,390,000 cubic yards per year). The leases contain an optional provision that allows the permitted volumes to increase to the Proposed Project volume totaling 1,540,000 cubic yards per year, or an increase of 479,344 cubic yards per year, if the two conditions described in Section 4.2, Alternatives and Mitigation Measures, are met. This is considered a benefit because it could help satisfy the increased projected demand for construction sand as described below.

The sand resource mined by Hanson is composed of alluvial sand and gravel resulting from erosion and sediment transport associated with the San Francisco Bay-Delta and River systems. The sand is valuable as construction aggregate or as construction fill material. The California Geological Survey (CGS) defines construction aggregate as alluvial sand and gravel or crushed stone that meets standard specifications for use in Portland cement concrete or asphalt concrete. As a construction aggregate resource, alluvial sand and gravel have some advantages over crushed stone in terms of concrete workability and impacts on equipment. For example, a wet mix of construction-grade concrete made from crushed stone aggregate is generally more difficult to work with than the same mix made from alluvial aggregate, as the sharp edges of angular fragments of crushed stone increase wear and damage to pumping equipment. Bay sands are preferred sands to use in the concrete industry. Bay sands have rounded edges as a result of erosive forces acting on the surface of the sand grains that cause less wear on pumping equipment used to direct concrete and related construction materials.

California is the nation's largest producer of sand and gravel, yet due to a growing population and associated infrastructure needs, demand has historically outstripped supply. However, according to the CGS (Clinkenbeard and Smith 2010; Kohler 2008), California production of sand and gravel used in construction and its associated value have declined over the past five years (see Table 6); the Clinkenbeard and Smith (2010) data are the most recent available.

Table 6 – Amount and Value of California Construction Sand and Gravel Production (2006-2010)

Year	**Quantity** (short tons)	**Value** (thousands $)
2006	168,571,000	1,522,900
2007	148,134,000	1,450,300
2008	108,529,000	1,105,100
2009	85,112,000	905,500
2010	82,359,000	809,000

Source: Clinkenbeard and Smith 2010; Kohler 2008

Imports of sand and gravel, primarily via ship and barge from Canada and Mexico into California, have become common over the last decade. Although the downturn in the economy has temporarily reduced the need for sand and gravel, the overall trend is expected to rise substantially in the future. The CGS reports the following volumes of imported aggregate (Table 7).

Table 7 – Aggregate Imports to California (2006-2011)

Year	**Quantity** (short tons)
2001	900,000
2002	2,400,000
2003	Data not Available
2004	3,300,000
2005	2,400,000
2006	3,200,000
2007	2,000,000
2008	1,531,000
2009	1,070,100
2010	1,049,000
2011	1,580,000

Source: Kohler 2001, 2002, 2004, 2005, 2006, & 2007. Eagle Rock Quarry 2008, 2009, 2010 & 2011.

A 2006 CGS study on aggregate availability estimates that demand for construction aggregate in California in the next 50 years will total approximately 13.5 billion tons, not including increased demand following major bond initiatives, e.g., for major public infrastructure projects, or from reconstruction following a major earthquake. The study identifies approximately 74 billion tons of non-permitted construction aggregate resources in California, but points out that these resources are not likely to be fully exploited due to social, environmental, and economic concerns. The report assesses the current availability of California's permitted aggregate resources, based on a series of mineral land classification reports completed between 1981 and 2005 that identify and assess economically significant aggregate deposits in 31 study areas across the state, including two in the greater San Francisco Bay Area. For each study area, the report projects the 50-year demand for aggregates, calculates permitted and non-permitted aggregate resources, and estimates when the permitted resources will be depleted. Only land-based resources are considered; i.e., aggregate resources in the Bay sediments and underlying strata or rock are not evaluated. The CGS report concludes that four of the 31 aggregate study areas were projected to have less than 10 years of permitted resources remaining. This includes the North San Francisco Bay Production-Consumption (P-C) Region. Permitted construction aggregate resources in the North San Francisco Bay P-C Region constitute 8 percent of the expected 50-year demand of 647,000,000 tons; for the South San Francisco Bay P-C Region the figure is 37 percent of the expected 50-year demand of 1,244,000,000 tons.

Transportation cost is the primary constraint that defines the market area for an aggregate mining operation. Aggregate is a high weight-to-unit value commodity such that demand for aggregate tends to be met with local supply where possible. Local mining minimizes fuel consumption associated with transport, as well as associated air pollution (including GHG emissions), traffic congestion, and road maintenance. Hanson delivers sand to a number of off-loading facilities located throughout the Bay and Delta. The combination of use of efficient suction dredge equipment for extraction of the sand resource from the Bay floor; barge transportation of large loads (up to 2,000 cubic

yards) of sand to off-loading facilities located throughout the region; and the resulting relatively limited use of ground transportation to ship the material to its point of use, result in a relatively energy efficient means of producing and transporting construction aggregate.

A benefit of the Approved Project is that should Hanson exercise the option to increase mining to the Proposed Project volumes as anticipated, the Project's indirect significant Air Quality impacts, AIR-1, AIR-2, and AIR-3 caused by acquiring sand from other sources, will be reduced to less than significant. This will reduce the transfer of environmental impacts to other locations both within and outside the region and the state. As shown in the analysis of air quality impacts for the Reduced Project Alternative and other alternatives in Part III, Section 4.5.5, Air Quality, Impacts of Alternatives, Table 4.5.11, in the Final EIR,[10] sand mined from the Bay and Delta produces lower emissions of PM_{10} than from Bay Area quarries (most of which is from fugitive dust) and from Canadian imports. Emissions of GHGs are somewhat lower for sand mined from the Bay and Delta compared to Bay Area land-based quarries, but much lower (less than half) compared to sand imported from British Columbia. Emissions of NO_x resulting from sand mined from the Bay and Delta are only slightly higher than Bay Area quarries, and substantially less than from Canadian imports.

Issuance of the four Central Bay leases under the Approved Project will continue to provide jobs for tug and barge operators and other employees associated with Hanson's mining operations, that otherwise might be lost. This will benefit the Bay Area economy.

4.4 CSLC Adoption of Statement of Overriding Considerations

As noted above, under Public Resources Code section 21081, subdivisions (a)(3) and (b) and State CEQA Guidelines section 15093, subdivision (a), the decision-making agency is required to balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project against its unavoidable environmental risks when determining whether to approve a project.

For purposes of CEQA, if the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable significant environmental effects, the decision-making agency may approve the underlying project. CEQA, in this respect, does not prohibit the CSLC from approving the Project, issuance of 10-year mineral extraction leases of California sovereign lands, even if the sand-mining activities as authorized by those leases may cause significant and unavoidable environmental effects.

This balancing is particularly difficult given the significant and unavoidable impacts on the resources discussed in the EIR and these Findings. Nevertheless, the CSLC finds, as set forth below, that the benefits anticipated by implementing the Project outweigh and override the expected significant effects.

[10] The EIR analysis assumes implementation of the required engine upgrades.

The CLSC has balanced the benefits of the Project against the significant unavoidable impacts that would remain after selection of the Approved Project and with implementation of all feasible mitigation in the EIR that is adopted as enforceable conditions of the CSLC's approval of the Project. Based on all available information, the CSLC finds that the benefits of the Approved Project outweigh the significant and unavoidable adverse environmental effects, and considers such effects acceptable. The CSLC adopts and makes this Statement of Overriding Considerations with respect to the impacts identified in the EIR and these Findings that cannot be reduced to a less than significant level. Each benefit set forth above or described below constitutes an overriding consideration warranting approval of the project, independent of the other benefits, despite each and every significant unavoidable impact.

4.5 Overriding Considerations Conclusion

The Project objective to obtain renewal of all necessary permits and approvals to continue mining sand at an economically viable level in San Francisco Bay for the next 10 years would not be met if the sand mining leases were not approved.

If the sand mining leases were not approved, meeting the San Francisco Bay region's demand for construction aggregate would require obtaining sand from other sources, likely including quarries in the region as well as imports from Canada. These other sources would be able to meet demand, but with greater environmental consequences, particularly air quality impacts.

If the sand mining leases were not approved, Hanson would have to cease sand mining operations from the CSLC lease parcels. This may result in the loss of jobs associated with sand mining.

The CSLC further finds that all mitigation measures identified in the EIR and applicable to the Approved Project have been imposed to avoid or lessen impacts to the maximum extent feasible. Based upon the above discussion, the CSLC finds that the benefits of the Approved Project outweigh the unavoidable adverse environmental effects, and considers such effects acceptable.

Data to support the overriding factors are found in the EIR, including in the following sections: Executive Summary, Introduction, Project Description, Mineral Resources, Biological Resources, and Air Quality.