

## 4.0 ENVIRONMENTAL IMPACT ANALYSIS

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### 1 INTRODUCTION TO ENVIRONMENTAL ANALYSIS

2 Section 4.0 of this Environmental Impact Report (EIR) examines the potential  
3 environmental impacts of the Tesoro Avon Marine Oil Terminal (Avon Terminal) Lease  
4 Consideration (Project) proposed by Tesoro Refining and Marketing Company, LLC  
5 (Tesoro or Applicant) and Project alternatives, identified by the California State Lands  
6 Commission (CSLC) as lead agency under the California Environmental Quality Act  
7 (CEQA). This section includes analyses of environmental issue areas listed below:

- 8 4.1 – Operational Safety/Risk of Accidents
- 9 4.2 – Biological Resources
- 10 4.3 – Water Quality
- 11 4.4 – Air Quality
- 12 4.5 –Greenhouse Gas Emissions and Climate Change
- 13 4.6 – Geology, Sediments, and Seismicity
- 14 4.7 – Cultural Resources
- 15 4.8 – Land-based Transportation
- 16 4.9 – Land Use and Recreation
- 17 4.10 – Noise
- 18 4.11 – Visual Resources, Light and Glare

19 Each environmental issue area analyzed in this EIR provides background information,  
20 and describes the environmental setting (baseline conditions), to help the reader  
21 understand the conditions that exist currently, prior to Project implementation, and the  
22 relationship between those existing conditions and potential Project-related impacts. In  
23 addition, each section describes the approach to analysis that results in a determination  
24 of whether an impact is “significant” or “less than significant.” Finally, individual sections  
25 recommend mitigation measures (MMs) to reduce significant impacts. Throughout  
26 Section 4, both impacts and the corresponding MMs are identified by a **bold letter-**  
27 **number designation** (e.g., Impact **BIO-1** and **MM BIO-1a**).

28 Based on an initial review and analysis, it is likely that the Project would have a less-  
29 than-significant impact, or no impact, on the environmental issue areas identified below.  
30 The primary reasons for these determinations are as follows:

- 31 • Air Quality. Fugitive dust would be minimal, as the majority of renovation activity  
32 would occur on the water, either on the barges or berths. Primary renovation  
33 activities would occur almost 2 miles from the nearest residence. This setback  
34 distance would eliminate any potential for sensitive receptors to be exposed to  
35 substantial pollutant concentrations or objectionable odors. Measured and  
36 calculated criteria pollutant emissions are limited by the clean air plans included  
37 in the Bay Area Air Quality Management District (BAAQMD)-issued Title V  
38 Operating Permit encompassing the Golden Eagle Refinery and the Avon

- 1 Terminal. By virtue of the permit, continued operation of the Avon Terminal up to  
2 the permitted throughput levels would not result in significant air quality emission  
3 impacts because the limits set by the BAAQMD were determined to be sufficient  
4 to render these emissions less than significant.
- 5 • Greenhouse Gas Emissions and Climate Change. Renovation emissions for the  
6 Project would be short term, while greenhouse gas (GHG) emissions are a  
7 global, long-term threat. Project renovation would contribute an insignificant  
8 amount to the BAAQMD's GHG emissions footprint. GHG emissions during the  
9 lease period would decrease due to fewer vessel calls, cleaner burning fuels,  
10 vessel speed restrictions, and more efficient modern engines.
  - 11 • Geology, Sediments, and Seismicity. The Avon Terminal lies outside of the  
12 Alquist-Priolo earthquake fault zone, so surface faulting and ground rupture from  
13 known active faults is not anticipated. The renovation phase of the Project would  
14 comprise renovation of the Avon Terminal vessel loading/unloading area and its  
15 associated approachway to achieve compliance with Marine Oil Terminal  
16 Engineering and Maintenance Standards (MOTEMS). Since MOTEMS require  
17 that effects of ground shaking, slope stability, and landslides resulting from  
18 seismic events be studied during a geotechnical investigation and incorporated  
19 into facility design to minimize structural damage, prevent oil spills, and to protect  
20 the public health, safety and the environment, potential adverse impacts are  
21 considered to be less than significant.
  - 22 • Cultural Resources. No ground-breaking activities would occur on land, but new  
23 piles would be installed in open water as part of the MOTEMS compliance-  
24 related renovation. The submerged cultural resources survey was negative in the  
25 area that included portions of the Project site, and a search of the CSLC online  
26 shipwrecks database was also negative for shipwrecks in the Project footprint.  
27 Pile installation would not cause any disturbance to previously unrecorded or  
28 recorded historical, archaeological, or paleontological resources, and human  
29 remains.
  - 30 • Land-based Transportation. No vehicular activity is associated with the existing  
31 Avon Terminal continued operations beyond employees and associated delivery  
32 vehicles. Most delivery and removal of materials to the renovation site would be  
33 by water, and there would be minimal truck traffic to deliver materials. The  
34 majority of renovation personnel would access the Golden Eagle Refinery  
35 entrance on Solano Way directly from the Solano Way off ramp from SR-4, and  
36 would not access city streets; therefore, renovation impacts on traffic would be  
37 negligible.
  - 38 • Noise. Based on the noise measurement data collected and observations of  
39 monitoring personnel (TRC 2013), Project continued operations (i.e., ship  
40 docking and loading/unloading processes) do not measurably increase ambient

1 noise at the Project site or in the vicinity, and do not create discernible individual  
2 sources of increased noise that would allow the Project to approach the  
3 significance threshold. Renovation noise would not likely be perceived by the  
4 closest receptors, which are approximately 1.4 miles away.

## 5 **ASSESSMENT METHODOLOGY**

### 6 **Environmental Baseline**

7 The analysis of each issue area begins with an examination of the existing physical  
8 setting, or baseline conditions, as determined pursuant to section 15125, subdivision (a)  
9 of the State CEQA Guidelines that may be affected by the Project. The effects of the  
10 Project are defined as changes to the environmental setting that are attributable to  
11 Project components or continued operation.

12 Baseline conditions are the local and regional physical environmental conditions in the  
13 Project vicinity, as they exist at the time the Notice of Preparation, was published (April  
14 2, 2014), unless specified otherwise. The baseline conditions for the Project include the  
15 existing Avon Terminal continued operations.

16 As discussed in Section 1.0, Introduction, information from relevant documents,  
17 including the Tesoro Amorco Marine Oil Terminal Lease Consideration Project Final EIR  
18 (CSLC 2014, State Clearinghouse [SCH] No. 2012052030), Shell Martinez Marine Oil  
19 Terminal Lease Consideration Project Final EIR (CSLC 2011, SCH No. 2004072114),  
20 and the Shore<sup>1</sup> Marine Oil Terminal Lease Project Final EIR (CSLC 2012, SCH No.  
21 2007112108) have been referenced as appropriate for the preparation of this EIR.  
22 Where appropriate, these information sources have been included.

### 23 **Significance Criteria**

24 Significance criteria are identified for each environmental issue area; these criteria  
25 serve as benchmarks for determining if a component action would result in a significant  
26 adverse environmental impact, when evaluated against the baseline. According to State  
27 CEQA Guidelines section 15382, a significant effect on the environment means “a  
28 substantial, or potentially substantial, adverse change in any of the physical conditions  
29 within the area affected by the project....”

### 30 **Impact Analysis**

31 Impacts are classified according to one of the following five categories:

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<sup>1</sup> Formerly known as the Wickland Marine Oil Terminal, this marine oil terminal is currently known as the Shore Selby Terminal under current ownership title by NuStar.

- 1       • **Significant and Unavoidable** – significant adverse impact that remains  
2       significant after mitigation,
- 3       • **Potentially Significant** – significant adverse impact that can be eliminated or  
4       reduced below an issue area’s significance criteria,
- 5       • **Less than Significant** – adverse impact that does not meet or exceed an issue  
6       area’s significance criteria,
- 7       • **Beneficial** – beneficial impact, or
- 8       • **No Impact** – the Project would not result in any impact to the resource area  
9       considered.

10      A determination will be made, based on the analysis of any impact within each affected  
11      environmental issue area and compliance with any recommended MM, of the level of  
12      impact remaining in comparison to pertinent significance criteria. If the impact remains  
13      significant, at or above the significance criteria, it is deemed to be “significant.” If a  
14      significant adverse impact has the potential to be reduced to a less-than-significant level  
15      with application of identified mitigation, then it is “potentially significant.” If an action  
16      creates an adverse impact above the baseline condition, but such impact does not meet  
17      or exceed the pertinent significance criteria, it is determined to be “less than significant.”  
18      An action that provides an improvement to an environmental issue area, in comparison  
19      to baseline conditions, is recognized as a “beneficial” impact.

## 20      **Formulation of Mitigation Measures and Mitigation Monitoring Program**

21      When significant impacts are identified, feasible MMs are formulated to eliminate or  
22      reduce the severity of impacts, and focus on the protection of sensitive resources. The  
23      effectiveness of a MM is subsequently determined by evaluating the impact remaining  
24      after its application. Impacts that still meet or exceed the impact significance criteria  
25      after mitigation are considered residual impacts that remain significant. Implementation  
26      of more than one MM may be needed to reduce an impact below a level of significance.  
27      The MMs recommended in this document are identified in the impact sections and  
28      presented in a Mitigation Monitoring Program (MMP) provided in Section 8.0.

29      If any MMs are ultimately incorporated as part of a project’s design, they are no longer  
30      considered MMs under CEQA. If they eliminate or reduce a potentially significant impact  
31      to a level below the significance criteria, they eliminate the potential for that significant  
32      impact, since the "measure" is now a component of the action. Such measures  
33      incorporated into the project design have the same status as any “applicant-proposed  
34      measures.” The CSLC’s standard practice is to include all measures to eliminate or  
35      reduce the environmental impacts of a proposed project, whether applicant-proposed or  
36      recommended mitigation, in the MMP.

1 **Timing of Project Elements**

2 Tesoro is proposing to enter into a new 30-year lease of State sovereign land with the  
3 CSLC, allowing Tesoro to continue operations at the Avon Terminal. The current Tesoro  
4 lease agreement (Lease No. PRC 3454.1, a General Lease – Industrial Use) had an  
5 initial term of 15 years, beginning in 1964, with the right to three additional renewal  
6 periods of 10 years. Since the lease agreement’s expiration in 2009, Tesoro has  
7 operated under the “holdover” provisions of the lease (i.e., the Avon Terminal continues  
8 to operate under the terms of Lease PRC 3454.1 until the CSLC either terminates the  
9 current lease or authorizes the issuance of a new lease).

10 MOTEMS renovations at the Avon Terminal would consist of two major components: (1)  
11 renovation of facilities associated with the Avon Terminal loading/unloading area, and  
12 (2) renovation of facilities associated with the approachway. Work on these two  
13 components would, for the most part, occur concurrently. Renovation is estimated to  
14 take approximately 19 months to complete, commencing in 2015 and completing in  
15 2016. Berth 5 demolition is expected to take 5 months to complete, and would occur in  
16 2018.

17 This EIR addresses the impacts of the MOTEMS renovations, Berth 5 demolition, and  
18 continued operation of the Avon Terminal.

19 **Impacts of Alternatives**

20 Section 3.0, Alternatives and Cumulative Projects, describes alternatives to the Project.  
21 Presentation of each issue area in Section 4.0 includes the impact analysis for each  
22 alternative scenario. A summary of collective impacts of each alternative in comparison  
23 with the impacts of the Project is included within the Executive Summary.

24 **Cumulative Impacts Analysis**

25 Each issue area in Section 4.0 presents the cumulative impact scenario, the focus of  
26 which is to identify the potential impacts of the Project that might not be significant when  
27 considered alone, but that might contribute to a significant impact when viewed in  
28 conjunction with the other projects.

29 **FEDERAL AND STATE REGULATIONS**

30 Each of the issue areas is considered in terms of the federal, State, regional, and local  
31 laws, regulations, and policies that apply to the issue area. Federal and State laws,  
32 regulations and policies, including a summary of each, are provided in Table 4-1,  
33 organized by issue area. Applicable regional and local laws, regulations, and policies  
34 are summarized in each of the sections.

**Table 4-1: Major Federal and State Laws, Regulations, and Policies Potentially Applicable to the Project**

Law/Regulation/Plan		Key Elements and Thresholds/Applicable Permits
<b>4.0 Multiple Environmental Issues</b>		
U.S.	Coastal Zone Management Act (CZMA) (42 United States Code [USC] § 4321 et seq.)	The CZMA recognizes a national interest in coastal zone resources, and in the importance of balancing competing uses of those resources, giving full consideration to aesthetic, cultural and historic, ecological, recreational, and other values, as well as the needs for compatible economic development. Pursuant to the CZMA, coastal states develop and implement comprehensive coastal management programs (CMPs) that describe uses subject to the CMP, authorities and enforceable policies, and coastal zone boundaries, among other elements. The CZMA also gives state coastal management agencies regulatory control (“federal consistency” review authority) over federal activities and federally licensed, permitted, or assisted activities, if the activity affects coastal resources. The California Coastal Commission and San Francisco Bay Conservation and Development Commission coordinate California’s federally approved CMPs and federal consistency reviews within their respective jurisdictions.
CA	California State Lands Commission (CSLC)	The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways, as well as certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6301, 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust. The State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On tidal waterways, the State’s sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or artificial accretion. The CSLC’s jurisdiction also includes a 3-nautical-mile-wide section of tidal and submerged land adjacent to the coast and offshore islands, including bays, estuaries, and lagoons; the waters and underlying beds of more than 120 rivers, lakes, streams, and sloughs; and 1.3 million acres of “school lands” granted to the State by the federal government to support public education. The CSLC is responsible for implementing State laws and regulations, including CEQA, for activities affecting State lands.
CA	Title 2, Division 3, Chapter 1, Article 5 of the California Code of Regulations, Marine Terminals Inspection and Monitoring	The CSLC Marine Facilities Division, which has the primary responsibility for carrying out the provisions of the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990 (see below) within the CSLC’s jurisdiction. The purpose of the regulations in California Code of Regulations, Title 2, Division 3, Chapter 1, Article 5 is to provide the best achievable protection of the public health and safety and of the environment by using the best achievable technology. Relevant marine oil terminal regulations include: Article 5. Marine Terminal Inspection and Management; Article 5.1 Marine Terminal Physical Security; Article 5.3 Marine Terminal Personnel Training and Certification; and Article 5.5 Marine Terminal Oil Pipelines.
CA	McAteer-Petris Act (Gov. Code, § 66600 et seq.)	The McAteer-Petris Act of 1965 established the Bay Conservation and Development Commission (BCDC) as the agency responsible for protection of San Francisco Bay’s critical and sensitive shoreline areas. The BCDC regulates San Francisco Bay Area dredging and filling to protect marshes, wetlands, and other resources. Its jurisdiction includes the San Francisco Bay, 100 feet inland from the line of highest tidal action, salt ponds, managed wetlands, and certain other waterways and marshes.

Law/Regulation/Plan		Key Elements and Thresholds/Applicable Permits
CA	Marine Invasive Species Act (MISA) (Assembly Bill [AB] 433; Pub. Resources Code, § 71200 et seq.)	The MISA is charged with preventing or minimizing the introduction of non-indigenous species to California waters from vessels over 300 gross registered tons, capable of carrying ballast water, consistent with the Vessel General Permit. In general, regulations prohibit the discharge or exchange of ballast water unless the water is treated or is discharged and/or exchanged at the same port/place that it originated. Compliance with MISA is the responsibility of the vessel owners/operators and not the responsibility of marine terminals.
<b>4.1 Operational Safety/Risk of Accidents</b>		
U.S.	Oil Pollution Act (OPA) of 1990	The OPA includes provisions to expand prevention and preparedness activities, improve response capabilities, provide funding for natural resource damage assessments, ensure that shippers and oil companies pay the costs of spills that do occur, and establish an expanded research and development program. Pursuant to a Memorandum of Understanding established to divide areas of responsibility, the U.S. Coast Guard (USCG) is responsible for tank vessels and marine terminals, the U.S. Environmental Protection Agency (USEPA) for tank farms, and the Research and Special Programs Administration for pipelines; each of these agencies has developed regulations for its area of responsibility. In addition, the Secretary of Interior is responsible for spill prevention, oil-spill contingency plans, oil-spill containment and clean-up equipment, financial responsibility certification, and civil penalties for offshore facilities and associated pipelines in all federal and State waters. All facilities and vessels that have the potential to release oil into navigable waters are required by the OPA to have up-to-date oil spill response plans and to have submitted them to the appropriate federal agency for review and approval. Of particular importance in the OPA is the requirement for facilities and vessels to demonstrate that they have sufficient response equipment under contract to respond to and clean up a worst-case spill.
U.S.	Resource Conservation and Recovery Act (RCRA) (42 USC § 6901 et seq.)	The RCRA authorizes the USEPA to control hazardous waste from “cradle-to-grave,” which encompasses its generation, transportation, treatment, storage, and disposal. The RCRA’s Federal Hazardous and Solid Waste Amendments from 1984 include waste minimization and phasing out land disposal of hazardous waste, as well as corrective action for releases. The Department of Toxic Substances Control is the State lead agency for corrective action associated with RCRA facility investigations and remediation.
U.S.	Toxic Substances Control Act (15 USC §§ 2601-2692)	The Toxic Substances Control Act authorizes the USEPA to require reporting, record keeping, testing requirements, and restrictions related to chemical substances/mixtures. It also addresses production, importation, use, and disposal of specific chemicals, such as polychlorinated biphenyls, asbestos-containing materials, lead-based paint, and petroleum.
U.S.	California Toxics Rule (40 CFR § 131)	In 2000, the USEPA promulgated numeric water quality criteria for priority toxic pollutants and other water quality standards provisions to be applied to waters in California. The USEPA promulgated this rule based on the Administrator’s determination that the numeric criteria are necessary in California to protect human health and the environment. (Under Clean Water Act [CWA] § 303(c)(2)(B), the USEPA requires states to adopt numeric water quality criteria for priority toxic pollutants for which the USEPA has issued criteria guidance, and the presence or discharge of which could reasonably be expected to interfere with maintaining designated uses.) These criteria have been adopted by the State; together with State-adopted designated uses, they satisfy CWA requirements for the establishment of water quality standards for California inland surface waters, enclosed bays, and estuaries.
U.S.	National Oil and Hazardous	Authorized under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 USC section 9605, as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. 99 through

4.0 Environmental Impact Analysis

Law/Regulation/Plan	Key Elements and Thresholds/Applicable Permits
	<p>Substances Pollution Contingency Plan (40 CFR § 300)</p> <p>499; and by CWA section 311(d), as amended by the OPA, Pub. L. 101 through 380. The plan outlines requirements for responding to both oil spills and releases of hazardous substances. It specifies compliance, but does not require the preparation of a written plan. It also provides a comprehensive system for reporting, spill containment, and cleanup. The USCG and the USEPA co-chair the National Response Team. In accordance with 40 CFR section 300.175, the USCG has responsibility for oversight of regional response for oil spills in coastal zones, as described in 40 CFR section 300.120.</p>
U.S.	<p>Code of Federal Regulations (CFR): Other</p> <ul style="list-style-type: none"> <li>• 33 CFR - Navigation and Navigable Waters regulates aids to navigation, vessel operations, anchorages, bridges, security of vessels, waterfront facilities, marine pollution financial responsibility and compensation, pollution, ports and waterways safety, boating safety, and deep-water ports.</li> <li>• 40 CFR Parts 109, 110, and 112. The spill prevention and response requirements covered in these regulatory programs apply to oil storage and transportation facilities and terminals, tank farms, bulk plants, oil refineries, and production facilities, and bulk oil consumers (e.g., apartment houses, office buildings, schools, hospitals, government facilities). These regulations include minimum criteria for developing oil-removal contingency plans, prohibit discharge of oil such that applicable water quality standards would be violated, and address oil spill prevention and preparation of related compliance and contingency plans. They also establish financial liability limits and provide civil penalties for violations of oil spill regulations.</li> <li>• 46 CFR – Shipping regulates vessel inspections, marine casualties and investigations, tank vessel design, equipment requirements, manning levels, and operation.</li> </ul>
CA	<p>California Public Resources Code, Division 6, Parts 1 and 2</p> <p>The CSLC issues and administers oil and gas leases covering tide and submerged lands in accordance with the provisions of Division 6, Parts 1 and 2 of the California Public Resources Code, including the following sections:</p> <ul style="list-style-type: none"> <li>• Section 6829 includes provisions for specifying methods of operation and standard requirements for conducting operations properly; the prevention of waste, the protection of the safety and health of the workers; and the liability of the lessee for personal injuries and property damage.</li> <li>• Sections 6873.2 and 6873.5 include provisions for carrying out the requirements of CEQA.</li> </ul>
CA	<p>Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (OSPRA; Gov. Code, § 8670.1 et seq., Pub. Resources Code, § 8750 et seq., and Rev. &amp; Tax. Code, § 46001 et seq.)</p> <p>The OSPRA and its implementing regulations seek to protect State waters from oil pollution and to plan for the effective and immediate response, removal, abatement, and cleanup in the event of an oil spill. The Act requires applicable operators to prepare and implement marine oil spill contingency plans and to demonstrate financial responsibility, and requires immediate cleanup of spills following the approved contingency plans, and fully mitigating impacts on wildlife. The Act assigns primary authority to the Office of Spill Prevention and Response division within the California Department of Fish and Wildlife (CDFW) to direct prevention, removal, abatement, response, containment, and cleanup efforts with regard to all aspects of any oil spill in the marine waters of the State; the CSLC is also provided with authority for oil spill prevention from and inspection of marine facilities. Notification is required to the Governor’s State Office of Emergency Services, which in turn notifies the response agencies, of all oil spills in the marine environment, regardless of size. The Act also created the Oil Spill Prevention and Administration Fund and the Oil Spill Response Trust Fund.</p>
CA	<p>California Health and Safety Code Regulations, Titles 22</p> <p>California regulates the management of hazardous wastes in large part through the Health and Safety Code and California Code of Regulations, Titles 22 and 26.</p> <ul style="list-style-type: none"> <li>• The Hazardous Material Release Response Plans and Inventory Law (Health &amp; Saf. Code, Ch. 6.95) is designed</li> </ul>



Law/Regulation/Plan		Key Elements and Thresholds/Applicable Permits
	and 26	<p>to reduce the occurrence and severity of hazardous materials releases. This State law requires businesses to develop a Release Response Plan for hazardous materials emergencies if they handle more than 500 pounds, 55 gallons, or 200 cubic feet of hazardous materials. In addition, the business must prepare a Hazardous Materials Inventory of all hazardous materials stored or handled at the facility over the above thresholds, and all hazardous materials must be stored in a safe manner.</p> <ul style="list-style-type: none"> <li>• The Hazardous Waste Control Law (Health &amp; Saf. Code, Ch. 6.5 and Cal. Code Regs., tit. 22 and 26) is the basic hazardous waste law for California. It establishes the criteria for defining hazardous waste and its safe handling, storage, treatment, and disposal. The law is designed to provide cradle-to-grave management of hazardous wastes and reduce the occurrence and severity of hazardous materials releases.</li> </ul>
<b>4.2 Biological Resources</b>		
U.S.	Endangered Species Act (ESA) (7 USC § 136, 16 USC § 1531 et seq.)	<p>The ESA, which is administered in California by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), provides protection to species listed as threatened or endangered, or proposed for listing as threatened or endangered. Section 9 prohibits the “take” of any member of a listed species.</p> <ul style="list-style-type: none"> <li>• Take is defined as “...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”</li> <li>• Harass is “an intentional or negligent act or omission that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding, or sheltering.”</li> <li>• Harm is defined as “...significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.”</li> </ul> <p>When applicants are proposing projects with a federal nexus that “may affect” a federally listed or proposed species, the federal agency is required to consult with the USFWS or NMFS, as appropriate, under Section 7, which provides that each federal agency must ensure that any actions authorized, funded, or carried out by the agency are not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of areas determined to be critical habitat.</p>
U.S.	Marine Mammal Protection Act (MMPA) (16 USC § 1361 et seq.)	<p>The MMPA is designed to protect and conserve marine mammals and their habitats. It prohibits takes of all marine mammals in the U.S. (including territorial seas) with few exceptions. The NMFS may issue a take permit under section 104 if the activities are consistent with the purposes of the MMPA and applicable regulations at 50 CFR, Part 216. The NMFS must also find that the manner of taking is “humane” as defined in the MMPA. If lethal taking of a marine mammal is requested, the applicant must demonstrate that using a non-lethal method is infeasible.</p>
U.S.	Migratory Bird Treaty Act (MBTA) and Executive Order 13186	<p>The MBTA governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nest, and requires harvests to be limited to levels that prevent overuse. Further, the MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase, or barter, of any migratory bird, their eggs, parts, and nests, except as authorized under a valid permit (50 CFR §21.11).</p>
U.S.	Nonindigenous Aquatic Nuisance Prevention and Control Act (16 USC §	<p>The 1990 Act was established to: (1) prevent unintentional introduction and dispersal of nonindigenous species into Waters of the United States through ballast water management and other requirements; (2) coordinate and disseminate information on federally conducted, funded, or authorized research, on the prevention and control of the zebra mussel and other aquatic nuisance species; (3) develop and carry out control methods to prevent,</p>

4.0 Environmental Impact Analysis

Law/Regulation/Plan		Key Elements and Thresholds/Applicable Permits
	4701-4751)	monitor, and control unintentional introductions of nonindigenous species from pathways other than ballast water exchange; (4) understand and minimize economic and ecological impacts of established nonindigenous aquatic nuisance species; and (5) establish a program of research and technology development and assistance to states in the management and removal of zebra mussels.
U.S.	National Invasive Species Act (NISA) (33 CFR, Part 151, Subpart D)	Provisions of the 1990 Act, as amended by the NISA of 1996, are regulated by the USCG. The USCG requires ballast water management (i.e., ballast water exchange) for vessels entering United States waters from outside the 200-nautical-mile United States Exclusive Economic Zone.
U.S.	Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 USC § 1801 et seq.)	The MSA is the primary law governing marine fisheries management in United States federal waters. The MSA was first enacted in 1976 and amended in 1996. Amendments to the 1996 MSA require the identification of Essential Fish Habitat (EFH) for federally managed species and the implementation of measures to conserve and enhance this habitat. Any project requiring federal authorization is required to complete and submit an EFH Assessment with the application and either show that no significant impacts to the essential habitat of managed species are expected or identify mitigations to reduce those impacts. Under the MSA, Congress defined EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (16 USC § 1802(10)). The EFH provisions of the MSA offer resource managers a means to heighten consideration of fish habitat in resource management. Pursuant to section 305(b)(2), federal agencies shall consult with the NMFS regarding any action they authorize, fund, or undertake that might adversely affect EFH.
U.S.	Estuary Protection Act (16 USC §§ 1221-1226)	The Estuary Protection Act authorized the Secretary of the Interior to enter into cost-sharing agreements with states and subdivisions for permanent management of estuarine areas in their possession. Federal agencies were required to assess the impacts of commercial and industrial developments on estuaries.
CA	California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.)	The CESA provides for the protection of rare, threatened, and endangered plants and animals, as recognized by the CDFW, and prohibits the taking of such species without its authorization. Furthermore, the CESA provides protection for those species that are designated as candidates for threatened or endangered listings. Under the CESA, the CDFW has the responsibility for maintaining a list of threatened species and endangered species (Fish & G. Code, § 2070). The CDFW also maintains a list of candidate species, which are species that the CDFW has formally noticed as under review for addition to the threatened or endangered species lists. The CDFW also maintains lists of Species of Special Concern. Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project site and determine whether the project would have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any project that may affect a candidate species. The CESA requires a permit to take a State-listed species through incidental or otherwise lawful activities.
CA	California Wetlands Conservation Policy	States that there shall be no net loss of wetland acreage and a long-term gain in the quantity, quality, and permanence of California’s wetlands.
CA	Other Regulations	<ul style="list-style-type: none"> <li>• Lempert-Keene-Seastrand Oil Spill Prevention and Response Act – See above under Section 4.1.</li> <li>• The California Species Preservation Act (Fish &amp; G. Code, §§ 900-903) provides for the protection and enhancement of the amphibians, birds, fish, mammals, and reptiles of California.</li> </ul>

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		<ul style="list-style-type: none"> <li>• Fish and Game Code sections 3503 and 3503.5 prohibit the taking and possession of native birds' nests and eggs from all forms of needless take, and also provide that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nests or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto.</li> <li>• Fish and Game Code sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) designate certain species as "fully protected." Fully protected species, or parts thereof, may not be taken or possessed at any time without permission by the CDFW.</li> <li>• Fish and Game Code section 3513 does not include statutory or regulatory mechanisms for obtaining an incidental take permit for the loss of non-game, migratory birds.</li> </ul>
CA	Other Plans	<ul style="list-style-type: none"> <li>• California Aquatic Invasive Species Management Plan, produced by the CDFW, provides a framework for agency coordination and identifies actions to minimize the harmful effects of aquatic invasive species.</li> <li>• California Noxious and Invasive Weed Action Plan, produced by the California Department of Food and Agriculture, to protect and enhance the California economy, natural environment, and safety of the citizens through awareness, cooperation, and action in the prevention and control of noxious and invasive weeds.</li> <li>• Delta Smelt Action Plan of 2005, produced by the Department of Water Resources and CDFW, is a 14-point program of scientific research activities and studies to identify and understand the causes of the Pelagic Organism Decline, and other actions to benefit the species.</li> </ul>
<b>4.3 Water Quality</b>		
U.S.	Clean Water Act (CWA) (33 USC § 1251 et seq.)	The CWA is comprehensive legislation that generally includes reference to the federal Water Pollution Control Act of 1972, and its substantial supplementation by the CWA of 1977. Both Acts were subsequently amended in 1981, 1987, and 1993. Overall, the CWA seeks to protect the nation's water from pollution by setting water quality standards for surface water and by limiting the discharge of effluents into waters of the United States. These water quality standards are promulgated by the USEPA and enforced in California by the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs). The CWA also provides for development of municipal and industrial wastewater treatment standards and a permitting system to control wastewater discharges to surface waters. Under CWA section 404, the U.S. Army Corps of Engineers (USACE) has primary federal responsibility for administering regulations that concern waters of the United States wetlands, which are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration that are sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.
U.S.	National Pollutant Discharge Elimination System (NPDES)	The CWA also established the basic structure for regulating discharges of pollutants into the waters of the United States through the NPDES, which specifies minimum standards for the quality of discharged waters. It required states to establish standards specific to waterbodies and designate the types of pollutants to be regulated, including total suspended solids and oil. Under NPDES, all point sources that discharge directly into waterways are required to obtain a permit regulating their discharge. NPDES permits fall under the jurisdiction of the SWRCB or RWQCBs when the discharge occurs within the 3-nautical-mile territorial limit. <u>Construction Stormwater General Permit Projects (NPDES General Permit No. CAS000002, Order No. 2009-0009-DWQ).</u> Projects that disturb 1 or more acres of soil, or projects disturbing less than 1 acre but that are part of a

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		<p>larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the Construction Stormwater General Permit The Construction Stormwater General Permit requires the development and implementation of a SWPPP, which must list best management practices (BMPs) the discharger would use to control stormwater runoff and outline placement of those BMPs.</p> <p><u>NPDES Individual Permit.</u> An individual permit is a permit specifically tailored to an individual facility. Once a facility submits an application, a permit writer develops a permit based on the application and issues the permit for a specific time period (generally five years) with a requirement that the facility reapply prior to the expiration date.</p>
U.S.	Rivers and Harbors Act (33 USC § 401)	<p>This Act governs specified activities in “navigable waters” (waters subject to the ebb and flow of the tide or that are presently used, have been used in the past, or may be susceptible to use to transport interstate or foreign commerce). It also limits the construction of structures and the discharge of fill into navigable waters of the U.S. Under section 10 of the Rivers and Harbors Act, the building of any wharf, pier, jetty, or other structure is prohibited without Congressional approval, and excavation or fill within navigable waters requires approval from the USACE.</p>
CA	Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.) (Porter-Cologne)	<p>Porter-Cologne is the principal law governing water quality in California. The Act established the SWRCB and nine RWQCBs that have primary responsibility for protecting State water quality and the beneficial uses of State waters. Porter-Cologne also implements many provisions of the federal CWA, such as the NPDES permitting program. Pursuant to the CWA § 401, applicants for a federal license or permit for activities that may result in any discharge to waters of the United States must seek a Water Quality Certification (Certification) from the State in which the discharge originates. Such Certification is based on a finding that the discharge would meet water quality standards and other appropriate requirements of State law. In California, RWQCBs issue or deny certification for discharges within their jurisdiction. The SWRCB has this responsibility where projects or activities affect waters in more than one RWQCB's jurisdiction. If the SWRCB or a RWQCB imposes a condition on its Certification, those conditions must be included in the federal permit or license.</p> <p>Statewide water quality control plans include: individual RWQCB basin plans, the California Ocean Plan, San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan, Water Quality Control Plan for Enclosed Bays and Estuaries of California, and the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California. These plans contain enforceable standards for the various waters they address. For example:</p> <ul style="list-style-type: none"> <li>• <u>Basin Plan.</u> Porter-Cologne (§ 13240) requires each RWQCB to formulate and adopt a Basin Plan for all areas within the region. Each RWQCB must establish water quality objectives to ensure the reasonable protection of beneficial uses and a program of implementation for achieving water quality objectives within the basin plans. 40 CFR 131 requires each State to adopt water quality standards by designating water uses to be protected and adopting water quality criteria that protect the designated uses. In California, the beneficial uses and water quality objectives are the State's water quality standards.</li> <li>• The <u>California Ocean Plan</u> establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the State's ocean and coastal waters, e.g., the Ocean Plan incorporates the State water quality standards that apply to all NPDES permits for discharges to ocean waters.</li> </ul>
CA	Other California Water Code sections	<ul style="list-style-type: none"> <li>• California Water Code section 13142.5 provides marine water quality policies stating that wastewater discharges shall be treated to protect present and future beneficial uses, and, where feasible, to restore past beneficial uses</li> </ul>

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		<p>of the receiving waters. The highest priority is given to improving or eliminating discharges that adversely affect wetlands, estuaries, and other biologically sensitive sites; areas important for water contact sports; areas that produce shellfish for human consumption; and ocean areas subject to massive waste discharge.</p> <ul style="list-style-type: none"> <li>California Water Code section 13170.2 directs the SWRCB to formulate and adopt a water quality control plan for the ocean waters of California. The SWRCB first adopted this plan, known as the California Ocean Plan, in 1972. The California Water Code also requires a review of the plan at least every three years to ensure that current standards are adequate and are not allowing degradation to indigenous marine species or posing a threat to human health. The amendments to the California Ocean Plan are reviewed and approved by the USEPA under the CWA. The most recent update of the California Ocean Plan was completed in 2005. The California Ocean Plan establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the State's coastal waters. The plan applies to point and non-point sources. In addition, the Ocean Plan identifies applicable beneficial uses of marine waters and sets narrative and numerical water quality objectives to protect beneficial uses.</li> </ul>
CA	California Clean Coast Act of 2005 (Senate Bill [SB] 771)	The California Clean Coast Act went into effect January 1, 2006, and includes several requirements to reduce pollution of California waters from large vessels. The Act prohibits the operation of shipboard incinerators within 3 miles of the California coast; prohibits the discharge of hazardous wastes, other wastes, or oily bilge water into California waters or a marine sanctuary; prohibits the discharge of grey water and sewage into California waters from vessels with sufficient holding-tank capacity or vessels capable of discharging grey water and/or sewage to available shore-side reception facilities; and requires reports of prohibited discharges to the SWRCB.
CA	Bay Protection and Toxic Cleanup Program Legislation	In 1989, the Legislature required the SWRCB to develop sediment quality objectives (SQOs) as part of a comprehensive program to protect beneficial uses in enclosed bays and estuaries. The objectives are required for "toxic pollutants" that were identified in toxic hot spots or that were identified as pollutants of concern by the SWRCB. In 2009, the SWRCB adopted SQOs and an implementation policy for bays and estuaries in the State (Part 1). Part 1 includes narrative SQOs for the protection of aquatic life and human health, identification of the beneficial uses that these objectives are intended to protect, and requirements for program of implementation. The SWRCB is proposing amendments to the Sediment Quality Plan for Enclosed Bays and Estuaries to incorporate additional SQOs for the protection of wildlife and finfish and implementation policy.
<b>4.4 Air Quality</b>		
U.S.	Federal Clean Air Act (FCAA) (42 USC § 7401 et seq.)	<p>The FCAA requires the USEPA to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. National standards are established for ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and lead. In 2007, the U.S. Supreme Court ruled that carbon dioxide (CO<sub>2</sub>) is an air pollutant as defined under the FCAA, and that the USEPA has authority to regulate greenhouse gas (GHG) emissions. Pursuant to the 1990 FCAA amendments, the USEPA classifies air basins (or portions thereof) as in "attainment" or "nonattainment" for each criteria air pollutant, based on whether NAAQS are achieved. The classification is determined by comparing monitoring data with State and federal standards.</p> <ul style="list-style-type: none"> <li>An area is classified as in "attainment" for a pollutant if the pollutant concentration is lower than the standard.</li> <li>An area is classified as in "nonattainment" for a pollutant if the pollutant concentration exceeds the standard.</li> <li>An area is designated "unclassified" for a pollutant if there are not enough data available for comparisons.</li> </ul>

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		Pursuant to the 1990 FCAA amendments, the USEPA also regulates hazardous air pollutants (HAPs), which are pollutants that result in harmful health effects, but are not specifically addressed through the establishment of NAAQS. Instead, HAPs require the use of the maximum or best available control technology (MACT or BACT) to limit emissions. Under Title V of the CAA all “major” sources must have a Title V operating permit. States are required to develop and implement an operating permit program that meets minimum federal requirements. In California the local air districts are granted authority to issue and manage Title V permitted facilities in their district.
CA	California Clean Air Act of 1988 (CCAA) (AB 2595)	<p>The CCAA requires all air districts in the State to endeavor to achieve and maintain State ambient air quality standards for O<sub>3</sub>, CO, SO<sub>2</sub>, NO<sub>2</sub>, and PM; attainment plans for areas that did not demonstrate attainment of State standards until after 1997 must specify emission-reduction strategies and meet milestones to implement emission controls and achieve more healthful air quality. California's ambient air standards are generally stricter than national standards for the same pollutants. The State has also established standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The California Air Resources Board (CARB) sets air quality standards for the State at levels to protect public health and welfare with an adequate margin of safety. The California Ambient Air Quality Standards describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered in “attainment” if pollutant levels are continuously below or equal to the standards and violate the standards no more than once each year. The 1992 CCAA amendments divide O<sub>3</sub> nonattainment areas into four categories of pollutant levels (moderate, serious, severe, and extreme) to which progressively more stringent requirements apply.</p> <p>The CARB also regulates toxic air contaminants (TACs), which, similar to federal HAPs (see above), are pollutants that result in harmful health effects, but are not specifically addressed through the establishment of air quality standards. The CARB regulates TACs through the use of air toxic control measures (ATCMs); where there are federal MACTs or BACTs, the CARB must, at minimum, adopt these.</p>
CA	California Global Warming Solutions Act of 2006 (AB 32)	Under AB 32, the CARB is responsible for monitoring and reducing GHG emissions in the State and for establishing a statewide GHG emissions cap for 2020 that is based on 1990 emissions levels. CARB (2009) has adopted the AB 32 Climate Change Scoping Plan (Scoping Plan), which contains the main strategies for California to implement to reduce CO <sub>2</sub> equivalent (CO <sub>2</sub> e) emissions by 169 million metric tons (MMT) from the State's projected 2020 emissions level of 596 MMT CO <sub>2</sub> e under a business-as-usual scenario. The Scoping Plan breaks down the amount of GHG emissions reductions the CARB recommends for each emissions sector of the State's GHG inventory, but does not directly discuss GHG emissions generated by construction activities.
CA	Other	<ul style="list-style-type: none"> <li>Pursuant to SB 97, the State Office of Planning and Research prepared guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, which were adopted by the Natural Resources Agency in 2009 and became effective in March 2010. These amendments to the State CEQA Guidelines establish a framework to address global climate change impacts in the CEQA process, and include revisions to the CEQA Environmental Checklist Form (Appendix G) and the Energy Conservation Appendix (Appendix F). A new section was also added to the State CEQA Guidelines (§ 15064.4) that provides an approach to assessing impacts from GHGs.</li> <li>SB 375 (effective January 1, 2009) requires the CARB to develop regional reduction targets for GHG emissions. The targets apply to the regions covered by California's 18 metropolitan planning organizations, which are</li> </ul>

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		<p>required to develop regional land use and transportation plans and demonstrate an ability to attain the proposed reduction targets by 2020 and 2035.</p> <ul style="list-style-type: none"> <li>• Executive Order S-01-07 set forth a low carbon fuel standard for California; the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.</li> <li>• Executive Order S-3-05 established statewide GHG emission targets of reducing emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below the 1990 level by 2050.</li> <li>• Under California's diesel fuel regulations, diesel fuel used in motor vehicles, except harbor craft, has been limited to 500 parts per million (ppm) sulfur since 1993. The sulfur limit was reduced to 15 ppm beginning September 1, 2006, and harbor craft were included starting in 2009.</li> <li>• The CARB's Heavy Duty Diesel Truck Idling Rule (Cal. Code Regs., tit. 13, § 2485) prohibits heavy-duty diesel trucks from idling for longer than five minutes at a time. Truck idling for longer than five minutes while queuing is allowed, however, provided the queue is located beyond 100 feet from any homes or schools.</li> <li>• The Statewide Portable Equipment Registration Program (PERP) establishes a uniform program to regulate portable engines/engine-driven equipment units. Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts.</li> </ul>
<b>4.5 Climate Change and Greenhouse Gas Emissions</b>		
U.S.	Mandatory Greenhouse Gas Reporting Rule	<ul style="list-style-type: none"> <li>• EPA issued a final rule for mandatory reporting of GHGs from large GHG emission sources in the United States on September 22, 2009. This national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO<sub>2</sub> per year. The data will be publicly available and will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities in the future. Reporting is at the facility level, except that certain suppliers of fossil fuels and industrial GHGs along with vehicle and engine manufacturers will report at the corporate level.</li> </ul>
U.S.	Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act	<p>The Endangerment Finding is based on Section 202(a) of the CAA, which states that the Administrator (of the USEPA) should regulate and develop standards for "emission[s] of air pollution from any class of classes of new motor vehicles or new motor vehicle engines, which in [its] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." It addresses Section 202(a) in two distinct findings:</p> <ul style="list-style-type: none"> <li>• The Administrator proposed the finding that atmospheric concentrations of GHGs, specifically concentrations of six key GHGs (i.e., carbon dioxide [CO<sub>2</sub>], methane [CH<sub>4</sub>], nitrous oxide [N<sub>2</sub>O], hydrofluorocarbons [HFCs], perfluorocarbons [PFCs], and sulfur hexafluoride [SF<sub>6</sub>]), endanger public health and welfare within the meaning of Section 202(a) of the CCA. Therefore, GHGs were found to endanger the public health and welfare of current and future generations.</li> <li>• The Administrator proposed the finding that GHG emissions from new motor vehicles and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. Therefore, the combined emissions of GHGs from new motor vehicles and motor vehicle engines contribute to atmospheric concentrations of GHGs and to the threat of climate change.</li> </ul>
CA	Assembly Bill 1493 (2002)	AB 1493 requires that ARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks and other vehicles

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		<p>determined by ARB to be vehicles whose primary use is noncommercial personal transportation in the state.” To meet the requirements of AB 1493, in 2004 ARB approved amendments to the California Code of Regulations adding GHG emissions standards to California’s existing standards for motor vehicle emissions. This included:</p> <ul style="list-style-type: none"> <li>• Amendments to California Code of Regulations, Title 13, sections 1900 and 1961</li> <li>• Adoption of California Code of Regulations, Title 13, section 1961.1 requires automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year.</li> <li>• For passenger cars and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 pounds or less, the GHG emission limits for the 2016 model year are approximately 37 percent lower than the limits for the first year of the regulations, the 2009 model year.</li> <li>• For light-duty trucks with LVW of 3,751 pounds to gross vehicle weight of 8,500 pounds, as well as medium-duty passenger vehicles, GHG emissions would be reduced approximately 24 percent between 2009 and 2016.</li> </ul>
CA	Assembly Bill 32 (2006), California Global Warming Solutions Act	<p>The California Global Warming Solutions Act of 2006, enacted Sections 38500–38599 of the California Health and Safety Code. AB 32 requires the reduction of statewide GHG emissions to 1990 levels by 2020. The required reduction will be accomplished through an enforceable statewide cap on GHG emissions beginning in 2012. AB 32 directs ARB to develop and implement regulations that reduce statewide GHG emissions generated by stationary sources, through: adoption of a quantified cap on GHG emissions that represent 1990 emissions levels along with disclosing how the cap was quantified; institution of a schedule to meet the emissions cap; and development of tracking, reporting, and enforcement mechanisms to ensure that the state achieves the reductions in GHG emissions needed to meet the cap. In addition, AB 32 states that if any regulations established under AB 1493 (2002) cannot be implemented then ARB is required to develop additional, new regulations to control GHG emissions from vehicles as part of AB 32.</p>
CA	AB 32 Climate Change Scoping Plan	<p>ARB 32, Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 169 million metric tons (MMT) of CO<sub>2</sub>e, or approximately 30% from the state’s projected 2020 emission level of 596 MMT of CO<sub>2</sub>e under a business-as-usual scenario. The Scoping Plan also includes ARB-recommended GHG reductions for each emissions sector of the state’s GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:</p> <ul style="list-style-type: none"> <li>• improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO<sub>2</sub>e);</li> <li>• the Low-Carbon Fuel Standard (15.0 MMT CO<sub>2</sub>e);</li> <li>• energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 MMT CO<sub>2</sub>e); and</li> <li>• a renewable portfolio standard for electricity production (21.3 MMT CO<sub>2</sub>e).</li> </ul> <p>ARB has not yet determined what amount of GHG reductions it recommends from local government operations; however, the Scoping Plan does state that land use planning and urban growth decisions will play an important role in the state’s GHG reductions because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions.</p>



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CA	Senate Bills 1078 and 107 and Executive Order S-14-08	SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008 Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Energy Standard to 33 percent renewable power by 2020.
CA	Senate Bill 1368 (2006)	SB 1368 is the companion bill of AB 32, and requires the California Public Utilities Commission (PUC) to establish a GHG emission performance standard for baseload generation from investor owned utilities by February 1, 2007. The California Energy Commission (CEC) must establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the GHG emission rate from a baseload combined-cycle natural gas fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the PUC and CEC.
CA	Senate Bill 97 (2007)	SB 97 acknowledges climate change is a prominent environmental issue that requires analysis under CEQA. This bill directed the Governor's Office of Planning and Research (OPR) to prepare and develop guidelines for mitigating GHG emissions or the effects of GHG emissions, as required by CEQA. The bill required the California Resources Agency to certify and adopt these guidelines by January 1, 2010. This bill also removes, both retroactively and prospectively, as legitimate causes of action in litigation any claim of inadequate CEQA analysis of effects of GHG emissions associated with environmental review for projects funded by the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006 (Proposition 1B) or the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1E). This provision will be repealed by provision of law on January 1, 2010 at that time such projects, if any remain unapproved, will no longer enjoy protection against litigation claims based on failure to adequately address issues related to GHG emissions.
CA	Senate Bill 375 (2008)	SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) which prescribes land use allocation in that MPOs Regional Transportation Plan (RTP). The ARB, in consultation with MPOs, is required to provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035 (targets will be updated every 8 years but can be updated every 4 years if advancements in emissions technologies affect the reduction strategies to achieve the targets). The ARB is also charged with reviewing each MPO's, SCS, or APS for consistency with its assigned GHG emission reduction targets. If MPOs do not meet the GHG reduction targets, transportation projects located in the MPO boundaries would not be eligible for funding programmed after January 1, 2012. This bill also extends the minimum time period for the Regional Housing Needs Allocation (RNHA) cycle from 5 years to 8 years for local governments located in an MPO that meets certain requirements. City or County land use policies (e.g., General Plans) are not required to be consistent with the RTP including associated SCSs or APSs. Projects consistent with an approved SCS or APS and categorized as "transit priority projects" would receive incentives under new provisions of CEQA.
CA	Executive Order S-3-05 (2005)	The executive order declared increased temperatures could reduce snowpack in the Sierra Nevada Mountains, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the executive order established targets for total GHG emissions which include reducing GHG emissions to the 2000 level by 2010, to the 1990 level by 2020, and to 80 percent below the 1990 level by 2050. The

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		executive order also directed the secretary of the California Environmental Protection Agency to coordinate a multiagency effort to reduce GHG emissions to the target levels. To comply with the executive order, the Secretary of the California Environmental Protection Agency created the California Climate Action Team which is made up of members from various state agencies and commissions. The California Climate Action Team released its first report in March 2006 of which proposed achieving the GHG emissions targets by building on voluntary actions of California businesses and actions by local governments and communities along with continued implementation of state incentive and regulatory programs.
CA	Executive Order S-13-08	The executive order directs: (1) OPR, in cooperation with the California Resources Agency to provide land use planning guidance related to sea level rise and other climate change impacts by May 30, 2009; and (2) the California Resources Agency to develop a state Climate Adaptation Strategy by June 30, 2009 and to convene an independent panel to complete the first California Sea Level Rise Assessment Report.
CA	Executive Order S-1-07	The executive order proclaims the transportation sector accounts for over 40 percent of statewide GHG emissions. The executive order also establishes a goal to reduce the carbon intensity of transportation fuels sold in California by a minimum of 10 percent by 2020. In particular, the executive order established a Low-Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels.
<b>4.6 Geology, Sediments, and Seismicity</b>		
CA	California Building Code (CBC) (Cal. Code Regs., tit. 24)	The State of California provides a minimum standard for building design through the CBC, which applies to all building occupancies and related features and equipment throughout the State, and contains requirements to the structural, mechanical, electrical, and plumbing systems, and requires measures for energy conservation, green design, construction and maintenance, fire and life safety, and accessibility.  The Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) were approved by the California Building Standards Commission (BSC) on January 19, 2005, and codified as the 2001 Title 24, California Code of Regulations, Part 2, California Building Code, Chapter 31F - Marine Oil Terminals. These standards apply to all existing and new marine oil terminals in California, and include rigorous criteria for inspection, structural analysis and design, mooring and berthing, geotechnical considerations, fire, piping, mechanical and electrical systems.
CA	Alquist-Priolo Earthquake Fault Zoning Act (Pub. Resources Code, §§ 2621-2630)	This Act requires that "sufficiently active" and "well-defined" earthquake fault zones be delineated by the State Geologist. The criteria most commonly used to estimate fault activity in California are described in this Act, which addresses only surface fault rupture hazards. Legislative guidelines to determine fault activity status are based on the age of the youngest geologic unit offset by the fault. This legislation prohibits the construction of buildings used for human occupancy on active and potentially active surface faults. However, only those potentially active faults that have a relatively high potential for ground rupture are identified as fault zones. Therefore, not all potentially active faults are zoned under the Alquist-Priolo Earthquake Fault Zone, as designated by the State of California.
CA	California Seismic Hazards Mapping Act (Pub. Resources Code, § 2690 and	These regulations were promulgated for the purpose of promoting public safety by protecting against the effects of strong ground shaking, liquefaction, landslides, other ground failures, or other hazards caused by earthquakes. Special Publication 117, <i>Guidelines for Evaluating and Mitigating Seismic Hazards in California</i> (California Division of Mines and Geology 1997), constitutes the guidelines for evaluating seismic hazards other than surface fault

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	following as Division 2, Chapter 7.8)	rupture, and for recommending mitigation measures as required by Public Resources Code section 2695, subdivision (a). To date, the California Geological Survey has not zoned offshore California under the Seismic Hazard Mapping Act.
CA	Public Resources Code, Division 6, Parts 1 and 2	The CSLC issues and administers oil and gas leases covering tide and submerged lands in accordance with Division 6, Parts 1 and 2 of the Public Resources Code and Title 2 of the California Code of Regulations. Relevant provisions of the Public Resources Code include the following: section 6829 includes provisions for specifying methods of operation and standard requirements for conducting operations properly, the prevention of waste, the protection of the safety and health of the workers, and the liability of the lessee for personal injuries and property damage; section 6829.2 includes provisions for the possible arresting or amelioration of land subsidence; and sections 6873.2 and 6873.5 include provisions for carrying out the requirements of CEQA.
CA	California Code of Regulations, Title 2	The CSLC issues and administers oil and gas leases covering tide and submerged lands in accordance with Division 6, Parts 1 and 2 of the Public Resources Code and Title 2 of the California Code of Regulations. Relevant provisions of the California Code of Regulations include the following. <ul style="list-style-type: none"> <li>Articles 3 through 3.4 (Cal. Code Regs., tit. 2, §§ 2101-2142) provide regulations covering oil and gas leasing and operating requirements, oil and gas drilling and production regulations, and pollution control for leases located on State tide and submerged lands under the jurisdiction of the CSLC. The CSLC regulations are applicable to operations conducted from mobile rigs, fixed offshore structures, and upland locations serving these leases. Provision of these articles include protection of human health, regulations on wellhead equipment, subsurface safety valves, surface safety valves, remedial and well maintenance work, supervision and training, anomalous casing annulus pressure, subsurface injection, conversion of a well to fluid injection, waste disposal, pressure relief valves, personal protective equipment, and pipeline inspections.</li> <li>Article 3.6 (Cal. Code Regs., tit. 2, §§ 2170-2175) includes (1) requirements for operators to prepare an operations manual describing equipment and procedures that the operator employs or will employ to protect public health and safety and the environment, and (2) provisions for development and maintenance of emergency response plans that include natural disaster response planning.</li> </ul>
<b>4.7 Cultural Resources</b>		
U.S.	National Historic Preservation Act (NHPA) (16 USC § 470 et seq.)	This applies only to federal undertakings. Archaeological resources are protected through the NHPA, as amended, and its implementing regulation, Protection of Historic Properties (36 CFR § 800), the Archaeological Historic Preservation Act, and the Archaeological Resources Protection Act. This Act presents a general policy of supporting and encouraging the preservation of prehistoric and historic resources for present and future generations by directing federal agencies to assume responsibility for considering the historic resources in their activities. The State implements the NHPA through its statewide comprehensive cultural resource surveys and preservation programs coordinated by the California Office of Historic Preservation (OHP) in the State Department of Parks and Recreation, which also advises federal agencies regarding potential effects on historic properties. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer is an appointed official who implements historic preservation programs within the State's jurisdictions. Under the NHPA, historic properties include "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places" (16 USC § 470w [5]).

Law/Regulation/Plan		Key Elements and Thresholds/Applicable Permits
U.S.	Abandoned Shipwreck Act of 1987 (43 USC §§ 2101-2106);	Provides that any abandoned shipwreck embedded in a state’s submerged lands, or that is located on a state’s submerged lands and is included in or determined eligible for inclusion in the National Register, is the property of that state and subject to that state’s jurisdiction.
U.S.	Archaeological and Historic Preservation Act (AHPA)	The AHPA provides for the preservation of historical and archaeological data that might be irreparably lost or destroyed as a result of: (1) flooding, the building of access roads, the erection of workmen’s communities, the relocation of railroads and highways, and other alterations of terrain caused by the construction of a dam by an agency of the United States or by any private person or corporation holding a license issued by any such agency; or (2) any alteration of the terrain caused as a result of a federal construction project or federally licensed project, activity, or program. This Act requires federal agencies to notify the Secretary of the Interior when they find that any federally permitted activity or program may cause irreparable loss or destruction of significant scientific, prehistoric, historical, or archaeological data. The AHPA built upon the national policy set out in the Historic Sites Act of 1935 "to provide for the preservation of historic American sites, buildings, objects, and antiquities of national significance...."
U.S.	Archaeological Resources Protection Act (ARPA)	The ARPA states that archaeological resources on public or Indian lands are an accessible and irreplaceable part of the nation’s heritage and: <ul style="list-style-type: none"> <li>• establishes protection for archaeological resources to prevent loss and destruction due to uncontrolled excavations and pillaging;</li> <li>• encourages increased cooperation and exchange of information between government authorities, the professional archaeological community, and private individuals having collections of archaeological resources prior to the enactment of this Act;</li> <li>• establishes permit procedures to permit excavation or removal of archaeological resources (and associated activities) located on public or Indian land; and</li> <li>• defines excavation, removal, damage, or other alteration or defacing of archaeological resources as a “prohibited act” and provides for criminal and monetary rewards to be paid to individuals furnishing information leading to the finding of a civil violation or conviction of a criminal violator.</li> </ul> ARPA has an enforcement provision (which provides for the imposition of both criminal and civil penalties against violators of the Act) and a permitting component (which allows for recovery of certain artifacts consistent with the standards and requirements of the National Park Service’s Federal Archeology Program).
U.S.	Native American Graves Protection and Repatriation Act (NAGPRA)	The NAGPRA, enacted in 1990, provides a framework for determining the rights of lineal descendants and Native American tribes to repatriate Native American remains, funerary objects, sacred objects, or other objects of cultural patrimony with which they are associated. NAGPRA applies to items found on federal lands, and to agencies that obtain federal funding. It requires consultation with appropriate Indian tribes prior to the intentional excavation, or removal after inadvertent discovery, of human remains and objects of cultural patrimony.
U.S.	Paleontological Resource Preservation Act	Enacted on March 30, 2009, the Act requires the Secretaries of the Interior and Agriculture to manage and protect paleontological resources on federal lands using scientific principles and expertise. New policies from these agencies regarding paleontological resources are in progress.
CA	CEQA (see also under Multiple)	As the CEQA lead agency, the CSLC is responsible for complying with all provisions of the CEQA and State CEQA Guidelines that relate to “historical resources.” A historical resource includes: (1) a resource listed in, or eligible for

Law/Regulation/Plan		Key Elements and Thresholds/Applicable Permits
	<i>Environmental Issues</i> )	listing in, the California Register of Historic Resources (CRHR); (2) a resource included in a local register or identified as significant in an historical resource surveys; and (3) any resource that a lead agency determines to be historically significant for the purposes of CEQA, when supported by substantial evidence in light of the whole record. The CRHR was created to identify resources deemed worthy of preservation on a State level and was modeled closely after the National Register. The criteria, which are nearly identical to those of the National Register but focus on resources of statewide significance (see State CEQA Guidelines § 15064.5, subd. (a)(3)), are defined as any resource that meets any of the following criteria: (1) is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; (2) is associated with lives of persons important in our past; (3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or (4) has yielded, or may be likely to yield, information important in prehistory or history. Properties listed, or formally designated as eligible for listing, on the National Register are automatically listed on the CRHR, as are certain State Landmarks and Points of Interest. A lead agency is not precluded from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1, subdivision (j), or 5024.1 (State CEQA Guidelines § 15064.5, subd. (a)(4)).
CA	Archaeological, Paleontological, and Historical Sites (Pub. Resources Code, § 5097.5)	Section 5097.5 prohibits excavation or removal of any "vertebrate paleontological site or historical feature situated on public lands, except with the express permission of the public agency having jurisdiction over such lands." Penal Code section 623 spells out regulations for the protection of caves, including their natural, cultural, and paleontological contents. It specifies that no "material" (including all or any part of any paleontological item) will be removed from any natural geologically formed cavity or cave.
CA	California Register of Historical Resources	This resource provides an authoritative guide to identify the state's historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from substantial adverse change.
CA	California Native American Graves Protection and Repatriation Act	This Act (Health & Saf. Code, §§ 8010-8021 and 8025-8030) provides for the repatriation of human remains and cultural items in the possession or control of a State or local agency or museum to the culturally affiliated California Native American tribe. This law defines the term California Native American tribe to include non-federally recognized groups.
CA	CSLC Shipwreck and Historic Maritime Resources Program (see generally Pub. Resources Code, §§ 6309, 6313, and 6314)	Provides that title to State abandoned shipwrecks and all archaeological sites and historic resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC; establishes that any submerged archaeological or submerged historic resource remaining in State waters for more than 50 years shall be presumed to be significant; establishes requirements for salvage when justified by an educational, scientific, or cultural purpose, or the need to protect the resource; and establishes penalties for unauthorized removal or damage to archaeological or historic resources located on State submerged lands and that are the property of the State.
CA	Health and Safety section 7050.5	This code states that if human remains are exposed during construction, 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 5097.998. The Coroner has 24 hours to notify the Native American Heritage Commission (NAHC) if the remains are determined to be of Native American descent. The NAHC will contact most likely descendants, who may recommend how to proceed.

4.0 Environmental Impact Analysis

Law/Regulation/Plan		Key Elements and Thresholds/Applicable Permits
<b>4.8 Land-based Transportation</b>		
U.S.	Hazardous Materials Transportation Act of 1974	The Hazardous Materials Transportation Act of 1974 (49 CFR § 397.9) directs the U.S. Department of Transportation (DOT) to establish criteria and regulations for the safe transportation of hazardous materials. There are no specific conformance measures required under this law.
CA	Caltrans	Caltrans is responsible for the design, construction, maintenance, and operation of the California State Highway System and the portion of the Interstate Highway System within State boundaries. Chapter 2, Article 3 of the Vehicle Code defines the powers and duties of the California Highway Patrol, which has enforcement responsibilities for the vehicle operation and highway use in the State.
<b>4.9 Land Use and Recreation</b>		
CA	CEQA (see also under <i>Multiple Environmental Issues</i> )	The State CEQA Guidelines require State and local agencies to analyze and publicly disclose environmental impacts, including land use and recreation, of proposed projects and adopt all feasible measures to mitigate those impacts.
<b>4.10 Noise</b>		
U.S.	Noise Control Act (42 USC § 4910)	The Noise Control Act required the USEPA to establish noise emission criteria, as well as noise testing methods (40 CFR Chapter 1, Subpart Q). These criteria generally apply to interstate rail carriers and some construction and transportation equipment. The USEPA published a guideline (USEPA 1974) containing recommendations for acceptable noise level limits affecting residential land use of 55 dBA L <sub>dn</sub> for outdoors and 45 dBA L <sub>dn</sub> for indoors.
U.S.	Department of Housing and Urban Development (HUD) Standards (24 CFR Part 51)	HUD Environmental Standards put forth the following exterior noise standards for new home construction (for interior noise levels, a goal of 45 decibels on the A-weighted scale (dBA) is set forth and attenuation requirements are geared to achieve that goal): <b>65 L<sub>dn</sub> or less</b> – Acceptable; <b>65 L<sub>dn</sub> and &lt; 75 L<sub>dn</sub></b> – Normally unacceptable, appropriate sound attenuation measures must be provided; and <b>&gt; 75 L<sub>dn</sub></b> – Unacceptable
U.S.	NTIS 550\9-74-004, 1974	In response to a federal mandate, the USEPA provided guidance (not standards or regulations) in NTIS 550\9-74-004, 1974 (“Information on Levels of Environmental Noise Requisite to Protect Health and Welfare with an Adequate Margin of Safety”), commonly referenced as the “Levels Document” that establishes an L <sub>dn</sub> of 55 dBA as the requisite level, with an adequate margin of safety, for areas of outdoor uses, including residences and recreation areas.
<b>4.11 Visual Resources, Light and Glare</b>		
CA	California Scenic Highway Program	The California Scenic Highway Program, managed by Caltrans, was created to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. State highways identified or eligible for designation as scenic are listed in California Streets and Highways Code section 260 et seq.

Abbreviations commonly used in this table include (see also List of Abbreviations and Acronyms): AB = Assembly Bill; Caltrans = California Department of Transportation; CARB = California Air Resources Board; CDFW = California Department of Fish and Wildlife; CEQA = California Environmental Quality Act; CFR = Code of Federal Regulations; CSLC = California State Lands Commission; CWA = Clean Water Act; CZMA = Coastal Zone Management Act; NMFS = National Marine Fisheries Service; RWQCB = Regional Water Quality Control Board; SB = Senate Bill; SWRCB = State Water Resources Control Board; USACE = U.S. Army Corps of Engineers; USC = U.S. Code; USCG = U.S. Coast Guard; USEPA = U.S. Environmental Protection Agency; USFWS = U.S. Fish and Wildlife Service