5.0 OTHER REQUIRED CEQA SECTIONS

The potential significant environmental effects associated with the proposed Tesoro Avon Marine Oil Terminal (Avon Terminal) Lease Consideration Project (Project) have been addressed in Sections 4.0 through 4.11 of this Environmental Impact Report (EIR). The Guidelines for the California Environmental Quality Act (State CEQA Guidelines) state in part that an EIR shall also:

- identify and focus on the significant environmental effects of a proposed project (State CEQA Guidelines, § 15126.2, subd. (a));
- describe any significant impacts, including those that can be mitigated but not reduced to a level of insignificance (State CEQA Guidelines, § 15126.2, subd. (b));
- identify significant irreversible environmental changes that would be caused by a proposed project should it be implemented (State CEQA Guidelines, § 15126.2, subd. (c));
- identify any growth-inducing impacts of a proposed project such as the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment (State CEQA Guidelines, § 15126.2, subd. (d)); and
- identify the environmentally superior alternative (State CEQA Guidelines, § 15126.2, subd. (e)(2)).

These elements are discussed in Sections 5.1 through 5.4, below.

5.1 SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROJECT IS IMPLEMENTED

Pursuant to the State CEQA Guidelines section 15126.2, subdivision (b), this section presents those significant environmental impacts that cannot be avoided should the California State Lands Commission (CSLC) grant a new 30-year lease for the Avon Terminal. These impacts would remain significant and unavoidable, even after incorporation of available and feasible mitigation measures.

- **Large spills at the Avon Terminal during transfer operations.** Although the chance of an oil spill is low, if an accidental spill occurs, unavoidable significant impacts can result. On average, one spill approximately every 3 years would be anticipated during the lease period. A spill larger than 1 gallon would be expected approximately every 6.4 years. The probability of a spill larger than 1,000 gallons from the Avon Terminal is 0.02, or one spill every 59 years. Tesoro Refining and Marketing Company, LLC (Tesoro) is compliant with U.S. Coast Guard regulations for spill response for responding to a small (50 barrels) spill, and impacts are less than significant with mitigation. The consequences of a spill

would depend on the product released (e.g., gasoline, diesel, crude oil); spill size; effectiveness of the response effort; and the biological, commercial fishery, shoreline, and other resources affected by the spill. A spill of 1 gallon or less would be unlikely to result in significant impacts, while a large spill of 1,000 barrels (42,000 gallons) most likely would result in significant, adverse impacts even in consideration of response capabilities. The impacts of spills between 1 gallon and 1,000 barrels (42,000 gallons) depend on the effectiveness of response efforts and the resources impacted.

- **Spills from pipelines during non-transfer periods or transfer operations.** The Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) have requirements for design and preventative maintenance that include periodic inspection of all terminal components. Article 5.5 Marine Terminal Oil Pipelines (Cal. Code Regs., tit. 2, §§ 2560-2571) sets additional requirements for periodic pipeline testing and maintenance. Tesoro has an extensive pipeline inspection and maintenance program in place, and strives to fully comply with the MOTEMS and Article 5.5 requirements. Furthermore, the proposed renovation would include improvement of the facility's emergency shutdown system (to allow for quicker shutdown and pipeline isolation if a spill were to occur), substantial seismic renovation of the facility, and removal of numerous flanged pipeline connections over water (to reduce the risk of an oil spill due to earthquake). Nevertheless, leaks or spills are possible, and considering the Avon Terminal pipeline volume of 6,207 barrels, a substantial spill is possible. Even with response measures in place, depending on the size of the spill and the environmental resources affected, impacts of a spill could be significant.

- **Large spills from vessels in transit.** Spills from vessel accidents in the San Francisco Bay or outer coast could result in impacts to water quality or biological resources. Impacts could be limited by spill response to a less-than-significant level for those spills that can be contained during first-response efforts without lasting impacts on sensitive resources. However, while the probability of a large spill from vessels in transit is small, the consequences of such a spill would be a significant, adverse impact.

- **Potential for fires and explosions.** The closest populated public areas are residential areas, parks, and marinas that are all located too far away to be impacted by heat from a potential fire or flying debris from a potential explosion at the Avon Terminal. Therefore, the risk to the public from such an event at the Avon Terminal is less than significant. If an oil spill were to occur at the Avon Terminal and become ignited it could drift toward the Benicia-Martinez Bridge and commercial/recreational vessels in the area and present a hazard to the public or property. The intervening distance would provide time to respond and evacuate public areas if needed for safety so the risk to persons from a potential ignited oil spill is low. The proposed renovation would include improvements to

the facility's emergency shutdown system, fire alarm and detection systems, and fire suppression system to satisfy the highest MOTEMS standards and significantly increase the Avon Terminal's ability to effectively prevent or suppress fire and an associated spill. Nevertheless, a major fire at the Avon Terminal could result in an oil spill with significant impacts.

- **Introduce invasive nonindigenous species to the San Francisco Bay Estuary (SFBE).** Introduction of invasive organisms in segregated ballast water released in the SFBE could result in severe ecological, economic, and human health impacts in the receiving environment. In some parts of the SFBE, introduced species account for the majority of species diversity, dominate the estuary's food webs, and may result in profound structural changes to habitat (Cohen 1995). The discharge of segregated ballast water that contains harmful organisms could impair several of the Project area's beneficial uses, including commercial and sport fishing, estuarine habitat, fish migration, preservation of rare and endangered species, water contact recreation, non-contact water recreation, fish spawning, and wildlife habitat. Tesoro would ensure that vessels seeking to call at the Avon Terminal are advised of California's Marine Invasive Species Act and associated regulations and are submitting forms as required by the CSLC.
- **Introduce invasive nonindigenous species from biofouling.** Biofouling is one of the primary routes through which nonindigenous aquatic species (NAS) are introduced to the SFBE. Tesoro has no control over, ownership of, or authority to direct vessels that would dock at its Avon Terminal. The vessels are governed by applicable CSLC laws and regulations for biofouling management, which would reduce the potential impact of aquatic species invasion from biofouling. However, the impact of introducing new NAS via ballast water and biofouling in the SFBE and Sacramento-San Joaquin River Delta could potentially be so devastating that even a reduced risk has the potential to cause a significant and unavoidable adverse impact on special-status species and habitats.
- **Spill effects on biological resources.** Impacts from spills would depend on the material and quantity spilled. Short-term, direct impacts on marine biota from an accidental oil spill include physical oiling, which may cause injury or death; toxic exposure to volatile gas; disturbance from clean-up activities; and loss of habitat. Indirect impacts include disruption of predator-prey relationships; introduced toxins in the food web, which may cause low-level health impacts on prey species that bioaccumulate in predator species; possible toxic effects on embryos; and interruption or degradation of reproduction potential.
- **Spill effects on water quality.** The severity of impact from larger leaks or spills at the Avon Terminal or from vessels in transit that cannot be easily contained would depend on spill size, oil composition, spill characteristics (instantaneous

vs. prolonged discharge), effect of environmental conditions on spill properties due to weathering, and the effectiveness of clean-up operations. In the event of an oil spill, initial impacts would be to surface water quality and the water column, followed by potential impacts on sedimentary and shoreline environments. Following a spill, hydrocarbon fractions would be partitioned into different regimes and each fraction would have a potential to affect water quality. Large spills at the Avon Terminal could result in significant, adverse impacts on water quality. Also, most tanker spills/accidents and larger spills that cannot be quickly contained either in the SFBE or along the outer coast could result in significant, adverse impacts.

- **Spill effects on shoreline and recreation amenities.** An accidental spill of oil at or near the Avon Terminal could cause residual impacts on sensitive shoreline lands, shoreline and water recreational uses, and recreational boats. The degree of impact is influenced by factors such as location, spill size, type of material spilled, prevailing wind and current conditions, the vulnerability and sensitivity of the shoreline, and effectiveness of early containment and cleanup efforts. Impacts from spills could be significant and unavoidable if first-response efforts would not contain or clean up the spill, resulting in residual impacts that would affect the general public's use of shoreline or water areas.

- **Spill effects on visual environment.** Impacts resulting from an oil spill could degrade the visual quality of the water and shoreline if oiling occurs over a widespread area, and where first-response containment and cleanup efforts are not effective, leaving residual effects of oiling. The presence of oil on the water would change the color and, in heavier oiling, textural appearance of the water surface. Oil on shoreline surfaces or nearshore marsh areas would cover these surfaces with a brownish-blackish, viscous substance. Such oiling would result in a negative impression of the viewshed. The public, becoming aware of a spill, may react negatively to its visual effects. Without rapid containment by immediate booming and cleanup, the visual effects of even a small spill of 50 barrels can leave residual impacts, and they can be significant.

- **Spill effects on commercial fisheries.** Shrimp, herring, and sport fisheries in the Central Bay, North Bay, San Pablo Bay, Carquinez Strait, Napa River, and Honker Bay are at highest risk of spill contamination. The Carquinez Strait/Suisun Bay is a migratory corridor and feeding/rearing area for many sport fish species, including striped bass, sturgeon, and salmon. Fishing activities would be further impacted by closures of piers for recreational fishing and marinas for both commercial and recreational fishing. In addition, loss or damage to fisheries and fishing gear would increase the impacts on commercial fishing operations and angling activities. Significant, adverse impacts on commercial and sports fisheries could result from oil spill accidents originating at the Avon Terminal or from transiting tankers going to the Avon Terminal.

5.2 SIGNIFICANT IRREVERSIBLE CHANGES THAT WOULD BE CAUSED BY THE PROJECT SHOULD IT BE IMPLEMENTED

Per State CEQA Guidelines section 15126.2, subdivision (c), this section presents the irreversible changes related to the use of, or long-term commitment of, nonrenewable resources. Irreversible changes represent long-term environmental damages that could result from the Project.

- Of the impacts presented in Section 5.1, over a very long period of time, even the impacts of oil spills can be reversible as the environment recovers to pre-spill function. However, if a large spill were to cause enough damage to water quality or biological resources so as to result in the elimination of a species, an irreversible impact would result.
- Operation of the Avon Terminal indirectly acts as a stimulus for the extraction of oil reserves, adding to the eventual depletion of a non-renewable resource.

5.3 GROWTH-INDUCING IMPACT OF THE PROPOSED PROJECT

The Project involves a new lease for continued operation of the Avon Terminal. If granted, the new lease would allow Tesoro to continue to operate the Avon Terminal, which has operated primarily as an export facility at its current location, transferring petroleum products (including premium fuel oil, gas oil, diesel, and cutter stock) from Tesoro's Golden Eagle Refinery (Refinery) to tanker vessels, since 1925. To grant the new 30-year lease, the CSLC must document the current and planned conditions at the Avon Terminal, including compliance with the MOTEMS. Based on MOTEMS audits (2008 and 2011) of the Avon Terminal completed by Tesoro, Tesoro has concluded that renovation of the Avon Terminal vessel loading/unloading area and its associated approachway is the most effective way to achieve MOTEMS compliance at the Avon Terminal. The Avon Terminal operates on an approximately 11.24 acres of sovereign public land in lower Suisun Bay that is leased from the CSLC. After Project construction and demolition, the new 30-year lease would operate on approximately 13.33 acres of sovereign land. The new lease area would increase by 2.09 acres waterward to accommodate the width of the largest vessels that can call on the Avon Terminal.

The Avon Terminal is capable of operating 365 days per year, 24 hours per day, although actual operation depends on shipping demands. Over the last 10 years, annual vessel calls at the Avon Terminal have averaged 124 calls per year (between 2004 and 2013; refer to Section 2.4.10, Vessel Calls). The level of shipment activity and throughput is not expected to change substantially during the proposed 30-year lease agreement period. As stated in Section 2.0, Project Description, Tesoro anticipates that annual ship and barge traffic using the Avon Terminal would be approximately 70 to 120 vessels (anticipated maximum). The Avon Terminal is currently existing and operating, and any increase in operations would be market driven to keep up with the demands within the region. These demands are considered growth accommodating and not

growth inducing, and would not directly or indirectly foster economic growth, population growth, or the need for housing.

5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The State CEQA Guidelines section 15126.6, subdivision (e)(2) states:

> *The "no project" analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives*.

The determination of an environmentally superior alternative is difficult because of the many factors that must be balanced. The No Project alternative eliminates operational impacts associated with the Avon Terminal, and thus appears to be environmentally superior. However, implementation of this alternative: (1) would shift similar levels of impact to other San Francisco Bay Area (Bay Area) marine oil terminals to make up the differential for product transport throughout the Bay area; (2) would potentially tax the capacity of these other terminals, potentially increasing vessel congestion, collisions, and costs while vessels wait to berth and offload/load; and (3) does not meet the Project objective of maintaining existing transport levels of petroleum products for marketing through the renovated Avon Terminal, thereby maintaining the operation and viability of Tesoro's associated Refinery. This alternative could also shift Tesoro's sources for export of product to pipeline, rail, or other land-based transportation methods, resulting in potentially significant land-based impacts on operational safety/risk of accidents, water quality, land use/recreation, and visual resources due to the risk of spills, fire, or explosion. In addition, construction of new pipelines and/or rail lines would potentially impact biological resources, cultural resources, land-based transportation, and noise.

The Restricted Lease Taking Avon Terminal Out of Service for Oil Transport alternative would also potentially shift similar levels of impact to other Bay Area marine oil terminals, and/or to land-based means of traditional crude oil transportation such as a pipeline and/or rail to make up the differential for crude oil and product transport throughout San Francisco Bay. All potential impacts remain the same as for the No Project alternative.

For the reasons mentioned previously, both the No Project alternative and the Restricted Lease alternative, taking Avon Terminal out of service for oil transport, are considered to represent a greater potential adverse environmental impact than the proposed Project. Therefore, the proposed Project is selected as the environmentally superior alternative.