Chapter 2
Project Description

2.1 Introduction and Project Overview

This section describes the proposed Project elements, objectives, and alternatives for the SCIG Project. The proposed SCIG Project involves constructing and operating a new near-dock intermodal rail facility by BNSF that would handle containerized cargo transported through the Ports of Los Angeles and Long Beach, collectively known as the San Pedro Bay Ports (Ports). The Project would be located approximately four miles to the north of the Ports, primarily on LAHD land in the City of Los Angeles, although portions of the proposed Project would also be located on nearby land in the cities of Carson and Long Beach (Figure 2-1).

The proposed Project elements evaluated in this EIR include property acquisition, the demolition of existing on-site structures, the termination or non renewal of leases and relocation of businesses, and the construction and operation of a new near-dock intermodal rail facility that would handle cargo containers up to a maximum capacity of 1.5 million lifts or 2.8 million TEUs (as described in Section 1.1.2, a lift is the term used by the railroads to express movement of a single container, and is equal to 1.85 TEU). Major physical features of the proposed Project include loading and storage tracks for trains; electric-powered, rail-mounted gantry cranes (RMGs); container loading and storage areas; administrative and maintenance facilities; lighting and other utilities; paved roadways; and a truck gate complex. Lead tracks and other roadway improvements would be constructed to connect the railyard to the Alameda Corridor and to provide truck access to the proposed Project.

Construction of the proposed Project would take approximately three years to complete, from 2013 to 2015. BNSF would operate the SCIG Project under a new 30-year lease from approximately 2016 to 2046. The proposed Project is consistent with LAHD Resolution 6339 regarding intermodal rail facilities and the San Pedro Bay Ports Rail Update Study (Parsons, 2010; see Section 1.1.1) and has been proposed to meet an identified need for additional rail facilities in the port area as further discussed below.

The rail system serving the Ports allows for efficient transport of approximately 40 percent of the nation’s container cargo from the SPB Ports to inland destinations. Currently, this intermodal cargo is transferred to and from the rail system through on-dock, near-dock and off-dock railyards. As previously discussed in Section 1.1.3.3 and summarized here, on-dock rail is defined as a railyard located directly within the marine terminals; near-dock rail is defined as a railyard located outside of the marine terminals but within five miles of the Port (for example, the UP ICTF near Carson); and off-dock rail is defined as a railyard located greater than five miles from marine terminals (for example, the BNSF Hobart railyard just east of downtown Los Angeles).

Maximizing the use of on-dock railyards is consistent with the CAAP (CAAP, 2006; CAAP, 2010) and the LAHD's Intermodal Rail Policy mainly because on-dock rail eliminates truck trips to near/off-dock railyards, thereby reducing truck emissions. Consistent with those policies, the LAHD has developed, and is continuing to pursue, development of additional on-dock rail facilities to increase the on-dock rail capacity in the Port of Los Angeles, and is constructing additional rail infrastructure and trackage outside the marine terminals to better connect the on-dock and near-dock railyards with the Alameda Corridor. This additional rail capacity is important to maximize use of the Alameda Corridor, and consequently reduce the number of truck trips to off-dock railyards.

Despite the efforts by the Ports to develop additional on-dock capacity and by the railroads to increase utilization of on-dock rail (see Section 1.1.4), however, a number of factors will continue to limit the overall percentage of on-dock rail use. First, not all intermodal cargo can be handled at on-dock railyards. As described in Section 1.1.3.3, cargo at a marine terminal is sorted by destination. If there are enough cargo containers bound for the same destination, a unit train to that destination will be built at the on-dock facility. If, however, there are containers bound for different destinations, they must be either stored in the terminal, resulting in delays and congestion, or trucked to a near/off-dock facility to be combined with cargo from other marine terminals bound for that same destination.

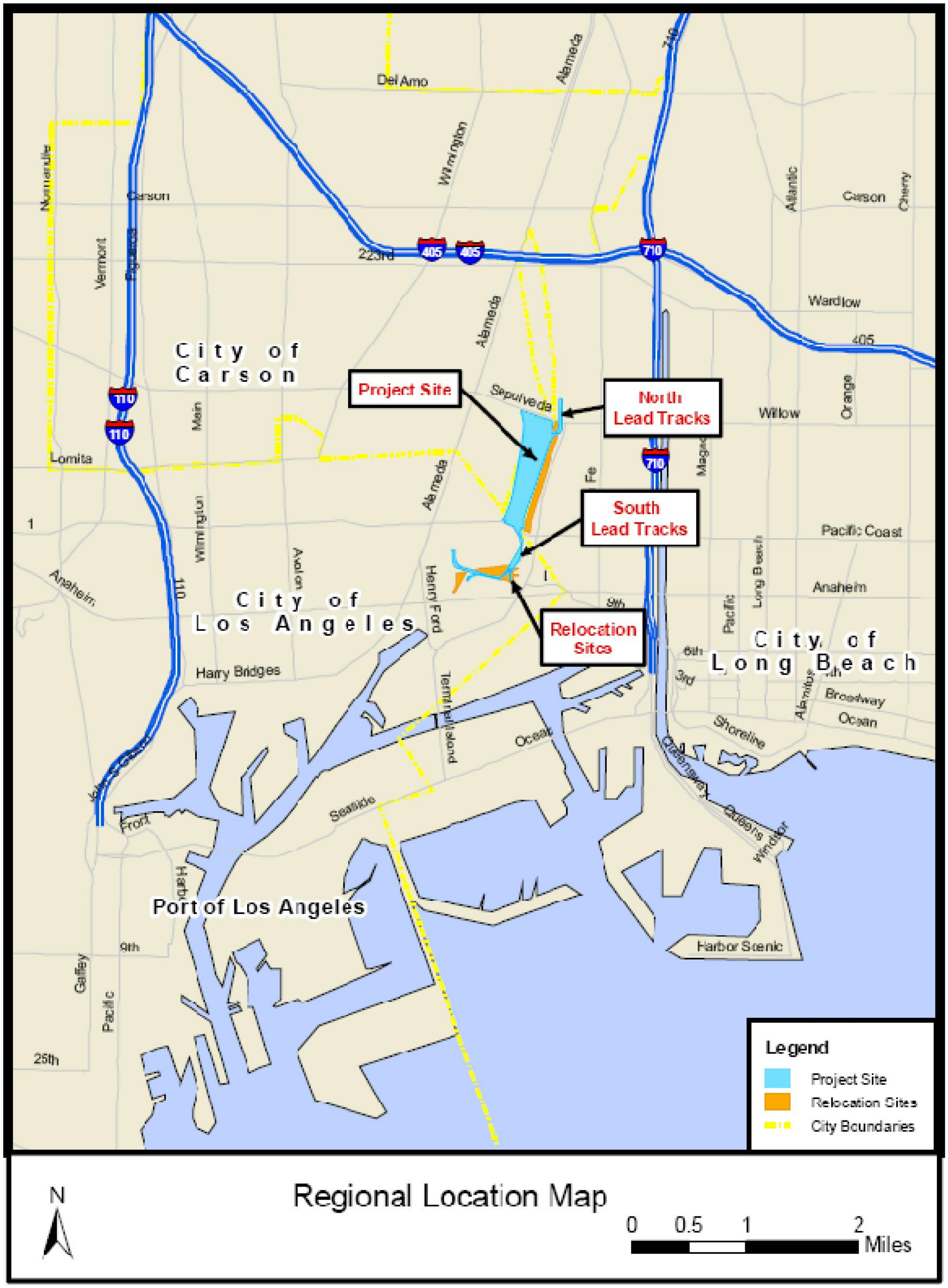
Second, not all marine terminals have, or can have, on-dock railyards. As described in Section 1.1.5.3, constraints of terminal size and configuration can limit the size of on-dock facilities or prevent them from being constructed at all.

Third, as discussed in Section 1.1.5.3, the rail infrastructure within the Ports and between the Ports and the Alameda Corridor will be inadequate to handle future volumes of intermodal cargo from on-dock railyards, especially cargo from the Terminal Island marine terminals.

Other limiting factors include shipper and steamship line logistics (e.g. transloading, transportation costs, etc.) and railroad operations (equipment availability, train schedules, and contracts/arrangements with shippers).

Accordingly, there will always be a need for near-dock/off-dock facilities, and expansion of near/off-dock rail capacity will be necessary to accommodate projected increases in intermodal cargo volumes. Along with increasing on-dock capacity, LAHD seeks to increase near-dock capacity over off-dock railyards to decrease truck trips while accommodating the cargo that cannot be handled at on-dock facilities.

1 **Figure 2-1. Regional Location Map.**



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2.1.1 Long-Term Cargo Projections and On-Dock Capacity

As discussed in Section 1.1.5, in 2009 the LAHD and the Port of Long Beach prepared an update to the 2007 cargo forecast (Tioga, 2009) as well as an update to on-dock railyard capacities within the Ports. The cargo forecast projects consumer and industry demand, both for the U.S. and for its trading partners, by commodity and cargo handling type. That demand is unconstrained by physical factors such as port capacity or the ability of the region's rail infrastructure (including on-dock, near-dock and off-dock railyards) and freeways to accommodate trade growth. Accordingly, the Ports also evaluated the ability of the physical infrastructure to accommodate the demand. Terminal capacity estimates were developed by each port for existing and planned container terminals. Those estimates reflect key assumptions about how much land will ultimately be available for container use (backland acreage), number and size of the terminal's berths and cranes, and how the terminals will operate (labor rates and gate hours).

To help accommodate the anticipated cargo volumes, the Ports plan to expand existing and construct new on-dock railyards and supporting infrastructure over the next 10 to 15 years. In addition, the Ports will seek to maximize the on-dock operations at the marine terminals by encouraging tenants to schedule round-the-clock shifts and optimize labor rules. LAHD's on-dock rail expansion plan is discussed in the San Pedro Bay Ports Rail Study Update (Parsons, 2010) and is summarized in Section 1.1.3.3.

As described in Chapter 1, the total estimated intermodal rail demand coming from the San Pedro Bay ports is 17.3 million TEUs by the year 2030/2035 (Tables 1-4 and 1-5). This estimate is based on 40 percent of the total San Pedro Bay container capacity of 43.2 million TEUs. Notwithstanding the planned and proposed improvements described in Section 1.1.3.3, on-dock railyard capacity will be unable to handle future intermodal demand. On-dock capacity in the ports will begin to be exceeded by the demand in the near future, and will fall well short of demand by 2020 (Section 1.1.5.3). Detailed rail system simulation has determined that even the movement of containers on trains via "block swap" and "unsorted" operations will not yield higher capacities or greater use of the on-dock facilities. Accordingly, of the 17.3 million TEUs of intermodal cargo, only 12.9 million TEUs will be handled by existing and planned on-dock railyards.

2.1.2 Near-Dock and Off-Dock Capacity

Given the limitations of on-dock facilities, the ports expect that near-dock and even off-dock facilities will continue to be needed to satisfy the Ports' future intermodal needs related to: (1) overflow traffic due to on-dock capacity constraints, (2) containers that require staging until a train going to the appropriate destination is available, and (3) transload cargo. As discussed above, the LAHD and the Port of Long Beach expect that near-dock and off-dock railyards will continue to handle a significant portion of the intermodal traffic.

The data in Tables 1-4 and 1-5 show that approximately 4.4 million TEUs will be handled by near- and off-dock railyards by the year 2030/2035. As discussed in Section 1.1.5.3, current facilities cannot accommodate that volume, indicating that additional lift capacity is needed for each railroad. Historically, each of the two Class 1 railroads (i.e., UP and BNSF) has handled about 50 percent of the intermodal cargo from the ports. A basic assumption of the demand model used in the cargo forecasts is that each of the Class 1 railroads will continue to compete for market share and will continue to handle

50 percent of the projected demand. A review of the 2009 cargo forecast, and assuming a 50 percent market share of direct intermodal, transloaded, and domestic containers, suggests that the existing capacity at the ICTF will be exceeded sometime between 2030 and 2035 due to increasing cargo volumes. This means UP will handle about half of the projected 4.4 million TEUs in 2035, or 2.2 million TEUs. This prediction is based upon the objective of accommodating UP's share of port intermodal containers solely at the ICTF (i.e., assuming no drayage to the off-dock railyards in the region). The 2009 cargo forecast suggests that BNSF would need additional lift capacity by around 2030. This also means that BNSF will handle the other half of the projected 4.4 million TEUs in 2030, or 2.2 million TEUs. However, it should be emphasized that these determinations are predicated upon the following assumptions related to on-dock capacity: (1) all of the proposed/planned POLA/POLB rail infrastructure (including on-dock railyards) is constructed more or less in accordance with the projected timetables; (2) three labor shifts/day occur in the on-dock railyards; and (3) an ILWU labor rule modification allows some railcar movements on adjacent tracks in the on-dock railyards for efficiency gains during loading/unloading of stationary cars. To date none of these assumptions has been met.

This EIR takes a conservative approach: it analyzes the maximum capacity the Project applicant has applied for (2.8 million TEUs, or 1.5 million "lifts"), and assumes that market factors would determine the actual demand that it serves. The environmental analysis is also based on the 2007 cargo forecast in order to conservatively account for the maximum potential for high growth and activity levels and resulting environmental impacts. It should be noted that the 2009 cargo forecast predicts that actual demand for the proposed railyard would be less than 2.8 million TEUs, in which case both Class 1 railroads would compete for their share of the market up to a total of 4.4 million TEUs. As mentioned in Section 1.1.5.3, however, recent cargo volumes suggest that the 2009 forecast may have substantially underestimated future growth and that near-dock intermodal volumes may reach 4.4 million TEUs earlier than the 2009 forecast predicts.

2.2 Existing Conditions

2.2.1 Regional Context

The Ports are located approximately 25 miles south of downtown Los Angeles. The port complex is composed of approximately 80 miles of waterfront and 7,500 acres of land and water, with approximately 500 commercial berths. The Ports include: automobile, container, omni, lumber, and cruise ship terminals; liquid and dry bulk terminals; and extensive transportation infrastructure for cargo movement by truck and rail. They also accommodate commercial fishing, canneries, shipyards, and boat repair yards; provide slips for 6,000 pleasure craft, sport fishing boats, and charter vessels; and support community and educational facilities such as a public swimming beach, the Boy/Girl Scout Camp, the Cabrillo Marine Aquarium, the Maritime Museum, and public fishing piers. The Ports are adjacent to the community of San Pedro to the west, the Wilmington community and the City of Carson to the north, the City of Long Beach to the east, and the Pacific Ocean to the south.

The proposed Project site was chosen by BNSF through a screening and analysis process (see Section 2.5.1.2). It is located primarily in an industrial area east of the Wilmington community of the City of Los Angeles, with portions in the cities of Carson and Long Beach, approximately four miles north of the Ports. The general area is characterized by heavy industry (refineries), goods-handling facilities (warehouses, trucking facilities, railroads, and related commercial and industrial establishments), and light commercial uses. Major highways including Interstate-405, Interstate-710, Alameda Street, Pacific Coast Highway, and State Routes 47 and 103 are all within two miles of the proposed Project site.

2.2.2 Project Setting

The proposed Project has three major components: the railyard itself, the relocation areas, and the South Lead Track (Figure 2.2). The site of the railyard component of the proposed Project is located in a primarily industrial area, with port-related industrial support activities to the north, west, and south. To the east are an SCE transmission line right of way (part of which is leased to California Cartage and Three Rivers Trucking), the former UP San Pedro Subdivision rail line, and an equipment storage area leased from the City of Long Beach. Farther to the east is the Terminal Island Freeway, and beyond the freeway are residential/institutional areas of west Long Beach. The site is bounded generally by Sepulveda Boulevard to the north, Pacific Coast Highway to the south, the Dominguez Channel to the west, and the Terminal Island Freeway to the east. This site includes approximately 107 acres of LAHD property and approximately 17 acres of adjacent non-LAHD property, for a total of 124 acres. At present, the site is devoted to warehousing, transloading (see Section 1.1.3.2 for a description of transloading); container and truck maintenance, servicing, and storage; rail service; and access roads for tenants. Existing uses and a description of tenants and their operations are summarized in Table 2-1. In addition, several underground utilities are present in this area, primarily petroleum and petroleum product pipelines but also water, sewer, gas, and electric lines. For a description of existing underground utilities and providers, refer to Section 3.11.

Table 2-1. Existing Land Uses within the Project Site.

Land Use/ Business Name	Acreage	Land Owner	Activities (2005 Conditions)
California Cartage	86	LAHD	Trucking, warehousing, transloading with an estimated 357,000 total truck roundtrips per year and 260 train roundtrips per year (for combined LAHD and SCE sites)
	19	SCE	Trucking, warehousing, transloading with an estimated 357,000 total truck roundtrips per year and 260 train roundtrips per year (for combined LAHD and SCE sites).
Total Intermodal Services	17	Watson Land Company	Warehousing, transloading with an estimated 16,900 truck roundtrips per year.
Three Rivers Trucking	14.5	SCE	Trucking and transloading with an estimated 16,900 trucks roundtrip per year.
	2	LAHD	Queuing lanes for trucking and transloading.
Flexi-Van	6	Watson Land Company	Container refurbishing and logistics services with an estimated 2,600 truck roundtrips per year.

Land Use/ Business Name	Acreage	Land Owner	Activities (2005 Conditions)
California Multimodal, Inc.	6 (included in 86 above)	LAHD	Trucking operations with an estimated 52,000 truck roundtrips per year.
San Pedro Forklift	2.2	LAHD	Cargo-handling equipment and truck rentals, estimated 10,400 truck roundtrips per year.
LA Harbor Grain Terminal/Harbor Transload	2.4	LAHD	Transloading and trucking, estimated 10,400 truck roundtrips per year.
Fast Lane Transportation	5.4	Fast Lane	Terminal services, cargo logistics, and container storage/repair with an estimated 120,000 truck roundtrips per year.
Pacific Coast Highway (PCH) Right-of-Way	6	Caltrans	PCH grade separation.
ACTA Maintenance Yard	10	LAHD/ POLB	Maintenance yard for materials storage with office space.
Access roads/vacant property	14.3	LAHD	Ingress/egress for existing tenants.
Tesoro[a]	0.5	Tesoro (ex Texaco)	Oil refinery
Praxair[a]	3	LAHD Property	Industrial gases processing
Vacant parcels	1.3	Los Angeles County, Equilon, Harbor Oil Company, BNSF	Vacant parcels in the South Lead Track area along railroad right-of-way connecting to the Alameda Corridor.

a) Small amounts of land would be acquired from these businesses, but because the proposed Project would not change their operations in any way, these businesses are not included in the analyses in this EIR.

The area to the north of the railyard site, across Sepulveda Boulevard, consists of the existing ICTF operated by UP and similar in function to the proposed Project. To the west, across the Dominguez Channel, is a large refinery, owned by Tesoro Corporation, that processes crude oil to produce petroleum products. To the south of the Pacific Coast Highway, in the relocation area component of the proposed Project (Figure 2-2), are a series of container staging and maintenance facilities and a sulfur processing facility. The area to the east, across the Terminal Island Freeway within the West Long Beach area, is predominantly a single-family residential area, but it includes a high school, an elementary school, and a nursery school, as well as veteran's housing and a medical center.

Additional support areas connected to the railyard component of the proposed Project would accommodate the north and south lead tracks (see Section 2.4.2 for a description of these project elements). The north lead track area would extend through the SCE corridor occupied by Three Rivers Trucking and connect to an existing rail line (formerly known as the UPRR San Pedro Branch) jointly owned by the LAHD and Port of Long Beach. That line extends approximately 1,000 feet to the north from the existing rail bridge at Sepulveda Boulevard. Adjacent to the west of the rail line is the ICTF. To the north is the continuation of the existing rail line which extends beyond the I-405. To the east is an industrial warehouse and single-family residences within the West Long Beach area. To the south is the continuation of the SCE corridor, including the portion that is occupied by California Cartage.

The South Lead Track area is generally located south of Pacific Coast Highway (PCH), west of the Terminal Island Freeway, north of rail right-of-way and Southern Pacific Drive, and east of the Alameda Corridor. This area consists of approximately 5.5 acres of land occupied by Fast-Lane Transportation (terminal services, cargo logistics, and container storage/repair), a portion of Caltrans right-of-way on PCH, a small Alameda Corridor Transportation Authority (ACTA) maintenance facility, vacant parcels, and railroad right-of-way connecting to the Alameda Corridor. To the west is an industrial area occupied by Vopak (liquid bulk logistics), Praxair (industrial gases processing facility), and a sulfur processing facility. To the north is Pacific Coast Highway. To the east are additional areas used for container storage by Fast-Lane Transportation and vacant parcels. To the south are several auto salvage businesses, light industrial uses, and vacant parcels.

1 **Figure 2-2. Proposed Project Site Location.**

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2.3 Project Objectives

The need for additional rail facilities to support current and expected cargo volumes, particularly intermodal container cargo, was identified in several recent studies (see Section 2.1.2). As discussed in those studies, even after maximizing the potential on-dock rail yards, the demand for intermodal rail service creates a shortfall in rail yard capacity (Parsons, 2006). Those studies specifically identified a need for additional near-dock intermodal capacity to complement and supplement existing, planned, and potential on-dock facilities (Parsons, 2006).

Unlike on-dock rail yards that are dedicated to a single marine terminal, near-dock rail yards have logistical advantages due to their ability to combine cargo from various marine terminals and build trains that efficiently transport cargo to specific destinations throughout the country. Near-dock usage has remained relatively flat due to the availability of only one near-dock rail yard. Near-dock facilities are able to provide needed intermodal capacity with greatly reduced trucking impacts, compared to the more remote off-dock facilities. Any cargo that is moved by train from the Ports benefits the overall transportation system by reducing the truck trips and total truck mileage along with the associated impacts. Movement of containers by train has been determined to be from three to nearly six times as fuel efficient as by truck on a ton-mile basis, which reduces air quality emissions by a similar amount (Federal Railroad Administration, 2009).

LAHD has expressed its intent to promote increased use of rail in general, and near-dock rail facilities in particular, as indicated in its Rail Policy (Section 2.1.1), and to comply with the Mayor of Los Angeles' goal for the LAHD to increase growth while mitigating the impacts of that growth on the local communities and the Los Angeles region by implementing pollution control measures, including the elements of the CAAP specific to the proposed Project. Similarly, the California EPA has recommended the SCIG project as a preliminary candidate in the 2007 Goods Movement Action Plan and the Southern California Association of Governments (SCAG) has identified the SCIG project as potentially playing a key role in addressing the growth of high-density truck traffic in its 2008 Regional Transportation Plan Goods Movement Report (SCAG, 2008).

The primary objective and fundamental purpose of the proposed Project is to provide an additional near-dock intermodal rail facility serving the San Pedro Bay Port marine terminals that would meet current and anticipated containerized cargo demands, provide shippers with comparable intermodal options, incorporate advanced environmental controls, and help convert existing and future truck transport into rail transport, thereby providing air quality and transportation benefits.

The following specific project objectives accomplish the primary objective & fundamental purpose:

1. Provide an additional near-dock intermodal rail facility that would:
   a) Help meet the demands of current and anticipated containerized cargo from the various San Pedro Bay port marine terminals, and
   b) Combine common destination cargo "blocks" and/or unit trains collected from different San Pedro Bay Port marine terminals to build trains for specific destinations throughout the country.
2. Reduce truck miles traveled associated with moving containerized cargo by providing a near-dock intermodal facility that would:

a) Increase use of the Alameda Corridor for the efficient and environmentally sound transportation of cargo between the San Pedro Bay Ports and destinations both inland and out of the region, and
b) Maximize the direct transfer of cargo from port to rail with minimal surface transportation, congestion and delay.

3. Provide shippers carriers, and terminal operators with comparable options for Class 1 railroad near-dock intermodal rail facilities.
4. Construct a near-dock intermodal rail facility that is sized and configured to provide maximum intermodal capacity for the transfer of marine containers between truck and rail in the most efficient manner.
5. Provide infrastructure improvements consistent with the California Goods Movement Action Plan.

2.4 Proposed Project

2.4.1 Summary

The proposed Project would include construction of a new, state-of-the-art, near-dock intermodal railyard (Figures 2-3a and 2-3b), located approximately four miles to the north of the Ports and connected to the Alameda Corridor. The proposed Project features and operations are summarized in Table 2-2. It is estimated that the proposed Project would handle approximately 2 million TEUs in its first year of operation in 2016 and increase to its maximum capacity of 2.8 million TEUs, as proposed by the project applicant, in its 8th year of operation in 2023. Construction would take approximately 36 months to complete (2013 through 2015), including crane installation that would occur in 2015 (more detail is provided below). The SCIG Project would generate approximately 250 operational jobs starting in 2016 and 450 jobs by full build-out in 2023. The SCIG facility would be operated by BNSF under a new lease from LAHD, assumed for the purposes of this EIR to be 30 years.

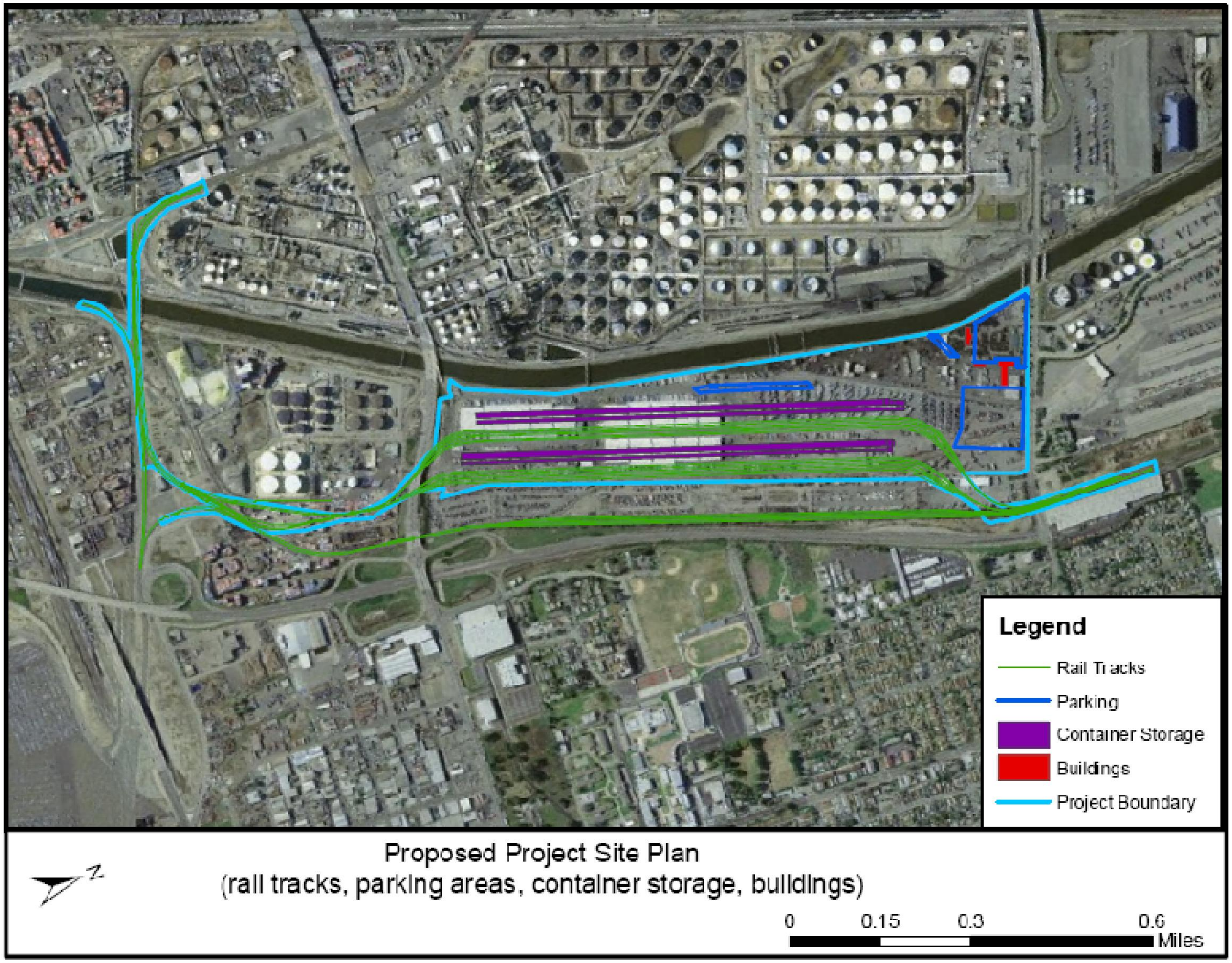
Because of its location approximately 4 miles from the ports, the proposed Project would eliminate a portion (estimated at 95 percent) of existing and future intermodal truck trips between the ports and the BNSF's Hobart Yard, approximately 24 miles north of the ports in the cities of Los Angeles and Commerce, by diverting them to the proposed SCIG facility. All truck trips between the ports and the SCIG facility would be required to use designated truck routes to avoid local neighborhoods and sensitive receptors. Figure 2-4 illustrates the current primary local truck routes between port facilities and the major transportation corridors leading to BNSF's Hobart Yard (red/dashed line), and the designated routes between port facilities and the proposed Project (green/dotted line). These changes in traffic patterns, which are evaluated in this EIR, are being proposed in order to shorten truck trips for movement of containers between ships and railcars, thereby easing traffic conditions on local freeways and reducing regional air quality impacts. The proposed Project would provide direct access to the Alameda Corridor and enable the Alameda Corridor to reach its potential in terms of train capacity, thereby further realizing the significant benefits that already result from its use. The estimated number of truck trips and train trips associated with the proposed SCIG Project is also summarized in Table 2-2.

The proposed Project incorporates a number of pollution-reduction features in order to promote the goals of the CAAP (see Section 1.6.1). In addition, elements and requirements of the Memorandum of Understanding (MOU) between the BNSF Railroad and the California Air Resources Board (CARB) would be implemented as part of the proposed Project. The proposed Project would incorporate a state-of-the-art logistics system that BNSF represents would significantly increase the efficiency of truck operations by substantially reducing turnaround times, waiting times, and the proportion of trucks making empty trips. The railyard is designed to reduce the number of train movements needed to assemble and disassemble trains, thereby reducing locomotive emissions, and would employ a new type of electric-powered gantry crane that would generate substantially less emissions than conventional intermodal cranes. The project applicant and LAHD anticipate that additional control technologies would be implemented in future years as they are developed through the CAAP and regional and state-wide initiatives, but such technologies (e.g., fuel-cell-powered trucks or hostlers, non-wheeled container movement systems, non-diesel locomotives) are either not yet available or not yet fully demonstrated for this project.

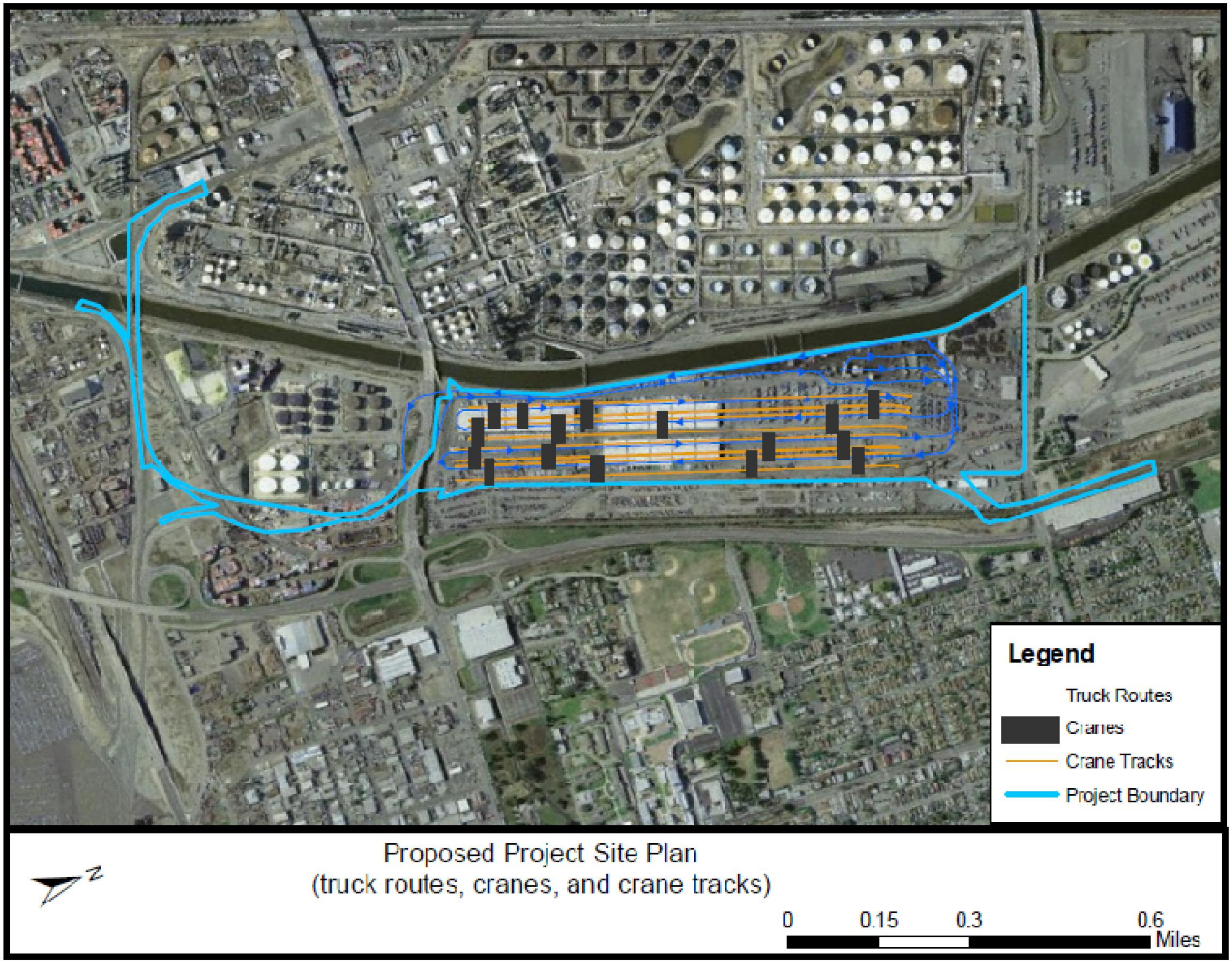
In response to the public comments received on the Notice of Preparation, BNSF has also offered to enhance the following elements:

- The operating contractor would be required to give qualified local residents priority for all new job offers at SCIG;
- BNSF would fund a workforce training program in partnership with local institutions to assist area residents in obtaining these jobs;
- Trucking companies contracted to the facility would be required to operate 2007 or later trucks (as required by the Port Clean Truck Program);
- Trucks serving the facility would be limited to specific non-residential truck routes and be equipped with GPS recording devices for compliance monitoring.

Figure 2-3a. Proposed Project Site Plan.



1 **Figure 2-3b. Proposed Project Site Plan.**



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1 **Table 2-2. Summary of Proposed SCIG Railyard Features and Operations.**

Element	Description
Railroad tracks	• 12 loading • 2 support • North lead tracks • South lead tracks • 2 service tracks
Electric-powered rail-mounted gantry cranes (RMG cranes)	• 10 loading • 10 stacking • 90-100 feet in height • Regenerative braking technology
Cargo-Handling Equipment	• 10 Liquefied Natural Gas (LNG)-fueled or equivalent technology yard hostlers • One diesel-powered railcar wheel changer
Drayage trucks	• On-road trucks meeting 2007 EPA on-road standards • Compliant with 2010 CAAP • Use of designated truck routes, monitored by GPS
Locomotives	• Low-emitting switching locomotive engines • Line-haul locomotives meeting 1998 SCAQMD MOU, 2005 CARB MOU and EPA linehaul locomotive emissions standards • Ultra-low-sulfur diesel (ULSD) fuel • Automatic idling reduction devices
Lighting	• Forty high-mast light poles, low-glare crane lighting, perimeter lighting, and roadway lighting. • Automation and efficient directional and shielding features
Truck trips per year (one-way) [1, 2]	• 1.5 million in 2016 • 2.0 million by 2023 (at full capacity)
Train trips per year (round trips)[3]	• 2,160 trips in 2016 • 2,880 trips by 2023 (at full capacity)
Throughput (TEUs/lifts)	• 2 million/1.1 million annually in 2016 • 2.8 million/1.5 million annually by 2023
Containers per day	• 3,034 in 2016 • 4,167 by 2023
Employees	• 250 in 2016 • 450 by 2023

1) The number of trucks is greater than the number of containers to allow for a proportion of "bobtail" (i.e., unloaded) trips in cases where a truck is not loaded in both directions. The ratio of truck moves to containers is 1.33:1.
2) Total trips; the number of trips in each direction would be half of the total.
3) A train is assumed to carry 260 containers; the number of train moves per day would be double the number of round trips (i.e., one inbound move, one outbound move).

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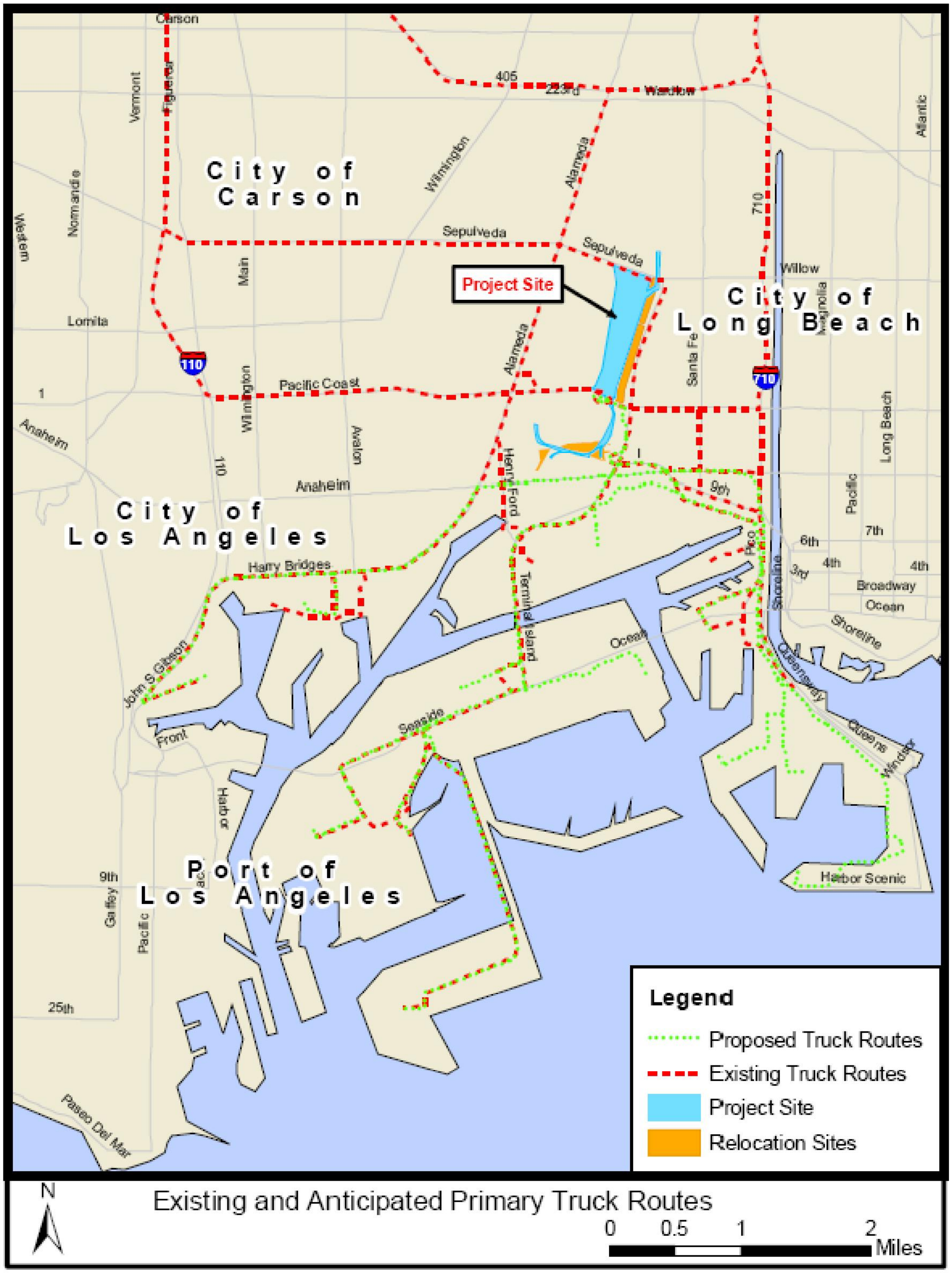
Figure 2-4. SCIG Designated Truck Routes.



2.4.2 Proposed Project Elements

This section describes the physical elements of the proposed Project. Construction activities and phasing are described in Section 2.4.3 and operational activities are described in Section 2.4.4.

2.4.2.1 Property Acquisition and Tenant Relocations

The proposed Project requires acquisition or lease of non-LAHD properties by the project proponent BNSF and certain lease terminations and business relocations on LAHD properties. Of the existing businesses within the proposed Project site, only three (a portion of California Cartage, Fast-Lane Transportation, and the ACTA maintenance yard, Table 2-3) would be relocated to nearby properties as part of the proposed Project. All other remaining businesses within the proposed Project site on LAHD properties would have their leases non-renewed/terminated and those on non-LAHD properties would be removed upon acquisition of the properties by BNSF. The only exceptions are two SCE tenants – Three Rivers Trucking and a portion of California Cartage – which are assumed to remain on the property they lease within the SCE corridor. The displaced businesses for which no relocation sites were identified as part of the proposed Project or during the time of this analysis are assumed to move to other compatible areas in the general port vicinity as part of their own business operations and plans. This issue is considered in more detail in Chapter 3.8 Land Use.

Potential relocation sites for Fast Lane Transportation, the ACTA maintenance yard, and a portion of California Cartage operations are depicted in Figure 2-5. Fast-Lane would move from the area of the south lead track to an approximate 4.5-acre site just south of its current location and the ACTA maintenance facility would move to an approximate 4-acre site just west of the Dominguez Channel. California Cartage would relocate a portion of its operation to a 10-acre site where the current ACTA maintenance facility is located near the South Lead Track area. As stated previously, California Cartage would also maintain the property it currently leases from SCE, which is estimated to be 19 acres.

All three of these businesses would construct new facilities, consisting of a maintenance facility and offices for Fast-Lane, a maintenance/office building for the ACTA facility, and offices, warehouses, and maintenance facilities for California Cartage. These structures are assumed generally to resemble the existing structures in size and appearance, except that the California Cartage warehouses would be smaller, more modern, and more efficient structures than the existing warehouses, given the large reduction in property acreage.

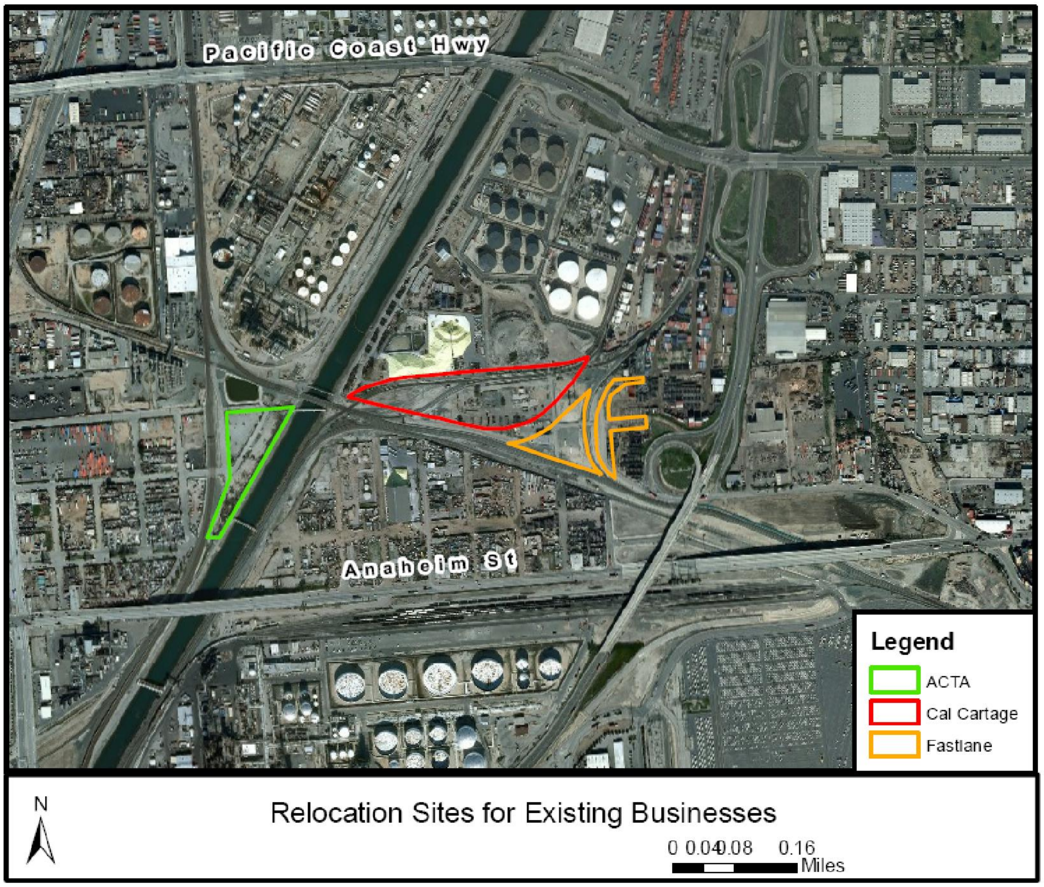
Table 2-3. Relocation of Four Existing Tenant Operations on the Proposed Project Site.

California Cartage	Non-renewed lease. Relocate to 10-acre site south of PCH currently occupied by the ACTA maintenance facility. Maintain 19-acre parcel currently leased from SCE.
Three Rivers Trucking	Terminate lease for parking/queuing area on LAHD property but maintain property leased from SCE (reduced in size due to the proposed north lead tracks).
ACTA Maintenance Yard	Relocate to vacant 4-acre site west of the Dominguez Channel.
Fast Lane Transportation	Relocate to a vacant 4.5-acre site immediately south of current location.

For the purposes of this EIR it is assumed that the three tenants to be relocated (Fast Lane, ACTA maintenance, and California Cartage) and Three Rivers Trucking would continue to operate on their existing sites throughout 2013 while construction of their relocation facilities and certain proposed Project elements proceeded. In 2014, the relocated businesses would operate on their new sites and Three Rivers Trucking would continue operations on its SCE parcel, as described in Table 2-2, while the remaining proposed Project elements were constructed. With one exception, this document assumes that the relocated tenants would operate at the same levels on their new sites as they would have on their existing sites. In the case of California Cartage, LAHD has requested information regarding how California Cartage intends to maintain or scale down their operations at the relocation site. At the time of this analysis, however, California Cartage had provided some information related to truck parking but none related to transloading operations (California Cartage communication, 2009). For the purposes of this analysis, therefore, the transloading activity at the current 104-acre site is assumed to be reduced by approximately 72 percent based on the available acreage at the new 10-acre relocation site and the existing 19-acre SCE parcel. This is a conservative assumption because it assumes that California Cartage would continue to provide some transloading (including parking) services on the relocation site and the SCE parcel if permitted by SCE in accordance with their land use policies. California Cartage's access to the 19-acre SCE parcel would be relocated to a driveway leading from Sepulveda Boulevard through the Three Rivers Trucking facility. It is also assumed that Three Rivers Trucking would operate at the same activity level on the SCE parcel even though the proposed north lead track would bisect a portion of their area and require the relocation of a building. It is assumed that BNSF would negotiate a new lease with SCE in order to accomplish the necessary facility modifications.

Minor property acquisitions in the area of the proposed south lead tracks would also be necessary in order to provide adequate space for the track alignments as well as construction staging areas. None of those acquisitions would necessitate business relocations, as all involve small, vacant parcels of land (see Table 2-1).

Figure 2-5. Relocation Sites.



2.4.2.2 New Railyard

The SCIG facility would be centered around a railyard that would consist of trackage for the trains that would move containers in and out of the port area. The railyard would have three major sets of tracks (two sets of loading tracks, one of storage tracks) to support train operations (Figure 2-3a). These tracks would comprise a total of approximately 105,000 feet of track (including the south lead tracks, see below) and at least 37 switches. The railyard would also include a number of support elements as described below.

Loading (Strip) Tracks. The train loading and unloading area would consist of 12 tracks, known as strip tracks, each approximately 4,000 feet long and connected at both ends of the railyard to lead tracks providing access to the regional rail network. The strip tracks would run down the center of the facility in two groups of six tracks each, separated by a paved container staging and storage area. The area between the tracks and on either side of the tracks would be paved with concrete or asphalt to support the trucks, yard tractors, and cranes that would load and unload the trains. The rails themselves would rest on concrete ties set in crushed rock known as ballast, which would represent a permeable surface.

Storage Tracks. Two parallel 4,000-foot-long storage tracks would run along the eastern edge of the railyard, parallel to the existing ports-owned San Pedro Branch tracks, from one of the south lead tracks to the north lead tracks.

Service Tracks. Two, 1,300-foot-long tracks for servicing locomotives and rolling stock would be located in the southern part of the railyard site. These tracks would be connected to the south lead tracks.

Container Loading and Stacking Areas. Three-lane paved areas adjacent and parallel to the strip tracks would be used for trucks to come alongside the trains for loading and unloading. Partially-paved areas for container staging would be located between the two sets of strip tracks, on the west side of the western strip tracks, and in the northern portion of the site. The staging areas would be used as temporary transfer points between trucks and the intermodal trains. The areas near the tracks would be used for stacking containers up to five high (40-foot height). The northern area would be used for truck parking and for storing chassis-mounted containers ready for pickup by trucks.

A portion of the facility in the southwest corner of the site that is designated to accommodate refrigerated containers would be equipped with electrical plugs so that the diesel-powered or dual diesel/electric-powered portable refrigeration units (TRUs) could be switched off while the containers are in the railyard, thereby reducing emissions. Refrigerated containers are expected to constitute approximately one percent of the containers handled at the facility.

Cargo-Handling Equipment. The railyard would have 20 electric-powered RMG cranes, ten servicing each set of strip tracks (Figure 2-3). These cranes would be of a new design not currently in use at California intermodal facilities, and would move on steel wheels along steel tracks. Ten of the cranes, which would all be operational on opening day, would be 89 feet high and 210 feet wide, enough to span a group of six strip tracks (rather than the two tracks conventional cranes span), the adjacent truck lanes, and half of the adjacent container staging area. This span would be due to extensions of lifting components of the cranes that would be cantilevered out over the last two tracks on one side and half of the stacking area on the other. These cranes, which would run on their own rails set 120 feet apart, would load and unload the railcars and chassis. The other ten cranes would be 98 feet high and 169 feet wide, enough span the truck lane on the other side of each set of strip tracks and the entire adjacent container stacking area, and would manage the stacks of containers. The cantilevered extensions of these stacking cranes, which would operate on rails set 102 feet apart, would be able to pass over the shorter RMGs used to load the trains (Figure 2-3a), thereby maximizing the efficiency of the stacking and loading/unloading operations. The stacking cranes would be installed over a period of several years, beginning in 2015, as throughput increased.

The use of electric-powered, rail-mounted gantry cranes rather than the diesel-powered, rubber-tired gantry cranes (RTGs) used in marine terminals and intermodal rail yards is consistent with the terms of the CAAP. The cranes would be a modern design that would include regenerative braking mechanisms that would return power to the grid during braking and the container lowering phase of operations.

A small proportion of the chassis would be drayed between the chassis storage areas and the strip tracks by up to 10 yard hostlers (hostlers are tractors used to haul chassis-mounted containers around inside the facility). The hostlers would be equipped with LNG-fueled or equivalent engines that would not be a source of diesel emissions.

A small, rubber-tired, wheel change machine would be used to change out faulty railcar wheels. This piece of equipment would have a clean diesel engine, consistent with the terms of the CAAP. The facility would also include 14 gasoline-powered service support vehicles for transporting personnel and light equipment around the facility.

Office and Maintenance Area. The office and maintenance area would be located in the northwest portion of the proposed Project site and would include an administrative office building, a hostler maintenance building, a crane maintenance facility for servicing the rail-mounted and wheeled cranes, and a driver assist facility. Other maintenance elements, which would be located elsewhere in the facility, would include an air compressor building (for supplying compressed air to the train brake systems), a fueling facility (including an above-ground storage tank) for yard equipment, and an electrical substation.

The administration building would be a three-story structure with approximately 26,000 square-feet (sq. ft.) of office space to house BNSF and contract personnel. The hostler and crane maintenance building would be a single-story building of approximately 19,000 sq. ft. Given their sizes, both buildings fall under the POLA's LEED (Leadership in Energy and Environmental Design program) criteria. Accordingly, they would be designed to LEED standards to meet energy-efficiency and sustainability goals, including passive heating and cooling design, ecologically sound structural materials and coatings, and energy-efficient heating, lighting, and ventilation systems. The air compressor building would be an approximate 1,000 to 1,500-sq-ft, single-story structure.

Truck Gate Complex. Inbound and outbound gates would form a complex at the northwest end of the facility near Sepulveda Boulevard. Both gates would include access lanes, a portal, and a checkpoint. Trucks and other traffic would enter and leave the facility via paved, 3,500-foot access lanes located along the west boundary of the railyard. The inbound and outbound lanes would connect to PCH just south of the railyard. For most of the distance along the railyard there would be one lane in each direction, but at the north end of the railyard, at the checkpoint, the lanes would widen to eight in each direction.

The in-gate portal would be a small building located next to the inbound access lane midway between the PCH off ramp and the facility checkpoint. The outbound portal would be near the north end of the outbound lanes. The portals would allow trucks to be digitally inspected via cameras using optical character recognition technology to document the condition of the equipment, to check the integrity of the shipping seals, and to verify the identity of the container and chassis.

The inbound checkpoint would be at the end of the queuing lanes, at the entrance to the railyard, and the outbound checkpoint would be a kiosk south of the outbound portal. The inbound checkpoint would consist of approximately twelve (12) gate booths covered by a 222-foot-wide canopy with a small driver assistance building nearby. The portals and checkpoints would not be staffed directly; rather, all transactions would be conducted by computers and cameras linked to operators in the administration building. The driver assistance building would be staffed.

Utilities and Lighting. Electrical service would be provided by either LADWP or SCE, likely via a new 23kVa connection to a nearby substation together with another 23kVa connection to a separate substation for redundancy. The facility would be provided with a modern storm drain system that would meet the requirements of the City of Los Angeles MS4-NPDES. More detail on the storm drain system is provided in sections 3.11 (Public Service and Utilities) and 3.12 (Water Resources). New potable water and on-site sanitary sewer systems would be constructed, but the site's existing sewer mains to the Los Angeles

County Department of Public Works facilities would be used (since the site would support fewer workers than at present, the sewers would not need to be upgraded).

The proposed facility would include 40 high-mast light standards, crane lighting incorporating on-demand technology; perimeter lighting; and roadway lighting. The lighting would include automation and efficient directional and shielding features in accordance with LAHD lighting policy/practice in order to minimize light spillover into adjacent facilities and residences and to minimize energy use. The crane lights would illuminate only when the cranes were in operation (moving or actually lifting or placing containers).

2.4.2.3 North Lead Tracks

Two north lead tracks, one from each group of six strip tracks, would cross Sepulveda Boulevard on an existing bridge, which would need to be replaced, to connect the proposed Project to the Ports' San Pedro Branch track. These approximately 1,000-foot-long tracks would operate primarily as tail tracks to allow trains to uncouple or couple two train halves on the loading tracks, but they could be used for train access to the railyard from the San Pedro Branch in an emergency in the event the south lead tracks are inoperable. The north lead tracks would cross SCE property, including an access road to the SCE land and SCE tenants (i.e., Three Rivers Trucking and a portion of California Cartage), via an overpass. In addition, several of the electrical lines on SCE property would need to be raised in order to provide clearance for the north lead tracks that would be elevated in this area. To accomplish this, the existing transmission and subtransmission towers would be removed and new towers would be built nearby. SCE would need to relocate its communication line from the existing towers to temporary poles until the new towers were built, at which time the line would be attached to the new towers.

2.4.2.4 South Lead Tracks

The two south lead tracks, each approximately 4,000 feet long, would link the proposed Project to the Alameda Corridor, west of the facility, and would serve as the facility's connection to the regional rail network; normally, all trains would enter and exit the facility on the south lead tracks. These lead tracks would enable an 8,000-foot-long train to exit the Alameda Corridor and enter the facility without interfering with Alameda Corridor main line operations, and conversely, would allow an outbound train to couple two train halves together into one train without interfering with Alameda Corridor main line operations.

After exiting the railyard, the south lead tracks would curve westward under PCH, cross the Dominguez Channel on a reconstructed bridge, and then join the Alameda Corridor mainline tracks. To accommodate the new tracks a number of modifications would be made to existing trackage, including relocating the existing Long Beach Lead tracks and installing switches, widening the Dominguez Channel rail crossing, relocating the industry lead tracks along the Alameda Corridor, and installing switches to connect the lead tracks to the Alameda Corridor.

A locomotive service area consisting of two short tracks would be located adjacent to the south lead tracks on land south of PCH. Both yard switching and line-haul locomotives would receive minor service, including fueling, in this area (major service would be performed at central locomotive service facilities off-site). Because the fueling would be accomplished by mobile fuel trucks, there would be no fixed fuel tanks at the staging area.

2.4.2.5 Roadway and Rail Bridge Access Elements

The proposed Project would include a number of roadway and trackage improvements outside in order to provide truck and train access to the SCIG facility.

Grade Separation at PCH. A new interchange would be constructed on PCH next to the Dominguez Channel (Figure 2-6). The interchange project would include new ramps connecting the SCIG access road to the westbound PCH and a reconstructed interchange connecting the SCIG access road to the eastbound PCH.

Although there is an existing road underpass, there is no existing rail underpass beneath PCH. To accommodate the transition of the twelve strip tracks into the two south lead tracks, it would be necessary to construct a rail underpass that could accommodate eight tracks. The existing PCH bridge spanning the SCIG access road between the eastbound PCH and the proposed Project site would, therefore, need to be lengthened to allow the southern portion of the strip tracks as they join the south lead tracks to pass under the PCH on the way to the Alameda Corridor. In addition, this bridge lengthening would allow the SCIG access road to be widened to two lanes. The new road underpass would allow trucks exiting the facility to proceed eastbound directly onto PCH to the Terminal Island Freeway, thereby facilitating access to designated truck routes. This change would involve relocation of abutments and support piers, replacing the existing bridge spans with new spans of increased length, and constructing new roadway.

Figure 2-6. Proposed PCH Overpass.

Dominguez Channel Bridge. The rail bridge over the Dominguez Channel would need to be widened to accommodate the south lead tracks as shown in Figure 2-7. This would involve widening the abutments and piers, and placing a new span wide enough to accommodate four tracks.

Figure 2-7. Proposed Dominguez Channel Rail Bridge.

Southern California Edison Access Road. The north lead tracks would cross a portion of the SCE property along the east side of the proposed Project site through an easement that BNSF would negotiate. The SCE access road at the north end of SCE's property would be upgraded to the standards of AASHTO Edition 5 (2004) to allow it to serve as the primary access for Three Rivers Trucking and the portion of California Cartage that is assumed to stay on the property leased from SCE. The access road would be improved and dropped below existing grade for a short distance in order to pass under the proposed north lead tracks. A bridge would carry the tracks over the road. In addition, emergency access to the SCE parcel would be provided at several points throughout the proposed railyard.

Sepulveda Boulevard Bridge. The existing railroad bridge over Sepulveda Boulevard would be replaced by a modern bridge capable of carrying three tracks (the existing bridge can only carry one track for modern trains), in order to accommodate the proposed north lead tracks. The new bridge would include widened approaches and abutment areas. This document assumes that the new bridge would be constructed of reinforced concrete in a modern design, but it is possible that noteworthy architectural features of the existing bridge would be salvaged and re-used in the new bridge for aesthetic and cultural preservation reasons.

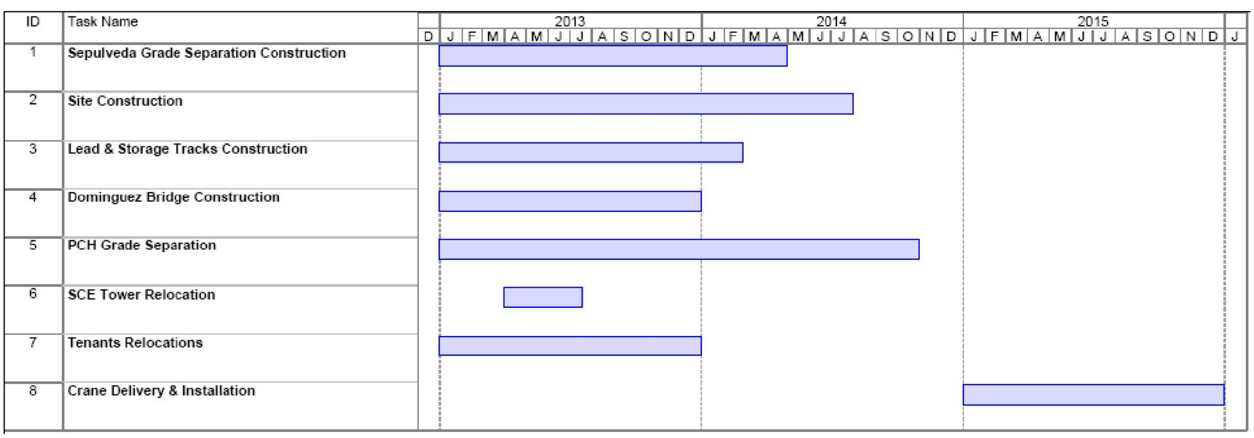
2.4.3 Construction Activities and Phasing

Construction of the proposed project would occur over approximately a 36-month period from 2013 to 2015, with the erection of cranes occurring in 2015 (Figure 2-8). Construction activities would occur essentially simultaneously in three major areas:

1. The railyard including the north lead tracks and railroad bridge over Sepulveda Blvd;
2. PCH grade separation and interchange;
3. The south lead tracks area along the Long Beach Lead and Alameda Corridor, including the Dominguez Channel Bridge.

Depending on the amount of construction activity at any given time, there would be 30 to 150 workers per day, 12 to 30 pieces of construction equipment, and 30 to 150 vehicles transporting workers and materials to and from the various construction areas. Construction would normally occur during two shifts per day, consistent with City of Los Angeles code requirements to reduce noise. However, this document assumes that nighttime construction would occur on the PCH grade separation as a requirement of local authorities to maintain traffic flow.

Figure 2-8. Construction Schedule.



Specific construction activities for the proposed Project elements are described in more detail below. Detailed information on the types and numbers of construction equipment are presented in sections 3.2 (Air Quality) and 3.10 (Transportation), and details of construction quantities and techniques are presented in Appendix C.

Activities common to all construction activities would include servicing construction equipment at designated areas; transporting construction workers, supervisors, and inspectors onsite in light-duty trucks and light buses; and controlling dust, track-out, and erosion by following a Construction Storm Water Pollution Prevention Plan that would require storm water best management practices such as wetting, wheel washing, erosion barriers, hazardous materials containment, and site inspections (see Section 2.4.3.1).

In addition to construction of the railyard, construction activities of the relocated tenant sites would occur. These would include demolition of existing structures at the tenant relocation sites and construction of new structures (a maintenance facility and offices for Fast Lane, a maintenance/office building for the ACTA facility, and offices, warehouses, and maintenance facilities for California Cartage) and grading/paving activities for on-road vehicle access (see Section 2.4.2.1 for details of relocation facilities).

2.4.3.1 General Construction Practices

A number of construction practices would be common to all elements of construction, including storm water management, waste management and pollution control, and staging area management.

Storm Water Management. All construction sites would be managed in accordance with the proposed Project's National Pollution Discharge Elimination System (NPDES) construction storm water permit, which would require a storm water pollution prevention plan (SWPPP) for each site. The SWPPPs would be developed by the LAHD, BNSF, the contractor, and the construction management team, and no construction would start until the SWPPPs had been approved by the LAHD. The SWPPPs would specify the best management practices (BMPs) to be followed at each site to minimize or eliminate discharges of water pollutants to surface and ground water via runoff from construction areas.

BMPs would include both procedural controls and structural controls. Procedural controls would include minimizing the amount of exposed soil at any one time during grading operations; washing dirt off construction vehicles before they leave the site; refueling construction equipment only in designated areas; keeping construction materials, fuels, lubricants, and solvents in designated containment areas; protecting storm drain inlets with covers, filters, or sandbags; and conducting regular inspections of procedures and structures. Structural controls would include installing and maintaining berms, catchment areas, and filters, and installing grates and wheel washers at site exits. Contractors would be required to implement the provision of the SWPPP, and the construction manager would be responsible for ensuring that compliance and for ensuring that the SWPPP is modified as necessary during the construction phase to respond to changing conditions and address ineffective BMPs.

Pollution Control. Construction equipment and practices would conform to CAAP's Construction Activity measure, as implemented by the LAHD's Sustainable Construction Guidelines (adopted February 2008). Specifically, all construction equipment would be fitted with mufflers, all engines would be maintained regularly, the construction contract would specify the use of newer off-road equipment meeting USEPA Tier-2 off-road standards and fitted with diesel emissions control devices, as appropriate, and the use of on-road trucks meeting the 2004 on-road standards, and the contractors would be required to comply with SCAQMD Rule 403.

Dust control would include regular, frequent spraying of exposed soils by water trucks, minimizing the amount of exposed soil by staging excavation and backfill, conducting regular street sweeping and street wash down (employing storm water controls), rinsing soil and dust off vehicles exiting the sties, and potentially applying surface stabilants with spray trucks to areas that must be exposed for prolonged periods.

Non-hazardous recyclable solid wastes generated from construction (piping, welding and coating wastes, scrap lumber and cardboard) would typically be hauled to local recycling centers. Asphalt and concrete would be recycled on-site for use in project construction.

Used hydrostatic test water would be treated as required and discharged under permit. Contaminated soils or groundwater could be encountered during the construction of pipelines and. would be sent to a permitted treatment or disposal facility in accordance with local, state, and federal regulations (see Section 3.7 for more detail).

Staging and Storage Areas. Sites for equipment laydown, material storage, construction management, and worker parking and staging would be located on the proposed Project site, Sepulveda Boulevard bridge site, and adjacent to the PCH and Dominguez Channel sites. Storage yards and staging areas would be on sites that have already been improved, with access to large commercial streets to allow easy movement of personnel and equipment. It is anticipated that the majority of materials would be brought in during off-peak traffic hours, with the primary exception being concrete, which must be mixed and delivered within a limited window of time.

Construction material would also be stored at contractors' existing facilities as well as at those of suppliers providing equipment, materials, or labor to the proposed Project. Aggregate, concrete, asphalt, sand, and slurry materials would be purchased locally (when available) and storage would be provided by local suppliers or in one of the designated storage areas. Staging and storage areas would be protected with storm water controls in accordance with the proposed Project's construction storm water permit and Storm Water Pollution Prevention Plan (SWPPP; see Storm Water Management, above).

Hazardous Materials Abatement. Prior to demolition, existing structures would be inspected by qualified personnel for the presence of asbestos-containing materials. If asbestos is found in a material that will become friable during demolition, then these materials would be removed and disposed of in compliance with EPA and Los Angeles County regulations prior to demolition. The appropriate notification would be made to these agencies prior to demolition.

Public Utility Management. Prior to the start of construction BNSF would prepare, or cause to be prepared, a Public Services Relocation Plan that would describe the procedures for minimizing public services and utility service disruptions in the Project area. The Plan would be developed with input from the service providers for the Project site and would be submitted to city regulatory departments (Los Angeles, Long Beach, and Carson) for review and approval**.** The Plan would include the following measures:

- Prior to disconnecting any existing services, new facilities (i.e., water, sewer, communications, gas, and electricity) would be installed. Pipeline installation would occur within existing utility corridors/easements to the extent possible.
- As demolition activities progress, unnecessary facilities and connections would be eliminated and new facilities and connections activated.
- Minor service interruptions (those lasting 1 day or less) could occur during the transition between obsolete and newly installed facilities and services. Affected properties would be properly notified prior to any service interruption.
- Full access to all utilities would be restored upon completion of Project construction.

It is anticipated that similar measures would be undertaken by the relocated businesses during the construction of their relocation sites.

Traffic Management Plan. A traffic management plan containing traffic control measures conforming to the requirements and guidance of the Los Angeles Department of Transportation (LADOT), Caltrans, and the cities of Carson and Long Beach, would be required at the time construction permits are obtained. Potential measures may include detour plans, limiting major road obstructions to off-peak hours, coordination with emergency service and transit providers, coordinating access with adjacent property owners and tenants, and advance notice of temporary parking loss or use of detour roads. At a minimum, construction-related traffic would be prohibited from entering residential areas and only local roadways and highways would be utilized.

2.4.3.2 Construction of the Railyard, North Lead Tracks, and Sepulveda Railroad Bridge

Demolition. The proposed Project site and relocation sites would be cleared of existing structures and miscellaneous site features such as pavement, curbs, signs and above-ground utilities prior to construction. These structures principally consist of: (a) three warehouses; (b) several small buildings/structures; (c) pavement; and (d) access roads and railroad tracks. The demolition debris would be recycled on-site (asphalt and concrete) or transported to an offsite recycling or disposal facility. The demolition would require approximately four to five months to complete.

Underground Utilities. A number of underground pipelines would need to be relocated or reinforced in place in order to accommodate the configuration, weight, and vibration of the proposed facility. This work would involve trenching both to access the existing pipelines and to construct new alignments, cutting and disposal of pipelines, concrete work, and construction of ancillary features (e.g., cathodic protection, valves, inspection ports). The underground utility work would require approximately four to five months to complete.

Earthwork. Earthwork would include excavating, repositioning, and compacting approximately 325,000 cubic yards of earth and hauling another 175,000 cubic yards offsite for reuse elsewhere or disposal in approved landfills. Some of the soils could require environmental remediation prior to or during the earthwork phase of construction if contamination is discovered. In that case, testing and disposal would be conducted under the oversight of approved environmental professional in accordance with local, state, and federal regulations (see Section 3.7 for more detail). Earthwork would require approximately 9 months to complete.

Drainage and Utility Construction/Relocation. Underground utilities and drainage piping would be installed at the Project site and relocation sites at the same time as the earthwork takes place. The project would require relocation of the above-ground Los Angeles Department of Water and Power (LADWP) electrical power lines. The existing SCE electrical power lines and towers would not be relocated except, as noted in Section 2.4.2.3, for the SCE electrical lines in the vicinity of the south side of Sepulveda Boulevard that would need to be raised to accommodate California Public Utility Commission vertical clearance requirements where the north lead tracks would traverse the SCE right of way to connect to the San Pedro Branch tracks. The underground utility work would involve opening of trenches, installation of underground services, and closure of trenches, and would require approximately six months to complete.

Fine Grading and Sub-grade Preparation. As the earthwork and drainage/utility phases are completed, fine grading of unpaved areas and sub-grade preparation of areas to be paved would commence. Approximately 245,000 cubic yards of aggregate base course would be delivered to the facility and to relocation sites as necessary, where it would be spread by bottom dump trucks. This work would require approximately two months to complete.

Paving. Approximately 10,000 cubic yards of reinforced concrete and 310,000 tons of asphalt-concrete would be poured at the site in the construction of roads, truck lanes, parking areas, curbing, crane runways, container stack runways, structure foundations, and building pads. Traffic control barriers would be installed, and the paved areas would be striped. This work would require approximately 3 months to complete.

New Buildings. Buildings and other structures to be constructed at the project site and relocation areas would include administrative buildings; warehouses; a driver assist building; hostler, crane, and general maintenance structures; checkpoint structures; and light towers. Building construction would require the delivery and installation of structural steel, concrete, siding, roofing, interior paneling, interior utilities, surface coatings, and equipment. This work would require approximately 9 months to complete.

Track Work and Signal Installation. Approximately 46,000 feet of track (consisting of ties, rails, tie plates, joint bars, spikes, and various other small materials), and at least 24 switches would be installed. Aggregate materials (crushed rock and ballast rock) would be placed and the tracks leveled and straightened. Signal equipment necessary to control movement of trains to and from the facility would be installed. Track work would take approximately 3 months with crews working one 10-hour shift per day, up to 6 days per week.

Sepulveda Railroad Bridge. The existing rail bridge over Sepulveda Boulevard/Willow Street would need to be replaced to accommodate additional tracks. This work would include widening the existing overpass abutments and installing a new steel span that would carry three tracks over Sepulveda Boulevard/Willow Street.

Construction would proceed in three phases. In phase 1 the existing bridge and UPRR track would be moved approximately 15 feet west to keep the UPRR track in service, and the easterly portion of the new bridge, along with new approaches and retaining walls, would be constructed. New track would be installed along the eastern half of the new right of way that would become the new UPRR track.

In phase 2 the old UPRR track and the existing bridge would be removed and the western portion of the new bridge, approaches, and retaining walls would be completed. The new BNSF North Lead Track would be installed on the new bridge and approaches to complete construction.

The existing bridge would be either a) moved to another location to be preserved as a historical artifact, b) disassembled and partially salvaged for re-use or display, or c) demolished after historical recordation. Certain features of the existing abutments might be salvaged and re-used in the new bridge (see Section 3.4, Cultural Resources, for details regarding the disposition of the existing bridge).

Other existing structures, pavement, and aggregate would be demolished and recycled or disposed of, new pilings would be installed, new concrete abutments would be constructed, and the new span and tracks would be installed. Construction would take approximately 16 months.

Southern California Edison Access Road. Improvements to the SCE access road would include demolition of most of the existing road, grading to lower the road profile and widen the roadbed, dropping the road below existing grade for a short distance in order to pass under the proposed north lead tracks, installing a bridge to carry the tracks over the road, installing pavement, curbs, and storm drainage, striping the new pavement, and installing signage as necessary. Excavated soil would be either used elsewhere on the Project site or hauled away for appropriate disposal (most likely, sold to a soil broker or used as landfill daily cover). Graders, haul trucks, concrete cutters, paving equipment, concrete trucks, and utility vehicles would be used. An alternative access road approved by the SCE, LADOT, POLA, and Caltrans would be established to maintain access to SCE property during construction. This work would take approximately 120 days.

2.4.3.3 Construction of the Pacific Coast Highway Grade Separation

The existing PCH Bridge that spans the access road off of PCH into the proposed Project site would be modified to accommodate the south lead tracks and access roads. Modifications would include relocation of abutments and support piers, replacement of the existing bridge spans with new, longer spans, and reconstruction of the PCH roadway over the new underpass. Construction would include demolition of the existing structure and pavement, installation of new reinforced-concrete pilings, fabrication of structural steel, construction of new concrete abutments, installation of new reinforced concrete spans, and construction of new asphaltic-concrete pavement, including striping, drainage, and curbing. Traffic detours would be implemented in accordance with a traffic plan that would be approved by the LADOT, POLA, and Caltrans. This work would take approximately 22 months.

2.4.3.4 Construction of South Lead Tracks and Dominguez Channel Bridge

Construction of the south lead tracks would require widening the Dominguez Channel rail bridge to accommodate the additional tracks.

Earthwork and Utilities. Approximately 36,000 cubic yards of soil would be excavated, repositioned, and compacted on the site to bring the site to finish grade. Recycled crushed paving materials would be incorporated into the site to improve its geotechnical qualities. Underground utilities would be relocated as necessary, which would involve trenching and the installation of pipe and conduit, manholes, and catch basins. Earthwork and utility relocation would take approximately 14 months to complete.

Track Work and Signal Installation. Track construction would involve the installation of approximately 18,000 feet of track, ten switches, and signals as necessary between the primary proposed Project Area and the western end of the reconstructed Dominguez Channel Bridge. Approximately 10,000 cubic yards of sub-ballast and 45,000 cubic yards of ballast materials would be placed in the right of way and then the tracks would be installed, leveled, and straightened. Signal equipment to control the movement of trains to and from the facility, the Alameda Corridor, and other port-area trackage would be installed. This work would take approximately six months.

Dominguez Channel Bridge. Bridge reconstruction would involve widening the abutments and piers, and placing new bridge elements. Soil would be excavated and re-used on site or disposed of, the old abutments would be demolished, piles would be driven into the shoreline, new concrete abutments constructed, and a new steel span fabricated and installed. Work would be staged so as to minimize disruptions of train traffic between the ports and the Alameda Corridor. New pilings and new concrete abutments would require work within waters of the United States. This work would take approximately 12 months.

Landscaping. Following completion of the major site improvements, landscaping would proceed along the site perimeter. Construction would include fine grading, the installation of fencing materials, and the placement of soil and plants. This work would take approximately 20 days.

2.4.3.5 Installation of Loading Cranes

Once the railyard is completed the 10 RMG cranes would be assembled, tested, and readied for the opening of the facility. This work would involve the delivery of crane components by ship, truck and rail and their fabrication on site, and would take from six to 12 months in 2015. Six stacking cranes would also be delivered, assembled, and tested during 2015; the remaining four stacking cranes would be delivered and placed into operation in subsequent years, as needed to handle increasing throughput.

2.4.4 Proposed Project Operations

The SCIG railyard is expected to begin operation in early 2016 and is assumed to reach full operation (maximum capacity) in 2023. It would operate 24 hours a day, 7 days per week, 360 days per year; trucks and trains would arrive at and depart from the facility day and night. Upon opening, the facility would have approximately 250 employees (e.g., crane operators, train crews on site, hostler drivers, mechanics, clerks, inspectors, security personnel, and supervisors), which would increase to a maximum of 450 employees at full operation. The employees would operate the facility over three shifts (typically 6AM-2PM, 2PM-10PM, 10PM-6AM). Up to 40 visitors and vendors (e.g., customers, off-site BNSF staff, fuel truck deliveries, couriers/postal deliveries, and janitorial service) would stop at the facility each day, on average, and train crews and truck drivers would make use of on-site rest facilities. In the first year of operation, the SCIG railyard is estimated to consume approximately 5,500 megawatt-hours (MWh) of electricity, which would increase to 8,700 MWh at full operation, starting in 2023.

Operations would involve the use of a variety of cargo-handling equipment on site, and activity by trucks and railroad locomotives from off-site locations. The use of remote sensing and computerized inventory, scheduling, and communications would allow the railyard to minimize redundant or unproductive truck and hostler trips.

2.4.4.1 Truck and Container Operations

Containers arriving from the ports on trucks would be loaded directly onto railcars if the appropriate railcars are available, or staged in the container stacking areas if they are not. Containers arriving on trains from the east would likely be temporarily staged in the container stacking areas until being loaded on trucks for delivery to port terminals, although to the extent trucks were available immediately they could be transferred directly from railcars to trucks.

Containers would be picked up from and delivered to the marine terminals in the Ports by on-road drayage trucks operated under contracts between various trucking companies and BNSF for drayage between the SCIG railyard and the Ports. The contracts would specify that all trucks would be powered by engines that meet or exceed the 2007 EPA on-road standards (see section 2.6.2.3 for a discussion of potential alternative truck technologies). This arrangement would ensure that the trucks entering and leaving the SCIG railyard would meet the 2010 CAAP's Clean Truck Program (CTP) engine emissions requirements.

The proposed SCIG facility would operate like a circuit. On-road trucks would arrive at and depart from the facility hauling 20-, 40-, and 45-foot shipping containers on chassis.

The trucks would be typical tractors of the type used in 18-wheel semi-trailer rigs throughout the country except, as described above, they would be powered by 2007 or newer EPA on-road diesel engines. The number and frequency of these truck arrivals and departures would vary depending on vessel and train schedules, but it is expected that at full capacity an average of approximately 5,542 trucks, carrying 4,167 containers, would arrive at and depart from the facility each day, as well as employee and vendor traffic (Table 2-2; Appendix G). Truck travel to and from port terminals to the SCIG railyard would occur along designated truck routes described below and shown in Figure 2-4. The truck routes would be used as follows:

- From the West Basin, trucks would proceed on Harry Bridges eastbound to Anaheim Street, take Anaheim eastbound to the Terminal Island Freeway, then proceed northbound on the Terminal Island Freeway, exiting at Pacific Coast Highway and entering facility queuing lanes.
- From Terminal Island, trucks would proceed on Seaside/Ocean Avenue to the Terminal Island Freeway, then proceed northbound on the Terminal Island Freeway, exiting at Pacific Coast Highway and entering facility queuing lanes.
- From the Port of Long Beach, trucks would proceed north on Harbor Scenic Drive to I-710, proceed north to exit I-710 at either 9th Street or Anaheim Street, proceed west to the Terminal Island Freeway, then north on the Terminal Island Freeway, exiting at Pacific Coast Highway and entering facility queuing lanes.

Use of these truck routes would be monitored and enforced through the use of GPS devices installed in the trucks, in accordance with contract requirements.

Inbound trucks would enter the SCIG railyard from the PCH off-ramps and proceed to an on-site entry portal to undergo an automated inspection and identification process that would use multiple digital cameras to document the condition of the equipment, check that shipping seals are intact, and verify that the container identified by the trucker corresponded to the actual container on the truck's chassis. The digital imaging process would comply with the Department of Homeland Security facility access regulations, and would also reduce idling time and paperwork. From the portal trucks would proceed along multiple queuing lanes along the western boundary of the facility, designed to avoid truck lines on the streets and to minimize idling. The queuing lanes would lead to checkpoint kiosks within the facility for additional inspection, driver identification (using the Intermodal Driver Database maintained by the Intermodal Association of North America), and exchange of security and cargo information. The applicant represents that this process, which would be entirely remotely-controlled from the administration building, would take less than 2 minutes for each truck.

After passing through the kiosks, the majority (BNSF estimates 90 percent) of trucks would be directed straight to track side, where an RMG would lift the container off the chassis and place it on a railcar for further shipment. This practice, called a "direct-to-railcar live lift," is very efficient because the container is loaded immediately onto the railcar as opposed to being parked in a temporary location, which requires extra equipment activity, with the resultant additional emissions, to bring it to trackside later. Trucks not directed to a live lift would be directed to a designated container stacking area where the container would be lifted off of the chassis by an RMG and stacked for loading onto a railcar at a later time.

Outbound trucks would follow a similar process. Trucks that had performed a live lift or delivered a container to a stacking area would in most cases be directed to a location in the container stacking area where another container would be loaded onto the chassis by an RMG for transport back to the port terminals. These trucks would then proceed out of the facility, passing first through the out-gate portal at the north end of the facility. There, a digital camera array would record images of equipment for inspection and identification purposes, similar to the in-gate portal process described previously. The trucks would then proceed to the outbound checkpoint, an automated kiosk where additional driver biometric and cargo information would be collected. Once clear of the out-gate checkpoint the truck would proceed on the truck exit lanes on the west side of the facility to the PCH on-ramp, and head to the port terminals along the designated truck routes.

2.4.4.2 Train Operations

At full operation, the SCIG railyard is expected to handle eight inbound and eight outbound trains per day. The trains would enter and leave the facility via the Alameda Corridor. Inbound and outbound trains would typically operate as described below. Trains would be comprised of a set of three or four diesel-electric locomotives and a variable number of railcars. The locomotives would be large units of the type known as "road engines", identified as "long-haul" engines in the CAAP and "line-haul locomotives" in the CARB MOU. Those engines are typically equipped with 4,000- to 5,000-horsepower diesel engines driving an electric generator that supplies tractive power to the wheels. Consistent with CAAP Measure RL-2 and pursuant to the 2005 CARB MOU, BNSF would maximize the use of ultra-low sulfur diesel (ULSD) fuel in these locomotives. The fuel would be supplied during the refueling process at both the SCIG railyard (for outbound trains) and the eastern California engine facilities from which inbound trains would arrive.

The railcars would be flat-car-like units known as double-stack cars that are designed especially for transporting containers. Each car has from one to five bays (also known as platforms or wells), and each bay can hold two 40-foot containers stacked one on top of the other (or two 20-ft units and one 40-ft unit, or one 45-ft container on top of a 40-foot container). Multiple-bay cars have articulated couplings that connect the bays to let them negotiate curving track. A five-bay, double-stack, articulated car for international containers, the industry standard, is approximately 265 feet long. A typical intermodal train is composed of as many as 29 such cars, or a mixture of five-bay, three-bay, and single-bay cars, and is approximately 8,000 feet long (including locomotives and inter-car spaces). Depending upon the configuration of cars and containers, a train could carry up to 333 containers; to be conservative, this document assumes a train would carry, on average, 260 containers.

Inbound trains would exit the Alameda Corridor, proceed across the Dominguez Channel Bridge onto one of the facility's south lead tracks (Figure 2-3), be routed onto a clear strip track. Trains would typically be longer than a single strip track, and would have to be divided into two smaller segments (blocks) in order to be positioned on the strip tracks for loading and unloading. Accordingly, inbound trains would continue through the facility onto the north lead track until the rear end of the train had cleared the switches at the south end of the strip track. The train would then stop, and the portion of the train still inside the facility on the strip track would be uncoupled, leaving it properly positioned for unloading. The front half of the train would pull northward to clear the switches, then back southward onto another clear strip track (this process, which would take up to 30 minutes per train, is termed "doubling the train"). The locomotives would be uncoupled and would move south through the railyard along an empty track (or, in rare cases when no empty yard tracks are available, on the San Pedro Branch track east of the facility) to the staging area, where they would be refueled (from mobile fuel trucks), if necessary, and receive minor service checks. Once that process was completed the locomotives would be available to move an outbound train or be re-assigned to other duties in the region. BNSF has represented that locomotive movements within the railyard and along the north lead track would not require the locomotives to sound their horns, as warning devices such as lights and barriers to prevent rail/truck conflicts would eliminate the need for horns.

Outbound trains would be assembled ("built") and leave the facility in essentially the reverse process, with the locomotives, typically working from the south end of the facility, doubling the train to make a full, approximately 8,000-foot train. After proper inspections and testing, the train would depart from the south end of the facility and proceed onto the Alameda Corridor.

2.4.4.3 Support Activities

Fuels and Hazardous Substances Use and Storage. Hazardous substances at the proposed facility would fall into two categories: (1) fuels and other products (solvents, lubricants, batteries, etc.) used in the operation of the facility; and (2) cargo contained in some of the shipping containers. Operational substances would be stored and handled in accordance with the facility's Business Plan, which would be submitted to the City of Los Angeles Fire Department for approval, and BNSF's corporate hazardous substances management plans (see Section 3.7.2.4 for details). Those plans incorporate best management practices (BMPs) for storage and handling, as well as procedures for notifications and emergency response. No gasoline fuel would be stored on site, and any other fueling (e.g., locomotives, hostlers, and other equipment) would be via direct fueling from outside contractor tanker trucks. The drayage fleet would be fueled and serviced at off-site facilities that are not a part of the proposed Project.

According to LAHD, nearly 20,000 containers of hazardous cargos pass through the Ports each year. The proposed SCIG facility would handle a portion of those containers, applying established corporate procedures for hazardous cargos (see Section 3.7.2.4).

Fire Protection and Security. Fire protection would likely be provided by the City of Los Angeles Fire Department (LAFD), although Los Angeles County and the City of Long Beach may participate under mutual aid agreements that would be established by the respective fire departments (see Section 3.11 for more detail). Buildings and structures would be designed and constructed in accordance with the fire codes of the relevant jurisdictions, and several emergency access routes would be provided.

The site would be fully secured by passive (fencing) and active private security in accordance with U.S. Department of Homeland Security requirements, and would include security lighting and a variety of security surveillance devices. Admission would be restricted to personnel carrying Transportation Worker Identification Credential (TWIC), and escorted authorized visitors (see Section 3.7 for more detail). The site is located in the Harbor Division Area of the City of Los Angeles Police Department, which, with the LAHD Police, would provide police protection, assisted as necessary by the Los Angeles County Sheriff's Department and the City of Long Beach Police Department (see Section 3.11 for more detail).

Stormwater Management. The SCIG facility and relocated tenant facilities would include structural and procedural BMPs for minimizing the escape of water pollutants via stormwater runoff and dry weather flows. Structural BMPs would include swales incorporated into landscaped areas, storm drain inserts, berms around critical areas such as fueling and hazardous materials storage areas, and clarifier/settling basins as necessary. BNSF represents that the SCIG facility would consist of 20 to 30 percent permeable surfaces (landscaped areas, container stacking areas, and tracks). The new SCIG and relocation facilities would be operated in accordance with procedural BMPs such as frequent sweeping, regular inspections, periodic employee training, equipment storage and washdown practices, and appropriate storage and handling of potential polluting substances.

2.5 Alternatives

This section presents a description of the alternatives considered but eliminated from further discussion, including the rationale for the decision to eliminate those alternatives, followed by the alternatives analyzed in this environmental document. A detailed comparison of the alternatives that were analyzed is included in Chapter 5.

2.5.1 Background and Evaluation Criteria

2.5.1.1 Background

The public scoping process for the proposed SCIG Project identified a number of areas of concern that resulted in project modifications, reflected in Section 2.4 (e.g., dedicated truck routes, and jobs programs). In addition, the process raised issues to be considered in the formulation of alternatives and suggested some concepts for potential alternatives. The central issue raised by commenters was the need for the LAHD to minimize the impact of a new railyard on surrounding communities. The commenters suggested this could be done by not building a railyard at all, but if one is built, by choosing a location away from the community.

General concepts that were suggested by commenters included increasing on-dock and/or off-dock (i.e., inland railyard) capacity instead of building the SCIG Project; finding an alternative site for the facility; and building a facility that would incorporate alternative container delivery options, including use of developing technologies such as electric trucks and magnetic-levitation-type dedicated conveyor systems. Commenters also urged the LAHD to further reduce impacts by incorporating advanced technology into whatever was built. Some of these concepts are not appropriate as true CEQA alternatives because they do not meet several of the evaluation criteria described below, but they are nevertheless discussed in this section.

2.5.1.2 Evaluation Criteria

As described above, CEQA requires that an EIR describe “a range of reasonable alternatives to the project, or to the location of the project”. CEQA indicates that the range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. As a result, potential alternatives must be limited to those that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that LAHD determines could feasibly attain most of the basic objectives of the project as discussed in Section 2.3.

Feasibility. Feasibility is one of the evaluation criteria for consideration of alternatives to a proposed project. CEQA provides that among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of technology and/or infrastructure, whether the alternative can be accomplished within a reasonable period of time, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).

Cost. Development and operation of a rail yard or a container handling facility is based on an operating paradigm that requires containers to be delivered at a cost that would provide an acceptable rate of return to cover: (a) the investment required to build the facility; and, (b) the operating costs of the facility and of the transport of the containers on to their destinations. However, potential alternatives and other concepts were not subjected to formal detailed cost analyses and comparisons because too little data are available on the costs of advanced technology. Some concepts would obviously be far more expensive than the proposed Project – for example a system incorporating magnetic-levitation or linear induction technology to deliver containers – but in those cases other factors were judged to make those concepts infeasible, and none was rejected on the basis of cost alone.

Commercial Availability. Certain technologies that are considered in this EIR are very promising and may offer environmental benefits. Nevertheless, while most of these technologies may have been developed through varying stages of testing and prototypes, none has progressed to the point of being commercially feasible, and therefore are not proven or available for design, manufacture, or sale to meet the near-term demand for container handling facilities that is a feature of the proposed Project. In particular, safety, reliability, and security issues, together with environmental impacts, would need to be studied carefully proven before these technologies could be proposed for use in the San Pedro Bay Port area. These issues are identified and described more fully as part of the evaluation for each alternative or concept.

Compatibility with Existing Port and Railroad Infrastructure and Operations. The existing container movement system in the Ports is a complex operation involving multiple transportation modes and a huge infrastructure that has developed over a period of decades. Certain alternatives that are evaluated for this EIR would require that infrastructure and operating procedures at the Ports, and in some cases regional transportation networks as well, undergo massive re-design and reconstruction to support a new operating paradigm that would rely less on trains and trucks, and more on alternative transfer technologies. It is unreasonable to expect one project to force the abandonment of the entire existing container movement system. Accordingly, one evaluation criteria applied to the various concepts is how compatible each would be with the existing infrastructure and operation of terminals at the Ports and beyond.

Property Availability. Some potential alternatives could require the acquisition of new property – an alternative location is one example, right of way for a Mag-Lev or linear induction container transport system is another. One of the screening criteria, therefore, is whether any new property would be required to make a potential alternative feasible, and, if so, whether the project proponent would have the ability to reasonably acquire, control or otherwise have access to such new property.

Environmental Benefits. Potential alternatives and concepts were also evaluated on the basis of their environmental benefits and impacts. The evaluation was generally based on a screening-level, professional-judgment appraisal of likely impacts and benefits, rather than the type of quantitative analysis used to compare the alternatives that were carried through the EIR. The environmental evaluation was not used as a feasibility criterion, but rather as an additional screening criterion. The environmental factors included proximity to the community, air emissions (including displaced emissions), energy balance, hazardous waste (e.g., battery manufacture and disposal) issues, traffic volumes, noise, biological resources, and aesthetic considerations.

2.5.2 Alternatives and Concepts Considered But Rejected From Further Evaluation

Several alternatives to the proposed Project were considered during preparation of this EIR. This section presents four alternatives considered but rejected from further evaluation, including the rationale for eliminating the alternatives from detailed analysis.

Alternatives and concepts considered but eliminated include the following:

1. Alternative sites outside the two ports;
2. Alternative sites inside the ports;
3. Different layouts for the proposed facility;
4. Different access to the site; and
5. Several concepts were suggested during the NOP period that, although they do not constitute alternatives to building a near-dock railyard, are nevertheless discussed in Section 2.6 of this document.

2.5.2.1 Alternative Site Outside Ports

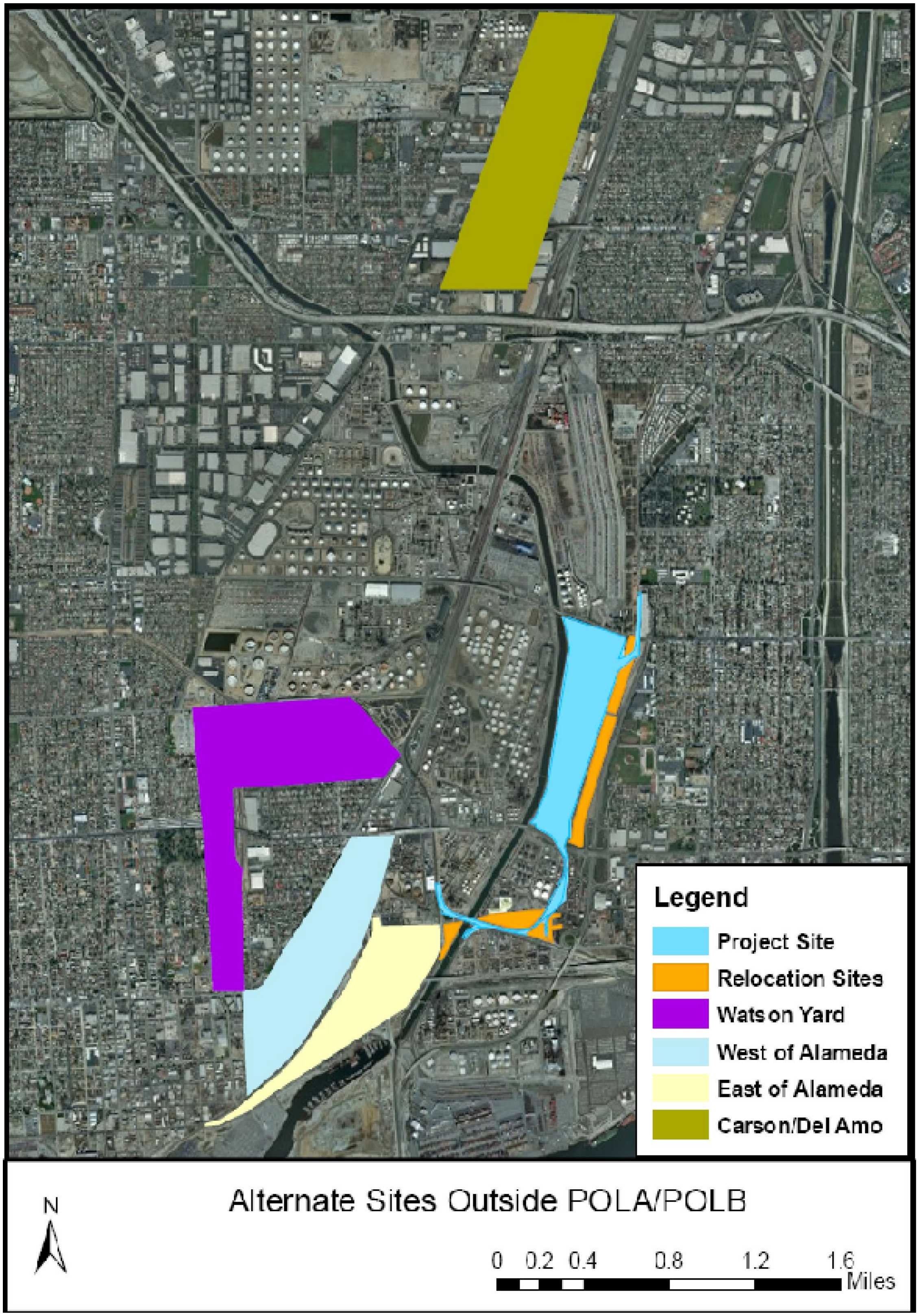
In this alternative, the LAHD would authorize construction of a near-dock facility at a location outside its boundaries. This alternative resembles the proposed Project in that it would be located outside the Ports, but it differs in that it would use a different site than the proposed Project site.

The results of the San Pedro Bay Ports Rail Market Study – Part 2 (Parsons, 2004) were used to determine feasibility of other potential locations for a near-dock facility outside the two ports. That study considered areas that could be served by rail from the Alameda Corridor, and identified six potential sites for further evaluation: Watson Yard, West of Alameda, East of Alameda, Carson St.-Del Amo/West Alameda St, South of ICTF, and Eighth Street (Pier B) Yard. These alternative sites were evaluated based on their size/configuration, acquisition issues, engineering issues, environmental issues, and community impacts. The South of ICTF site is the proposed Project site, described in Section 2.4 and carried forward in this EIR as the proposed Project. The Eighth Street (Pier B) Yard site is inside the POLB, and is considered in the next section. Accordingly, only four sites (Table 2-4, Figure 2.9) are discussed in this section.

Table 2-4. Potential Sites for a San Pedro Bay Near-Dock Intermodal Railyard Outside the Ports (Source: Parsons, 2004).

1	Watson Railyard
2	West of Alameda Street
3	East of Alameda Street
4	Carson Street/Del Amo/West Alameda Street

1 **Figure 2-9. Alternative Near-Dock Railyard Sites Outside the Ports.**



2

Site 1: Watson Yard. Site 1 is already occupied by a railyard, operated by BNSF, that serves the Port area. Watson Yard is used primarily as a switching yard for non-intermodal cars and for car storage and locomotive servicing. The site is too small and poorly shaped (including being bifurcated by PCH) to accommodate the trackage and structures needed for a line-haul intermodal facility with the capacity needs identified in the RSU and the California Goods Movement Action Plan. In addition, the RSU notes stability and potential contamination issues, as a portion of the site is a former industrial and municipal dump. Conversion of Watson Yard for use as an intermodal facility would result in a smaller railyard than the proposed Project and deprive major industries of important rail services, as Watson Yard is the service center for delivery of approximately 26,000 loaded rail cars annually to port tenants and to local refineries and chemical plants in the South Bay area.

A smaller near-dock facility at Site 1 would be compatible with existing terminal operations and would use conventional technology. However, it would not meet the needs identified in California's 2007 Goods Movement Action Plan (CARB, 2007), which specifically identifies the construction of SCIG as a project that is necessary to meet the growing cargo demand at the Ports. The Goods Movement Action Plan does not contemplate other, smaller near-dock facilities such as would result from the conversion of Watson Yard to an intermodal facility. Replacing Watson Yard's functions would require construction of another railyard in the area, which would involve extensive land acquisition. Construction of two railyards (SCIG and Watson Yard's replacement) would presumably result in more environmental impacts than the construction of SCIG alone. For these reasons, Site 1 was rejected as an alternative site.

Site 2: West of Alameda. Site 2 is currently occupied by numerous commercial businesses and tenants, including the International Union of Longshoremen's training area, on individual land parcels generally no more than five to ten acres in size. A significant portion of the West of Alameda Site is located in the Wilmington Redevelopment District. A near-dock yard at Site 2 would be compatible with existing terminal operations and would use conventional technology. According to Parsons (2004) and the RSU, however, the site is too small to accommodate the trackage and other facilities needed to accommodate the line-haul intermodal facility with the capacity needs identified in the RSU and the California Goods Movement Action Plan. Construction would necessitate extensive property acquisition and business relocations, as well as a new grade separation at Anaheim Street and street closures that would curtail local access. The site is closer to the Alameda Corridor than the proposed Project.

Parsons (2004) concluded that Site 2 should not be considered further as a potential location for a near-dock facility. The site is also located closer to residences and would involve extensive relocations. For those reasons, Site 2 was rejected as an alternative site.

Site 3: East of Alameda. Site 3 is located in an area of light industry and vacant land just east and north of the existing TraPac container terminal. A near-dock facility there would be compatible with existing terminal operations and would use conventional technology. Since the Parsons report was prepared, however, a portion of Site 3 has been designated as part of the relocation site for the Pier A Railyard, as part of the Berths 137-149 redevelopment program (USACE & POLA, 2007). Even before that, the site was considered too small and poorly configured to accommodate the trackage and structures needed for a line-haul intermodal facility with the capacity needs identified in the Rail Study Update and the California Goods Movement Action Plan. Furthermore, its conversion to an intermodal yard would require a new grade separation at Anaheim Street, and it is adjacent to the Wilmington Community.

Because the site is much too small to support a modern intermodal railyard, it was eliminated from further consideration.

Site 4: Carson Street/Del Amo/West Alameda Street. Site 4 is located in an area of light industrial and commercial uses. A near-dock railyard at this site would be compatible with existing terminal operations and would use conventional technology. It would necessitate substantial property acquisition and relocation, but would have fewer community issues than sites 1, 2, and 3. However, Parsons (2004) determined that the site is too small and poorly configured to accommodate the trackage and structures needed for a line-haul intermodal facility with the capacity needs identified in the RSU and the California Goods Movement Action Plan. Because the site is less suited to a railyard than the proposed site, it was eliminated from further consideration.

2.5.2.2 Alternative Site Inside Ports

In this alternative, the POLA would authorize construction of a near-dock railyard inside the POLA, or POLB would authorize construction inside the Port of Long Beach. Note that a location inside the POLB would be outside of the POLA's jurisdiction, and would require authorization by the POLB Board of Harbor Commissioners; nevertheless, POLB locations are considered in this alternative.

Possible locations for a near-dock railyard inside the harbor districts (Figure 2-10) include: a new landfill on the POLA/POLB border near Pier 400 (a concept termed the Terminal Island Joint Intermodal Terminal or Terminal Island Intermodal Gateway), the former LAXT site on Pier 300 in POLA, Berth 200 on the Port's Pier A (currently occupied by the DAB automobile import facility), a facility on POLB's Pier S, and a facility on POLB's Pier B. While all of these sites would be available for consideration for development into a near-dock yard because all are under the control of the harbor commissions, they would require an analysis of issues associated with the Tidelands Trust and California Coastal acts. All, like the proposed Project, would use commercially available technology (i.e., conventional railroad). All sites inside the ports would meet at least some of the project objectives, and all except the POLB Pier B site would likely have fewer community issues than the proposed Project because they would be farther away from residences and sensitive uses.

2.5.2.2.1 Pier S

In this alternative, the Port of Long Beach would authorize construction of a near-dock railyard on Pier S, located on the northeastern corner of Terminal Island. The 170-acre site is currently largely vacant. It is wholly owned by the Long Beach Harbor Department, and therefore outside the jurisdiction and authority of the LAHD. Furthermore, the site is under consideration by the Port of Long Beach for a container terminal or multi-use container storage facility. The facility would connect to the Terminal Island lead track across the Cerritos Channel near the Badger Avenue Bridge.

The Pier S site is not long enough to accommodate 4,000-foot, double-ended strip tracks; it is likely that the facility would have to have single-ended tracks, which would introduce severe operational constraints as trains would tie up the Terminal Island lead track as they were doubled into and out of the facility. This would result in heavy congestion, potentially reducing the throughput of Terminal Island facilities, and would require a greater number of locomotive moves, both of which would result in an increase in air emissions. Construction of the facility would have essentially the same impacts as the proposed Project and would take place in approximately the same time frame. As mentioned above, operation would likely have fewer impacts because of the facility's greater distance from communities and public roadways.

A rail simulation study commissioned by the LAHD (Parsons 2010) concluded that the TIJIT landfill, LAXT intermodal railyard, and Pier S intermodal facility concepts are infeasible because of the impossibility of handling the resultant train volumes over the amount of additional trackage that could be built to connect Terminal Island to the Alameda Corridor. The study showed that train traffic from existing and planned on-dock facilities on Terminal Island will overwhelm the mainline connection by 2015 even after planned improvements to the mainline; there will be no additional capacity for a new near-dock facility. Furthermore, both the LAXT and Pier S sites are too constrained to allow construction of railyards that could accommodate multiple 8,000-foot trains; the Pier S site, in particular, is unsuitable for a modern intermodal railyard. Given their logistical constraints, therefore, the TIJIT and the other two Terminal Island locations were rejected as alternative sites for a near-dock facility.

2.5.2.2.2 POLB Eighth Street/Pier B

The Pier B site in POLB, which includes the area designated in the Parsons study as the Eighth Street Yard, has been considered for an intermodal facility. However, the RSU (Parsons 2010) identified the need for a storage and transfer yard to support on-dock operations, and concluded that the Pier B site should be developed for that purpose. The Parsons study (Parsons 2004) identified serious engineering constraints to building a functional near-dock facility on the Pier B site, and pointed out that the site is too small to provide adequate capacity. Accordingly, the Pier B site is not a feasible alternative for a near-dock facility and was eliminated from further consideration.

2.5.2.2.3 LAXT Site

In this alternative, LAHD would authorize construction of a railyard on a portion of the site formerly occupied by LAXT, on Pier 300. The existing trackage would be reconfigured or demolished, as needed. No land acquisition or creation would be needed. The railyard would be located roughly parallel to the existing Pier 300 on-dock yard used by the APL Terminal, and would connect to the Terminal Island lead track in the vicinity of the existing TICTF on-dock yard used by the Evergreen and Yusen terminals. The facility would operate similar to the proposed Project. Construction of a railyard on the LAXT site would have essentially the same environmental impacts as the proposed Project and would take place in approximately the same time frame.

This alternative site is not viable as LAHD has proposed to reconfigure the existing trackage and to add new trackage to provide storage and staging support for the existing Terminal Island on-dock yards. This additional rail infrastructure would create a separate on-dock railyard for Berths 226-236 (Evergreen/STS terminal), which in turn would allow the exclusive use of the existing Terminal Island Container Facility (TCTF) by the YTI terminal. This additional trackage would also provide more support track for all on-dock-terminals on Terminal Island. Accordingly, the property is not available for conversion to a near-dock facility. The previously cited on-dock railyard capacities depend on these particular improvements, and thus cannot be assumed for a new common-use railyard. In addition a portion of this site is proposed for construction of tanks for the storage of crude oil and for possible future location of certain existing liquid bulk storage in the Wilmington District of the Port.

2.5.2.2.4 POLA Berth 200

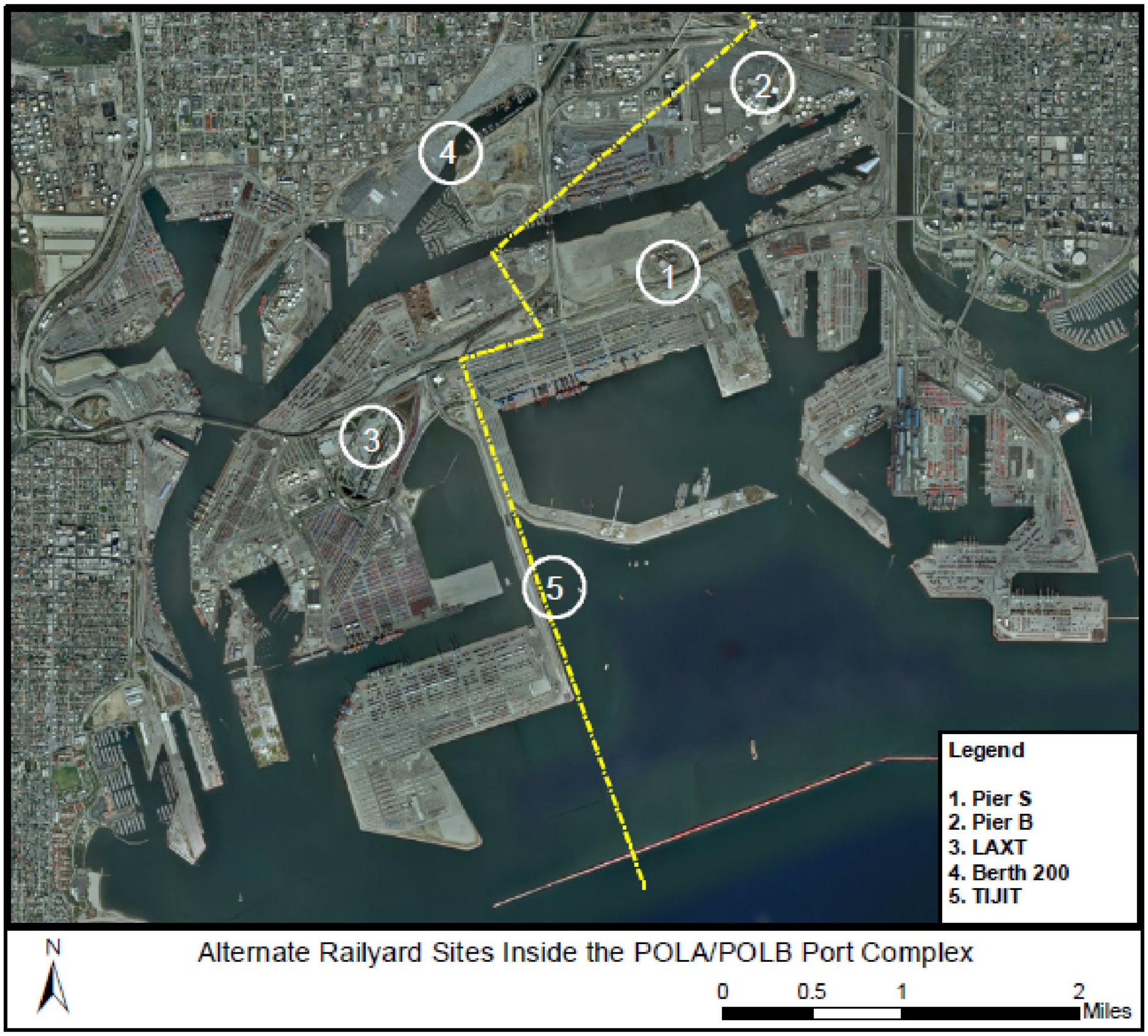
The Berth 200/DAB site in POLA could support a small near-dock facility that would connect to the Alameda Corridor via the adjacent Los Angeles Lead Track. However, Parsons (2004) identified the need for a transfer and storage yard to support existing and future on-dock facilities; the Berth 200 site would be developed for that purpose and was approved for this use by the Los Angeles Board of Harbor Commissioners in their approval of TRAPAC terminal. Accordingly, the Berth 200 site is not a feasible alternative for a near-dock facility and was eliminated from further consideration.

2.5.2.2.5 Terminal Island Joint Intermodal Terminal (TIJIT)

In this alternative, the two ports would cooperate to authorize a near-dock railyard on new land that the ports would create along the Pier 400 Transportation Corridor, largely on the POLB side of the harbor. The railyard would resemble the proposed Project in size and capacity (approximately 1.5 million containers per year). The project would require the construction of approximately 166 acres of new land at a cost of approximately $230 million (railyard and Port infrastructure costs would be at least another $375 million). The facility would connect to the Pier 400 lead track used by the Maersk Terminal, and would share the Terminal Island lead track across the Cerritos Channel with the on-dock railyards of the Maersk, APL, Evergreen, Yusen, and Total Terminals International terminals. The facility would operate in a manner similar to the proposed Project.

Construction of new land for a railyard for the TIJIT would have substantial biological impacts, due to the loss of productive marine habitat and the impacts of the dredging required to supply fill material (e.g., U.S. Army Corps of Engineers 1992). Although the impacts would be mitigatable through the application of habitat credits (which, if available, would have to be committed by POLB), they would be incompatible with existing Clean Water Act policy, which emphasizes avoiding and minimizing losses of marine habitat to the extent possible and selection of a “least damaging practicable alternative” which avoids impact to Waters of the U.S. Accordingly, this alternative was rejected on the basis of its incompatibility with the Clean Water Act and the unavailability, to the LAHD, of mitigation credits for the necessary fill.

Figure 2-10. Potential Locations for Near-Dock Railyards Inside the Ports.



2.5.2.3 Alternative Layouts for the Proposed Project Site

2.5.2.3.1 Single-Ended Track Layout

A single-ended railyard would eliminate the need for the north lead trackage and would permit slightly longer strip tracks, since there would be no ladder tracks at the north end of the railyard. The alternative would not require any additional land, could be less expensive to build than the proposed Project, and would likely have somewhat fewer interactions with the communities at the north end of the site. This alternative would meet the objectives of the project and is technically feasible to implement. However, the single-ended layout would force all train operations to occur at the south end of the railyard, including breaking and doubling the trains (see section 2.4.4.2), which would require additional engine moves to accomplish. The result would be congestion on the south lead tracks and, possibly, on the Alameda Corridor. The added congestion would, in turn, cause additional air emissions, and those emissions would be from the sources that are hardest to control, namely the locomotives. Because the single-ended layout would result in less efficient operations without clearly reducing environmental impacts, it was eliminated from further consideration.

2.5.2.3.2 Double-Ended, Standard Track Centers Layout

The double-ended, standard-width track center layout represents the conventional layout of existing large intermodal yards. The yard would be serviced by conventional diesel-powered rubber-tired gantry cranes (RTGs) for stacking and railcar loading and unloading, although the cranes would be of a modern design that would incorporate emissions-reduction features such as advanced exhaust controls. This alternative differs from the proposed Project in requiring more land and not utilizing all-electric RTG cranes. Electric cranes are not feasible for a conventional track layout because the wider track spacing precludes their use – only RTGs could be employed. The facility would also require the use of mobile yard cranes and yard hostlers, both of which would probably be LNG-powered. It is possible that this alternative would require more land than the proposed Project. Train movements would be similar to those of the proposed Project (section 2.4.4.2).

This alternative would meet the project's objectives and is technically feasible to implement, but it would result in greater environmental impacts than the proposed Project (from the use of more polluting yard equipment such as hostlers and mobile cranes) without realizing greater operational efficiency or other operating advantages, and would not reduce any environmental impacts compared to the proposed Project. Accordingly, this alternative was eliminated from further consideration.

2.5.2.4 Different Access to the Proposed Project Site

The existing site has limited access from the PCH for trucks and other vehicles that visit the businesses on the site. In order to provide adequate access for the future volumes of trucks that would service the facility, the access must be improved. In addition to the access configuration included in the proposed Project, another possible configuration was considered to provide access without significantly increasing congestion on the PCH. In that alternative, access to the site would be provided from Sepulveda Boulevard at the north end of the facility.

The northern access concept would route SCIG truck traffic to and from the marine terminals onto Sepulveda Boulevard. The alternative is technically feasible and would achieve the Project's objectives. The route would be longer (between the marine terminals and the Project site) than the PCH route that is part of the proposed Project, thus increasing emissions, and it would also introduce additional traffic to a segment of Sepulveda Boulevard that already accommodates all of the traffic to and from the ICTF. In addition, the northern access concept would route truck traffic along the Terminal Island Freeway between PCH and Sepulveda, increasing impacts to areas east of the Terminal Island Freeway. Accordingly, the Sepulveda Boulevard access concept was eliminated from further consideration.

2.5.3 Alternatives Evaluated Further in this EIR

This document presents a reasonable range of alternatives that meet most of the proposed Project objectives and have been carried forward for detailed analysis in Chapter 5.

2.5.3.1 Alternative 1 - No Project Alternative

The No Project Alternative considers what would reasonably be expected to occur if the Port did not approve the proposed project. Under the No Project Alternative, the Port would not issue any permits or discretionary approvals, the SCIG Project would not be built, and existing uses at the site would continue under existing or holdover leases. Forecasted increases in cargo throughput at the two Ports, including intermodal cargo, would still occur as the improvements in operational efficiencies described in Chapter 1 are implemented. As it is reasonable to expect that existing uses would experience some growth in the future, despite site constraints, the No Project alternative assumes a 10 percent growth in activity levels between 2005 and 2016.

BNSF has represented (J. Hovland, personal communication, 2009) that in this case, additional intermodal traffic would be handled at the Hobart and Commerce railyards, in East Los Angeles, approximately 24 miles north of the Ports. According to BNSF, its expansions of the Hobart and Commerce yards would allow it to handle 8,000-foot trains and the associated increased volume of containers. Those improvements, which include shifting a portion of the operation from wheeled storage to a stacked operation, extension of existing loading tracks, addition of new loading tracks, and operational changes to improve efficiency, would further increase capacity. BNSF has represented (J. Hovland, personal communication, 2009) that if the SCIG Project is not built it would re-organize its Southern California operations to handle primarily international (i.e., port) cargo at Hobart and shift the domestic cargo currently occupying a share of Hobart's capacity to other regional intermodal facilities. These changes and the approved expansions would allow Hobart/Commerce to handle approximately 2.0 million TEUs per year in 2020, approximately 800,000 of them international cargo (i.e., to and from the marine terminals), and 2.8 million TEUs per year in 2023.

This alternative assumes that existing operations would continue at the proposed Project site; Table 2-5 summarizes baseline (2005) operations and estimated operations in 2046 at the Project site. It also assumes that drayage trucks that would operate between the marine terminals and the SCIG facility under the proposed Project would instead operate between the marine terminals and the Hobart Yard. Accordingly, compared to the proposed Project, the No Project Alternative would result in approximately 1,800 additional truck trips per day in each direction in 2016, increasing to 4,150 trips in 2023 and thereafter (see Table 2-2) on I-710. Because of the distance to the Hobart Yard, each trip would be approximately 20 miles longer in each direction than under the proposed Project.

Table 2-5. Traffic At the Project Site Under the No Project Alternative.

Scenario	Total annual truck roundtrips
CEQA Baseline	
Hobart trucks	814,000
Tenant trucks	586,080
Total trucks in CEQA Baseline	**1,400,080**
No Project	
Hobart trucks	1,561,520
Tenant trucks	644,688
Total trucks in No Project	**2,206,208**
Net Change (No Project minus CEQA Baseline)	**806,128**

2.5.3.2 Alternative 2 – Reduced Project

In this alternative, the near-dock railyard described in the proposed Project would be constructed on the site, but its activity level would be limited by lease conditions. All physical features of the project would be the same as the proposed Project, including the container handling systems and the off-site improvements to roads and trackage (Section 2.4.2). The construction methods and schedule would be the same as the proposed Project (Section 2.4.3).

At full operation, the Reduced Project would handle approximately 1.85 million TEUs per year, and it is anticipated it would reach its operational capacity by 2016. Those containers would be transported by six trains and approximately 3,700 truck trips per day. The operational details of the facility would be the same as those of the proposed Project (Section 2.4.4); only the throughput would be different (Table 2-6).

Table 2-6. Traffic at the Project Site Under the Reduced Project Alternative.

Year	Total annual truck roundtrips
CEQA Baseline	
Hobart trucks	814,000
Tenant trucks	586,080
Total Trucks in CEQA Baseline	**1,400,080**
Reduced Project	
SCIG trucks	665,000
Hobart trucks	431,990
Relocated tenant trucks	236,503
Total Trucks in Reduced Project	**1,333,493**
Net Change (Reduced Project minus CEQA Baseline)	-66,587

2.6 Assessment of Other Goods Movement Concepts

As mentioned above, a number of concepts for reducing the environmental and community impacts of the proposed Project were suggested during the NOP period, in both written and oral comments. The concepts that could be considered project alternatives under CEQA were presented in Section 2.5. The remaining concepts cannot be considered alternatives because they either do not eliminate the need for a near-dock intermodal facility or they address other aspects of the goods movement chain than handling intermodal rail traffic. These concepts fall into two major groups:

1. Concepts for avoiding building a near-dock railyard; and
2. Other approaches to moving containers in the region.

These concepts focus on eliminating diesel trucks from local and regional highways either by using trains for short-haul transport (currently economically disadvantageous, see Section 1.1.3.1) or by using advanced technologies to move containers. The concepts are considered here in order to provide more information on goods movement issues, but it is important to recognize that most, if not all of them, are not within the authority of the LAHD to implement.

2.6.1 Approaches to Avoiding Building a Near-Dock Yard

2.6.1.1 Additional On-dock Railyards

As discussed in detail in Section 1.1.3 and summarized above (Section 2.1.2), additional on-dock capacity or use beyond the volumes presented in Table 1.2 cannot be achieved. Hence, the use of additional on-dock railyards is not a viable alternative. The Ports have maximized the size of planned and proposed on-dock railyards and support rail infrastructure via detailed master planning (which includes detailed container terminal and rail system computer modeling/simulation, e.g., Parsons, 2010), preliminary engineering, and final design for some of the infrastructure. Detailed rail system simulation (Parsons, 2010) has determined that the rail network within the Ports will reach capacity with forecasted operations from existing and planned on-dock facilities by 2020, even with implementation of all planned rail improvement projects. Accordingly, additional on-dock facilities would not yield higher capacity or greater utilization of rail transport.

2.6.1.2 Inland Port/Remote Railyard

A concept that has received considerable attention in recent years is a rail-based system in which containers would be transported by shuttle train between the marine terminals and an inland railyard, essentially a remote off-dock yard, where they would be sorted onto and off of trains to and from points east. An inland port is a facility that receives eastbound loaded marine containers via either or both Class I railroads for one or more of the following activities: (a) reorganizing unsorted or blocked trains for a follow-on train move to destinations east of the Rocky Mountains; (b) drayage by truck to destinations near the point of terminus; (c) backhaul drayage by truck to destinations throughout the region; and (d) transferring cargo into larger domestic intermodal containers for a follow-on train move to destinations east of the Rocky Mountains. This last type of activity is sometimes referred to as transloading and can include value-added activities such as packaging and tagging.

Example concepts include “Sprint Trains”, “Block Swap Train Building”, “Agile Port/Efficient Marine Terminal Concept”, and the “Inland Port for Local Distribution.” In these concepts, most, if not all, import cargo would be loaded onto trains at on-dock railyards and sent to the inland facility for sorting and distribution. Cargo bound for east of the facility up to 550 miles would be put on trucks to be hauled to its destinations, as would cargo headed back into the Los Angeles Basin; the rest would be put on eastbound trains. Export cargo and empty containers would move in reverse. This concept would eliminate the port-area truck trips associated with draying containers to near-dock and off-dock railyards, thus reducing port-area traffic impacts and some truck emissions. It is not clear, given the complexities of assembling shuttle trains in on-dock railyards and routing them on the regional rail network, whether locomotive emissions would be reduced. Traffic and air emissions would be increased in the Inland Empire as a result of additional, and possibly longer, truck trips, grade crossing blockages, and truck and locomotive emissions. It is not clear at this level of analysis whether the net effect would be a reduction in environmental impacts.

Currently, none of the region's inland rail yards and logistics centers function as a true inland port. It would be necessary to identify specific candidate locations for an inland port in order to calculate costs, revenues, and other benefits. These sites can be existing rail yards or logistics centers, or, more generally, locations that are currently undeveloped or developed in other land uses. Furthermore, as described in Parsons (2010), it is unlikely that the railroad mainlines have adequate capacity to handle substantial numbers of shuttle trains east of the Alameda Corridor. This alternative would require: (1) acquiring land and entitlements and constructing a new railyard in the Inland Empire (San Bernardino and Riverside counties and Los Angeles County east of I-605) near the existing BNSF and/or UP mainline tracks; (2) acquiring right of way and constructing trackage to enhance the Alameda Corridor and the BNSF and UP mainlines and provide connections to the new facility; and (3) converting marine terminals in the port area to emphasize on-dock railyards over on-site container management and local delivery. Acquiring railyard land would be feasible. Acquiring additional mainline right of way, particularly west of the Inland Empire, would be challenging given community resistance to new rail facilities and the scarcity of available land. Converting marine terminals in both ports to rail-based facilities would cost several billion dollars, take at least two decades to implement, and result in substantial disruptions to the goods movement industry as terminals were taken out of service.

For reasons mostly related to market feasibility and rail capacity, developing one or more inland ports in Southern California remains a challenge today. Virtually every study conducted to date shows that such facilities are not feasible purely from a business enterprise standpoint. Rail service costs would also increase since more line-haul capacity would be needed to accommodate both long- and short-haul moves. Simulation modeling undertaken by the Ports (e.g., Parsons, 2010) indicates that the Port-area rail network will reach capacity with planned and existing on-dock, near-dock, and off-dock facilities, so that the addition of shuttle trains carrying local cargo may not be feasible. Moreover, even if these rail network capacity constraints are removed, the Ports do not have the ability or authority to mandate that the terminals load, and the railroads operate, "shuttle" trains or unsorted unit trains from the on-dock railyards (i.e., "Agile Port" concept).

2.6.2 Alternative Container Transport Systems

Recently, considerable interest has developed in reducing the extent to which the southern California goods movement system relies on diesel trucks for moving containers between the marine terminals in the ports of Los Angeles and Long Beach and their immediate destinations at intermodal railyards and major distribution centers throughout the region. The goals of the effort are to reduce traffic on local highways, but more importantly to reduce the diesel emissions associated with goods movement. The term "Zero Emissions Container Movement System", or ZECMS, has been applied to these alternative container movement concepts because most of them, relying on electric power alone, would not cause direct emissions in the local area. ZECMS could be viewed as either an alternative to the proposed Project or an alternative project element. In the first case, such technology would replace the proposed SCIG facility and the technology would link the marine terminals directly to a final destination. In the latter case, such technology would replace truck trips from marine terminals to the proposed Project site. As described below, ZECMS has not yet reached the point of being feasible, and therefore cannot be carried through this EIR as an alternative in either form. Nevertheless, ZECMS concepts are considered here as an indication of potential future developments related to the ZECMS concept, and because the Port believes it is necessary to continue further demonstration of these technologies, BNSF will be required by conditions of project approval and the terms of its lease to participate with the Ports in a ZECMS demonstration program (see Section 3.2.5 for details).

Within the general concept of ZECMS two basic approaches have been proposed: a) systems based on new, dedicated guideways, and b) systems based on existing guideways (highways and rail lines). In each approach, several technologies are being explored by a variety of academic, institutional, and commercial entities. ZECMS technologies for Port applications (i.e., between the marine terminals and near-dock intermodal railyards) have been extensively evaluated via a number of efforts, beginning with studies commissioned by the Ports in 2006/2007. The latest efforts are the Ports of Long Beach/Los Angeles Alternative Container Transportation Technology Study, described below, and the I-710 Corridor Project EIR/EIS, which produced two key reports addressing the issue (URS, 2009a, b). Both efforts examined numerous concepts from both general approaches, which are described in more detail below. In addition, ZECMS for a regional system (i.e., extending to off-dock railyards and inland warehouses and distribution centers) is currently being investigated and evaluated in the SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy.

2.6.2.1 New Dedicated Guideways

In broad terms, the dedicated guideways approach consists of fixed, generally elevated, guideways to move containers using magnetic levitation (maglev), linear synchronous motor (LSM), or similar technology, as has been applied in people movers, to convey containers. In this approach, containers would be loaded onto specialized shuttles conveyed between the Port terminals and local destinations (near-dock railyards in the Port-related efforts) along track-like guideways, either monorail or some other configuration. The guideways would be purpose-built, which would likely require right-of-way acquisition, and, given how intensely developed the area is, would likely be elevated, which implies high capital costs. Magnetic levitation and linear synchronous motor technology are entirely electric, drawing power from the grid; accordingly, these systems would produce no local exhaust emissions, although the generation of the required electricity would produce power plant emissions.

2.6.2.2 Existing Guideways

The existing guideways approach would use existing roads and rail lines as rights of way. This second approach, in turn, has two basic variations: a) specialized shuttle vehicles powered by technologies such as LSM would use rail lines as guideways; b) electric trucks (or fuel cell/electric trucks) would move containers along roads using the roads as fixed truck guideways.

Linear Synchronous Motor (LSM) Adaptation to Existing Rail. In the first variation, LSM adapted to standard railroad tracks could move containers in three possible ways: a) a specialized propelled bogie (tow vehicle) would pull containers loaded on conventional railcars; b) conventional railcars would be retrofitted with permanent magnets and be self-propelled; or c) a new type of self-propelled railcar would be designed and manufactured. The system would use the existing rail network in the Port area, which would require sharing the tracks with current conventional trains. This approach would avoid most of the capital costs associated with building a new, dedicated guideway.

Automated Fixed-Track Truck System/Zero Emission Trucks. In the other variation, electric-powered trucks would interact with ports and rail terminals as conventional trucks do today, but would operate on road-based guideways subject to controls that would safely optimize capacity. This technology (which does not exist as a commercial product today) would incorporate characteristics of various existing freight and passenger technologies. Trucks powered by electric motors (including linear induction or linear synchronous motors) would draw wayside electric power (for example, from overhead wires) on the highway segment and operate on battery power at the port terminals, intermodal rail facilities, and inland destinations. This concept has been extensively explored in the I-710 Corridor Project EIR/EIS but did not emerge as a proposal under the Ports' Alternative Container Transportation Technology Study.

Another truck-based approach would not use guideways, but instead involves zero-emission (all-electric) or very low emissions heavy-duty trucks operating on area roads just as conventional diesel trucks do. These could be battery- or fuel-cell-powered trucks, such as are being developed for Port of Los Angeles applications, or hybrid diesel-electric trucks, as proposed under the Alternative Container Transportation Technology Study (see below).

2.6.2.3 Ports of Long Beach/Los Angeles Alternative Container Transportation Technology Study

On June 3, 2009, the Port of Long Beach, in collaboration with the LAHD and the ACTA, issued a formal "Request for Concepts and Solutions (RFCS) to design, build, finance, and operate/maintain a ZECMS between the ports and the existing ICTF and proposed near-dock rail facilities. The seven responses to the RFCS that were received included both fixed-guideway systems and road-and-rail-based systems (Table 2-7). The ports assembled an evaluation team comprised of staff from each port and the ACTA, legal counsel, and a panel of experts chosen by the Keston Institute of USC.

Table 2-7. Respondents to the 2009 Request For Concepts and Solutions.

Respondent	Technology Basis
American Maglev Technology	Magnetic Levitation/New Elevated Guideway
Bombardier	Magnetic Levitation/New Surface-Level Guideway
Flight Rail	Vacuum Propulsion/ New Elevated Guideway
Freight Shuttle Partners	Linear Synchronous Motors/New Elevated Guideway
Magnaforce (LEVX California Freight Systems)	Magnetic Levitation /New Elevated Guideway
General Atomics/Innovative Transportation Systems Corp.	Linear Synchronous Motor/Existing Guideway (Rail Lines)
Tetra Tech	Hybrid Diesel Trucks/Existing Guideway (Road)

The panel's review and conclusions considered both the financial and technological viability of the proposals (Keston Institute, 2010). The panel reviewed the financial plans and the assumed construction and operating costs contained in the proposals that provided such information. Considering the capital-intensive nature of the proposed systems and the best-case assumptions regarding growth in container volume, market share, capital costs, and system level of development, the panel concluded that, absent other drivers (e.g., environmental regulations and/or a subsidy provided by the Ports or others), a ZECMS would have difficulty competing economically with conventional truck drayage (at least two of the respondents to the RFCS recognized the need for subsidies, both for building and for operating the system). They noted that if ZECMS rates exceed truck drayage rates, then the system would not be financially viable on its own. Furthermore, the panel doubted the financial assumptions (e.g., construction costs, right-of-way costs, market share) that most of the proposals were based on. For example, a 2006 study commissioned by the Ports and conducted by General Atomics estimated a construction cost of approximately $575 million for a magnetic levitation system running 4.7 miles between the Ports and the ICTF, but a later proposal by another vendor assumed a capital cost of only $161 million for a similar system two miles long.

From a technology standpoint, the panel determined that none of the proposals demonstrated that the intended ZECMS objectives could be achieved. The panel concluded that successful operation in a light-duty application (e.g., test track without a container, or people mover) cannot be construed as a guarantee of success in a port environment. Accordingly, the panel stated that prior to the selection and deployment of any system, additional testing needs to be carried out in an environment that simulates actual container handling and transfer operations. None of the systems proposed was deemed sufficiently mature, **at this time**, to commit valuable Port and other public rights-of-way and resources to a full-scale operational deployment. As a note, the I-710 Corridor Project EIR/EIS reached the same conclusions with respect to the various technologies it evaluated, but identified a truck guideway concept as sufficiently promising to include as a component one of the alternatives carried forward in the document.

2.6.2.4 Constraints to Applying ZECMS Technologies in the Ports

The ZECMS technologies are not yet viable as alternatives to truck-based drayage for three reasons. First and foremost, an operational prototype of a freight-moving system for either LSM or maglev does not presently exist anywhere in the world. Accordingly, an extensive development, testing, and demonstration process is required before deployment of any of the dedicated fixed-guideway systems as a pilot project could be considered. Second, the likely very considerable capital and operating costs of fixed guideway systems have not been developed, and cannot be until technology development has proceeded further. Third, self-propelled railcars are currently prohibited by the United States Department of Transportation (USDOT) and the Federal Railroad Administration (FRA), which would preclude development of those variants of the LMS existing guideway concept. In addition, although some excess capacity exists on the port area rail system at this time, that capacity may be exceeded in the foreseeable future, as described in Section 1.1.5, which could inhibit the rail-based concepts.

2.6.2.5 Opportunities for ZECMS Technology

Nevertheless, ZECMS concepts have sufficient promise that the ports are actively pursuing their development. For the LMS concept, the ports are collaborating with General Atomics (GA), the Lawrence Livermore National Laboratory, and the Center for Commercial Deployment of Transportation Technologies (CCDoTT, a partnership of California State University, Long Beach and the United States departments of Defense and Transportation). The partners are pursuing the deployment of a proof-of-concept project that would demonstrate a system's ability to move loaded containers in a rigorous duty cycle. Although the LSM concept has not yet proven commercially or technologically feasible, this document identifies a project condition subject to approval requiring that the proposed Project applicant commit to a demonstration test as described in Section 3.2.5.

In the case of road-based systems, electric trucks are being actively developed for port applications. For example, the Ports, through the Technology Advancement Program, have partnered with the South Coast AQMD to fund and demonstrate an electric-powered heavy duty truck for drayage service. The ports are each contributing $215,000 to the effort. The program is currently in the pilot phase, meaning that its feasibility is still being evaluated. Two basic models, Balqon Corporation's Nautilus E-30 and Vision Motor Corporation's Tyrano fuel cell/battery hybrid, have been built and are or will soon be in drayage service in the Port of Los Angeles to determine whether they could replace diesel-powered drayage trucks. The Balqon vehicle passed its prototype tests in 2007, and in early 2009 the Port took delivery of the first of an order of 25 Balqon vehicles. The Balqon truck can pull a 60,000-pound cargo container at a top speed of 40 mph, and has a range between 30 to 60 miles per battery charge. The Vision truck began testing in drayage service in June 2011, so its performance capabilities are not yet known.

Issues to be evaluated include the vehicles' ability to perform the demanding duty cycle required of drayage trucks; maintenance and reliability issues; costs of fuel, maintenance, and replacements; and logistical details of recharging (for example, 30 miles between recharging may not get the vehicle through a full work shift). Although the results to date are promising (TIAX, 2011) the concept has not yet been proven commercially or technologically feasible. Nevertheless, it is very possible that zero-emission drayage trucks will become feasible. Accordingly, this document identifies a project condition (i.e., as part of project approval) requiring that the Project applicant commit to a demonstration test and eventual deployment of zero-emission trucks when they are determined to be commercially and economically feasible. The demonstration program is further described in Section 3.2.5.

2.6.2.6 Summary

The zero emissions container transport concepts, while not readily available at this time, are nonetheless potentially feasible future options for development by the ports and other elements of the goods movement industry. To this end, the ports and ACTA pursued the

ZECMS solicitation described above, and continue to investigate promising technologies for transporting containers between port terminals and near-dock railyards. In a related effort, the I-710 Corridor Project is also investigating promising alternatives to conventional truck drayage.

Additionally, through the CAAP the Ports have committed to evaluating, and if feasible bringing to commercial reality, alternative technologies with the intention of encouraging the application in the port area of clean technologies for moving cargo. It is the express charge of the CAAP's Technology Evaluation Program both to solicit proposals to develop specific technologies and to evaluate unsolicited proposals for emerging technologies, and the CAAP establishes a formal process for proposal evaluation and funding.

2.6.3 Different Access to the Site

In order to provide different access to the proposed Project, a flyover could be constructed from the Terminal Island Freeway that would descend into the facility. A flyover would provide the same traffic benefits as the proposed Project but at a significantly greater cost and possibly with greater environmental impacts, as trucks would produce greater emissions climbing the flyover grade than they would on the at-grade additional lane. Accordingly, the flyover concept is not a valid alternative under CEQA and was eliminated from further consideration.

2.7 Project Baseline

To determine significance, the proposed Project and alternatives are compared to a baseline condition. The difference between the proposed Project or alternative and the baseline is then compared to a threshold to determine if the difference between the two is significant.

CEQA's requirements for establishing a baseline are discussed in Section 1.5.5. For purposes of this EIR, the CEQA Baseline for determining the significance of potential impacts under CEQA are the conditions that existed at the time the LAHD issued the NOP, i.e., September 2005.

2.8 Relationship to Existing Plans

One of the primary objectives of the CEQA process is to ensure that the proposed Project is consistent with applicable statutes, plans, policies, and other regulatory requirements. Table 2-8 lists the statutes, plans, policies, and other regulatory requirements applicable to the proposed Project and alternatives.

Table 2-8. Applicable Statutes, Plans, Policies, and Other Regulatory Requirements.

Applicable Rule, Plan, or Policy	Description
City of Los Angeles General Plan	The City of Los Angeles General Plan (City of Los Angeles, 1982a) has various elements that contain general goals, objectives, and policies related to regulating development, protecting natural and cultural resources, and improving environmental quality in the region. Relevant elements include Port (see below), Air Quality, Conservation, Transportation, Public Facilities and Services, Safety, Noise, and Land Use.
City of Los Angeles General Plan – Port of Los Angeles Plan Element	The Port of Los Angeles Plan is part of the General Plan for the City of Los Angeles and provides a 20-year official guide to the continued development and operation of the Port. It is designed to be consistent with the Port of Los Angeles Master Plan.
2010 San Pedro Bay Clean Air Action Plan Update	The Port, in conjunction with the Port of Long Beach and with guidance from AQMD, CARB, and USEPA, has developed the San Pedro Bay Clean Air Action Plan (CAAP), which was approved by the Los Angeles and Long Beach Boards of Harbor Commissioners on November 20, 2006. The Update was approved on November 22, 2010. The CAAP focuses on reducing diesel particulate matter (DPM), NO_x, and SO_x, with two main goals: (a) to reduce Port-related air emissions in the interest of public health, and (b) to disconnect cargo growth from emissions increases. The Plan includes near-term measures implemented largely through the CEQA/NEPA process and new leases at both ports.
Port of Los Angeles Risk Management Plan	The Risk Management Plan, an amendment to the Port of Los Angeles Master Plan, was adopted in 1983, per requirements of the California Coastal Commission. The purpose of the Risk Management Plan is to provide siting criteria relative to vulnerable resources and the handling and storage of potentially hazardous cargo such as crude oil, petroleum products, and chemicals. The Risk Management Plan provides guidance for future development of the Port to minimize or eliminate the hazards to vulnerable resources from accidental releases (LAHD, 1983).
Port of Los Angeles Real Estate Leasing Policy	The purpose of this Policy is to provide a framework that governs leasing and rental decisions as they relate to tenant retention, selecting new tenants, development of new agreements and, as appropriate, modifications to existing agreements by amendments.
Port of Los Angeles Strategic Plan	The Port of Los Angeles Strategic Plan (USACE and POLA, 2007) identifies the mission of the Port and provides 11 strategic objectives for the next 5 years. The mission includes promotion of "grow green" philosophy combined with fiduciary responsibility and promotion of global trade. The 11 strategic objectives include, minimization of land use conflicts, maximizing the efficiency and the capacity of current and future facilities, addressing needed infrastructure requirements, maintaining financial self-sufficiency, raising environment standards and enhancing public health, promoting emerging and environmentally friendly cargo movement technology and energy sources, provide for safe and efficient operations and homeland security, strengthen local community relations and developing more and higher quality jobs.
City of Los Angeles Municipal Code	The building code is contained in Sections 91.000 through 91.706 of the Municipal Code, which set out requirements for construction, grading, excavations, fill, and foundation work.
City of Long Beach Municipal Code	The City's building code is contained in Title 18.68 of the Municipal Code, which requires that all construction conform to the seismic requirements of the State of California's 2007 Building Code.
City of Long Beach General Plan	Via the General Plan the City has adopted the 1971 edition of the Uniform Fire Code as its Fire Prevention Code. The General Plan also sets forth goals related to public safety, zoning, and open space and conservation.

Applicable Rule, Plan, or Policy	Description
City of Los Angeles – San Pedro Community Plan	The San Pedro Community Plan (City of Los Angeles, 1982b) serves as a basis for future development of the community. It is also the land use plan portion of the City's Local Coastal Program for San Pedro. The Port of Los Angeles, although contiguous to San Pedro, is not part of the San Pedro Community Plan area. However, the San Pedro Community Plan does make recommendations regarding the Port, particularly for areas adjacent to commercial and residential areas of San Pedro.
Wilmington-Harbor City Community Plan	The Plan includes policies and objectives related to cargo operations, transportation, land uses, and the physical and operational relationships between the community and industrial activities.
City of Carson General Plan and Zoning	The Plan designates land uses and zoning for the City, including a portion of the proposed Project.
Water Quality Control Plan – Los Angeles River Basin	The Water Quality Control Plan for the Los Angeles River Basin (Region 4) (Basin Plan) was adopted by the Regional Water Quality Control Board, Los Angeles Region (RWQCB) in 1978 and updated in 1994. The Basin Plan designates beneficial uses of the basin's water resources. The Basin Plan describes water quality objectives, implementation plans, and surveillance programs to protect or restore designated beneficial uses.
Air Quality Management Plan (AQMP)	The federal Clean Air Act (CAA) establishes the National Ambient Air Quality Standards (NAAQS) and delegates their enforcement to the states. In areas that exceed the NAAQS, the CAA requires states to prepare a State Implementation Plan (SIP) that details how the NAAQS will be achieved within mandated time frames. The CAA identifies emission reduction goals and compliance dates based on the severity of the ambient air quality standard violation. The California Clean Air Act (CCAA) outlines a program to attain the more stringent California Ambient Air Quality Standards (CAAQS) for O_3, NO_2, SO_2, and PM by the earliest practical date. The Lewis Air Quality Act of 1976 established the South Coast Air Quality Management District (SCAQMD), created SCAQMD jurisdiction over the four-county South Coast Air Basin, and mandated preparation of an AQMP. The 2007 AQMP proposes emission reduction strategies that will enable the South Coast Air Basin to achieve the national and most state ambient air quality standards within the mandated time frames.
California Air Resources Board – Emission Reduction Plan for Ports and Goods Movement	The California Air Resources Board (CARB) approved the Emission Reduction Plan for Ports and Goods Movement. The Port's Clean Air Action Plan (POLA and POLB, 2006; see Section 1.6), under which the proposed Project was designed and evaluated, is consistent with the Emission Reduction Plan.
AB 32	On September 27, 2006, Governor Schwarzenegger signed AB 32, the Global Warming Solutions Act. The Act caps California's greenhouse gas emissions at 1990 levels by 2020. This legislation requires the State Air Resources Board to establish a program for statewide greenhouse gas emissions reporting and to monitor and enforce compliance with this program.
Southern California Association of Governments Regional Plans	The Southern California Association of Governments (SCAG) is responsible for developing regional plans for transportation management, growth, and land use, as well as developing the growth factors used in forecasting air emissions within the South Coast Air Basin. SCAG has developed a Growth Management Plan (GMP), a Regional Housing Needs Assessment, a Regional Mobility Plan (RMP), and assists the SCAQMD in developing the AQMP.
Congestion Management Plan	The Congestion Management Program (CMP) is a state-mandated program intended as the analytical basis for transportation decisions made through the State Transportation Improvement Program process (LACMTA,

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	1993). The CMP was developed to: (a) link land use, transportation, and air quality decisions; (b) develop a partnership among transportation decision makers on devising appropriate transportation solutions that include all modes of travel; and (c) propose transportation projects that are eligible to compete for state gas tax funds. The plan includes a Land Use Analysis Program that requires local jurisdictions to analyze the impacts of land use decisions on the regional transportation system. For development projects, the CMP requires preparation of an EIR that is based on local determination and that incorporates a Transportation Impact Analysis.
Water Quality Statutes and Regulations	The federal Water Pollution Control Act (as amended by the Clean Water Act of 1977), Section 404; California Hazardous Waste Control Act; State Water Resources Control Board, Enclosed Bays and Estuaries Plan; Water Quality Control Plan for the Los Angeles River Basin (Region 4B), adopted by the Regional Water Quality Control Board, Los Angeles Region; and Sections 401 and 402 of the Clean Water Act of 1977 are all applicable to the proposed Project.
Air Quality Statutes and Regulations	Clean Air Act, Title 40 CFR Parts 50 and 51 as amended; Prevention of Significant Deterioration, Titles 40 CFR Part 51.24 and 40 CFR Part 52.21; California Clean Air Act; Air Quality Management Plan of the City of Los Angeles General Plan, Air Quality Element; and SCAQMD Regulations X111 and XV, New Source Review and Rules 212, 401, 403, and 431.2.
Transportation Statutes and Regulations	California Public Utilities Commission Guidelines; Federal Railroad Administration Guidelines; Federal Highway Administration Guidelines; California Transportation Guidelines; California Administrative Code Section 65302 (f)-Noise Element; City of Long Beach Noise Control Ordinance, No. C-5371; Federal Aid Highway Program Manual 7-7-3; State and Federal Department of Transportation Requirements regarding Track and Rail Transportation of Hazardous Materials.
Biological Resources Protection Statutes	Endangered Species Act of 1973, as amended; Migratory Bird Conservation Act; California Endangered Species Act; United States Fish and Wildlife Act of 1956 (16 USC 742a et seq.); Magnuson-Stevens Fishery Conservation and Management Act, as amended through 1996; California Fish and Game Code (Section 1600); California Endangered Species Act (California Fish and Game Code Section 2050 et seq.); Natural Community Conservation Act of 1991 (Fish and Game Code Chapter 10, Division 3, Sections 2800 et seq.).
Cultural Resources Protection Statutes	National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR 800); the Archaeological and Historical Preservation Act and Executive Order 11593 “Protection and Enhancement of the Cultural Environment;” California Health and Safety Code Section 7050 and Public Resources Code Section 5097 (Native American remains and paleontological resources); Los Angeles Municipal Code Sections 12.20.3 and 22.120 et seq.
Geological Resources Statutes and Regulations	Alquist-Priolo Fault Zoning Act of 1972; Seismic Hazards Mapping Act of 1990 (PRC Chapter 7.8 Sections 2690 – 2699.6; PRC Section 3208.1 authorizes the Department of Oil, Gas, and Geothermal Resources to regulate construction in the vicinity of abandoned oil wells; Surface Mining and Reclamation Act of 1975.
Public Safety and Utilities Statutes and Regulations	California State Fire Code; California Emergency Medical Services Authority (SB 125, HSC Sections 1797-1799); City of Los Angeles Municipal Code (Chapter5, Public Safety and Protection includes the Fire Code); City of Carson Fire Prevention Code; California Urban Water Management Act (Water Code Sections 10610-

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	10656); California Solid Waste Reuse and Recycling Access Act of 1991; California Integrated Waste Management Act (AB 939); LADWP Urban Water Management Plan; LADWP Integrated Resources Plan.
Environmental Justice	In California Senate Bill (SB) 115 (Government Code Section 65040.12[c]) identifies the Governor's Office of Planning and Research (OPR) as the comprehensive state agency responsible for long-range planning and development related to environmental justice policies in California. SB 115 defines environmental justice as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws and policies." The related SB 89 requires the Secretary for Environmental Protection to convene a Working Group to assist California Environmental Protection Agency (CalEPA) in developing an environmental justice strategy. California Public Resources Code Section 71113 states that the mission of Cal/EPA includes ensuring that it conducts any activities that substantially affect human health or the environment in a manner that ensures the fair treatment of people of all races, cultures, and income levels, including minority populations and low-income populations of the state.