3.7

HAZARDS AND HAZARDOUS MATERIALS

3.7.1 Introduction

This section addresses the potential impacts of hazards and hazardous materials related to the proposed Project and discusses potential impacts from proposed Project-related releases of hazardous materials to the environment. This section also describes impacts on public health and safety posed by the proposed Project. These potential impacts include fires, explosions, and releases of hazardous materials associated with construction and operation of the proposed facilities. The proposed Project would be exposed to significant and unavoidable tsunami-related impacts as a result of possible submarine landslides and numerous active faults in offshore southern California waters, as well as the relatively low elevation of Port berths and backland areas.

Potential health and safety impacts associated with encountering contaminated soil and groundwater during construction are discussed in Section 3.6 (Groundwater and Soils).

3.7.2 Environmental Setting

3.7.2.1 Hazardous Materials

Hazardous materials are the raw materials for a product or process that may be classified as toxic, flammable, corrosive, or reactive. Hazardous materials classifications that may be transported at the Port include:

- Corrosive materials — solids, liquids, or gases that can damage living material or cause fire.
- Explosive materials — any compound that is classified by the National Fire Protection Association (NFPA) as A, B, or C explosives.
- Oxidizing materials — any element or compound that yields oxygen or reacts when subjected to water, heat, or fire conditions.

- Toxic materials — gases, liquids, or solids that may create a hazard to life or health by ingestion, inhalation, or absorption through the skin.
- Unstable materials — those materials that react from heat, shock, friction, contamination, etc., and that are capable of violent decomposition or autoreaction, but which are not designed primarily as an explosive.
- Radioactive materials — those materials that undergo spontaneous emission of radiation from decaying atomic nuclei.
- Water-reactive materials — those materials that react violently or dangerously upon exposure to water or moisture.

Hazardous materials that are transported in containers are stored in individual containers specifically manufactured for storing and transporting the material. In addition, shipping companies prepare, package, and label hazardous materials shipments in accordance with federal requirements (49 CFR 170-179) to facilitate surface transport of the containers. All hazardous materials in containers are required to be properly manifested. Hazardous material manifests for inbound containerized hazardous materials are reviewed and approved by the Port Security and the City's Fire Department before they can be unloaded.

There are five hazardous liquid bulk facilities within the West Basin area, only two of which have storage capabilities (Table 3.7-1). There are no liquid bulk facilities located at Berths 136-147, which comprises the proposed Project's area.

Table 3.7-1. Liquid Bulk Facilities within the West Basin Area

Facility	*Approximate Storage Volume (Barrels)*	*Number of Tanks*
GATX Berths 118-121	523,000	18
BP North America Berths 118-121	None	None
Petrolane Berth 120	None	None
Western Fuel Oil Berths 120-121	None	None
ConocoPhillips Berths 148-151	817,000	26

The LAHD estimates that the Port handles a maximum of 10,000 containers per year that contain hazardous materials (LAHD 2004c). This is the approximate capacity of two container ships. Based on the annual Portwide container volume of 7.4 million TEUs for fiscal year 2004, which is equivalent to approximately four million containers, hazardous materials in containers is estimated to represent approximately 0.25 percent of the total containers handled within the Port.

Containers containing hazardous materials are transported from the terminal via truck and rail. While in the port, these containers will only be handled by authorized workers. The Transportation Worker Identification Credential (TWIC) program is a Transportation Security Administration (TSA) and USCG initiative that provides a

tamper-resistant biometric credential to maritime workers requiring unescorted access to secure areas of port facilities and vessels regulated under the Maritime Transportation Security Act, or MTSA, and all USCG credentialed merchant mariners. An estimated 750,000 individuals will require TWICs. Enrollment and issuance will take place over an 18-month period. To obtain a TWIC, an individual must provide biographic and biometric information such as fingerprints, sit for a digital photograph and successfully pass a security threat assessment conducted by TSA. The TWIC program will minimize the potential for unauthorized handling of containers that contain hazardous materials.

Since 2000, approximately five small hazardous materials spills and one explosion have occurred from containers at the Berths 136-147 facility. Two injuries were reported from accidental releases of hazardous materials. The explosion occurred when a container, received from overseas, was improperly labeled and packed and included an unclaimed vehicle (with gasoline fumes) and butane tanks. The container explosion occurred while being handled; however, no personnel were injured and no damage occurred to surrounding property. No deaths have resulted from releases of hazardous materials at the Port. No injuries associated with accidental releases of hazardous materials have been reported at hazardous liquid bulk storage facilities within the West Basin area (personal communication, John Curry 2004 and Sergeant Ken Hawkes 2007).

The California Office of Emergency Services (OES) maintains the Response Information Management System (RIMS) database that includes detailed information on all reported hazardous material spills in California. All spills that occur within the Port, both hazardous and non-hazardous, are reported to the OES and entered into the RIMS database. This database includes spills that may not result in a risk to the public, but could be considered to be an environmental hazard. Information in the RIMS database were evaluated for the period 1997 to 2004 to evaluate the types and number of spills that have occurred at the Ports of Los Angeles and Long Beach that would be associated with container terminals. Table 3.7-2 presents a summary of accidental spills from container terminals that have occurred in the port complex.

During the period 1997-2004 there were 40 “hazardous material” spills directly associated with container terminals in the Ports of Los Angeles and Long Beach. This equates to approximately five spills per year for the entire port complex. During this period, the total throughput of the container terminals was 76,874,841 TEU. Therefore, the probability of a spill at a container terminal can be estimated at 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill probability conservatively represents the baseline hazardous material spill probability since it includes materials that would not be considered a risk to public safety (e.g., perfume spills), but would still be considered an environmental hazard. It should be noted that during this period there were no reported impacts to the public (injuries, fatalities and evacuations), with potential consequences limited to port workers (two worker injuries that were treated at the scene and 20 workers evaluated as a precaution).

Table 3.7-2. Container-Related Spills at POLA/POLB 1997-2004

Spill Control Number	*Substance*	*Spill Size*	*Port*	*Injuries*	*Fatalities*	*Evacuations*
97-0684	Unknown dry substance	Unknown	POLB	2	0	0
97-1644	Phenetidine	Unknown	POLB	0	0	0
97-2220	Perfume	Unknown	POLB	0	0	0
97-2360	Ethanolamine	10 gallons	POLA	0	0	0
97-2782	Arsenic Trioxide	0.5 pounds	POLB	0	0	0
97-3158	Flammable liquid	Unknown	POLB	0	0	0
97-4369	Toluene Disocyaete	1 quart	POLA	0	0	0
98-4030	Nitric Acid	Unknown	POLB	0	0	0
98-4243	Isopropanol	55 gallons	POLB	0	0	0
99-3076	Alkyl Benzine	2 gallons	POLB	0	0	0
99-4630	Hypochlorite Solution	Unknown	POLB	0	0	0
00-1186	Xylenol	5 gallons	POLB	0	0	0
00-1232	Petroleum Distillates	1 gallon	POLB	0	0	0
00-2078	Chromium 6 Oxide	5 pounds	POLA	0	0	0
01-1433	Dodecylbenzene Sulfonic Acid Detergent	330 gallons	POLB	0	0	0
01-3682	Hydroperoxide	15 gallons	POLA	0	0	0
01-3943	Isopropanol	5 gallons	POLA	0	0	0
01-5462	Organic Peroxide	1 gallon	POLA	0	0	0
01-6533	Lead Acid Batteries	5 gallons	POLA	0	0	0
01-6902	Motor oil	3 gallons	POLB	0	0	0
02-0219	Calcium Hypochlorite	2 ounces	POLB	0	0	0
02-0822	Unknown material	Unknown	POLA	0	0	0
02-2033	Aerosol Cans	Unknown	POLA	0	0	0
02-3248	Perfume and Sulfamic Acid	Unknown	POLB	0	0	0
03-0278	Hexachlorocyclopentadiene	2 gallons	POLA	0	0	20
03-1653	Hydro Phosphorous Acid	1 gallon	POLA	0	0	0
03-0568	Organo Phosphorus Pesticide	3 gallons	POLA	0	0	0
03-0563	Organo Phosphorus Pesticide	1 gallon	POLA	0	0	0
03-0133	Sulfuric acid	Unknown	POLA	0	0	0
03-2554	Unknown Corrosive	1 gallon	POLB	0	0	0
03-3307	Unknown Oil	Unknown	POLB	0	0	0
03-4110	Unknown Oil	Unknown	POLA	0	0	0
04-1458	Alkyl benzyne	2,475 gallons	POLB	0	0	0
04-1431	Alkylene Carbonate	1 gallon	POLA	0	0	0
04-0085	Calcium Hypochlorite	Unknown	POLA	0	0	0
04-2525	Cutting Oil	Unknown	POLB	0	0	0
04-1135	Flammable Material	Unknown	POLB	0	0	0
04-2810	Hydrazine Hydrate, 34% solution	1 gallon	POLA	0	0	0
04-5008	Methane Sulfonic Acid	Unknown	POLA	0	0	0
04-1409	Unknown flammable	1 gallon	POLB	0	0	0
Total				**2**	**0**	**20**

3.7.2.2 Public Emergency Services

Emergency response/fire protection for the Port is provided by the Los Angeles City Fire Department (LAFD); security is provided by the Port Police office. Two large fireboats and three small fireboats are strategically placed within the Harbor. There are also fire stations equipped with fire trucks located within the Port and nearby in the communities of Wilmington and San Pedro. Public services are discussed in detail in Section 3.12.

3.7.2.3 POLA Risk Management Plan

The Risk Management Plan (RMP), an element of the Port Master Plan (PMP), was adopted in 1983, per California Coastal Commission (CCC) requirements. The purpose of the RMP 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 RMP provides guidance for future development of the Port to minimize or eliminate the hazards to vulnerable resources from accidental releases. Proposed Project consistency with this Plan would be limited, as the plan pertains primarily to marine terminals that accept crude oil, petroleum products, and chemicals, rather than container terminals.

3.7.2.4 Homeland Security

3.7.2.4.1 Terrorism Risk

Prior to the events of September 11th, 2001, the prospect of a terrorist attack on a U.S. port facility or a commercial vessel in a U.S. port would have been considered highly speculative under CEQA and dropped from further analysis. The climate of the world today has added an additional unknown factor for consideration; i.e., terrorism. There are no data available to indicate how likely or unlikely a terrorist attack aimed at the POLA or the proposed Project would be, and therefore the probability component of the analysis described above cannot be evaluated accurately without a considerable amount of uncertainty. Nonetheless, this fact does not invalidate the analysis contained herein. A terrorist action could be the cause of events described in this section such as hazardous materials release and/or explosion. The potential impact of those events would remain as described herein.

3.7.2.4.2 Application of Risk Principles

Terrorism risk can be generally defined by the combined factors of threat, vulnerability and consequence. In this context, terrorism risk represents the expected consequences of terrorist actions taking into account the likelihood that these actions will be attempted, and the likelihood that they will be successful. Of the three elements of risk, the threat of a terrorist action cannot be directly affected by activities within the port. The vulnerability of the port and of individual cargo terminals can be reduced by implementing security measures. The expected consequences of a terrorist action can be also affected by certain measures such as emergency response preparations.

3.7.2.4.3 Terrorism Risk associated with Port Cargo Facilities

The cargo facilities within the Port are the locations where cargo moving through the international supply chain is transferred between vessels and land transportation (either over the road tractor-trailers or railroad). Because this function is critical to the international supply chain, and therefore critical to the U.S. economy, it is possible that these facilities could be targeted for terrorist actions. These terminals are generally not seen as iconic themselves. During operational periods people on these terminals are generally limited to terminal staff members, longshore workers, and truck drivers. There is no public access to these terminals.

Port facilities could be subject to terrorist actions from the land or the water. There could be attempts to disrupt cargo operations through various types of actions.

3.7.2.4.4 Terrorism Risk associated with Commercial Vessels

Commercial vessels within the Port could be subject to terrorist action while at berth or during transit. These vessels could be subject to several types of actions, including an attack from the land, from the surface of the water, or from beneath the surface of the water. During their transit within the port, these large vessels are highly restricted in their maneuverability.

There have been very few examples of terrorist actions attempted against large commercial vessels since September 11, 2001. On October 6th, 2002, a terrorist attack was attempted against the French-flagged crude oil tanker *Limburg*. At the time the *Limburg* was carrying 397,000 barrels of crude oil from Iran to Malaysia. The ship was attacked off the coast of Yemen by a small boat laden with explosives. The *Limburg* caught fire and approximately 90,000 barrels of crude oil leaked into the Gulf of Aden. The *Limburg* did not sink. She was salvaged, repaired and returned to service under the new name *Maritime Jewel*.

Unlike vessels carrying hazardous or highly flammable materials, such as bulk liquid carriers, an attack on a container ship would likely be economic in nature and designed to disrupt port operations. Container ships are not attractive targets in terms of loss of life or producing large fires and explosions. However, a catastrophic attack on a vessel within Port waters could block key channels and disrupt commerce, thus resulting in potential economic losses.

3.7.2.4.5 Terrorism Risk associated with Containerized Cargo

Intermodal cargo containers could be used to transport a harmful device into the port intended to cause harm to the port. This could include a weapon of mass destruction, or a conventional explosive. The likelihood of such an attack would be based on the desire to cause harm to the port, with potential increases in project-related throughput having no measurable effect on the probability of an attack.

Containerized cargo represents a substantial segment of maritime commerce and is the focus of much of the attention regarding seaport security. Containers are used to

transport a wide variety of goods. A large container ship can carry more than 3,000 containers, of which several hundred might be offloaded at a given port.

An intermodal container is similar to a semi truck trailer without an attached chassis or wheels. Standard container sizes are 8 x 8 x 20 feet or 8 x 8 x 40 feet. Once offloaded from ships, they are transferred to rail cars, or tractor-trailers. Over-the-road weight regulations generally limit the cargo load of a 40-foot container to approximately 45,000 pounds.

Additionally, the use of cargo containers to smuggle weapons of mass destruction through the port intended to harm another location such as a highly populated and/or economically important region is another possible use of a container by a terrorist organization. However, the likelihood of such an event would not be impacted by project-related throughput increases, but would be based on the terrorist's desired outcome. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives may be less desirable than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

3.7.2.5 Security Measures at the Port of Los Angeles

Numerous security measures have been implemented in the Port in the wake of the terrorist attacks of September 11, 2001. Federal, state, and local agencies, as well as private industry, have implemented and coordinated many security operations and physical security enhancements. The result is a layered approach to Port security that includes the security program of the LAHD and the Berths 136-147 terminal.

3.7.2.5.1 Security Regulations

The Maritime Transportation Security Act (MTSA) of 2003 resulted in maritime security regulations in Title 33 CFR Parts 101-106. These regulations apply to cargo terminals within POLA including the Berths 136-147 terminal. Title 33 Part 105 requires that cargo terminals meet minimum security standards for physical security, access control, cargo handling security, and interaction with berthed vessels. These regulations require that terminal operators submit a Facility Security Plan (FSP) to the Coast Guard Captain of the Port for review and approval prior to conducting cargo operations. The requirements for submission of the security plans became effective on December 31, 2003. Operational compliance was required by July 1, 2004.

The International Ship and Port Facility Security (ISPS) Code was adopted by the International Maritime Organization (IMO) in 2003. This code requires both ships and ports to conduct vulnerability assessments and to develop security plans with the purpose of: preventing and suppressing terrorism against ships; improving security aboard ships and ashore; and reducing risk to passengers, crew, and port personnel on board ships and in port areas, for vessels and cargo. The ISPS Code applies to all cargo vessels 300 gross tons or larger and ports servicing those regulated vessels and is very similar to the MTSA regulations.

The USCG is responsible for enforcement of the MTSA and ISPS Code regulations discussed above. Due to the parallel nature of the MTSA and ISPS requirements, compliance with the MTSA is tantamount to compliance with the ISPS. If either the terminal or a vessel berthed at the terminal is found to be not in compliance with these security regulations, the USCG may not permit cargo operations, and the terminal and/or vessel operators may be subject to fines. In accordance with its responsibilities for land-based security under Title 33 CFR Part 105, the USCG may impose additional control measures related to security.

In July 2005 the POLA Tariff was modified to require that all POLA terminals subject to MTSA regulations to fully comply with these regulations, and to provide POLA with a copy of their approved FSP.

3.7.2.5.2 Terminal Security Measures

The Berths 136-147 terminal is subject to USCG maritime security regulations discussed in section 3.7.2.5.1. In compliance with these regulations, the Berths 136-147 terminal submitted a Facility Security Assessment (FSA) and FSP to the Coast Guard Captain of the Port for review and approval. The Berths 136-147 FSP was approved by the USCG in 2004 and includes the following:

- Designating a Facility Security Officer (FSO) with a general knowledge of current security threats and patterns, risk assessment methodology, and with the responsibility for implementing and periodically updating the FSP and Assessment and performing an annual audit for the life of the project;
- Conducting a FSA to identify site vulnerabilities, possible security threats, consequences of an attack, and facility protective measures;
- Developing a FSP based on the FSA with procedures for responding to transportation security incidents; notifying and coordinating with local, state, and federal authorities, preventing unauthorized access; implementing measures and equipment to prevent or deter dangerous substances and devices; and conducting training and evacuation;
- Implementing scalable security measures to provide increasing levels of security at increasing Maritime Security (MARSEC) levels for facility access control, restricted areas, cargo handling, vessel stores and bunkers, and monitoring;
- Conducting security exercises at least once each calendar year and drills at least every 3 months; and
- Mandatory reporting of all security breaches and incidents.

Security training is conducted for the Terminal operator's FSO and associated security personnel the Terminal operator's employees. This consists of awareness training and basic security guard training; there are annual refresher courses. Labor is trained by the Pacific Maritime Association.

3.7.2.5.3 Vessel Security Measures

All cargo vessels 300 gross tons or larger that are flagged by IMO signatory nations adhere to the ISPS Code standards discussed in Section 3.7.2.5.1. These requirements include:

- Ships must develop security plans that address monitoring and controlling access; monitoring the activities of people, cargo, and stores; and ensuring the security and availability of communications;
- Ships must have a Ship Security Officer (SSO);
- Ships must be provided with a ship security alert system. These systems transmit ship-to-shore security alerts to a competent authority designated by the Flag State Administration, which may communicate the company name, identify the ship, establish its location, and indicate that the ship's security is under threat or has been compromised. For the west coast, this signal is received by the Coast Guard's Pacific Area Command Center in Alameda, California.
- International port facilities that ships visit must have a security plan, including focused security for areas having direct contact with ships; and
- Ships may have certain equipment onboard to help maintain or enhance the physical security of the ship.

- Monitor and control access;
- Monitor the activities of people and cargo;
- Ensure the security and availability of communications; and
- Complete a Declaration of Security signed by the FSO and SSO, which ensures that areas of security overlapping between the ship and facility are adequately addressed.
- Vessels flagged by nations which are not IMO signatory are subject to special USCG vessel security boarding prior to entering port.

3.7.2.5.4 Security Credentialing

The Transportation Worker Identification Credential (TWIC) program is a TSA and USCG initiative that will include issuance of a tamper-resistant biometric credential to maritime workers requiring unescorted access to secure areas of port facilities and vessels regulated under the MTSA. The TWIC program will minimize the potential for unauthorized handling of containers that contain hazardous materials and provide additional shoreside security at the terminal. In order to obtain a TWIC, an individual must successfully pass a security threat assessment conducted by TSA. This assessment will include a criminal history check and a citizenship or immigration status check of all applicants. POLA is currently involved in initial implementation of the TWIC program including a series of field tests at selected POLA terminals.

3.7.2.5.5 Cargo Security Measures

U.S. Customs and Border Protection (CBP) is the federal agency with responsibility for the security of cargo being shipped into the United States. CBP is the lead agency for screening and scanning cargo that is shipped through the Port. Neither the Berths 136-147 terminal nor the LAHD have responsibilities related to security scanning or screening of cargo entering the port. However, the Port Police may inspect cargo if there is probable cause on a case-by-case basis.

CBP conducts several initiatives related to security of the supply chain. Through the Container Security Initiative (CSI) program, CBP inspectors pre-screen U.S.-bound marine containers at foreign ports prior to loading aboard vessels bound for U.S. ports. The Customs Trade Partnership Against Terrorism offers importers expedited processing of their cargo if they comply with CBP measures for securing their entire supply chain. Details of CBP cargo security programs can be found at the CBP internet website http://cbp.gov/.

3.7.2.5.6 POLA Security Initiatives

The LAHD (POLA) is not subject to the international or federal security regulations discussed in Section 3.7.2.5.1. However, all container terminal tenants at the POLA are subject to these regulations. POLA has a number of security initiatives underway. These initiatives include significant expansion of the Los Angeles Port Police that will result in additional police vehicles on the streets and police boats on the water. The initiatives in this area include:

- Expanding Port Police enhancement of its communications capabilities
- Establishing a 24-hour two-vessel presence.
- Establishing a vehicle and cargo inspection team.
- Establishing a Port Police substation in Wilmington.
- Enhancing recruiting and retention of Port Police personnel.
- Expanding Port Police communications capabilities to include addition of dedicated tactical frequencies.
- Enhancing security at Port owned facilities.

In the area of homeland security, the Port will continue to embrace technology, while focusing its efforts on those areas of particular interest to the Port. Current POLA homeland security initiatives include:

- Upgrading security at the World Cruise Center.
- Expanding the Port's waterside camera system.
- Establish restricted areas for non-commercial vehicles and vessels.
- Installing additional shore-side cameras at critical locations.

- Working with TSA to implement the TWIC program.
- Promoting increased scanning at overseas ports.
- Updating long range security plans for the Port.
- Developing a security awareness training program.
- Enhancing outreach to constituents.

3.7.3 Applicable Regulations

3.7.3.1 List of Regulations

Regulations applicable to the proposed Project are designed to regulate hazardous materials and hazardous wastes. These regulations also are designed to limit the risk of upset during the use, transport, handling, storage, and disposal of hazardous materials. The proposed Project will be subject to numerous federal, state, and local laws and regulations including, but not limited to, those described below.

3.7.3.1.1 Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 6901-6987)

The goal of RCRA, a federal statute passed in 1976, is the protection of human health and the environment, the reduction of waste, the conservation of energy and natural resources, and the elimination of the generation of hazardous waste as expeditiously as possible. The Hazardous and Solid Waste Amendments of 1984 significantly expanded the scope of RCRA by adding new corrective action requirements, land disposal restrictions, and technical requirements. The corresponding regulations in 40 CFR 260-299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

3.7.3.1.2 DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185)

The DOT Hazardous Materials Regulations cover all aspects of hazardous materials packaging, handling and transportation. Parts 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging Maintenance) would all apply to the proposed Project activities.

3.7.3.1.3 The Hazardous Materials Transportation Act (HMTA), 49 CFR 171, Subchapter C

The DOT, FHWA, and the Federal Railroad Administration regulate transportation of hazardous materials at the federal level. The HMTA requires that carriers report accidental releases of hazardous materials to DOT at the earliest practical moment.

Other incidents that must be reported include deaths, injuries requiring hospitalization, and property damage exceeding $50,000.

3.7.3.1.4 United States Coast Guard (USCG) Title 33

The USCG, through Title 33 (Navigation and Navigable Waters) and Title 46 (Shipping) of the CFR, is the federal agency responsible for vessel inspection, marine terminal operations safety, coordination of federal responses to marine emergencies, enforcement of marine pollution statutes, marine safety (navigation aids, etc.), and operation of the National Response Center for spill response, and is the lead agency for offshore spill response. The USCG implemented a revised vessel boarding program in 1994 designed to identify and eliminate substandard ships from U.S. waters. The program pursues this goal by systematically targeting the relative risk of vessels and increasing the boarding frequency on high risk (potentially substandard) vessels. Each vessel's relative risk is determined through the use of a matrix that factors the vessel's flag, owner, operator, classification society, vessel particulars, and violation history. Vessels are assigned a boarding priority from I to IV, with priority I vessels being the potentially highest risk. The USCG is also responsible for reviewing marine terminal Operations Manuals and issuing Letters of Adequacy upon approval.

3.7.3.1.5 Hazardous Waste Control Law (California Health and Safety Code, Chapter 6.5)

This statute is the basic hazardous waste law for California. The Hazardous Waste Control implements the federal RCRA cradle-to-grave waste management system in California. California hazardous waste regulations can be found in Title 22, Division 4.5, Environmental Health Standards for the Management of Hazardous Wastes. The program is administered by the DTSC.

3.7.3.1.6 Emergency Planning and Community Right-To-Know Act (42 U.S.C. 11001 et seq.)

Also known as Title III of the Superfund Amendments and Reauthorization Act (SARA), Emergency Planning and Community Right-To-Know Act (EPCRA) was enacted by Congress as the national legislation on community safety. This law was designated to help local communities protect public health, safety, and the environment from chemical hazards. To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission (SERC). The SERCs were required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee (LEPC) for each district. EPCRA provides requirements for emergency release notification, chemical inventory reporting, and toxic release inventories for facilities that handle chemicals.

3.7.3.1.7 Hazardous Material Release Response Plans and Inventory Law (California Health and Safety Code, Chapter 6.95)

This state right-to-know law requires businesses to develop a Hazardous Material Management Plan or a "business plan" for hazardous materials emergencies if they handle more than 500 pounds, 55 gallons, or 200 cubic feet of hazardous materials. In addition, the business plan includes an inventory of all hazardous materials stored or handled at the facility above these thresholds. This law is designed to reduce the occurrence and severity of hazardous materials releases. The Hazardous Materials Management Plan or business plan must be submitted to the Certified Unified Program Agency (CUPA), which is, in this case, the Los Angeles City Fire Department (LAFD). The state has integrated the federal EPCRA reporting requirements into this law; and, once a facility is in compliance with the local administering agency requirements, submittals to other agencies are not required.

3.7.3.1.8 Los Angeles Municipal Code (Fire Protection – Chapter 5, Section 57, Divisions 4 and 5)

These portions of the municipal fire code regulate the construction of buildings and other structures used to store flammable hazardous materials, and the storage of these same materials. These sections ensure that the business is properly equipped and operates in a safe manner and in accordance with all applicable laws and regulations. These permits are issued by the LAFD.

3.7.3.1.9 Los Angeles Municipal Code (Public Property – Chapter 6, Article 4)

This portion of the municipal code regulates the discharge of materials into the sanitary sewer and storm drains. It requires the construction of spill-containment structures to prevent the entry of forbidden materials, such as hazardous materials, into sanitary sewers and storm drains.

3.7.3.2 Other Requirements

California regulates the management of hazardous wastes through Health and Safety Code Section 25100 et seq., and through the California CCR, Title 22, and Division 4.5, Environmental Health Standards for the Management of Hazardous Wastes, as well as CCR Title 26, Toxics.

The Safety Element of the City of Los Angeles General Plan addresses the issue of protection of its people from unreasonable risks associated with natural disasters (e.g., fires, floods, and earthquakes). The Safety Element provides a contextual framework for understanding the relationship between hazard mitigation, response to a natural disaster, and initial recovery from a natural disaster.

The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code.

Compliance with other federal, state, and local laws and regulations (e.g., driver training and licensing and Caltrans packaging requirements) govern transport of cargo on the street and highway system and during rail transport. The shippers package the hazardous materials in the containers and provide labeling in compliance with Caltrans requirements.

Numerous facilities handle, store, or transport hazardous materials in the Port. Activities that involve hazardous liquid bulk cargoes (e.g., fuels) at the Port are governed by the Port of Los Angeles Risk Management Plan (RMP) (LAHD 1983). This plan provides for a methodology for assessing and considering risk during the siting process for facilities that handle substantial amounts of dangerous cargo, such as liquid bulk facilities.

Hazardous materials inside cargo containers fall under the primary jurisdiction of the federal Department of Homeland Security and USCG (33 CFR 126) while the containers are at sea, in Port waters, and at waterfront facilities. Under the jurisdiction of the Department of Homeland Security, the USCG maintains an Office of Operating and Environmental Standards Division, which develops national regulations and policies on marine environmental protection. This division coordinates with appropriate federal, state, and international organizations to minimize conflicting environmental requirements. The USCG also maintains a Hazardous Materials Standards Division (HMSD), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. This includes transportation of bulk liquid chemicals and liquefied gases, hazardous bulk solids, and packaged hazardous cargoes, as well as hazardous materials used as ship's stores and hazardous materials used for shipboard fumigation of cargo.

Vessel Traffic Service (VTS) is a Public/Private partnership vessel traffic service for the Ports of Los Angeles and Long Beach. VTS is jointly operated and managed by the Marine Exchange of Southern California (a nonprofit corporation) and the Coast Guard COTP. VTS is a cooperative effort of the State of California, USCG, Marine Exchange of Southern California, Ports of Los Angeles and Long Beach, and is under the authority of California Government Code, Section 8670.21, Harbors and Navigation Code, Sections 445-449.5 and the Port tariffs of Los Angeles and Long Beach.

Terminal cargo operations involving hazardous materials are governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). Regulated hazardous materials in the Port may include maritime-use compounds such as chlorinated solvents, petroleum products, compressed gases, paints, cleaners, and pesticides.

3.7.4 Impacts and Mitigation Measures

3.7.4.1 Methodology

Risk Probability and Criticality

CEQA guidelines require identifying any adverse change in any of the physical conditions within the area affected by the proposed Project, including the probability of spills or releases. For incidents that may impact environmental and public safety, a risk matrix is used to evaluate the expected frequencies of scenarios versus the severity of potential consequences to determine the level of significance (see Table 3.7-3). The potential for significant safety impacts increases proportionally to the frequency of occurrence and potential consequences of an event. Frequency is typically classified into six categories (frequent, periodical, occasional, possible, improbable, and extraordinary) based on a predefined expected level of occurrence. The severity of consequence is also classified into five categories (negligible, minor, major, severe, and disastrous) based on the potential environmental and safety impact on the public. Table 3.7-4 specifies values in each category of consequence and frequency classification typically used in the industry. Incidents that fall in the shaded area of the risk matrix would be classified as significant. The risk matrix approach follows the Los Angeles County Fire Department (LACFD) risk management guidelines that were originally developed for the California Risk Management and Prevention Program (RMPP) and also include the criticality classifications presented in Table 3.7-4. The RMPP used the combination of accident frequency and consequences to define the significance of a potential accident in terms of impacts to public safety (i.e., potential injuries and/or fatalities). Santa Barbara County (1995) added additional criteria to address the significance of oil spills and environmental hazards, which for the proposed Project would include fuel spills from container ships. The potential significance of impacts to public safety and the environment are evaluated using the risk matrix approach. The extent of environmental damage is evaluated in the relevant issue areas (e.g., biological resources, water quality, etc.).

The risk criticality matrix shown in Table 3.7-4 combines accidental probability with the severity of consequences to identify the risk criticality. Four categories of risk have been defined by the LACFD as:

1. Critical. Mitigate within 6 months with administrative or engineering controls (to reduce the Risk Code to 3 or less).
2. Undesirable. Mitigate within 1 year with administrative or engineering controls (to reduce the Risk Code to 3 or less).
3. Acceptable. Verify need for engineering controls, or that administrative controls are in place for hazard.
4. Acceptable. No mitigating action required for the identified hazard.

Table 3.7-3. Risk Matrix

Consequences	Probability: Extraordinary- >1,000,000 years	Improbable >10,000 <1,000,000 years	Possible >100 <10,000 years	Occasional >10 and <100 years	Periodic >1 and <10 years	Frequent (>1/year)
Catastrophic (> 100 severe injuries or >357,142 bbl)	4	3	2	1	1	1
Severe (up to 100 severe injuries or 2,380–357,142 bbls)	4	3	3	2	2	2
Moderate (up to 10 severe injuries or 238–2,380 bbl)	4	4	3	3	3	3
Slight (a few minor injuries or 10-238 bbl)	4	4	4	4	4	4
Negligible (no minor injuries or <10 bbls)	4	4	4	4	4	4

Note: Incidents that fall in the dark shaded area of the risk matrix would be classified as significant in the absence of mitigation, while the lighter shaded areas would be significant in the absence of engineering and/or administrative controls. Un-shaded areas would be considered less than significant.
bbl = barrel which is 42 gallons.

Sources: LACFD 1991, Santa Barbara County 1995; Aspen Environmental Group 1996.

The risk criticality matrix presented in Table 3.7-4 was originally developed for use in evaluating the probability and significance of a release of acutely hazardous materials (AHM) under the requirements of Section 25532(g) of the Health and Safety Code, and has been modified over the years to include other environmental and public safety hazards.

Risk of Upset Due to Terrorism

Analysis of risk of upset is based primarily on potential frequencies of occurrence for various events and upset conditions as established by historical data. The climate of the world today has added an additional unknown factor for consideration; i.e., terrorism. There are no data available to indicate how likely or unlikely a terrorist attack aimed at the POLA or the proposed Project would be, and therefore the probability component of the analysis described above cannot be evaluated accurately without a considerable amount of uncertainty. Nonetheless, this fact does

Table 3.7-4. Criticality and Frequency Classifications

CRITICALITY CLASSIFICATION		
Classification	*Description of Public Safety Hazard*	*Environmental Hazard - Oil Spill Size*
Negligible	No significant risk to the public, with no injuries	Less than 10 bbls (420 gal)
Slight	At most a few minor injuries	10–238 bbl (420–10,000 gal)
Moderate	Up to 10 severe injuries	238–2,380 bbl (10,000–100,000 gal)
Severe	Up to 100 severe injuries or up to 10 fatalities	2,380–357,142 bbls (100,000–15,000,000 gal)
Catastrophic	More than 100 severe injuries or more than 10 fatalities	Greater than 357,142 bbl (15,000,000 gal)
FREQUENCY CLASSIFICATION		
Classification	*Frequency per year*	*Description of the Event*
Extraordinary	< once in 1,000,000 years	Has never occurred but could occur.
Improbable	between once in 10,000 and once in 1,000,000 years	Occurred on a worldwide basis, but only a few times. Not expected to occur.
Possible	Between once in a 100 and once in 10,000 years	Is not expected to occur during the project lifetime.
Occasional	Between once in a 10 and once in 100 years	Would probably occur during the project lifetime.
Periodic	Between once per year and once in 10 years	Would occur about once a decade.
Frequent	Greater than once in a year	Would occur once in a year on average.
Sources: Santa Barbara County 1995; Aspen Environmental Group 1996.		

not invalidate the analysis contained herein. Terrorism can be viewed as a potential trigger that could initiate events described in this section such as hazardous materials release and/or explosion. The potential impact of those events, once triggered by whatever means, would remain as described herein. The Berth 136-147 Terminal operator would also be required to develop a Terminal Security Plan for the Terminal, which would be approved by the USCG and the California State Lands Commission (CSLC) prior to implementation of the proposed Project. Ships calling at the Port would need to provide 96 hour advance notice. They would be screened by the USCG and CBP. The USCG would have options of denying entry of vessels to the POLA if any security situation arises.

Hazards Associated with Truck Transportation

Proposed Project-related increases in truck trips could result in an increase in vehicular accidents, injuries and fatalities. Therefore, potential impact of increased truck traffic on regional injury and fatality rates have been evaluated.

The Federal Motor Carrier Safety Administration (FMCSA), within DOT, operates and maintains the Motor Carrier Management Information System (MCMIS). MCMIS contains information on the safety fitness of commercial motor carriers and hazardous material shippers subject to the FMCSA Regulations and the 49 CFR Hazardous Materials Regulations. As part of these requirements, reportable accident rates are generated for various types of carriers, including carriers of hazardous materials. More than 500,000 motor carriers are included in the database, of which approximately 40,000 carry hazardous materials. A DOT reportable accident is an accident that produces either a fatality, a hospitalization, or requires the vehicle be towed.

The Hazardous Materials Information System (HMIS) is another system of databases managed by the Office of Hazardous Materials Safety within DOT. The database maintains information on transportation-related hazardous material incidents.

According to an FMCSA detailed analysis (FMCSA 2001), the estimated non-hazardous materials truck accident rate is more than twice the hazardous materials truck accident rate. The non-hazardous materials truck accident rate was estimated to be 0.73 accidents per million vehicle miles and the average hazardous materials truck accident rate was estimated to be 0.32 accidents per million vehicle miles.

Based on the National Highway Traffic Safety Administration (NHTSA) (DOT 2003), of the estimated 457,000 truck crashes in 2000 (causing fatalities, injuries, or property damage), an estimated 1 percent produced fatalities and 22 percent produced injuries. The Fatality Analysis Reporting System (FARS) and the Trucks Involved in Fatal Accidents (TIFA) survey were the sources of data for this analysis, which primarily examined fatalities associated with vehicle impact and trauma.

3.7.4.1.1 CEQA Baseline

Section 15125 of the CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of a project that exist at the time of the NOP. These environmental conditions would normally constitute the baseline physical conditions by which the CEQA lead agency determines whether an impact is significant. For purposes of this Draft EIS/EIR, the CEQA Baseline for determining the significance of potential impacts under CEQA is December 2003. CEQA Baseline conditions are described in Table 2-2 of Section 2.4.

The CEQA Baseline represents the setting at a fixed point in time, with no project growth over time, and differs from the "No Project" Alternative (discussed in Section 2.5.1) in that the No Project Alternative addresses what is likely to happen at the site over time, starting from the baseline conditions. The No Project Alternative allows for growth at the proposed Project site that would occur without any required additional approvals.

3.7.4.1.2 No Federal Action/NEPA Baseline

For purposes of this Draft EIS/EIR, the evaluation of significance under NEPA is defined by comparing the proposed Project or other alternative to the No Federal Action scenario. The No Federal Action/NEPA Baseline condition for determining

significance of impacts coincides with the "No Federal Action" condition, which is defined by examining the full range of construction and operational activities the applicant could implement and is likely to implement absent permits from the USACE. Therefore, the No Federal Action/NEPA Baseline would not include any dredging, filling of the Northwest Slip, wharf construction or upgrades, or crane replacement. The No Federal Action/NEPA Baseline would include construction and operation of all upland elements (existing lands) for backlands or other purposes. The upland elements are assumed to include:

- Adding 57 acres of existing land for backland area and an on-dock rail yard;
- Constructing a 500-space parking lot for union workers;
- Demolishing the existing administration building and constructing a new LEED certified administration building and other terminal buildings;
- Adding new lighting and replacing existing lighting, fencing, paving, and utilities on the backlands;
- Relocating the Pier A rail yard and constructing the new on-dock rail yard;
- Widening and realigning Harry Bridges Boulevard; and
- Developing the Harry Bridges Buffer Area.

Unlike the CEQA Baseline, which is defined by conditions at a point in time, the No Federal Action/NEPA Baseline is not bound by statute to a "flat" or "no growth" scenario; therefore, the USACE may project increases in operations over the life of a project to properly analyze the No Federal Action/NEPA Baseline condition. Normally, any ultimate permit decision would focus on direct impacts to the aquatic environment, as well as indirect and cumulative impacts in the uplands determined to be within the scope of federal control and responsibility. Significance of the proposed Project or alternative is defined by comparing the proposed Project or alternative to the No Federal Action/NEPA Baseline (i.e., the increment). The No Federal Action/NEPA Baseline conditions are described in Table 2-2 of Section 2.4.

The No Federal Action/NEPA Baseline also differs from the "No Project" Alternative, where the Port would take no further action to construct and develop additional backlands (other than the 176 acres that currently exist). Under this alternative, no construction impacts would occur. However, forecasted increases in cargo throughput would still occur as greater operational efficiencies are made.

3.7.4.2 Thresholds of Significance

Criteria for determining the significance of impacts related to risk of upset are based on the *Los Angeles CEQA Thresholds Guide* (City of Los Angeles 2006) and federal and state standards, regulations, and guidelines. The Project would have a significant impact on risk of upset if it would:

RISK-1 Substantially increase the probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance as defined in Tables 3.7-2 and 3.7-3.

RISK-2 Substantially increase the probable frequency and severity of consequences to people from exposure to health hazards as defined in Tables 3.7-2 and 3.7-3.

RISK-3 Substantially interfere with an existing emergency response or evacuation plan, thereby increasing risk of injury or death as defined in Tables 3.7-2 and 3.7-3.

RISK-4 Not comply with applicable regulations and policies guiding development within the Port.

RISK-5 Project-related terminal modifications would result in an increased probability of an accidental spill as a result of a tsunami.

RISK-6 Project-related terminal modifications would result in a measurable increase in the probability of a terrorist attack, which would result in adverse consequences to the proposed Project site and nearby areas.

3.7.4.3 Impacts and Mitigation

3.7.4.3.1 Proposed Project

3.7.4.3.1.1 Construction Impacts

Impact RISK-1a: Phase I/II construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Phase I/II construction activities would include creation of an additional 67 acres of backland, construction of an intermodal container terminal facility (ICTF) rail yard, widening of Harry Bridges Boulevard, construction of a buffer area along Harry Bridges Boulevard, construction of a new administration building and other facilities, construction of a 705-foot wharf at Berth 147, construction of a 400-foot new wharf adjacent to the new 10-acre fill at the Northwest Slip, construction of a combined 229,500 cubic yards (cy) of rock dike, placement of a combined 36,000 cy of fill behind the dikes, and dredging to deepen waters along Berths 145-147 to the planned –53 channel depth. Construction equipment could spill oil, gas, or fluids during normal usage or during refueling, resulting in potential health and safety impacts to not only construction personnel, but to people and property occupying operational portions of the proposed Project area, as the Berths 136-147 Terminal would be operating during Phase I/II construction activities. Best management practices (BMPs) and Los Angeles Municipal Code regulations (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4) would govern Phase I/II construction and demolition activities. Federal and state

regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials) and the separation of containers holding hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In addition, standard BMPs would be used during construction and demolition activities to minimize runoff of contaminants, in compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and Project-specific Storm Water Pollution Prevention Plan (SWPPP) (see Section 3.13, Water Quality, Sediments, and Oceanography for more information).

CEQA Impact Determination

Implementation of construction and demolition standards, including BMPs, would minimize the potential for an accidental release of petroleum products and/or hazardous materials and/or explosion during Phase I/II construction/demolition activities at Berths 136-147. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as "frequent" (more than once a year). However, because such spills are typically short-term and localized, mainly due to the fact that the volume in any single vehicle is generally less than 50 gallons and fuel trucks are limited to 10,000 gallons or less, the potential consequence of such accidents is classified as "slight" resulting in a Risk Code of 4 that is "acceptable." Therefore, under CEQA, construction and demolition would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Based on criterion **RISK-1**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

The proposed Project would include seismic upgrade of existing wharves and construction of new wharves and dikes, which would result in increased susceptibility to hazardous materials spills during construction. Implementation of construction standards, including BMPs, would minimize the potential for an accidental release of hazardous materials and/or explosion during Phase I/II in-water construction activities at Berths 136-147. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as "frequent" (more than once a year). However, because such spills are typically short-term and localized, the potential consequence of such accidents is classified as "slight" resulting in a Risk Code of 4 that is "acceptable." Therefore, under NEPA, construction and demolition would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Based on risk criterion **RISK-1**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-2a: Phase I/II construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards.

Construction and demolition activities would be conducted using BMPs and in accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to a Release Response Plan (RRP) and a Hazardous Materials Inventory (HMI). Implementation of increased inventory accountability and spill prevention controls associated with this Release Response Plan and Hazardous Materials Inventory, such as limiting the types of materials stored and size of packages containing hazardous materials, would limit both the frequency and severity of potential releases of hazardous materials, thus minimizing potential health hazards and/or contamination of soil or water during construction/demolition activities. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Impacts from contamination of soul or water during construction/demolition activities would apply to not only construction personnel, but to people and property occupying operational portions of the Project area, as Berths 136-147 Terminal would be operating during Phase I/II construction activities.

Near-surface contaminated soil may be encountered during demolition of the Pier A rail yard, resulting in potential health hazards to demolition and/or construction personnel. See Section 3.6, Groundwater and Soils for more information.

CEQA Impact Determination

Several standard policies regulate the storage of hazardous materials including the types of materials, size of packages containing hazardous materials, and the separation of containers containing hazardous materials. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Implementation of these preventative measures would minimize the potential for spills to impact members of the public and limit the adverse impacts of contamination to a relatively small area. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as "frequent" (more than once a year). However, because such spills are typically short-term and localized, the potential consequence of such accidents is classified as "slight" resulting in a Risk Code of 4 that is "acceptable." Therefore, under CEQA, construction/demolition activities at Berths 136-147 would not substantially increase the probable frequency and severity of consequences to

people from exposure to health hazards. Based on risk criterion **RISK-2**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

The proposed Project would include seismic upgrade of existing wharves and construction of new wharves and dikes, which would result in increased susceptibility to hazardous materials spills during construction. Several standard policies regulate the storage of hazardous materials including the types of materials, size of packages containing hazardous materials, and the separation of containers containing hazardous materials. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Implementation of these preventative measures would minimize the potential for spills to impact members of the public and limit the potential adverse impacts of contamination to a relatively small area. Therefore, under NEPA, construction/demolition activities at Berths 136-147 would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards. Based on risk criterion **RISK-2**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-3a: Phase I/II construction/demolition activities would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death.

Emergency response and evacuation planning is the responsibility of the Los Angeles Police Department (LAPD), LAFD, Port Police, and United States Coast Guard (USCG). Phase I/II construction and demolition activities would be subject to emergency response and evacuation systems implemented by LAFD. During construction/demolition activities, the LAFD would require that adequate vehicular access to the proposed Project area be provided and maintained. Prior to commencement of construction/demolition activities, all plans would be reviewed by the LAFD to ensure adequate access is maintained throughout Phase I/II construction/demolition.

CEQA Impact Determination

Proposed Project contractors would be required to adhere to all LAFD emergency response and evacuation regulations, ensuring compliance with existing emergency response plans. Therefore, under CEQA, Phase I/II construction/demolition activities would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death. Based on risk criterion **RISK-3**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Proposed Project contractors would be required to adhere to all LAFD emergency response and evacuation regulations, ensuring compliance with existing emergency response plans. Therefore, under NEPA, Phase I/II construction/demolition activities would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death. Based on risk criterion **RISK-1**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-4a: The proposed Project would comply with applicable regulations and policies guiding development within the Port.

As described in Section 3.7.3.1, List of Regulations, the proposed Project is subject to numerous regulations for development and operation of the proposed facilities. For example, construction and demolition would be completed in accordance with RCRA, HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste Control Law, which would govern proper containment, spill control, and disposal of hazardous waste generated during demolition and construction activities. Implementation of increased inventory accountability, spill prevention controls, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Potential releases of hazardous substances during demolition and/or construction would be addressed through the federal Emergency Planning and Right-To-Know Act, which is administered in California by the SERC, and the Hazardous Material Release

Response Plans and Inventory Law. In addition, demolition and construction would be completed in accordance with the Los Angeles Municipal Fire Code, which regulates the construction of buildings and other structures used to store flammable hazardous materials, and the Los Angeles Municipal Public Property Code, which regulates the discharge of materials into the sanitary sewer and storm drain. The latter requires the construction of spill-containment structures to prevent the entry of forbidden materials, such as hazardous materials, into sanitary sewers and storm drains. LAHD maintains compliance with these federal, state, and local laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. LAHD has implemented various plans and programs to ensure compliance with these regulations. These regulations must be adhered to during design and construction of the proposed Project. Implementation of increased spill prevention controls, spill release notification requirements, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Construction/demolition activities would be conducted using BMPs in accordance with City guidelines, as detailed in the Development Best Management Practices Handbook (City of Los Angeles 2002a). Applicable BMPs include, but are not limited to, vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; solid and hazardous waste management; and contaminated soil management. Proposed Project plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Implementation of increased spill prevention controls associated with these BMPs would limit both the frequency and severity of potential releases of hazardous materials.

CEQA Impact Determination

Because proposed Project construction/demolition would be completed using standard BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all hazardous waste laws and regulations, impacts relating to compliance with applicable regulations and policies guiding development in the Port would be less than significant under CEQA under criterion **RISK-4**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Because proposed Project construction would be completed using standard BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all hazardous waste laws and regulations, impacts under NEPA relating to compliance with applicable regulations and policies guiding development in the Port would be less than significant under criterion **RISK-4**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-5a: Tsunami-induced flooding would result in fuel releases from demolition/construction equipment or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill from demolition and/or construction equipment, as well as from containers of petroleum products and hazardous substances used during the demolition/construction period. Unfinished structures are especially vulnerable to damage from tsunamis during the construction period.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all proposed Project structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m))above MSL at the proposed Project site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami

event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-induced flooding, Port structural engineers have determined that Port reinforced concrete or steel structures designed to meet California earthquake protocols incorporated into MOTEMS would be expected to survive complete inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior Structural Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to personnel would occur as a result of complete site inundation.

As previously discussed, there is a potential for tsunami-induced flooding under the theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is very low during construction of the proposed Project and the overall probability of this worst-case scenario is less than one in a 100,000 year period.

The most likely worst-case tsunami scenario was based partially on a magnitude 7.6 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude 7.5 earthquake along an offshore fault in the Southern California Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any of these earthquake events would result in a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In addition, available evidence indicates that tsunamigenic landslides would be extremely infrequent and occur less often than large earthquakes. This suggests recurrence intervals for such landslide events would be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-case combination of a large tsunami and extremely high tides would be less than once in a 100,000-year period.

CEQA Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of the proposed Project. However, because the proposed Project site elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of the proposed Project, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as "improbable" (less than once every 10,000 years). The potential consequence of such an event is classified as "moderate," resulting in a Risk Code of 4 that is "acceptable." The volume of spilled fuel is also expected to be relatively low. While there will be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks, with the most likely scenario being the infiltration of water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less than 10,000 gallons, which is considered "slight." In light of such a low

probability and acceptable risk of a large tsunami, impacts would be less than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of the proposed Project. However, because the proposed Project site elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of the proposed Project, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as "improbable" (less than once every 10,000 years). The potential consequence of such an event is classified as "slight," resulting in a Risk Code of 4 that is "acceptable." In light of such a low probability and acceptable risk of a large tsunami, impacts would be less than significant under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-6a: A potential terrorist attack would result in adverse consequences to areas near the proposed Project site during the construction period.

Risk of Terrorist Actions during Construction

The probability of a terrorist attack on the proposed project facilities is not likely to appreciably change over the existing baseline during construction. It is possible that the increase in construction vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

Consequences of Terrorist Attack

The Berths 136-147 Terminal will be fully operational during the construction period; therefore the risks associated with terrorism discussed in Section 3.7.2.4 will apply to the terminal during this period. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the Project. Furthermore, the likelihood of such an event would not be impacted by Project-related infrastructure or throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the Project, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for the proposed Project are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of large amounts of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources, nevertheless, but the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.5 percent of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project baseline conditions (under which many of these measures had not yet been implemented). These measures have since improved both

terminal and cargo security, and have resulted in enhanced cargo screening. Therefore, potential impacts associated with a potential terrorist attack on the Berths 136-147 facility are considered less than significant.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Impacts under NEPA would be less than significant as defined in the CEQA determination above.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

3.7.4.3.1.2 Operational Impacts

Impact RISK-1b: Berths 136-147 Terminal operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Existing terminal facilities include a single container terminal at Berths 136-147 and a rail yard at Pier A. As of December 2003 (CEQA Baseline), the Berths 136-147 Terminal handles approximately 891,976 TEUs per year.

With build-out of the proposed Project, Berths 136-147 Terminal operations would handle approximately 2,389,000 TEUs per year when functioning at maximum capacity. This would equate to a 168 percent increase in throughput capacity.

Terminal operations would be subject to safety regulations that govern the storage and handling of hazardous materials, which would limit the severity and frequency of potential releases of hazardous materials resulting in increased exposure of people to health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements, and DOT regulations). For example, as discussed in Section 3.7.3.1, List of Regulations, and summarized below, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. In addition, the DOT

Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost all aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging Maintenance) would all apply to the proposed Project activities.

Hazardous materials cargo associated with the proposed Project would be shipped, transported, handled, and stored in compliance with the USCG regulations, fire department requirements, and Caltrans regulations. For example, as discussed in Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. Among other requirements, the proposed Project would conform to the USCG requirement to provide a segregated cargo area for containerized hazardous materials. Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). Implementation of increased hazardous materials inventory control and spill prevention controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

The new ICTF at Berths 136-147 would handle cargo only from that terminal. The ICTF would handle two double-stacked unit trains twice each day and each train would average approximately 330 containers inbound and outbound. When the terminal is fully optimized and functioning at maximum capacity by 2025, the rail yard would transport approximately 30 percent of the terminal's expected throughput, which would reduce truck traffic on public streets within the proposed Project vicinity. Containers from Berths 136-147 would be trucked to the new rail yard via internal roads; public streets would not be affected.

Terminal maintenance activities would involve the use of hazardous materials such as petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to an RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI would limit both the frequency and severity of potential releases of hazardous materials. Based on the limited volumes that could potentially spill, quantities of hazardous materials utilized at Berths 136-147 that are below the thresholds of Chapter 6.95 would not likely result in a substantial release into the environment.

CEQA Impact Determination

Because projected terminal operations at Berths 136-147 would accommodate approximately a 168 percent increase in containerized cargo compared to the CEQA

Baseline, the potential for an accidental release or explosion of hazardous materials would also be expected to increase proportionally.

During the period 1997-2004 there were 40 "hazardous material" spills directly associated with container terminals in the Ports of Los Angeles and Long Beach. This equates to approximately five spills per year for the entire port complex. During this period, the total throughput of the container terminals at both Ports was 76,874,841 TEU. Therefore, the probability of a spill at a container terminal can be estimated at 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill probability conservatively represents the baseline hazardous material spill probability since it includes materials that would not be considered a risk to public safety (e.g., perfume spills), but would still be considered an environmental hazard. The probability of spills associated with future operations would be based on the spill probability per TEU times the number of TEUs under the proposed Project.

It should be noted that during this period there were no reported impacts to the public (injuries, fatalities and evacuations), with potential consequences limited to port workers (two worker injuries that were treated at the scene and 20 workers evaluated as a precaution).

Based on the Port's accident history of containers containing hazardous materials, which includes 40 incidents over an eight year period in the entire port complex (POLA and POLB), the frequency of project-related spills can be estimated as follows:

Table 3.7-5. Existing and Projected Cargo Throughput Volumes at Berths 136-147

Operations	*Overall Throughput (TEUs)*[1]	*Increase in TEUs (%)*	*Potential Spills (per year)*
POLA Baseline (2003)	7,178,940	NA	3.7
CEQA Baseline (2003)	891,976	NA	0.5
Project (2038)	2,389,000	168%	1.2
Note: 1. TEUs = twenty-foot equivalent units			

Based on the projected increase in TEUs, the frequency of potential project-related spills would increase to 1.2 from 0.5 spills per year, or about one spill per year. This spill frequency would be classified as "frequent" (more than once a year). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the potential consequence of such accidents is classified as "slight," resulting in a Risk Code of 4 that is "acceptable." It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under CEQA, proposed Project operations would not substantially increase the probable frequency and severity of consequences to people or property

as a result of a potential accidental release or explosion of a hazardous substance. Impacts would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

The proposed Project would result in upgrades of existing wharves and construction of new wharves, which in turn would result in an increase in TEUs, in comparison to the No Federal Action/NEPA Baseline. Berths 136-147 Terminal operations under the No Federal Action/NEPA Baseline would handle approximately 1,491,100, TEUs per year when optimized and functioning at maximum capacity (year 2038). The proposed Project would result in a net increase of 897,900 TEUs per year compared to the No Federal Action/NEPA Baseline. An overall increase in TEUs would result in proportionally greater hazardous materials containers subject to accidental release or explosion as follows:

Table 3.7-6. Existing and Projected Cargo Throughput Volumes at Berths 136-147

Operations	*Overall Throughput (TEUs)*[1]	*Increase in TEUs (%)*	*Potential Spills (per year)*
POLA Baseline (2003)	7,178,940	NA	3.7
No Federal Action/ NEPA Baseline (2015)	1,491,100	NA	0.8
Project (2038)	2,389,000	60%	1.2
Note: 1. TEUs = twenty-foot equivalent units			

Based on the projected increase in TEUs, the frequency of potential project-related spills would increase to 1.2 from 0.8 spills per year, or remain about one spill per year. This spill frequency would be classified as "frequent" (more than once a year). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the potential consequence of such accidents is classified as "slight," resulting in a Risk Code of 4 that is "acceptable." It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under CEQA, proposed Project operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of

a potential accidental release or explosion of a hazardous substance. Impacts would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-2b: Proposed Project operations would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards.

The proposed Project would include siting facilities that would potentially handle hazardous materials and increase other hazards to the public. These hazards would include the same hazardous materials that are currently handled at the terminal, but the volume of hazardous materials would increase proportionally with the increase in TEUs. Likewise, the increased throughput volume would increase the chance of a fire or explosion at the terminal, as well as hazards associated with container transportation. The handling and storing of hazardous materials would increase the probability of a local accident involving a release, spill, fire or explosion, which is proportional to the size of the terminal and its throughput as was addressed in **Impact RISK-1b**.

Because projected terminal operations at Berths 136-147 would accommodate approximately a 168 percent increase in containerized cargo compared to the CEQA Baseline, the potential for increased truck transportation-related accidents would also occur. Potential project-related increases in truck trips could result in an increase in vehicular accidents, injuries and fatalities. Therefore, potential impact of increased truck traffic on regional injury and fatality rates have been evaluated.

According to an FMCSA detailed analysis (FMCSA 2001), the estimated non-hazardous materials truck accident rate is more than twice the hazardous materials truck accident rate. The non-hazardous materials truck accident rate was estimated to be 0.73 accidents per million vehicle miles and the average hazardous materials truck accident rate was estimated to be 0.32 accidents per million vehicle miles. The hazardous material truck accident rate is not directly applicable to the proposed Project container trucks since such trucks are generally limited to bulk hazardous material carriers. Therefore, in order to conduct a conservative analysis, the higher accident rate associated with non-hazardous material trucks was used.

Based on the NHTSA (DOT, 2003), of the estimated 457,000 truck crashes in 2000 (causing fatalities, injuries, or property damage), an estimated 1 percent produced fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the sources of data for this analysis, which primarily examined fatalities associated with vehicle impact and trauma.

Based on these statistics and the projected truck trips for the existing facilities and proposed Project, the potential rate of truck accidents, injuries and fatalities can be estimated and evaluated.

CEQA Impact Determination

Potential project-related truck accident rates can be estimated based on national average accident rates and the average number of miles per cargo truck trip. Based on the port's air pollutant emission inventory, it was determined that the average truck trip was approximately 49 miles (Starcrest Consulting Group 2003). Given the annual number of truck trips, the average distance of each trip, and the published accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-7. Existing and Projected Truck Trips at Berths 136-147

Operations	*Annual Truck Trips*	*Increase (%)*	*Accident Rate (per year)*	*Injury Probability (per year)*	*Fatality Probability (per year)*
CEQA Baseline (2003)	1,197,589	NA	42.8	9.4	0.4
Project (2038)	1,880,401	57%	67.2	14.8	0.7

Because the occurrence of truck accidents associated with Berth 136-147 occur at a frequency greater than one per year, truck accidents are considered a "frequent" event. Because the possibility exists for injury and/or fatality to occur during one of these frequent accidents as noted in Table 3.7-7, the consequence of such accidents is classified as "severe" since the potential number of injuries would increase to 14.8 from a baseline of 9.4, resulting in a Risk Code of 2 that is "undesirable" and requires additional engineering or administrative controls. However, as discussed below, the Port is developing a transportation master plan and participating in the TWIC program which will reduce the Risk Code to 3 (moderate).

The Port is currently developing a Port-wide transportation master plan (TMP) for roadways in and around its facilities. Present and future traffic improvement needs are being determined based on existing and projected traffic volumes. The results will be a TMP providing ideas on what to expect and how to prepare for the future volumes. Some of the transportation improvements already under consideration include: I-110/SR-47/Harbor Boulevard interchange improvements; Navy Way connector (grade separation) to westbound Seaside Ave.; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is working on several strategies to increase rail transport, which will reduce reliance on trucks. These projects would serve to reduce the frequency of truck accidents.

In addition, the Port is currently phasing out older trucks as part of the TMP, and the TWIC program will also help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent (ADL 1990). In addition, proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would reduce potential accidents by approximately 30 percent. Since these programs will

be implemented prior to the proposed Project expansion, the potential number of injuries would be reduced to approximately 9.3, which would reduce the consequence classification to "moderate" and a Risk Code to 3 or less, as required by under Risk Code 2.

Therefore, under CEQA, proposed Project operations would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards and would meet criterion **RISK-2** and potential impacts would be considered less than significant under criterion **RISK-2**.

Mitigation Measure

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

The proposed Project would result in upgrades of existing wharves and construction of new wharves, which in turn would result in an increase in TEUs and truck trips, in comparison to the No Federal Action/NEPA Baseline, as described under the NEPA Impact Determination for **Impact Risk 1b**. Given the annual number of truck trips, the average distance of each trip, and the published accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-8. Existing and Projected Truck Trips at Berths 136-147

Operations	*Annual Truck Trips*	*Increase (%)*	*Accident Rate (per year)*	*Injury Probability (per year)*	*Fatality Probability (per year)*
No Federal Action/ NEPA Baseline (2015)	1,291,247	NA	46.1	10.1	0.5
Project (2038)	1,880,401	57%	67.2	14.8	0.7

Because the occurrence of truck accidents associated with Berth 136-147 occur at a frequency greater than one per year, truck accidents are considered a "frequent" event. Because the possibility exists for injury and/or fatality to occur during one of these frequent accidents as noted in Table 3.7-7, the potential consequence of such accidents is classified as "severe" since the potential number of injuries would increase to 14.8 from a baseline of 9.4, resulting in a Risk Code of 2 that is "undesirable" and requires additional engineering or administrative controls.

The Port is currently developing a Port-wide TMP for roadways in and around its facilities. Present and future traffic improvement needs are being determined based on existing and projected traffic volumes. The results will be a TMP providing ideas on what to expect and how to prepare for the future volumes. Some of the transportation improvements already under consideration include: I-110/SR-47/Harbor Boulevard

interchange improvements; Navy Way connector (grade separation) to westbound Seaside Ave.; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is working on several strategies to increase rail transport, which will reduce reliance on trucks. These projects would serve to reduce the frequency of truck accidents.

In addition, the Port is currently phasing out older trucks as part of the TMP, and the TWIC program will also help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent (ADL 1990). In addition, proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would reduce potential accidents by approximately 30 percent (ADL 1990). Since these programs will be implemented prior to the proposed Project expansion, the potential number of injuries would be reduced to approximately 9.3, which would reduce the consequence classification to "moderate" and a Risk Code to 3 or less, as required by under Risk Code 2.

Therefore, under NEPA, proposed Project operations would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards and would meet criterion **RISK-2** and potential impacts would be considered less than significant under criterion **RISK-2**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-3b: Proposed Project operations would not substantially interfere with any existing emergency response plans or emergency evacuation plans.

The proposed Project would consolidate the Berths 136-147 area into a single terminal and optimize terminal operations by increasing backland capacity, constructing new wharves and upgrading existing wharves to accommodate modern container terminal ships, constructing an on-dock ICTF, and implementing transportation infrastructure improvements. The Berths 136-147 Terminal would continue to operate as a container terminal; therefore, proposed terminal operations would not interfere with any existing contingency plans, since the current activities are consistent with the contingency plans and the proposed Project would not add any additional activities that would be inconsistent with these plans. Proposed transportation system improvements (i.e., widening of Harry Bridges Boulevard) would reduce vehicular traffic delays, improving emergency response in the proposed Project area. In addition, existing oil spill contingency and emergency response plans for the proposed Project site would be revised to incorporate proposed facility and operation changes. Because existing management plans are commonly revised to

incorporate terminal operation changes, conflicts with existing contingency and emergency response plans are not anticipated.

All Berths 136-147 facilities personnel, including dock laborers and equipment operators, would be trained in emergency response and evacuation procedures. The proposed Project site would be secured, with access allowed only to authorized personnel. The LAFD and Port Police would be able to provide adequate emergency response services to the proposed Project site. Additionally, proposed Project operations would also be subject to emergency response and evacuation systems implemented by the LAFD, which would review all plans to ensure that adequate access in the proposed Project vicinity is maintained. All proposed Project contractors would be required to adhere to plan requirements.

CEQA Impact Determination

Because the terminal would continue to be operated as a container terminal, proposed road improvements would reduce traffic congestion, and proposed Project operations would be subject to emergency response and evacuation systems implemented by the LAFD, proposed Project operations would not interfere with any existing emergency response or emergency evacuation plans or increase the risk of injury or death. Therefore impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

Because the terminal would continue to be operated as a container terminal and proposed Project operations would be subject to emergency response and evacuation systems implemented by the LAFD, proposed Project operations would not interfere with any existing emergency response or emergency evacuation plans or increase the risk of injury or death. Therefore, impacts would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under NEPA.

Impact RISK-4b: The proposed Project would comply with applicable regulations and policies guiding development within the Port.

The proposed Project is subject to numerous regulations for operation of the proposed facilities. LAHD has implemented various plans and programs to ensure compliance with these regulations, which must be adhered to during operation of the proposed Project. For example, as discussed in Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. Among other requirements, the proposed Project would conform to the USCG requirement to provide a segregated cargo area for containerized hazardous materials. Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). In addition, any facility constructed in the proposed Project area, identified as either a hazardous cargo facility or a vulnerable resource, would be required to conform to the RMP, which includes packaging constraints and the provision of a separate storage area for hazardous cargo.

LAHD maintains compliance with these state and federal laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. Most notably, the Port RMP implements development guidelines in an effort to minimize the danger of accidents to vulnerable resources. This would be achieved mainly through physical separation as well as through facility design features, fire protection, and other risk management methods. There are two primary categories of vulnerable resources, people, and facilities. People are further divided into subgroups. The first subgroup is comprised of residences, recreational users, and visitors. Within the Port setting, residences and recreational users are considered vulnerable resources. The second subgroup is comprised of workers in high density (i.e., generally more than 10 people per acre, per employer).

Facilities that are vulnerable resources include Critical Regional Activities/Facilities and High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that are important to the local or regional economy, the national defense, or some major aspect of commerce. These facilities typically have a large quantity of unique equipment, a very large working population, and are critical to both the economy and to national defense. Such facilities in the Port have been generally defined in the Port RMP as the former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas Bridge.

High Value Facilities are non-hazardous facilities, within and near the Ports, which have very high economic value. These facilities include both facility improvements and cargo in-place, such as container storage areas. However, the determination of a vulnerable resource is made by the Port and LAFD on a case-by-case basis. Although the Port generally considers container terminals to be High Value Facilities, these types of facilities have never been considered vulnerable resources in risk analyses completed by the Port and LAFD (personal communication, Dan Knott 2007). The proposed Project would be located immediately adjacent to the ConocoPhillips liquid bulk

facility (Berths 148-149) and immediately across Slip 1 from several other liquid bulk facilities (Berths 161-169), at a distance of approximately 400 to 800 feet. Because container terminals are not considered vulnerable resources, the proposed Project would not conflict with the RMP.

Proposed Project plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Buildings will be equipped with fire protection equipment as required by the Los Angeles Municipal Fire Code. Access to all buildings and adequacy of road and fire lanes will be reviewed by the LAFD to ensure that adequate access and firefighting features are provided. Proposed Project plans would include an internal circulation system, code-required features, and other firefighting design elements, as approved by the LAFD.

Operation of the proposed Project would be required to comply with all existing hazardous waste laws and regulations, including the federal RCRA and CERCLA, and CCR Title 22 and Title 26. The proposed Project would comply with these laws and regulations, which would ensure that potential hazardous materials handling would occur in an acceptable manner.

CEQA Impact Determination

The terminal would not conflict with RMP guidelines. Proposed Project plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, and operation of the proposed Project would be required to comply with all existing hazardous waste laws and regulations. Therefore, under CEQA, proposed Project operations would comply with applicable regulations and policies guiding development within the Port. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

The terminal would not conflict with RMP guidelines. Proposed Project plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, and operation of the proposed Project would be required to comply with all existing hazardous waste laws and regulations. Therefore, under NEPA, proposed Project operations would comply with applicable regulations and policies guiding development within the Port. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-5b: Tsunami-induced flooding would result in fuel releases from ships or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although crude oil tankers would not moor at Berths 136-147, each ship contains large quantities of fuel oil (up to 5,000 barrels). While in transit, the hazards posed to tankers are insignificant, and in most cases, imperceptible. However, while docked, a tsunami striking the Port could cause significant ship movement and even a hull breach if the ship is pushed against the wharf.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all proposed Project structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m)) above MSL at the proposed Project site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced

flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-induced flooding, Port structural engineers have determined that Port reinforced concrete or steel structures designed to meet California earthquake protocols incorporated into MOTEMS would be expected to survive complete inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior Structural Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to personnel would occur as a result of complete site inundation.

As previously discussed, there is a potential for tsunami-induced flooding under the theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is very low during operation of the proposed Project and the overall probability of this worst-case scenario is less than one in a 100,000 year period.

The most likely worst-case tsunami scenario was based partially on a magnitude 7.6 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude 7.5 earthquake along an offshore fault in the Southern California Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any of these earthquake events would result in a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In addition, available evidence indicates that tsunamigenic landslides would be extremely infrequent and occur less often than large earthquakes. This suggests recurrence intervals for such landslide events would be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-case combination of a large tsunami and extremely high tides would be less than once in a 100,000-year period.

Containers of hazardous substances on ships or on berths could similarly be damaged as a result of a large tsunami. Such damage would result in releases of both hazardous and non-hazardous cargo to the environment, adversely impacting persons and/or the marine waters. However, containers carrying hazardous cargo would not necessarily release their contents in the event of a large tsunami. The DOT regulations (49 CFR Parts 172-180) covering hazardous material packaging and transportation would minimize potential release volumes since packages must meet minimum integrity specifications and size limitations.

The owner or operators of tanker vessels are required to have an approved Tank Vessel Response Plan on board and a qualified individual within the U.S. with full authority to implement removal actions in the event of an oil spill incident, and to contract with the spill response organizations to carry out cleanup activities in case of a spill. The existing oil spill response capabilities in the POLA/POLB are sufficient to isolate spills with containment booms and recover the maximum possible spill from an oil tanker within the Port.

Various studies have shown that double-hull tank vessels have lower probability of releases when tanker vessels are involved in accidents. Because of these studies, the USCG issued regulations addressing double-hull requirements for tanker vessels. The regulations establish a timeline for eliminating single-hull vessels from operating in the navigable waters or the Exclusive Economic Zone (EEZ) of the U.S. after

January 1, 2010 and double-bottom or double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or with an approved double containment system will be allowed to operate after those times. It is unlikely that single-hull vessels will utilize the proposed Project terminal facilities given the current proposed Project schedule and the planned phase-out of these vessels.

CEQA Impact Determination

Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding as a result of tsunamis or seiches. Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of the proposed Project. However, because the proposed Project site elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of the proposed Project, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as "improbable" (less than once every 10,000 years). The potential consequence of such an event is classified as "moderate," resulting in a Risk Code of 4 that is "acceptable." The volume of spilled fuel is also expected to be relatively low since all fuel storage containers at the project site would be quite small in comparison to the significance criteria volumes. While there will be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks, with the most likely scenario being the infiltration of water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less than 10,000 gallons, which is considered "slight." In light of such a low probability and acceptable risk of a large tsunami, impacts would be less than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding as a result of tsunamis or seiches. Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of the proposed Project. However, because the proposed Project site elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of the proposed Project, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami

occurring is classified as "improbable" (less than once every 10,000 years). The potential consequence of such an event is classified as "moderate," resulting in a Risk Code of 4 that is "acceptable." The volume of spilled fuel is also expected to be relatively low since all fuel storage containers at the project site would be quite small in comparison to the significance criteria volumes. While there will be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks, with the most likely scenario being the infiltration of water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less than 10,000 gallons, which is considered "slight." In light of such a low probability and acceptable risk of a large tsunami, impacts would be less than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be considered less than significant.

Impact RISK-6b: A potential terrorist attack would result in adverse consequences to areas near the proposed Project site during the operations period.

Risk of Terrorist Actions associated with Project Operations

The probability of a terrorist attack on the proposed project facilities is not likely to appreciably change over the existing baseline. It is possible that the increase in vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

Consequences of Terrorist Attack

The risks associated with terrorism discussed in Section 3.7.2.4 would apply to the terminal during operations. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the Project. Furthermore, the likelihood of such an event would not be impacted by Project-related infrastructure or throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the Project, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for the proposed Project are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of large amounts of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources, ; however, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.5 percent of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). With the implementation of the proposed project, and compared to regional and national growth projections, the relative importance of the project will remain at 3.1 percent of national containerized cargo throughput, but decrease to 5.6 of the POLA/POLB cargo volume (based on projections in MARAD 2005b; Parsons 2006). Overall, growth at the Berths 136-147 Terminal would not increase disproportionately as compared to regional (POLA/POLB) and national container terminals growth, and would, therefore, not change the relative importance of the terminal as a terrorist target.

An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project baseline conditions (under which many of these measures had not been implemented). These measures have since improved both terminal and cargo security, and have resulted in enhanced cargo screening. Therefore, potential impacts associated with a potential terrorist attack on the Berths 136-147 facility are considered less than significant.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Potential impacts under NEPA would be that same as under CEQA and are considered less than significant.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

3.7.4.3.2 Alternatives

3.7.4.3.2.1 Alternative 1 – No Project Alternative

3.7.4.3.2.1.1 Construction Impacts

CEQA Impact Determination

Under the No Project Alternative (Alternative 1), no development would occur within the Project area. Therefore, Alternative 1 would not result in or expose people to accidental release of hazardous materials, contamination of soil or water, and/or an accidental release from a fire or explosion, beyond those associated with current baseline conditions. Therefore, no construction impacts would occur under CEQA for **RISK-1a, RISK-2a, RISK-3a, RISK-4a, RISK-5a,** and **RISK-6a.**

NEPA Impact Determination

Under Alternative 1, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip, or new wharf construction). Therefore, potential impacts under NEPA are not applicable for **RISK-1a** through **RISK-6a** since there would be no federal action under this alternative.

3.7.4.3.2.1.2 Operational Impacts

Impact RISK-1b: Berths 136-147 Terminal operations would not increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Under Alternative 1, Berths 136-147 Terminal operations would handle a maximum throughput of 1,697,000 TEUs per year when optimized and functioning at maximum capacity (year 2025). This alternative would result in 692,000 fewer TEUs per year compared to the proposed Project. Thus, the number of hazardous materials containers and the overall risk to the public would be reduced compared to the proposed Project.

Terminal operations would be subject to safety regulations that govern the storage and handling of hazardous materials, which would limit the severity and frequency of potential releases of hazardous materials resulting in increased exposure of people to health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements, and DOT regulations). For example, as discussed in Section 3.7.3.1, List of Regulations, and summarized below, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. In addition, the DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost all aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging Maintenance) would all apply to the alternative project activities.

Hazardous materials cargo associated with the Alternative 1 would be shipped, transported, handled, and stored in compliance with the USCG regulations, fire department requirements, and Caltrans regulations. For example, as discussed in Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. Among other requirements, Alternative 1 would conform to the USCG requirement to provide a segregated cargo area for containerized hazardous materials. Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). Implementation of increased hazardous materials inventory control and spill prevention controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Terminal maintenance activities would involve the use of hazardous materials such as petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to an RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI would limit both the frequency and severity of potential releases of hazardous materials. Based on the limited volumes that could potentially spill, quantities of hazardous materials utilized at Berths 136-147 that are below the thresholds of Chapter 6.95 would not likely result in a substantial release into the environment.

CEQA Impact Determination

Because projected terminal operations at Berths 136-147 would accommodate approximately a 90 percent increase in containerized cargo compared to the CEQA Baseline, the potential for an accidental release or explosion of hazardous materials would also be expected to increase proportionally. During the period 1997-2004 there were 40 "hazardous material" spills directly associated with container terminals in the Ports of Los Angeles and Long Beach. This equates to approximately five spills per year for the entire port complex. During this period, the total throughput of the container terminals was 76,874,841 TEU. Therefore, the probability of a spill at a container terminal can be estimated at 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill probability conservatively represents the baseline hazardous material spill probability since it include materials that would not be considered a risk to public safety (e.g., perfume spills), but would still be considered an environmental hazard. The probability of spills associated with future operations would be based on the spill probability per TEU times the number of TEUs under the alternative project.

It should be noted that during this period there were no reported impacts to the public (injuries, fatalities and evacuations), with potential consequences limited to port workers (two worker injuries that were treated at the scene and 20 workers evaluated as a precaution).

Based on the Port's accident history of containers containing hazardous materials, which includes 40 incidents over an eight year period in the entire port complex (POLA and POLB), the frequency of project-related spills can be estimated as follows:

Table 3.7-9. Existing and Projected Cargo Throughput Volumes at Berths 136-147

Operations	*Overall Throughput (TEUs)*[1]	*Increase in TEUs (%)*	*Potential Spills (per year)*
POLA Baseline (2003)	4,977,818	NA	3.7
CEQA Baseline (2003)	891,976	NA	0.5
Alternative 1	1,697,000	90%	0.9
Note: 1. TEUs = twenty-foot equivalent units			

Based on the projected increase in TEUs, the frequency of potential Alternative 1-related spills would increase to 0.9 from 0.5 spills per year, or about one spill per year. This spill frequency would be classified as "periodic" (between once per year and once in 10 years). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the consequence of such accidents is classified as "slight," resulting in a Risk Code of 4 that is "acceptable." It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health

impacts. Therefore, under CEQA, Alternative 1 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Impacts would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact**.**

Impact RISK-2b: Alternative 1 operations would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards.

Under this alternative, Berths 136-147 Terminal operations would handle a maximum throughput of 1,697,000 TEUs per year when optimized and functioning at maximum capacity (year 2025). This alternative would result in 692,000 fewer TEUs per year compared to the proposed Project. Because projected terminal operations at Berths 136-147 would accommodate approximately 692,000 fewer TEUs per year compared to the proposed Project, the number of hazardous materials containers and the overall health risk to people or property would be reduced proportionally.

Because projected terminal operations at Berths 136-147 would accommodate approximately a 90 percent increase in containerized cargo compared to the CEQA Baseline, the potential for increased truck transportation-related accidents would also occur. Potential Alternative 1-related increases in truck trips could result in an increase in vehicular accidents, injuries and fatalities. Therefore, potential impacts of increased truck traffic on regional injury and fatality rates have been evaluated.

According to an FMCSA detailed analysis (FMCSA 2001), the estimated non-hazardous materials truck accident rate is more than twice the hazardous materials truck accident rate. The non-hazardous materials truck accident rate was estimated to

be 0.73 accidents per million vehicle miles and the average hazardous materials truck accident rate was estimated to be 0.32 accidents per million vehicle miles. The hazardous material truck accident rate is not directly applicable to existing terminal container trucks since they are generally limited to bulk hazardous material carriers. Therefore, for this analysis, the higher accident rate associated with non-hazardous material trucks was used.

Based on the NHTSA (DOT, 2003), of the estimated 457,000 truck crashes in 2000 (causing fatalities, injuries, or property damage), an estimated 1 percent produced fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the sources of data for this analysis, which primarily examined fatalities associated with vehicle impact and trauma.

Based on these statistics and the projected truck trips for the existing facilities and future operations under the Alternative 1, the potential rate of truck accidents, injuries and fatalities can be estimated and evaluated.

CEQA Impact Determination

Potential Alternative 1-related truck accident rates can be estimated based on national average accident rates and the average number of miles per cargo truck trip. Based on the port's air pollutant emission inventory, it was determined that the average truck trip was approximately 49 miles (Starcrest Consulting Group 2003). Given the annual number of truck trips, the average distance of each trip, and the published accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-10. Existing and Projected Truck Trips at Berths 136-147

Operations	*Annual Truck Trips*	*Increase (%)*	*Accident Rate (per year)*	*Injury Probability (per year)*	*Fatality Probability (per year)*
CEQA Baseline (2003)	1,197,589	NA	42.8	9.4	0.4
Alternative 1 (2038)	1,879,127	57%	67.1	14.8	0.7

Because the occurrence of truck accidents associated with Berth 136-147 occur at a frequency greater than one per year, truck accidents are considered a "frequent" event. Because the possibility exists for injury and/or fatality to occur during one of these frequent accidents as noted in Table 3.7-10, the consequence of such accidents is classified as "severe" since the number of injuries would increase to 14.8 from a baseline of 9.4, resulting in a Risk Code of 2 that is "undesirable" and requires additional engineering or administrative controls.

The Port is currently developing a Port-wide TMP for roadways in and around its facilities. Present and future traffic improvement needs are being determined based on existing and projected traffic volumes. The results will be a TMP providing ideas on what to expect and how to prepare for the future volumes. Some of the transportation improvements already under consideration include: I-110/SR-47/Harbor Boulevard interchange improvements; Navy Way connector (grade separation) to westbound

Seaside Ave.; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is working on several strategies to increase rail transport, which will reduce reliance on trucks. These projects would serve to reduce the frequency of truck accidents.

In addition, the Port is currently phasing out older trucks as part of the TMP, and the TWIC program will also help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent (ADL 1990). In addition, proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would reduce potential accidents by approximately 30 percent. The potential number of injuries would be reduced to approximately 9.3, which would reduce the consequence classification to "moderate" and a Risk Code to 3 or less, as required by under Risk Code 2.

Therefore, under CEQA, Alternative 1 operations would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards and would meet criterion **RISK-2** and impacts would be considered less than significant under criterion **RISK-2**.

Mitigation Measure

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact**.**

Impact RISK-3b: Alternative 1 operations would not substantially interfere with any existing emergency response plans or emergency evacuation plans.

Under Alternative 1, The Berths 136-147 Terminal would continue to operate as a container terminal; therefore, proposed terminal operations would not interfere with

any existing contingency plans, since the current activities are consistent with the contingency plans and the alternative project would not add any additional activities that would be inconsistent with these plans. All Berths 136-147 facilities personnel, including dock laborers and equipment operators, would be trained in emergency response and evacuation procedures. The Project site would be secured, with access allowed only to authorized personnel. The LAFD and Port Police would be able to provide adequate emergency response services to the Project site. Additionally, Alternative 1 operations would be subject to emergency response and evacuation systems implemented by the LAFD, which would review all plans to ensure that adequate access in the Project vicinity is maintained. All contractors would be required to adhere to plan requirements.

CEQA Impact Determination

Because the terminal would continue to be operated as a container terminal, Alternative 1 operations would continue to be subject to emergency response and evacuation systems implemented by the LAFD. Alternative 1 operations would not interfere with any existing emergency response or emergency evacuation plans or increase the risk of injury or death. Therefore impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, Therefore, potential impacts under NEPA are not applicable since there would be no federal action under this alternative.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-4b: Alternative 1 operations would comply with applicable regulations and policies guiding development within the Port.

Alternative 1 operations would be subject to numerous regulations. LAHD has implemented various plans and programs to ensure compliance with these regulations, which must be adhered to during Alternative 1 operations. For example, as discussed in

Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials.

Among other requirements, Alternative 1 operations would conform to the USCG requirement to provide a segregated cargo area for containerized hazardous materials. Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System, prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). Any facilities identified as either a hazardous cargo facility or a vulnerable resource would be required to conform to the RMP, which includes packaging constraints and the provision of a separate storage area for hazardous cargo.

LAHD maintains compliance with these state and federal laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. Most notably, the Port RMP implements development guidelines in an effort to minimize the danger of accidents to vulnerable resources. This would be achieved mainly through physical separation as well as through facility design features, fire protection, and other risk management methods. There are two primary categories of vulnerable resources, people, and facilities. People are further divided into subgroups. The first subgroup is comprised of residences, recreational users, and visitors. Within the Port setting, residences and recreational users are considered vulnerable resources. The second subgroup is comprised of workers in high density (i.e., generally more than 10 people per acre, per employer).

Facilities that are vulnerable resources include Critical Regional Activities/Facilities and High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that are important to the local or regional economy, the national defense, or some major aspect of commerce. These facilities typically have a large quantity of unique equipment, a very large working population, and are critical to both the economy and to national defense. Such facilities in the Port have been generally defined in the Port RMP as the former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas Bridge.

High Value Facilities are non-hazardous facilities, within and near the Ports, which have very high economic value. These facilities include both facility improvements and cargo in-place, such as container storage areas. However, the determination of a vulnerable resource is made by the Port and LAFD on a case-by-case basis. Although the Port generally considers container terminals to be High Value Facilities, these types of facilities have never been considered vulnerable resources in risk analyses completed by the Port and LAFD (personal communication, Dan Knott 2007). Alternative 1 would be located immediately adjacent to the ConocoPhillips liquid bulk facility (Berths 148-149) and immediately across Slip 1 from several other liquid bulk facilities (Berths 161-169), at a distance of approximately 400 to 800 feet. Because container

terminals are not considered vulnerable resources, this alternative would not conflict with the RMP.

Plans and specifications of existing facilities have been reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Buildings have been equipped with fire protection equipment as required by the Los Angeles Municipal Fire Code. Access to all buildings and adequacy of road and fire lanes have been reviewed by the LAFD to ensure that adequate access and firefighting features are provided.

Operation of Alternative 1 would be required to comply with all existing hazardous waste laws and regulations, including the federal RCRA and CERCLA, and CCR Title 22 and Title 26. Alternative 1 operations would comply with these laws and regulations, which would ensure that potential hazardous materials handling would occur in an acceptable manner.

CEQA Impact Determination

Alternative 1 operations would not conflict with RMP guidelines or the Los Angeles Municipal Fire Code and would be required to comply with all existing hazardous waste laws and regulations. Therefore, under CEQA, Alternative 1 operations would comply with applicable regulations and policies guiding development within the Port. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-5b: Tsunami-induced flooding would result in fuel releases from ships or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in Section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although crude oil tankers would not moor at Berths 136-147, each ship contains large quantities of fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most cases, imperceptible. However, while docked, a tsunami striking the Port could cause significant ship movement and even a hull breach if the ship is pushed against the wharf.

Under this alternative, Berths 136-147 Terminal operations would handle a maximum throughput of 1,697,000 TEUs per year when optimized and functioning at maximum capacity (year 2025). This alternative would result in 692,000 fewer TEUs per year compared to the proposed Project. Thus, the number of ship calls and the overall health risk to persons and/or the environment would be reduced compared to the proposed Project.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all alternative project structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m))above MSL at the alternative project site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the alternative project site. Because the alternative project site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the alternative project site. Because the alternative project site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-induced flooding, Port structural engineers have determined that Port

reinforced concrete or steel structures designed to meet California earthquake protocols incorporated into MOTEMS would be expected to survive complete inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior Structural Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to personnel would occur as a result of complete site inundation.

As previously discussed, there is a potential for tsunami-induced flooding under the theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is very low during construction of the alternative project and the overall probability of this worst-case scenario is less than one in a 100,000 year period.

The most likely worst-case tsunami scenario was based partially on a magnitude 7.6 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude 7.5 earthquake along an offshore fault in the Southern California Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any of these earthquake events would result in a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In addition, available evidence indicates that tsunamigenic landslides would be extremely infrequent and occur less often than large earthquakes. This suggests recurrence intervals for such landslide events would be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-case combination of a large tsunami and extremely high tides would be less than once in a 100,000-year period.

Containers of hazardous substances on ships or on berths could similarly be damaged as a result of a large tsunami. Such damage would result in releases of both hazardous and non-hazardous cargo to the environment, adversely impacting persons and/or the marine waters. However, containers carrying hazardous cargo would not necessarily release their contents in the event of a large tsunami. The DOT regulations (49 CFR Parts 172-180) covering hazardous material packaging and transportation would minimize potential release volumes since packages must meet minimum integrity specifications and size limitations.

The owner or operators of tanker vessels are required to have an approved Tank Vessel Response Plan on board and a qualified individual within the U.S. with full authority to implement removal actions in the event of an oil spill incident, and to contract with the spill response organizations to carry out cleanup activities in case of a spill. The existing oil spill response capabilities in the POLA/POLB are sufficient to isolate spills with containment booms and recover the maximum possible spill from an oil tanker within the Port.

Various studies have shown that double-hull tank vessels have lower probability of releases when tanker vessels are involved in accidents. Because of these studies, the USCG issued regulations addressing double-hull requirements for tanker vessels. The regulations establish a timeline for eliminating single-hull vessels from operating in the navigable waters or the EEZ of the U.S. after January 1, 2010 and double-bottom or double-sided vessels by January 1, 2015. Only vessels equipped with a

double hull, or with an approved double containment system will be allowed to operate after those times.

CEQA Impact Determination

Because projected terminal operations at Berths 136-147 would accommodate approximately 692,000 fewer TEUs per year compared to the proposed Project, the number of hazardous materials containers and ship calls subject to accidental release or explosion of hazardous materials would also be expected to decrease. Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by Alternative 1 operations. However, because the Project site elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 1, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as "improbable" (less than once every 10,000 years). The consequence of such an event is classified as "moderate," resulting in a Risk Code of 4 that is "acceptable." The volume of spilled fuel is also expected to be relatively low since all fuel storage containers at the project site would be quite small in comparison to the significance criteria volumes. While there will be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks, with the most likely scenario being the infiltration of water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less than 10,000 gallons, which is considered "slight." In light of such a low probability and acceptable risk of a large tsunami, impacts would be less than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-6b: A potential terrorist attack would result in adverse consequences to areas near the Alternative 1 site during the operations period.

Risk of Terrorist Actions associated with Operations

The probability of a terrorist attack on the alternative project facilities is not likely to appreciably change over the existing baseline. It is possible that the increase in vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

Consequences of Terrorist Attack

The risks associated with terrorism discussed in Section 3.7.2.4 would apply to the terminal during operations. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel spill and/or commodity and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of such an event would not be impacted by alternative-related infrastructure or throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for the alternative project are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; however, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project alternative. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.5 percent of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). With the implementation of the alternative, and compared to regional and national growth projections, the relative importance of the project will decrease to 2.2 percent of national containerized cargo throughput and decrease to 4.0 of the POLA/POLB cargo volume (based on projections in MARAD 2005b; Parsons 2006). Overall, growth at the Berths 136-147 Terminal would not increase disproportionately as compared to regional (POLA/POLB) and national container terminals growth, and would, therefore, not change the relative importance of the terminal as a terrorist target.

An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project baseline conditions (under which many of these measures had not yet been implemented). These measures have since improved both terminal and cargo security, and have resulted in enhanced cargo screening. Therefore, potential impacts associated with a potential terrorist attack on the Berths 136-147 facility are considered less than significant.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

3.7.4.3.2.2 Alternative 2 – Reduced Project: Proposed Project without the 10-Acre Fill

3.7.4.3.2.2.1 Construction Impacts

Impact RISK-1a: Phase I/II construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Phase I/II construction activities from the Reduced Project alternative (Alternative 2) would include creation of an additional 67 acres of backland, construction of an ICTF rail yard, widening of Harry Bridges Boulevard, construction of a buffer area along Harry Bridges Boulevard, construction of a new administration building and other facilities, construction of a 705-foot wharf at Berth 147, construction of a 400-foot new wharf adjacent to the new 10-acre fill at the Northwest Slip, construction of a combined 229,500 cubic yards (cy) of rock dike, placement of a combined 36,000 cy of fill behind the dikes, and dredging to deepen waters along Berths 145-147 to the planned –53 channel depth. Construction equipment could spill oil, gas, or fluids during normal usage or during refueling, resulting in potential health and safety impacts to not only construction personnel, but to people and property occupying operational portions of the Project area, as the Berths 136-147 Terminal would be operating during Phase I/II construction activities. BMPs and Los Angeles Municipal Code regulations (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4) would govern Phase I/II construction and demolition activities. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials) and the separation of containers holding hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In addition, standard BMPs would be used during construction and demolition activities to minimize runoff of contaminants, in compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and Project-specific SWPPP (see Section 3.13, Water Quality, Sediments, and Oceanography for more information).

CEQA Impact Determination

Implementation of construction and demolition standards, including BMPs, would minimize the potential for an accidental release of petroleum products and/or hazardous materials and/or explosion during Phase I/II construction/demolition activities at Berths 136-147. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as "frequent" (more than once a year). However, because such spills are typically short-term and localized, mainly due to the fact that the volume in any single vehicle is generally less than 50 gallons and fuel trucks are limited to 10,000 gallons or less, the potential consequence of such accidents is classified as "slight" resulting in a Risk Code of 4 that is "acceptable." Therefore, under CEQA, construction and demolition activities associated with Alternative 2 would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Based on criterion **RISK-1**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

With respect to the No Federal Action/NEPA Baseline, in-water construction impacts would be similar to, but slightly less than those described for the proposed Project**,** because the 10-acre (4.0 ha) fill and 400-foot (122 m) Berth 136 wharf extension would not occur under this alternative. Reduced impacts include reduced potential for accidental releases or explosion of petroleum products or a hazardous substance and reduced potential for exposure of personnel to health hazards.

Alternative 2 would include seismic upgrade of existing wharves and construction of new wharves and dikes, which would result in increased susceptibility to hazardous materials spills during construction. Implementation of construction standards, including BMPs, would minimize the potential for an accidental release of hazardous materials and/or explosion during Phase I/II in-water construction activities at Berths 136-147. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as "frequent" (more than once a year). However, because such spills are typically short-term and localized, the potential consequence of such accidents is classified as "slight" resulting in a Risk Code of 4 that is "acceptable." Therefore, under NEPA, construction and demolition activities associated with Alternative 2 would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Based on risk criterion **RISK-1**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-2a: Phase I/II construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards.

Risk of upset impacts during Phase I/II construction would remain basically the same, but slightly reduced compared to those described for the proposed Project. Under this alternative, the proposed 10-acre Northwest Slip would not be filled and the 400-foot adjacent wharf would not be constructed. Consequently, the potential for construction equipment to spill oil, gas, or fluids during normal usage or during refueling would be reduced. Therefore, this alternative would reduce the potential for an accidental release

of hazardous materials and/or contamination of soil or water and would reduce the potential for an accidental release from a fire or explosion during construction activities.

Construction and demolition activities would be conducted using BMPs and in accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to an RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI, such as limiting the types of materials stored and size of packages containing hazardous materials, would limit both the frequency and severity of potential releases of hazardous materials, thus minimizing potential health hazards and/or contamination of soil or water during construction/demolition activities. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Impacts from contamination of soul or water during construction/demolition activities would apply to not only construction personnel, but to people and property occupying operational portions of the Project area, as Berths 136-147 Terminal would be operating during Phase I/II construction activities.

Near-surface contaminated soil may be encountered during demolition of the Pier A rail yard, resulting in potential health hazards to demolition and/or construction personnel. See Section 3.6, Groundwater and Soils for more information.

CEQA Impact Determination

Several standard policies regulate the storage of hazardous materials including the types of materials, size of packages containing hazardous materials, and the separation of containers containing hazardous materials. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Implementation of these preventative measures would minimize the potential for spills to impact members of the public and limit the adverse impacts of contamination to a relatively small area. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as “frequent” (more than once a year). However, because such spills are typically short-term and localized, the potential consequence of such accidents is classified as “slight” resulting in a Risk Code of 4 that is “acceptable.” Therefore, under CEQA, construction/demolition activities at Berths 136-147 would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards. Based on risk criterion **RISK-2**, impacts from Alternative 2 would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

With respect to the No Federal Action/NEPA Baseline, in-water construction impacts would be similar to, but slightly less than those described for the proposed Project**,** because the 10-acre (4.0 ha) fill and 400-foot (122 m) Berth 136 wharf extension would not occur under this alternative. Reduced impacts include reduced potential for accidental releases or explosion of petroleum products or a hazardous substance and reduced potential for exposure of personnel to health hazards.

Alternative 2 would include seismic upgrade of existing wharves and construction of new wharves and dikes, which would result in increased susceptibility to hazardous materials spills during construction. Several standard policies regulate the storage of hazardous materials including the types of materials, size of packages containing hazardous materials, and the separation of containers containing hazardous materials. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Implementation of these preventative measures would minimize the potential for spills to impact members of the public and limit the potential adverse impacts of contamination to a relatively small area. Therefore, under NEPA, construction/demolition activities at Berths 136-147 would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards. Impacts from Alternative 2 would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-3a: Phase I/II construction/demolition activities would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death.

Emergency response and evacuation planning is the responsibility of the LAPD, LAFD, Port Police, and USCG. Phase I/II construction and demolition activities would be subject to emergency response and evacuation systems implemented by LAFD. During construction/demolition activities, the LAFD would require that adequate vehicular access to the site be provided and maintained. Prior to commencement of construction/demolition activities, all plans would be reviewed by the LAFD to ensure adequate access is maintained throughout Phase I/II construction/demolition.

CEQA Impact Determination

Alternative 2 contractors would be required to adhere to all LAFD emergency response and evacuation regulations, ensuring compliance with existing emergency response plans. Therefore, under CEQA, Phase I/II construction/demolition activities associated with Alternative 2 would not substantially interfere with an existing

emergency response or evacuation plan or increase risk of injury or death. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Alternative 2 contractors would be required to adhere to all LAFD emergency response and evacuation regulations, ensuring compliance with existing emergency response plans. Therefore, under NEPA, Phase I/II construction/demolition activities associated with Alternative 2 would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death. Based on risk criterion **RISK-3**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-4a: Alternative 2 construction/demolition would comply with applicable regulations and policies guiding development within the Port.

As described in Section 3.7.3.1, List of Regulations, the Alternative 2 would be subject to numerous regulations for development and operation of the proposed facilities. For example, construction and demolition would be completed in accordance with RCRA, HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste Control Law, which would govern proper containment, spill control, and disposal of hazardous waste generated during demolition and construction activities. Implementation of increased inventory accountability, spill prevention controls, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Potential releases of hazardous substances during demolition and/or construction would be addressed through the federal Emergency Planning and Right-To-Know Act, which is administered in California by the SERC, and the Hazardous Material Release Response Plans and Inventory Law. In addition, demolition and construction would be completed in accordance with the Los Angeles Municipal Fire Code, which regulates the construction of buildings and other structures used to store flammable hazardous materials, and the Los Angeles Municipal Public Property Code, which regulates the discharge of materials into the sanitary sewer and storm drain. The latter requires the

construction of spill-containment structures to prevent the entry of forbidden materials, such as hazardous materials, into sanitary sewers and storm drains. LAHD maintains compliance with these federal, state, and local laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. LAHD has implemented various plans and programs to ensure compliance with these regulations. These regulations must be adhered to during design and construction of Alternative 2. Implementation of increased spill prevention controls, spill release notification requirements, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Construction/demolition activities would be conducted using BMPs in accordance with City guidelines, as detailed in the Development Best Management Practices Handbook (City of Los Angeles 2002a). Applicable BMPs include, but are not limited to, vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; solid and hazardous waste management; and contaminated soil management. Alternative 2 plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Implementation of increased spill prevention controls associated with these BMPs would limit both the frequency and severity of potential releases of hazardous materials.

CEQA Impact Determination

Because Alternative 2 construction/demolition would be completed using standard BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all hazardous waste laws and regulations, impacts relating to compliance with applicable regulations and policies guiding development in the Port would be less than significant under CEQA under criterion **RISK-4**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

Because Alternative 2 construction would be completed using standard BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all hazardous waste laws and regulations, impacts under NEPA relating to compliance with applicable regulations and policies guiding development in the Port would be less than significant under criterion **RISK-4**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-5a: Tsunami-induced flooding would result in fuel releases from demolition/construction equipment or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill from demolition and/or construction equipment, as well as from containers of petroleum products and hazardous substances used during the demolition/construction period. Unfinished structures are especially vulnerable to damage from tsunamis during the construction period.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all Alternative 2 structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m))above MSL at the Alternative 2 site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the Alternative 2 site. Because the Alternative 2 site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the Alternative 2 site. Because the Alternative 2 site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-

induced flooding, Port structural engineers have determined that Port reinforced concrete or steel structures designed to meet California earthquake protocols incorporated into MOTEMS would be expected to survive complete inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior Structural Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to personnel would occur as a result of complete site inundation.

As previously discussed, there is a potential for tsunami-induced flooding under the theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is very low during construction of Alternative 2 and the overall probability of this worst-case scenario is less than one in a 100,000-year period.

The most likely worst-case tsunami scenario was based partially on a magnitude 7.6 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude 7.5 earthquake along an offshore fault in the Southern California Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any of these earthquake events would result in a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In addition, available evidence indicates that tsunamigenic landslides would be extremely infrequent and occur less often than large earthquakes. This suggests recurrence intervals for such landslide events would be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-case combination of a large tsunami and extremely high tides would be less than once in a 100,000-year period.

CEQA Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 2. However, because the Alternative 2 site elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 2, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as “improbable” (less than once every 10,000 years). The potential consequence of such an event is classified as “moderate,” resulting in a Risk Code of 4 that is “acceptable.” The volume of spilled fuel is also expected to be relatively low. While there will be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks, with the most likely scenario being the infiltration of water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less than 10,000 gallons, which is considered “slight.” In light of such a low probability and acceptable risk of a large tsunami, impacts associated with Alternative 2 would be less than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 2. However, because the Project site elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 2, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as "improbable" (less than once every 10,000 years). The potential consequence of such an event is classified as "slight," resulting in a Risk Code of 4 that is "acceptable." In light of such a low probability and acceptable risk of a large tsunami, impacts associated with Alternative 2 would be less than significant under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-6a: A potential terrorist attack would result in adverse consequences to areas near the Alternative 2 site during the construction period.

Risk of Terrorist Actions during Construction

The probability of a terrorist attack on the Alternative 2 facilities is not likely to appreciably change over the existing baseline during construction. It is possible that the increase in construction vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

Consequences of Terrorist Attack during construction

The Berths 136-147 Terminal will be fully operational during the construction period; therefore the risks associated with terrorism discussed in Section 3.7.2.4 will apply to the terminal during this period. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by this alternative. Furthermore, the likelihood of such an event would not be impacted by alternative-related infrastructure or throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for Alternative 2 are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; nevertheless, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the alternative. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.1 percent of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project baseline conditions (under which many of these measures had not yet been implemented). These measures have

since improved both terminal and cargo security, and have resulted in enhanced cargo screening. Therefore, potential impacts associated with a potential terrorist attack on the Berths 136-147 facility are considered less than significant.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Impacts under NEPA would be less than significant as defined in the CEQA determination for Alternative 2 above.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

3.7.4.3.2.2.2 Operational Impacts

Impact RISK-1b: Berths 136-147 Terminal operations would not increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Existing terminal facilities include a single container terminal at Berths 136-147 and a rail yard at Pier A. As of December 2003 (CEQA Baseline), the Berths 136-147 Terminal handles approximately 891,976 TEUs per year. Berths 136-147 Terminal operations under Alternative 2 could handle approximately 2,389,000 TEUs per year when optimized and functioning at maximum capacity (year 2025), the same as would occur under the proposed Project. Thus, the number of containers containing hazardous materials and the overall risk to the public would be the same as the proposed Project. Overall, impacts resulting from operations under this alternative would be similar, but slightly reduced, compared to the proposed Project.

Throughput of 2,389,000 TEUs per year in association with Alternative 2, when functioning at maximum capacity, would equate to a 168 percent increase in throughput capacity. Hazardous materials cargo associated with Alternative 2 would be shipped, transported, handled, and stored in compliance with the USCG regulations, fire department requirements, and Caltrans regulations. For example, as discussed in Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which

develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. Among other requirements, Alternative 2 operations would conform to the USCG requirement to provide a segregated cargo area for containerized hazardous materials. Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). Implementation of increased hazardous materials inventory control and spill prevention controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

The new ICTF at Berths 136-147 would handle cargo only from that terminal. The ICTF would handle two double-stacked unit trains twice each day and each train would average approximately 330 containers inbound and outbound. When the terminal is fully optimized and functioning at maximum capacity by 2025, the rail yard would transport approximately 30 percent of the terminal's expected throughput, which would reduce truck traffic on public streets within the Project vicinity. Containers from Berths 136-147 would be trucked to the new rail yard via internal roads; public streets would not be affected.

Terminal operations would be subject to safety regulations that govern the storage and handling of hazardous materials, which would limit the severity and frequency of potential releases of hazardous materials resulting in increased exposure of people to health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements, and DOT regulations). For example, as discussed in Section 3.7.3.1, List of Regulations, and summarized below, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. In addition, the DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost all aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging Maintenance) would all apply to the alternative project activities.

Terminal maintenance activities would involve the use of hazardous materials such as petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to as RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI would limit both the frequency and severity of potential releases of hazardous materials. Based on the limited volumes that could potentially spill, quantities of hazardous materials utilized at Berths 136-147 that are below the thresholds of Chapter 6.95 would not likely result in a substantial release into the environment.

CEQA Impact Determination

Because projected terminal operations under Alternative 2 would accommodate approximately a 168 percent increase in containerized cargo compared to the CEQA Baseline, the potential for an accidental release or explosion of hazardous materials would also be expected to increase proportionally. During the period 1997-2004 there were 40 "hazardous material" spills directly associated with container terminals in the Ports of Los Angeles and Long Beach. This equates to approximately five spills per year for the entire port complex. During this period, the total throughput of the container terminals was 76,874,841 TEU. Therefore, the probability of a spill at a container terminal can be estimated at 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill probability conservatively represents the baseline hazardous material spill probability since it include materials that would not be considered a risk to public safety (e.g., perfume spills), but would still be considered an environmental hazard. The probability of spills associated with future operations would be based on the spill probability per TEU times the number of TEUs under the alternative project.

It should be noted that during this period there were no reported impacts to the public (injuries, fatalities and evacuations), with potential consequences limited to port workers (two worker injuries that were treated at the scene and 20 workers evaluated as a precaution).

Based on the Port's accident history of containers containing hazardous materials, which includes 40 incidents over an eight year period in the entire port complex (POLA and POLB), the frequency of project-related spills can be estimated as follows:

Table 3.7-11. Existing and Projected Cargo Throughput Volumes at Berths 136-147

Operations	*Overall Throughput (TEUs)1*	*Increase in TEUs (%)*	*Potential Spills (per year)*
POLA Baseline (2003)	4,977,818	NA	3.7
CEQA Project Baseline (2003)	891,976	NA	0.5
Alternative 2	2,389,000	168%	1.2
Note: 1. TEUs = twenty-foot equivalent units			

Based on the projected increase in TEUs, the frequency of potential Alternative 2-related spills would increase to 1.2 from 0.5 spills per year, or about one spill per year. This spill frequency would be classified as "frequent" (once per year). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the consequence of such accidents is classified as "slight," resulting in a Risk Code of 4 that is "acceptable." It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as

described above, would minimize the potentials for adverse public health impacts. Therefore, under CEQA, Alternative 2 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Impacts would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Because Alternative 2 would result in greater container throughput compared to the No Federal Action/NEPA Baseline, operational impacts would correspondingly be greater. An overall increase in TEUs would result in proportionally greater hazardous materials containers subject to accidental release or explosion as follows:

Table 3.7-12. Existing and Projected Cargo Throughput Volumes at Berths 136-147

Operations	*Overall Throughput (TEUs)1*	*Increase in TEUs (%)*	*Potential Spills (per year)*
POLA Baseline (2003)	7,178,940	NA	3.7
NEPA Project Baseline (2015)	1,491,100	NA	0.8
Project (2038)	2,389,000	60%	1.2
Note: 1. TEUs = twenty-foot equivalent units			

Based on the projected increase in TEUs, the frequency of Alternative 2-related spills would increase to 1.2 from 0.8 spills per year, or remain about one spill per year. This spill frequency would be classified as "frequent" (more than once a year). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the potential consequence of such accidents is classified as "slight," resulting in a Risk Code of 4 that is "acceptable." It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under NEPA, Alternative 2 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance. Impacts would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-2b: Alternative 2 operations would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards.

Alternative 2 would include siting facilities that would potentially handle hazardous materials and increase other hazards to the public. The handling and storing of hazardous materials would increase the probability of a local accident involving a release, spill, fire or explosion, which is proportional to the size of the terminal and its throughput as was addressed in Impact Risk 1b.

Because projected terminal operations at Berths 136-147 would accommodate approximately a 168 percent increase in containerized cargo compared to the CEQA Baseline, the potential for increased truck transportation-related accidents would also occur. Potential alternative-related increases in truck trips could result in an increase in vehicular accidents, injuries and fatalities. Therefore, potential impact of increased truck traffic on regional injury and fatality rates have been evaluated.

According to an FMCSA detailed analysis (FMCSA 2001), the estimated non-hazardous materials truck accident rate is more than twice the hazardous materials truck accident rate. The non-hazardous materials truck accident rate was estimated to be 0.73 accidents per million vehicle miles and the average hazardous materials truck accident rate was estimated to be 0.32 accidents per million vehicle miles. The hazardous material truck accident rate is not directly applicable to the alternative project container trucks since they are generally limited to bulk hazardous material carriers. Therefore, for this analysis, the higher accident rate associated with non-hazardous material trucks was used.

Based on the NHTSA (DOT, 2003), of the estimated 457,000 truck crashes in 2000 (causing fatalities, injuries, or property damage), an estimated 1 percent produced fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the sources of data for this analysis, which primarily examined fatalities associated with vehicle impact and trauma.

Based on these statistics and the projected truck trips for the existing facilities and Alternative 2, the potential rate of truck accidents, injuries and fatalities can be estimated and evaluated.

CEQA Impact Determination

Potential alternative-related truck accident rates can be estimated based on national average accident rates and the average number of miles per cargo truck trip. Based on the port's air pollutant emission inventory, it was determined that the average

truck trip was approximately 49 miles (Starcrest Consulting Group 2003). Given the annual number of truck trips, the average distance of each trip, and the published accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-13. Existing and Projected Truck Trips at Berths 136-147

Operations	*Annual Truck Trips*	*Increase (%)*	*Accident Rate (per year)*	*Injury Probability (per year)*	*Fatality Probability (per year)*
CEQA Baseline (2003)	1,197,589	NA	42.8	9.4	0.4
Alternative 2 (2038)	1,880,401	57%	67.2	14.8	0.7

Numerous truck accidents occur each year and are therefore considered a "frequent" event. Because the possibility exists for injury and/or fatality to occur during one of these frequent accidents as noted in Table 3.7-13, the potential consequence of such accidents is classified as "severe" since the potential number of injuries would increase to 14.8 from a baseline of 9.4, resulting in a Risk Code of 2 that is "undesirable" and requires additional engineering or administrative controls.

The Port is currently developing a Port-wide TMP for roadways in and around its facilities. Present and future traffic improvement needs are being determined based on existing and projected traffic volumes. The results will be a TMP providing ideas on what to expect and how to prepare for the future volumes. Some of the transportation improvements already under consideration include: I-110/SR-47/Harbor Boulevard interchange improvements; Navy Way connector (grade separation) to westbound Seaside Ave.; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is working on several strategies to increase rail transport, which will reduce reliance on trucks. These projects would serve to reduce the frequency of truck accidents.

In addition, the Port is currently phasing out older trucks as part of the TMP, and the TWIC program will also help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent (ADL 1990). In addition, proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would reduce potential accidents by approximately 30 percent. Since these programs will be implemented prior to the alternative project expansion, the potential number of injuries would be reduced to approximately 9.3, which would reduce the consequence classification to "moderate" and a Risk Code to 3 or less, as required by under Risk Code 2.

Therefore, under CEQA, Alternative 2 operations would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards and would meet criterion **RISK-2** and impacts would be considered less than significant under criterion **RISK-2**.

Mitigation Measure

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Alternative 2 would result in upgrades of existing wharves and construction of new wharves, which in turn would result in an increase in TEUs and truck trips, in comparison to the No Federal Action/NEPA Baseline, as described under the NEPA Impact Determination for **Impact Risk 1b**. Given the annual number of truck trips, the average distance of each trip, and the published accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-14. Existing and Projected Truck Trips at Berths 136-147

Operations	*Annual Truck Trips*	*Increase (%)*	*Accident Rate (per year)*	*Injury Probability (per year)*	*Fatality Probability (per year)*
No Federal Action/ NEPA Baseline (2015)	1,291,247	NA	46.1	10.1	0.5
Alternative 2 (2038)	1,880,401	46%	67.2	14.8	0.7

Numerous truck accidents occur each year and are therefore considered a "frequent" event. Because the possibility exists for injury and/or fatality to occur during one of these frequent accidents as noted in Table 3.7-14, the potential consequence of such accidents is classified as "severe" since the potential number of injuries would increase to 14.8 from a baseline of 10.1, resulting in a Risk Code of 2 that is "undesirable" and requires additional engineering or administrative controls.

The Port is currently developing a Port-wide TMP for roadways in and around its facilities. Present and future traffic improvement needs are being determined based on existing and projected traffic volumes. The results will be a TMP providing ideas on what to expect and how to prepare for the future volumes. Some of the transportation improvements already under consideration include: I-110/SR-47/Harbor Boulevard interchange improvements; Navy Way connector (grade separation) to westbound Seaside Ave.; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is working on several strategies to increase rail transport, which will reduce reliance on trucks. These projects would serve to reduce the frequency of truck accidents.

In addition, the Port is currently phasing out older trucks as part of the TMP, and the TWIC program will also help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent

(ADL 1990). In addition, proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would reduce potential accidents by approximately 30 percent. Since these programs will be implemented prior to the alternative project expansion, the potential number of injuries would be reduced to approximately 9.3, which would reduce the consequence classification to "moderate" and a Risk Code to 3 or less, as required by under Risk Code 2.

Therefore, under NEPA, Alternative 2 operations would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards and would meet criterion **RISK-2** and potential impacts would be considered less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-3b: Alternative 2 operations would not substantially interfere with any existing emergency response plans or emergency evacuation plans.

Alternative 2 would consolidate the Berths 136-147 area into a single terminal and optimize terminal operations by increasing backland capacity, constructing new wharves and upgrading existing wharves to accommodate modern container terminal ships, constructing an on-dock ICTF, and implementing transportation infrastructure improvements. The Berths 136-147 Terminal would continue to operate as a container terminal; therefore, proposed terminal operations would not interfere with any existing contingency plans, since the current activities are consistent with the contingency plans and the alternative project would not add any additional activities that would be inconsistent with these plans. Proposed transportation system improvements (i.e., widening of Harry Bridges Boulevard) would reduce vehicular traffic delays, improving emergency response in the Project area. In addition, existing oil spill contingency and emergency response plans for the site would be revised to incorporate proposed facility and operation changes. Because existing management plans are commonly revised to incorporate terminal operation changes, conflicts with existing contingency and emergency response plans are not anticipated.

All Berths 136-147 facilities personnel, including dock laborers and equipment operators, would be trained in emergency response and evacuation procedures. The site would be secured, with access allowed only to authorized personnel. The LAFD and Port Police would be able to provide adequate emergency response services to the site. Additionally, Alternative 2 operations would also be subject to emergency response and evacuation systems implemented by the LAFD, which would review all plans to ensure that adequate access in the Project vicinity is maintained. All Alternative 2 contractors would be required to adhere to plan requirements.

CEQA Impact Determination

Because the terminal would continue to be operated as a container terminal, proposed road improvements would reduce traffic congestion, and Alternative 2 operations would be subject to emergency response and evacuation systems implemented by the LAFD, Alternative 2 operations would not interfere with any existing emergency response or emergency evacuation plans or increase the risk of injury or death. Therefore impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

Because the terminal would continue to be operated as a container terminal and Alternative 2 operations would be subject to emergency response and evacuation systems implemented by the LAFD, Alternative 2 operations would not interfere with any existing emergency response or emergency evacuation plans or increase the risk of injury or death. Therefore, impacts would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under NEPA.

Impact RISK-4b: Alternative 2 operations would comply with applicable regulations and policies guiding development within the Port.

Alternative 2 operations would be subject to numerous regulations for operation of the proposed facilities. LAHD has implemented various plans and programs to ensure compliance with these regulations, which must be adhered to during operation of this alternative. For example, as discussed in Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials.

Among other requirements, Alternative 2 operations would conform to the USCG requirement to provide a segregated cargo area for containerized hazardous materials. Terminal cargo operations involving hazardous materials are also governed by the

LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). In addition, any facility constructed at the site, identified as either a hazardous cargo facility or a vulnerable resource, would be required to conform to the RMP, which includes packaging constraints and the provision of a separate storage area for hazardous cargo.

LAHD maintains compliance with these state and federal laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. Most notably, the Port RMP implements development guidelines in an effort to minimize the danger of accidents to vulnerable resources. This would be achieved mainly through physical separation as well as through facility design features, fire protection, and other risk management methods. There are two primary categories of vulnerable resources, people, and facilities. People are further divided into subgroups. The first subgroup is comprised of residences, recreational users, and visitors. Within the Port setting, residences and recreational users are considered vulnerable resources. The second subgroup is comprised of workers in high density (i.e., generally more than 10 people per acre, per employer).

Facilities that are vulnerable resources include Critical Regional Activities/Facilities and High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that are important to the local or regional economy, the national defense, or some major aspect of commerce. These facilities typically have a large quantity of unique equipment, a very large working population, and are critical to both the economy and to national defense. Such facilities in the Port have been generally defined in the Port RMP as the former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas Bridge.

High Value Facilities are non-hazardous facilities, within and near the Ports, which have very high economic value. These facilities include both facility improvements and cargo in-place, such as container storage areas. However, the determination of a vulnerable resource is made by the Port and LAFD on a case-by-case basis. Although the Port generally considers container terminals to be High Value Facilities, these types of facilities have never been considered vulnerable resources in risk analyses completed by the Port and LAFD (personal communication, Dan Knott 2007). Alternative 2 would be located immediately adjacent to the ConocoPhillips liquid bulk facility (Berths 148-149) and immediately across Slip 1 from several other liquid bulk facilities (Berths 161-169), at a distance of approximately 400 to 800 feet. Because container terminals are not considered vulnerable resources, this Alternative would not conflict with the RMP.

Alternative 2 plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Buildings will be equipped with fire protection equipment as required by the Los Angeles Municipal Fire Code. Access to all buildings and adequacy of road and fire lanes will be reviewed by the LAFD to ensure that adequate access and firefighting features are provided. Plans would

include an internal circulation system, code-required features, and other firefighting design elements, as approved by the LAFD.

Operation of Alternative 2 would be required to comply with all existing hazardous waste laws and regulations, including the federal RCRA and CERCLA, and CCR Title 22 and Title 26. Alternative 2 operations would comply with these laws and regulations, which would ensure that potential hazardous materials handling would occur in an acceptable manner.

CEQA Impact Determination

The terminal would not conflict with RMP guidelines. Alternative 2 plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, and operation of Alternative 2 would be required to comply with all existing hazardous waste laws and regulations. Therefore, under CEQA, Alternative 2 operations would comply with applicable regulations and policies guiding development within the Port. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

The terminal would not conflict with RMP guidelines. Alternative 2 plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, and operation of Alternative 2 would be required to comply with all existing hazardous waste laws and regulations. Therefore, under NEPA, Alternative 2 operations would comply with applicable regulations and policies guiding development within the Port. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-5b: Tsunami-induced flooding would result in fuel releases from ships or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although crude oil tankers would not moor at Berths 136-147, each ship contains large quantities

of fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most cases, imperceptible. However, while docked, a tsunami striking the Port could cause significant ship movement and even a hull breach if the ship is pushed against the wharf.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all proposed Project structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m)) above MSL at the proposed Project site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-induced flooding, Port structural engineers have determined that Port reinforced concrete or steel structures designed to meet California earthquake protocols incorporated into MOTEMS would be expected to survive complete inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior Structural Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to personnel would occur as a result of complete site inundation.

As previously discussed, there is a potential for tsunami-induced flooding under the theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is very low during operation of the proposed Project and the overall probability of this worst-case scenario is less than one in a 100,000 year period.

The most likely worst-case tsunami scenario was based partially on a magnitude 7.6 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude 7.5 earthquake along an offshore fault in the Southern California Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any of these earthquake events would result in a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In addition, available evidence indicates that tsunamigenic landslides would be extremely infrequent and occur less often than large earthquakes. This suggests recurrence intervals for such landslide events would be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-case combination of a large tsunami and extremely high tides would be less than once in a 100,000-year period.

Containers of hazardous substances on ships or on berths could similarly be damaged as a result of a large tsunami. Such damage would result in releases of both hazardous and non-hazardous cargo to the environment, adversely impacting persons and/or the marine waters. However, containers carrying hazardous cargo would not necessarily release their contents in the event of a large tsunami. The DOT regulations (49 CFR Parts 172-180) covering hazardous material packaging and transportation would minimize potential release volumes since packages must meet minimum integrity specifications and size limitations.

The owner or operators of tanker vessels are required to have an approved Tank Vessel Response Plan on board and a qualified individual within the U.S. with full authority to implement removal actions in the event of an oil spill incident, and to contract with the spill response organizations to carry out cleanup activities in case of a spill. The existing oil spill response capabilities in the POLA/POLB are sufficient to isolate spills with containment booms and recover the maximum possible spill from an oil tanker within the Port.

Various studies have shown that double-hull tank vessels have lower probability of releases when tanker vessels are involved in accidents. Because of these studies, the USCG issued regulations addressing double-hull requirements for tanker vessels. The regulations establish a timeline for eliminating single-hull vessels from operating in the navigable waters or the EEZ of the U.S. after January 1, 2010 and double-bottom or double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or with an approved double containment system will be allowed to operate after those times. It is unlikely that single-hull vessels will utilize the Alternative 2 terminal facilities given the current schedule and the planned phase-out of these vessels.

CEQA Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 2. However, because the Alternative 2 elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected

during the life of Alternative 2, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as "improbable" (less than once every 10,000 years). The potential consequence of such an event is classified as "moderate," resulting in a Risk Code of 4 that is "acceptable." The volume of spilled fuel is also expected to be relatively low. While there will be fuel containing equipment present during construction, most equipment is equipped with watertight tanks, with the main problem being the infiltration of water into the tank and fuel combustion chambers. Thus, the volume spilled in the event of a tsunami would be less than 10,000 gallons, which is considered minor. In light of such a low probability and acceptable risk of a large tsunami, impacts associated with Alternative 2 would be less than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 2. However, because Alternative 2 elevations are located within 10 to 15 feet (3 to 4.6 m) above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 2, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as "improbable" (less than once every 10,000 years). The potential consequence of such an event is classified as "moderate," resulting in a Risk Code of 4 that is "acceptable." In light of such a low probability and acceptable risk of a large tsunami, impacts associated with Alternative 2 would be less than significant under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-6b: A potential terrorist attack would result in adverse consequences to areas near the Alternative 2 site during the operations period.

Risk of Terrorist Actions associated with Operations

The probability of a terrorist attack on the alternative project facilities is not likely to appreciably change over the existing baseline. It is possible that the increase in vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

Consequences of Terrorist Attack

The risks associated with terrorism discussed in Section 3.7.2.4 would apply to the terminal during operations. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of such an event would not be impacted by alternative-related infrastructure or throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for the alternative project are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; nevertheless, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project alternative. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.5 percent

of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). With the implementation of the alternative, and compared to regional and national growth projections, the relative importance of the alternative will remain at 3.1 percent of national containerized cargo throughput, but decrease to 5.6 of the POLA/POLB cargo volume (based on projections in MARAD 2005b; Parsons 2006). Overall, growth at the Berths 136-147 Terminal would not increase disproportionately as compared to regional (POLA/POLB) and national container terminals growth, and would, therefore, not change the relative importance of the terminal as a terrorist target.

An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project baseline conditions (under which many of these measures had not yet been implemented). These measures have since improved both terminal and cargo security, and have resulted in enhanced cargo screening. Therefore, potential impacts associated with a potential terrorist attack on the Berths 136-147 facility are considered less than significant.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Potential impacts under NEPA would be that same as under CEQA and are considered less than significant.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant

3.7.4.3.2.3 Alternative 3 – Reduced Wharf

3.7.4.3.2.3.1 Construction Impacts

Impact RISK-1a: Phase I/II construction/demolition activities would not substantially increase the probable frequency and severity of

consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Under the Reduced Wharf alternative (Alternative 3), Phase I/II construction impacts would be similar but less than those described for the proposed Project, because it would not include the 10-acre (4-ha) fill in the Northwest Slip or the 400-foot (122-m) wharf for the Berth 136 extension. In addition, this alternative would reduce the extent of proposed wharf renovations, as no new wharves would be constructed and only wharf seismic retrofitting would be completed. Although dredging does not involve the handling of hazardous materials and would not create hazard footprints under the RMP (LAHD 1983), elimination of some wharf construction and renovation activities would further reduce the potential for construction equipment to spill oil, gas, or fluids during construction activities. Therefore, this alternative would reduce the potential for an accidental release of hazardous materials and/or contamination of soil or water and would reduce the potential for an accidental release from a fire or explosion during construction activities. Construction equipment could spill oil, gas, or fluids during normal usage or during refueling, resulting in potential health and safety impacts to not only construction personnel, but to people and property occupying operational portions of the site, as Berths 136-147 Terminal would be operating during Phase I/II construction activities. BMPs and Los Angeles Municipal Code regulations (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4) would govern Phase I/II construction and demolition activities. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials) and the separation of containers containing hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In addition, standard BMPs would be used during construction and demolition activities to minimize runoff of contaminants, in compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and project-specific SWPPP (see Section 3.13, Water Quality, Sediments, and Oceanography for more information).

CEQA Impact Determination

Implementation of construction and demolition standards, including BMPs, would minimize the potential for an accidental release of petroleum products and/or hazardous materials and/or explosion during Phase I/II construction/demolition activities at Berths 136-147. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as “frequent” (more than once a year). However, because such spills are typically short-term and localized, mainly due to the fact that the volume in any single vehicle is generally less than 50 gallons and fuel trucks are limited to 10,000 gallons or less, the potential consequence of such accidents is classified as “slight” resulting in a Risk Code of 4 that is “acceptable.” Therefore, under CEQA, construction and demolition activities associated with Alternative 3 would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Based on criterion **RISK-1**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

As Alternative 3 would only include minimal in-water construction activities (i.e., deepening navigation channels and wharf seismic improvements), construction impacts would be similar to, but less severe than those described for the proposed Project. Although dredging does not involve the handling of hazardous materials and would not create hazard footprints under the RMP (LAHD 1983), elimination of some wharf construction and renovation activities would further reduce the potential for construction equipment to spill oil, gas, or fluids during construction activities.

Alternative 3 would include seismic upgrade of existing wharves and deepening navigation channels, which would result in increased susceptibility to hazardous materials spills during construction. Implementation of construction standards, including BMPs, would minimize the potential for an accidental release of hazardous materials and/or explosion during Phase I/II in-water construction activities at Berths 136-147. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as "frequent" (more than once a year). However, because such spills are typically short-term and localized, the potential consequence of such accidents is classified as "slight" resulting in a Risk Code of 4 that is "acceptable." Therefore, under NEPA, construction and demolition activities associated with Alternative 3 would not substantially increase the probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-2a: Phase I/II construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards.

Under Alternative 3, Phase I/II construction impacts would be similar but less than those described for the proposed Project, because it would not include the 10-acre (4-ha) fill in the Northwest Slip or the 400-foot (122-m) wharf for the Berth 136 extension, and this alternative would reduce the extent of proposed wharf renovations. Although dredging does not involve the handling of hazardous materials and would not create hazard footprints under the RMP (LAHD 1983),

elimination of some wharf construction and renovation activities would further reduce the potential for construction equipment to spill oil, gas, or fluids during construction activities. Therefore, this alternative would reduce the potential for health hazards as a result of an accidental release of hazardous materials and/or contamination of soil or water.

Construction and demolition activities would be conducted using BMPs and in accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to an RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI, such as limiting the types of materials stored and size of packages containing hazardous materials, would limit both the frequency and severity of potential releases of hazardous materials, thus minimizing potential health hazards and/or contamination of soil or water during construction/demolition activities. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Impacts from contamination of soul or water during construction/demolition activities would apply to not only construction personnel, but to people and property occupying operational portions of the Project area, as Berths 136-147 Terminal would be operating during Phase I/II construction activities.

Near-surface contaminated soil may be encountered during demolition of the Pier A rail yard, resulting in potential health hazards to demolition and/or construction personnel. See Section 3.6, Groundwater and Soils for more information.

CEQA Impact Determination

Several standard policies regulate the storage of hazardous materials including the types of materials, size of packages containing hazardous materials, and the separation of containers containing hazardous materials. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Implementation of these preventative measures would minimize the potential for spills to impact members of the public and limit the adverse impacts of contamination to a relatively small area. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as "frequent" (more than once a year). However, because such spills are typically short-term and localized, the potential consequence of such accidents is classified as "slight" resulting in a Risk Code of 4 that is "acceptable." Therefore, under CEQA, Alternative 3 construction/demolition activities at Berths 136-147 would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards. Based on risk criterion **RISK-2**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

As Alternative 3 would only include minimal in-water construction activities (i.e., deepening navigation channels and wharf seismic improvements), construction impacts would be similar to, but less severe than those described for the proposed Project. Although dredging does not involve the handling of hazardous materials and would not create hazard footprints under the RMP (LAHD 1983), elimination of some wharf construction and renovation activities would further reduce the potential for construction equipment to spill oil, gas, or fluids during construction activities, which could result in health hazards to on-site personnel or the public.

Alternative 3 would include dredging and seismic upgrade of existing wharves, which would result in increased susceptibility to hazardous materials spills during construction. Several standard policies regulate the storage of hazardous materials including the types of materials, size of packages containing hazardous materials, and the separation of containers containing hazardous materials. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Implementation of these preventative measures would minimize the potential for spills to impact on-site personnel and members of the public and limit the potential adverse impacts of contamination to a relatively small area.

Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as "frequent" (more than once a year). However, because such spills are typically short-term and localized, the potential consequence of such accidents is classified as "slight" resulting in a Risk Code of 4 that is "acceptable." Therefore, under NEPA, Alternative 3 construction and demolition would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-3a: Phase I/II construction/demolition activities would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death.

Emergency response and evacuation planning is the responsibility of the LAPD, LAFD, Port Police, and USCG. Phase I/II construction and demolition activities would be subject to emergency response and evacuation systems implemented by LAFD. During

construction/demolition activities, the LAFD would require that adequate vehicular access to the site be provided and maintained. Prior to commencement of construction/demolition activities, all plans would be reviewed by the LAFD to ensure adequate access is maintained throughout Phase I/II construction/demolition.

CEQA Impact Determination

Alternative 3 contractors would be required to adhere to all LAFD emergency response and evacuation regulations, ensuring compliance with existing emergency response plans. Therefore, under CEQA, Phase I/II construction/demolition activities associated with Alternative 3 would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Alternative 3 contractors would be required to adhere to all LAFD emergency response and evacuation regulations, ensuring compliance with existing emergency response plans. Therefore, under NEPA, Phase I/II construction/demolition activities associated with Alternative 3 would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death. Based on risk criterion **RISK-3**, potential impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-4a: Alternative 3 construction/demolition would comply with applicable regulations and policies guiding development within the Port.

As described in Section 3.7.3.1, List of Regulations, the Alternative 3 would be subject to numerous regulations for development and operation of the proposed facilities. For example, construction and demolition would be completed in accordance with RCRA, HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste Control Law, which would govern proper containment, spill control, and disposal of hazardous waste generated during demolition and construction activities. Implementation of increased inventory accountability, spill prevention controls, and

waste disposal controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Potential releases of hazardous substances during demolition and/or construction would be addressed through the federal Emergency Planning and Right-To-Know Act, which is administered in California by the SERC, and the Hazardous Material Release Response Plans and Inventory Law. In addition, demolition and construction would be completed in accordance with the Los Angeles Municipal Fire Code, which regulates the construction of buildings and other structures used to store flammable hazardous materials, and the Los Angeles Municipal Public Property Code, which regulates the discharge of materials into the sanitary sewer and storm drain. The latter requires the construction of spill-containment structures to prevent the entry of forbidden materials, such as hazardous materials, into sanitary sewers and storm drains. LAHD maintains compliance with these federal, state, and local laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. LAHD has implemented various plans and programs to ensure compliance with these regulations. These regulations must be adhered to during design and construction of Alternative 3. Implementation of increased spill prevention controls, spill release notification requirements, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Construction/demolition activities would be conducted using BMPs in accordance with City guidelines, as detailed in the Development Best Management Practices Handbook (City of Los Angeles 2002a). Applicable BMPs include, but are not limited to, vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; solid and hazardous waste management; and contaminated soil management. Alternative 3 plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Implementation of increased spill prevention controls associated with these BMPs would limit both the frequency and severity of potential releases of hazardous materials.

CEQA Impact Determination

Because Alternative 3 construction/demolition would be completed using standard BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all hazardous waste laws and regulations, impacts relating to compliance with applicable regulations and policies guiding development in the Port would be less than significant under CEQA under criterion **RISK-4**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

Because Alternative 3 construction would be completed using standard BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all hazardous waste laws and regulations, impacts under NEPA relating to compliance with applicable regulations and policies guiding development in the Port would be less than significant under criterion **RISK-4**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-5a: Tsunami-induced flooding would result in fuel releases from demolition/construction equipment or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill from demolition and/or construction equipment, as well as from containers of petroleum products and hazardous substances used during the demolition/construction period. Unfinished structures are especially vulnerable to damage from tsunamis during the construction period.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all Alternative 3 structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m))above MSL at the Alternative 3 site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the Alternative 3 site. Because the Alternative 3 site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the Alternative 3 site. Because the Alternative 3 site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-induced flooding, Port structural engineers have determined that Port reinforced concrete or steel structures designed to meet California earthquake protocols incorporated into MOTEMS would be expected to survive complete inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior Structural Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to personnel would occur as a result of complete site inundation.

As previously discussed, there is a potential for tsunami-induced flooding under the theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is very low during construction of Alternative 3 and the overall probability of this worst-case scenario is less than one in a 100,000-year period.

The most likely worst-case tsunami scenario was based partially on a magnitude 7.6 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude 7.5 earthquake along an offshore fault in the Southern California Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any of these earthquake events would result in a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In addition, available evidence indicates that tsunamigenic landslides would be extremely infrequent and occur less often than large earthquakes. This suggests recurrence intervals for such landslide events would be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-case combination of a large tsunami and extremely high tides would be less than once in a 100,000-year period.

CEQA Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 3. However, because the Alternative 3 site elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 3, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as “improbable” (less than once every 10,000 years). The

potential consequence of such an event is classified as "moderate," resulting in a Risk Code of 4 that is "acceptable." The volume of spilled fuel is also expected to be relatively low. While there will be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks, with the most likely scenario being the infiltration of water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less than 10,000 gallons, which is considered "slight." In light of such a low probability and acceptable risk of a large tsunami, Alternative 3 impacts would be less than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 3. However, because the Project site elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 3, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as "improbable" (less than once every 10,000 years). The potential consequence of such an event is classified as "slight," resulting in a Risk Code of 4 that is "acceptable." In light of such a low probability and acceptable risk of a large tsunami, Alternative 3 impacts would be less than significant under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-6a: A potential terrorist attack would result in adverse consequences to areas near the Alternative 3 site during the construction period.

Risk of Terrorist Actions during Construction

The probability of a terrorist attack on the Alternative 3 facilities is not likely to appreciably change over the existing baseline during construction. It is possible that the increase in construction vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

Consequences of Terrorist Attack

The Berths 136-147 Terminal will be fully operational during the construction period; therefore the risks associated with terrorism discussed in Section 3.7.2.4 will apply to the terminal during this period. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of such an event would not be impacted by alternative-related infrastructure or throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for Alternative 3 are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; nevertheless, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project. Terrorism risk associated with container terminals currently exists, and is not influenced by

changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.1 percent of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project baseline conditions (under which many of these measures had not yet been implemented). These measures have since improved both terminal and cargo security, and have resulted in enhanced cargo screening. Therefore, potential impacts associated with a potential terrorist attack on the Berths 136-147 facility are considered less than significant.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Impacts under NEPA would be less than significant as defined in the CEQA determination above.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

3.7.4.3.2.3.2 Operational Impacts

Impact RISK-1b: Berths 136-147 Terminal operations would not increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Berths 136-147 Terminal operations under Alternative 3 could handle approximately 2,035,000 TEUs per year when optimized and functioning at maximum capacity (year 2025). This alternative would result in a net reduction of 354,000 TEUs per year compared to the proposed Project. Thus, the number of containers containing hazardous materials and the overall risk to the public would be reduced compared to the proposed Project. Overall, the risk of upset impacts associated with this alternative during operations would be reduced compared to the proposed Project.

Throughput of 2,035,000 TEUs per year in association with Alternative 3, when functioning at maximum capacity, would equate to a 128 percent increase in throughput capacity. Hazardous materials cargo associated with Alternative 3 would be shipped, transported, handled, and stored in compliance with the USCG regulations, fire department requirements, and Caltrans regulations. For example, as discussed in Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials.

Among other requirements, Alternative 3 operations would conform to the USCG requirement to provide a segregated cargo area for containerized hazardous materials. Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). Implementation of increased hazardous materials inventory control and spill prevention controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

The new ICTF at Berths 136-147 would handle cargo only from that terminal. The ICTF would handle two double-stacked unit trains twice each day and each train would average approximately 330 containers inbound and outbound. When the terminal is fully optimized and functioning at maximum capacity by 2025, the rail yard would transport approximately 30 percent of the terminal's expected throughput, which would reduce truck traffic on public streets within the Project vicinity. Containers from Berths 136-147 would be trucked to the new rail yard via internal roads; public streets would not be affected.

Terminal operations would be subject to safety regulations that govern the storage and handling of hazardous materials, which would limit the severity and frequency of potential releases of hazardous materials resulting in increased exposure of people to health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements, and DOT regulations). For example, as discussed in Section 3.7.3.1, List of Regulations, and summarized below, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. In addition, the DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost all aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging Maintenance) would all apply to the alternative project activities.

Terminal maintenance activities would involve the use of hazardous materials such as petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety

Code would be subject to an RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI would limit both the frequency and severity of potential releases of hazardous materials. Based on the limited volumes that could potentially spill, quantities of hazardous materials utilized at Berths 136-147 that are below the thresholds of Chapter 6.95 would not likely result in a substantial release into the environment.

CEQA Impact Determination

Because projected terminal operations under Alternative 3 would accommodate approximately a 168 percent increase in containerized cargo compared to the CEQA Baseline, the potential for an accidental release or explosion of hazardous materials would also be expected to increase proportionally. Based on the Port's accident history of containers containing hazardous materials, which includes six incidents (five spills and one explosion) over a seven year period, the frequency of project-related spills can be estimated as follows:

Table 3.7-15. Existing and Projected Cargo Throughput Volumes at Berths 136-147

Operations	*Overall Throughput (TEUs)1*	*Increase in TEUs (%)*	*Potential Spills (per year)*
POLA Baseline (2003)	4,977,818	NA	3.7
Project Baseline (2003)	891,976	NA	0.5
Alternative 3	2,035,000	128%	1.1
Note: 1. TEUs = twenty-foot equivalent units			

Based on the projected increase in TEUs, the frequency of potential Alternative 3-related spills would increase to 1.1 from 0.5 spills per year, or about one spill per year. This spill frequency would be classified as "frequent" (once per year). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the consequence of such accidents is classified as "slight," resulting in a Risk Code of 4 that is "acceptable." It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under CEQA, Alternative 3 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Impacts would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Because Alternative 3 would result in greater container throughput compared to the No Federal Action/NEPA Baseline, operational impacts would correspondingly be greater. An overall increase in TEUs would result in proportionally greater hazardous materials containers subject to accidental release or explosion as follows:

Table 3.7-16. Existing and Projected Cargo Throughput Volumes at Berths 136-147

Operations	*Overall Throughput (TEUs)1*	*Increase in TEUs (%)*	*Potential Spills (per year)*
POLA Baseline (2003)	7,178,940	NA	3.7
Project Baseline (2015)	1,491,100	NA	0.8
Alternative 3	2,035,000	36%	1.1
Note: 1. TEUs = twenty-foot equivalent units			

Based on the projected increase in TEUs, the frequency of Alternative 3-related spills would increase to 1.1 from 0.8 spills per year, or remain about one spill per year. This spill frequency would be classified as "frequent" (more than once a year). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the potential consequence of such accidents is classified as "slight," resulting in a Risk Code of 4 that is "acceptable." It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under NEPA, Alternative 3 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance. Impacts would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-2b: Alternative 3 operations would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards.

Alternative 3 would include siting facilities that would potentially handle hazardous materials and increase other hazards to the public. The handling and storing of hazardous materials would increase the probability of a local accident involving a release, spill, fire or explosion, which is proportional to the size of the terminal and its throughput as was addressed in Impact Risk 1b.

Because projected terminal operations at Berths 136-147 would accommodate approximately a 168 percent increase in containerized cargo compared to the CEQA Baseline, the potential for increased truck transportation-related accidents would also occur. Potential project-related increases in truck trips could result in an increase in vehicular accidents, injuries and fatalities. Therefore, potential impact of increased truck traffic on regional injury and fatality rates have been evaluated.

According to an FMCSA detailed analysis (FMCSA 2001), the estimated non-hazardous materials truck accident rate is more than twice the hazardous materials truck accident rate. The non-hazardous materials truck accident rate was estimated to be 0.73 accidents per million vehicle miles and the average hazardous materials truck accident rate was estimated to be 0.32 accidents per million vehicle miles. The hazardous material truck accident rate is not directly applicable to the alternative project container trucks since they are generally limited to bulk hazardous material carriers. Therefore, for this analysis, the higher accident rate associated with non-hazardous material trucks was used.

Based on the NHTSA (DOT, 2003), of the estimated 457,000 truck crashes in 2000 (causing fatalities, injuries, or property damage), an estimated 1 percent produced fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the sources of data for this analysis, which primarily examined fatalities associated with vehicle impact and trauma.

Based on these statistics and the projected truck trips for the existing facilities and alternative project, the potential rate of truck accidents, injuries and fatalities can be evaluated.

CEQA Impact Determination

Potential project-related truck accident rates can be estimated based on national average accident rates and the average number of miles per cargo truck trip. Based on the port's air pollutant emission inventory, it was determined that the average truck trip was approximately 49 miles (Starcrest Consulting Group 2003). Given the annual number of truck trips, the average distance of each trip, and the published accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-17. Existing and Projected Truck Trips at Berths 136-147

Operations	*Annual Truck Trips*	*Increase (%)*	*Accident Rate (per year)*	*Injury Probability (per year)*	*Fatality Probability (per year)*
Baseline	1,197,589	NA	42.8	9.4	0.4
Alternative 3	1,456,293	13%	52.0	11.4	0.5

Numerous truck accidents occur each year and are therefore considered a "frequent" event. Because the possibility exists for injury and/or fatality to occur during one of these frequent accidents as noted in Table 3.7-17, the potential consequence of such accidents is classified as "severe" since the potential number of injuries would increase to 11.4 from a baseline of 9.4, resulting in a Risk Code of 2 that is "undesirable" and requires additional engineering or administrative controls.

The Port is currently developing a Port-wide TMP for roadways in and around its facilities. Present and future traffic improvement needs are being determined based on existing and projected traffic volumes. The results will be a TMP providing ideas on what to expect and how to prepare for the future volumes. Some of the transportation improvements already under consideration include: I-110/SR-47/Harbor Boulevard interchange improvements; Navy Way connector (grade separation) to westbound Seaside Ave.; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is working on several strategies to increase rail transport, which will reduce reliance on trucks. These projects would serve to reduce the frequency of truck accidents.

In addition, the Port is currently phasing out older trucks as part of the TMP, and the TWIC program will also help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent (ADL 1990). In addition, proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would reduce potential accidents by approximately 30 percent. Since these programs will be implemented prior to the alternative project expansion, the potential number of injuries would be reduced to approximately 9.3, which would reduce the consequence classification to "moderate" and a Risk Code to 3 or less, as required by under Risk Code 2.

Therefore, under CEQA, Alternative 3 operations would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards and would meet criterion **RISK-2** and impacts would be considered less than significant under criterion **RISK-2.**

Mitigation Measure

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Alternative 3 would result in upgrades of existing wharves and construction of new wharves, which in turn would result in an increase in TEUs and truck trips, in comparison to the No Federal Action/NEPA Baseline, as described under the NEPA Impact Determination for **Impact Risk 1b**. Given the annual number of truck trips, the average distance of each trip, and the published accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-18. Existing and Projected Truck Trips at Berths 136-147

Operations	*Annual Truck Trips*	*Increase (%)*	*Accident Rate (per year)*	*Injury Probability (per year)*	*Fatality Probability (per year)*
Baseline (2015)	1,291,247	NA	46.1	10.1	0.5
Alternative 3	1,456,293	13%	52.0	11.4	0.5

Numerous truck accidents occur each year and are therefore considered a "frequent" event. Because the possibility exists for injury and/or fatality to occur during one of these frequent accidents as noted in Table 3.7-18, the potential consequence of such accidents is classified as "severe" since the potential number of injuries would increase to 11.4 from a baseline of 10.1, resulting in a Risk Code of 2 that is "undesirable" and requires additional engineering or administrative controls.

The Port is currently developing a Port-wide TMP for roadways in and around its facilities. Present and future traffic improvement needs are being determined based on existing and projected traffic volumes. The results will be a TMP providing ideas on what to expect and how to prepare for the future volumes. Some of the transportation improvements already under consideration include: I-110/SR-47/Harbor Boulevard interchange improvements; Navy Way connector (grade separation) to westbound Seaside Ave.; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is working on several strategies to increase rail transport, which will reduce reliance on trucks. These projects would serve to reduce the frequency of truck accidents.

In addition, the Port is currently phasing out older trucks as part of the TMP, and the TWIC program will also help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent (ADL 1990). In addition, proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would reduce potential accidents by approximately 30 percent. Since these programs will be implemented prior to the alternative project expansion, the potential number of injuries would be reduced to approximately 9.3, which would reduce the

consequence classification to "moderate" and a Risk Code to 3 or less, as required by under Risk Code 2.

Therefore, under NEPA, Alternative 3 operations would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards and would meet criterion **RISK-2** and potential impacts would be considered less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-3b: Alternative 3 operations would not substantially interfere with any existing emergency response plans or emergency evacuation plans.

Alternative 3 would consolidate the Berths 136-147 area into a single terminal and optimize terminal operations by increasing backland capacity, seismically retrofitting existing wharves, constructing an on-dock ICTF, and implementing transportation infrastructure improvements. The Berths 136-147 Terminal would continue to operate as a container terminal; therefore, proposed terminal operations would not interfere with any existing contingency plans, since the current activities are consistent with the contingency plans and the alternative project would not add any additional activities that would be inconsistent with these plans. Proposed transportation system improvements (i.e., widening of Harry Bridges Boulevard) would reduce vehicular traffic delays, improving emergency response in the Project area. In addition, existing oil spill contingency and emergency response plans for the site would be revised to incorporate proposed facility and operation changes. Because existing management plans are commonly revised to incorporate terminal operation changes, conflicts with existing contingency and emergency response plans are not anticipated.

All Berths 136-147 facilities personnel, including dock laborers and equipment operators, would be trained in emergency response and evacuation procedures. The site would be secured, with access allowed only to authorized personnel. The LAFD and Port Police would be able to provide adequate emergency response services to the site. Additionally, Alternative 3 operations would also be subject to emergency response and evacuation systems implemented by the LAFD, which would review all plans to ensure that adequate access in the Project vicinity is maintained. All Alternative 3 contractors would be required to adhere to plan requirements.

CEQA Impact Determination

Because the terminal would continue to be operated as a container terminal, proposed road improvements would reduce traffic congestion, and Alternative 3 operations would be subject to emergency response and evacuation systems implemented by the LAFD, Alternative 3 operations would not interfere with any existing emergency

response or emergency evacuation plans or increase the risk of injury or death. Therefore impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

Because the terminal would continue to be operated as a container terminal and Alternative 3 operations would be subject to emergency response and evacuation systems implemented by the LAFD, Alternative 3 operations would not interfere with any existing emergency response or emergency evacuation plans or increase the risk of injury or death. Therefore, impacts would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under NEPA.

Impact RISK-4b: Alternative 3 operations would comply with applicable regulations and policies guiding development within the Port.

Alternative 3 operations would be subject to numerous regulations for operation of the proposed facilities. LAHD has implemented various plans and programs to ensure compliance with these regulations, which must be adhered to during operation of this alternative. For example, as discussed in Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials.

Among other requirements, Alternative 3 operations would conform to the USCG requirement to provide a segregated cargo area for containerized hazardous materials. Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages

containing hazardous materials). In addition, any facility constructed at the site, identified as either a hazardous cargo facility or a vulnerable resource, would be required to conform to the RMP, which includes packaging constraints and the provision of a separate storage area for hazardous cargo.

LAHD maintains compliance with these state and federal laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. Most notably, the Port RMP implements development guidelines in an effort to minimize the danger of accidents to vulnerable resources. This would be achieved mainly through physical separation as well as through facility design features, fire protection, and other risk management methods. There are two primary categories of vulnerable resources, people, and facilities. People are further divided into subgroups. The first subgroup is comprised of residences, recreational users, and visitors. Within the Port setting, residences and recreational users are considered vulnerable resources. The second subgroup is comprised of workers in high density (i.e., generally more than 10 people per acre, per employer).

Facilities that are vulnerable resources include Critical Regional Activities/Facilities and High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that are important to the local or regional economy, the national defense, or some major aspect of commerce. These facilities typically have a large quantity of unique equipment, a very large working population, and are critical to both the economy and to national defense. Such facilities in the Port have been generally defined in the Port RMP as the former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas Bridge.

High Value Facilities are non-hazardous facilities, within and near the Ports, which have very high economic value. These facilities include both facility improvements and cargo in-place, such as container storage areas. However, the determination of a vulnerable resource is made by the Port and LAFD on a case-by-case basis. Although the Port generally considers container terminals to be High Value Facilities, these types of facilities have never been considered vulnerable resources in risk analyses completed by the Port and LAFD (personal communication, Dan Knott 2007). The Project would be located immediately adjacent to the ConocoPhillips liquid bulk facility (Berths 148-149) and immediately across Slip 1 from several other liquid bulk facilities (Berths 161-169), at a distance of approximately 400 to 800 feet. Because container terminals are not considered vulnerable resources, the Project would not conflict with the RMP.

Alternative 3 plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Buildings will be equipped with fire protection equipment as required by the Los Angeles Municipal Fire Code. Access to all buildings and adequacy of road and fire lanes will be reviewed by the LAFD to ensure that adequate access and firefighting features are provided. Alternative 3 plans would include an internal circulation system, code-required features, and other firefighting design elements, as approved by the LAFD.

Operation of Alternative 3 would be required to comply with all existing hazardous waste laws and regulations, including the federal RCRA and CERCLA, and CCR Title 22 and Title 26. Alternative 3 operations would comply with these laws and

regulations, which would ensure that potential hazardous materials handling would occur in an acceptable manner.

CEQA Impact Determination

The terminal would not conflict with RMP guidelines. Alternative 3 plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, and operation of Alternative 3 would be required to comply with all existing hazardous waste laws and regulations. Therefore, under CEQA, Alternative 3 operations would comply with applicable regulations and policies guiding development within the Port. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be the less than significant.

NEPA Impact Determination

The terminal would not conflict with RMP guidelines. Alternative 3 plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, and operation of Alternative 3 would be required to comply with all existing hazardous waste laws and regulations. Therefore, under NEPA, Alternative 3 operations would comply with applicable regulations and policies guiding development within the Port. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-5b: Tsunami-induced flooding would result in fuel releases from ships or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although crude oil tankers would not moor at Berths 136-147, each ship contains large quantities of fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most cases, imperceptible. However, while docked, a tsunami striking the Port could cause significant ship movement and even a hull breach if the ship is pushed against the wharf.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is

typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all proposed Project structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m)) above MSL at the proposed Project site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-induced flooding, Port structural engineers have determined that Port reinforced concrete or steel structures designed to meet California earthquake protocols incorporated into MOTEMS would be expected to survive complete inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior Structural Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to personnel would occur as a result of complete site inundation.

As previously discussed, there is a potential for tsunami-induced flooding under the theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is very low during operation of the proposed Project and the overall probability of this worst-case scenario is less than one in a 100,000 year period.

The most likely worst-case tsunami scenario was based partially on a magnitude 7.6 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude 7.5 earthquake along an offshore fault in the Southern California Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500

years. However, there is no certainty that any of these earthquake events would result in a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In addition, available evidence indicates that tsunamigenic landslides would be extremely infrequent and occur less often than large earthquakes. This suggests recurrence intervals for such landslide events would be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-case combination of a large tsunami and extremely high tides would be less than once in a 100,000-year period.

Containers of hazardous substances on ships or on berths could similarly be damaged as a result of a large tsunami. Such damage would result in releases of both hazardous and non-hazardous cargo to the environment, adversely impacting persons and/or the marine waters. However, containers carrying hazardous cargo would not necessarily release their contents in the event of a large tsunami. The DOT regulations (49 CFR Parts 172-180) covering hazardous material packaging and transportation would minimize potential release volumes since packages must meet minimum integrity specifications and size limitations.

The owner or operators of tanker vessels are required to have an approved Tank Vessel Response Plan on board and a qualified individual within the U.S. with full authority to implement removal actions in the event of an oil spill incident, and to contract with the spill response organizations to carry out cleanup activities in case of a spill. The existing oil spill response capabilities in the POLA/POLB are sufficient to isolate spills with containment booms and recover the maximum possible spill from an oil tanker within the Port.

Various studies have shown that double-hull tank vessels have lower probability of releases when tanker vessels are involved in accidents. Because of these studies, the USCG issued regulations addressing double-hull requirements for tanker vessels. The regulations establish a timeline for eliminating single-hull vessels from operating in the navigable waters or the EEZ of the U.S. after January 1, 2010 and double-bottom or double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or with an approved double containment system will be allowed to operate after those times. It is unlikely that single-hull vessels will utilize the Alternative 3 terminal facilities given the current schedule and the planned phase-out of these vessels.

CEQA Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 3. However, because the Alternative 3 elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 3, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as “improbable” (less than once every 10,000 years). The potential consequence of such an event is classified as “moderate,” resulting in a Risk Code of 4 that is “acceptable.” The volume of spilled fuel is also expected to be

relatively low. While there will be fuel containing equipment present during construction, most equipment is equipped with watertight tanks, with the main problem being the infiltration of water into the tank and fuel combustion chambers. Thus, the volume spilled in the event of a tsunami would be less than 10,000 gallons, which is considered minor. In light of such a low probability and acceptable risk of a large tsunami, Alternative 3 impacts would be less than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 3. However, because Alternative 3 elevations are located within 10 to 15 feet (3 to 4.6 m) above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 3, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as "improbable" (less than once every 10,000 years). The potential consequence of such an event is classified as "moderate," resulting in a Risk Code of 4 that is "acceptable." In light of such a low probability and acceptable risk of a large tsunami, Alternative impacts would be less than significant under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-6b: A potential terrorist attack would result in adverse consequences to areas near the Alternative 3 site during the operations period.

Risk of Terrorist Actions associated with Operations

The probability of a terrorist attack on the alternative project facilities is not likely to appreciably change over the existing baseline. It is possible that the increase in

vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

Consequences of Terrorist Attack

The risks associated with terrorism discussed in Section 3.7.2.4 would apply to the terminal during operations. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of such an event would not be impacted by alternative-related infrastructure or throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for the alternative project are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; nevertheless, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project alternative. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.5 percent of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). With the implementation of the alternative, and compared to regional and national growth projections, the relative importance of the alternative will decrease to 2.7 percent of national containerized cargo throughput, but decrease to 4.8 of the POLA/POLB

cargo volume (based on projections in MARAD 2005b; Parsons 2006). Overall, growth at the Berths 136-147 Terminal would not increase disproportionately as compared to regional (POLA/POLB) and national container terminals growth, and would, therefore, not change the relative importance of the terminal as a terrorist target.

An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project baseline conditions (under which many of these measures had not yet been implemented). These measures have since improved both terminal and cargo security, and have resulted in enhanced cargo screening. Therefore, potential impacts associated with a potential terrorist attack on the Berths 136-147 facility are considered less than significant.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Potential impacts under NEPA would be that same as under CEQA and are considered less than significant.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant

3.7.4.3.2.4 Alternative 4 – Omni Terminal

3.7.4.3.2.4.1 Construction Impacts

Impact RISK-1a: Phase I/II construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Development under the Omni Terminal alternative (Alternative 4) would not include dredging or any in-water activities (i.e., wharf construction/renovation, deepening

navigation channels, and construction of the 10-acre Northwest Slip and adjacent wharf). A lack of in-water activities would reduce the overall use of petroleum products and hazardous materials used during construction. Therefore, the potential for an accidental release of hazardous materials and/or contamination of soil or water, and/or an accidental release from a fire or explosion would be reduced during construction compared to the proposed Project. Therefore, construction impacts would be similar but less than those described for the proposed Project.

Construction equipment could spill oil, gas, or fluids during normal usage or during refueling, resulting in potential health and safety impacts to not only construction personnel, but to people and property occupying operational portions of the site, as Berths 136-147 Terminal would be operating during Phase I/II construction activities. BMPs and Los Angeles Municipal Code regulations (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4) would govern Phase I/II construction and demolition activities. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials) and the separation of containers containing hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In addition, standard BMPs would be used during construction and demolition activities to minimize runoff of contaminants, in compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and project-specific SWPPP (see Section 3.13, Water Quality, Sediments, and Oceanography for more information).

CEQA Impact Determination

Implementation of construction and demolition standards, including BMPs, would minimize the potential for an accidental release of petroleum products and/or hazardous materials and/or explosion during Phase I/II construction/demolition activities at Berths 136-147. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as "frequent" (more than once a year). However, because such spills are typically short-term and localized, mainly due to the fact that the volume in any single vehicle is generally less than 50 gallons and fuel trucks are limited to 10,000 gallons or less, the potential consequence of such accidents is classified as "slight" resulting in a Risk Code of 4 that is "acceptable." Therefore, under CEQA, Alternative 4 construction and demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Based on criterion **RISK-1**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-2a: Phase I/II construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards.

Development under this alternative would not include dredging or any in-water activities (i.e., wharf construction/renovation, deepening navigation channels, and construction of the 10-acre Northwest Slip and adjacent wharf). The potential for an accidental release of hazardous materials and/or contamination of soil or water, and/or an accidental release from a fire or explosion would be reduced during construction compared to the proposed Project. Therefore, this alternative would reduce the potential for health hazards as a result of an accidental release of hazardous materials and/or contamination of soil or water.

Construction and demolition activities would be conducted using BMPs and in accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to an RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI, such as limiting the types of materials stored and size of packages containing hazardous materials, would limit both the frequency and severity of potential releases of hazardous materials, thus minimizing potential health hazards and/or contamination of soil or water during construction/ demolition activities. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Impacts from contamination of soul or water during construction/demolition activities would apply to not only construction personnel, but to people and property occupying operational portions of the Project area, as Berths 136-147 Terminal would be operating during Phase I/II construction activities.

Near-surface contaminated soil may be encountered during demolition of the Pier A rail yard, resulting in potential health hazards to demolition and/or construction personnel. See Section 3.6, Groundwater and Soils for more information.

CEQA Impact Determination

Several standard policies regulate the storage of hazardous materials including the types of materials, size of packages containing hazardous materials, and the separation of containers containing hazardous materials. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Implementation of these preventative measures would minimize the potential for spills to impact members of the public and limit the adverse impacts of contamination to a relatively small area. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as "frequent" (more than once a year). However, because such spills are typically short-term and localized, the potential consequence of such accidents is classified as "slight" resulting in a Risk Code of 4 that is "acceptable." Therefore, under CEQA, Alternative 4 construction/demolition activities at Berths 136-147 would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards. Based on risk criterion **RISK-2**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-3a: Phase I/II construction/demolition activities would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death.

Emergency response and evacuation planning is the responsibility of the LAPD, LAFD, Port Police, and USCG. Phase I/II construction and demolition activities would be subject to emergency response and evacuation systems implemented by LAFD. During construction/demolition activities, the LAFD would require that adequate vehicular access to the site be provided and maintained. Prior to commencement of construction/demolition activities, all plans would be reviewed by the LAFD to ensure adequate access is maintained throughout Phase I/II construction/demolition.

CEQA Impact Determination

Alternative 4 contractors would be required to adhere to all LAFD emergency response and evacuation regulations, ensuring compliance with existing emergency response plans. Therefore, under CEQA, Phase I/II construction/demolition activities associated with Alternative 4, would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-4a: Alternative 4 construction/demolition would comply with applicable regulations and policies guiding development within the Port.

As described in Section 3.7.3.1, List of Regulations, the Alternative 4 would be subject to numerous regulations for development and operation of the proposed facilities. For example, construction and demolition would be completed in accordance with RCRA, HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste Control Law, which would govern proper containment, spill control, and disposal of hazardous waste generated during demolition and construction activities. Implementation of increased inventory accountability, spill prevention controls, and

waste disposal controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Potential releases of hazardous substances during demolition and/or construction would be addressed through the federal Emergency Planning and Right-To-Know Act, which is administered in California by the SERC, and the Hazardous Material Release Response Plans and Inventory Law. In addition, demolition and construction would be completed in accordance with the Los Angeles Municipal Fire Code, which regulates the construction of buildings and other structures used to store flammable hazardous materials, and the Los Angeles Municipal Public Property Code, which regulates the discharge of materials into the sanitary sewer and storm drain. The latter requires the construction of spill-containment structures to prevent the entry of forbidden materials, such as hazardous materials, into sanitary sewers and storm drains.

LAHD maintains compliance with these federal, state, and local laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. LAHD has implemented various plans and programs to ensure compliance with these regulations. These regulations must be adhered to during design and construction of the Project. Implementation of increased spill prevention controls, spill release notification requirements, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Construction/demolition activities would be conducted using BMPs in accordance with City guidelines, as detailed in the Development Best Management Practices Handbook (City of Los Angeles 2002a). Applicable BMPs include, but are not limited to, vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; solid and hazardous waste management; and contaminated soil management. Alternative 4 plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Implementation of increased spill prevention controls associated with these BMPs would limit both the frequency and severity of potential releases of hazardous materials.

CEQA Impact Determination

Because Alternative 4 construction/demolition would be completed using standard BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all hazardous waste laws and regulations, impacts relating to compliance with applicable regulations and policies guiding development in the Port would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-5a: Tsunami-induced flooding would result in fuel releases from demolition/construction equipment or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill from demolition and/or construction equipment, as well as from containers of petroleum products and hazardous substances used during the demolition/construction period. Unfinished structures are especially vulnerable to damage from tsunamis during the construction period.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all Alternative 4 structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m))above MSL at the Alternative 4 site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the Alternative 4 site. Because the Alternative 4 site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the Alternative 4 site. Because the Alternative 4 site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-induced flooding, Port structural engineers have determined that Port reinforced concrete or steel structures designed to meet California earthquake protocols incorporated into MOTEMS would be expected to survive complete inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior Structural Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to personnel would occur as a result of complete site inundation.

As previously discussed, there is a potential for tsunami-induced flooding under the theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is very low during construction of Alternative 4 and the overall probability of this worst-case scenario is less than one in a 100,000-year period.

The most likely worst-case tsunami scenario was based partially on a magnitude 7.6 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude 7.5 earthquake along an offshore fault in the Southern California Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any of these earthquake events would result in a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In addition, available evidence indicates that tsunamigenic landslides would be extremely infrequent and occur less often than large earthquakes. This suggests recurrence intervals for such landslide events would be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-case combination of a large tsunami and extremely high tides would be less than once in a 100,000-year period.

CEQA Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 4. However, because the Alternative 4 site elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 4, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as “improbable” (less than once every 10,000 years). The

potential consequence of such an event is classified as "moderate," resulting in a Risk Code of 4 that is "acceptable." The volume of spilled fuel is also expected to be relatively low. While there will be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks, with the most likely scenario being the infiltration of water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less than 10,000 gallons, which is considered "slight." In light of such a low probability and acceptable risk of a large tsunami, Alternative 4 impacts would be less than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-6a: A potential terrorist attack would result in adverse consequences to areas near the Alternative 4 site during the construction period.

Risk of Terrorist Actions during Construction

The probability of a terrorist attack on the Alternative 4 facilities is not likely to appreciably change over the existing baseline during construction. It is possible that the increase in construction vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

Consequences of Terrorist Attack

The Berths 136-147 Terminal will be fully operational during the construction period; therefore the risks associated with terrorism discussed in Section 3.7.2.4 will apply to the terminal during this period. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of such an event would not be impacted by alternative-related throughput increases, but would be based on the terrorist's desired outcome and the ability of safeguards, unaffected by the Project, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.)

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for Alternative 4 are considered moderate since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; nevertheless, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.1 percent of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project

baseline conditions (under which many of these measures had not yet been implemented). These measures have since improved both terminal and cargo security, and have resulted in enhanced cargo screening. Therefore, potential impacts associated with a potential terrorist attack on the Berths 136-147 facility are considered less than significant.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

3.7.4.3.2.4.2 Operational Impacts

Impact RISK-1b: Berths 136-147 Terminal operations would not increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Under Alternative 4, an Omni terminal would be constructed within the entire Berths 136-147 area. Construction of the Omni terminal would result in a maximum throughput of 565,700 TEUs per year when optimized and functioning at maximum capacity (year 2025). This alternative would result in 1,823,300 fewer TEUs per year compared to the proposed Project, in addition to 326,200 fewer TEUs per year compared to CEQA Baseline conditions. Thus, the number of hazardous materials containers and the overall risk to the public would be substantially reduced compared to the proposed Project and compared to CEQA Baseline conditions.

Throughput of 565,700 TEUs per year in association with Alternative 4, when functioning at maximum capacity, would equate to a 37 percent decrease in throughput capacity. Hazardous materials cargo associated with Alternative 4 would be shipped, transported, handled, and stored in compliance with the USCG regulations, fire department requirements, and Caltrans regulations. For example, as discussed in

Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials.

Among other requirements, Alternative 4 operations would conform to the USCG requirement to provide a segregated cargo area for containerized hazardous materials. Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). Implementation of increased hazardous materials inventory control and spill prevention controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Terminal operations would be subject to safety regulations that govern the storage and handling of hazardous materials, which would limit the severity and frequency of potential releases of hazardous materials resulting in increased exposure of people to health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements, and DOT regulations). For example, as discussed in Section 3.7.3.1, List of Regulations, and summarized below, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. In addition, the DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost all aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging Maintenance) would all apply to the alternative project activities.

Terminal maintenance activities would involve the use of hazardous materials such as petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to an RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI would limit both the frequency and severity of potential releases of hazardous materials. Based on the limited volumes that could potentially spill, quantities of hazardous materials utilized at Berths 136-147 that are below the thresholds of Chapter 6.95 would not likely result in a substantial release into the environment.

CEQA Impact Determination

Because projected terminal operations under Alternative 4 would accommodate approximately a 37 percent decrease in containerized cargo compared to the CEQA Baseline, the potential for an accidental release or explosion of hazardous materials would also be expected to decrease proportionally. During the period 1997-2004 there were 40 “hazardous material” spills directly associated with container terminals in the

Ports of Los Angeles and Long Beach. This equates to approximately five spills per year for the entire port complex. During this period, the total throughput of the container terminals was 76,874,841 TEU. Therefore, the probability of a spill at a container terminal can be estimated at 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill probability conservatively represents the baseline hazardous material spill probability since it include materials that would not be considered a risk to public safety (e.g., perfume spills), but would still be considered an environmental hazard. The probability of spills associated with future operations would be based on the spill probability per TEU times the number of TEUs under the alternative project.

It should be noted that during this period there were no reported impacts to the public (injuries, fatalities and evacuations), with potential consequences limited to port workers (two worker injuries that were treated at the scene and 20 workers evaluated as a precaution).

Based on the Port's accident history of containers containing hazardous materials, which includes 40 incidents over an eight year period, the frequency of project-related spills can be estimated as follows:

Table 3.7-19. Existing and Projected Cargo Throughput Volumes at Berths 136-147

Operations	*Overall Throughput (TEUs)1*	*Increase in TEUs (%)*	*Potential Spills (per year)*
POLA Baseline (2003)	4,977,818	NA	3.7
Project Baseline (2003)	891,976	NA	0.5
Alternative 4	565,700	-37%	0.3
Note: 1. TEUs = twenty-foot equivalent units			

Based on the projected increase in TEUs, the frequency of potential Alternative 4-related spills would increase to 0.3 from 0.5 spills per year, or about one spill every other year. This spill frequency would be classified as "periodic" (between once per year and once in 10 years). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the consequence of such accidents is classified as "slight," resulting in a Risk Code of 4 that is "acceptable." It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under CEQA, Alternative 4 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Impacts would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-2b: Alternative 4 operations would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards.

Alternative 4 would include facilities that would potentially handle hazardous materials. The handling and storing of hazardous materials would increase the probability of a local accident involving a release, spill, fire or explosion, which is proportional to the size of the terminal and its throughput as was addressed in Impact Risk 1b.

Because projected terminal operations at Berths 136-147 would accommodate approximately a 168 percent increase in containerized cargo compared to the CEQA Baseline, the potential for increased truck transportation-related accidents would also occur. Potential project-related increases in truck trips could result in an increase in vehicular accidents, injuries and fatalities. Therefore, potential impact of increased truck traffic on regional injury and fatality rates have been evaluated.

According to an FMCSA detailed analysis (FMCSA 2001), the estimated non-hazardous materials truck accident rate is more than twice the hazardous materials truck accident rate. The non-hazardous materials truck accident rate was estimated to be 0.73 accidents per million vehicle miles and the average hazardous materials truck accident rate was estimated to be 0.32 accidents per million vehicle miles. The hazardous material truck accident rate is not directly applicable to the alternative project container trucks since they are generally limited to bulk hazardous material carriers. Therefore, for this analysis, the higher accident rate associated with non-hazardous material trucks was used.

Based on the NHTSA (DOT 2003), of the estimated 457,000 truck crashes in 2000 (causing fatalities, injuries, or property damage), an estimated 1 percent produced fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the sources of data for this analysis, which primarily examined fatalities associated with vehicle impact and trauma.

Based on these statistics and the projected truck trips for the existing facilities and alternative project, the potential rate of truck accidents, injuries and fatalities can be evaluated.

CEQA Impact Determination

Potential project-related truck accident rates can be estimated based on national average accident rates and the average number of miles per cargo truck trip. Based on the port's air pollutant emission inventory, it was determined that the average truck trip was approximately 49 miles (Starcrest Consulting Group 2003). Given the annual number of truck trips, the average distance of each trip, and the published accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-20. Existing and Projected Truck Trips at Berths 136-147

Operations	*Annual Truck Trips*	*Increase (%)*	*Accident Rate (per year)*	*Injury Probability (per year)*	*Fatality Probability (per year)*
Baseline	1,197,589	NA	42.8	9.4	0.4
Alternative 4	653,837	-45%	23.4	5.1	0.2

Numerous truck accidents occur each year and are therefore considered a "frequent" event. Because the possibility exists for injury and/or fatality to occur during one of these frequent accidents as noted in Table 3.7-30, the potential consequence of such accidents is classified as "moderate" since the potential number of injuries would decrease to 5.1 from a baseline of 9.4, resulting in a Risk Code of 3 that is "acceptable with controls" and requires additional engineering or administrative controls.

The Port is currently developing a Port-wide TMP for roadways in and around its facilities. Present and future traffic improvement needs are being determined based on existing and projected traffic volumes. The results will be a TMP providing ideas on what to expect and how to prepare for the future volumes. Some of the transportation improvements already under consideration include: I-110/SR-47/Harbor Boulevard interchange improvements; Navy Way connector (grade separation) to westbound Seaside Ave.; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is working on several strategies to increase rail transport, which will reduce reliance on trucks. These projects would serve to reduce the frequency of truck accidents.

In addition, the Port is currently phasing out older trucks as part of the TMP, and the TWIC program will also help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent

(ADL 1990). In addition, proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would reduce potential accidents by approximately 30 percent. Since these programs will be implemented prior to the alternative project expansion, the potential number of injuries would be reduced to approximately 3.2, which would remain a consequence classification to "moderate" and a Risk Code to 3 or less.

Therefore, under CEQA, Alternative 4 operations would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards and would meet criterion **RISK-2** and impacts would be considered less than significant under criterion **RISK-2**.

Mitigation Measure

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-3b: Alternative 4 operations would not substantially interfere with any existing emergency response plans or emergency evacuation plans.

Alternative 4 would consolidate the Berths 136-147 area into a single terminal, optimize terminal operations by increasing backland capacity, and complete transportation improvements. The Berths 136-147 Terminal would continue to operate as a container terminal; therefore, proposed terminal operations would not interfere with any existing contingency plans, since the current activities are consistent with the contingency plans and the alternative project would not add any additional activities that would be inconsistent with these plans. Proposed transportation system improvements (i.e., widening of Harry Bridges Boulevard) would reduce vehicular traffic delays, improving emergency response in the Project area. In addition, existing oil spill contingency and emergency response plans for the site would be revised to incorporate proposed facility and operation changes. Because existing

management plans are commonly revised to incorporate terminal operation changes, conflicts with existing contingency and emergency response plans are not anticipated.

All Berths 136-147 facilities personnel, including dock laborers and equipment operators, would be trained in emergency response and evacuation procedures. The site would be secured, with access allowed only to authorized personnel. The LAFD and Port Police would be able to provide adequate emergency response services to the site. Additionally, Alternative 4 operations would also be subject to emergency response and evacuation systems implemented by the LAFD, which would review all plans to ensure that adequate access in the Project vicinity is maintained. All Alternative 4 contractors would be required to adhere to plan requirements.

CEQA Impact Determination

Because the terminal would continue to be operated as a container terminal, proposed road improvements would reduce traffic congestion, and Alternative 4 operations would be subject to emergency response and evacuation systems implemented by the LAFD, Alternative 4 operations would not interfere with any existing emergency response or emergency evacuation plans or increase the risk of injury or death. Therefore impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-4b: Alternative 4 operations would comply with applicable regulations and policies guiding development within the Port.

Alternative 4 operations would be subject to numerous regulations for operation of the proposed facilities. LAHD has implemented various plans and programs to

ensure compliance with these regulations, which must be adhered to during operation of this alternative. For example, as discussed in Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials.

Among other requirements, Alternative 4 operations would conform to the USCG requirement to provide a segregated cargo area for containerized hazardous materials. Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). In addition, any facility constructed at the site, identified as either a hazardous cargo facility or a vulnerable resource, would be required to conform to the RMP, which includes packaging constraints and the provision of a separate storage area for hazardous cargo.

LAHD maintains compliance with these state and federal laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. Most notably, the Port RMP implements development guidelines in an effort to minimize the danger of accidents to vulnerable resources. This would be achieved mainly through physical separation as well as through facility design features, fire protection, and other risk management methods. There are two primary categories of vulnerable resources, people, and facilities. People are further divided into subgroups. The first subgroup is comprised of residences, recreational users, and visitors. Within the Port setting, residences and recreational users are considered vulnerable resources. The second subgroup is comprised of workers in high density (i.e., generally more than 10 people per acre, per employer).

Facilities that are vulnerable resources include Critical Regional Activities/Facilities and High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that are important to the local or regional economy, the national defense, or some major aspect of commerce. These facilities typically have a large quantity of unique equipment, a very large working population, and are critical to both the economy and to national defense. Such facilities in the Port have been generally defined in the Port RMP as the former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas Bridge.

High Value Facilities are non-hazardous facilities, within and near the Ports, which have very high economic value. These facilities include both facility improvements and cargo in-place, such as container storage areas. However, the determination of a vulnerable resource is made by the Port and LAFD on a case-by-case basis. Although the Port generally considers container terminals to be High Value Facilities, these types of facilities have never been considered vulnerable resources in risk analyses completed by the Port and LAFD (personal communication, Dan Knott 2007). The Project would be located immediately adjacent to the ConocoPhillips

liquid bulk facility (Berths 148-149) and immediately across Slip 1 from several other liquid bulk facilities (Berths 161-169), at a distance of approximately 400 to 800 feet. Because container terminals are not considered vulnerable resources, the Project would not conflict with the RMP.

Alternative 4 plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Buildings will be equipped with fire protection equipment as required by the Los Angeles Municipal Fire Code. Access to all buildings and adequacy of road and fire lanes will be reviewed by the LAFD to ensure that adequate access and firefighting features are provided. Alternative 4 plans would include an internal circulation system, code-required features, and other firefighting design elements, as approved by the LAFD.

Operation of Alternative 4 would be required to comply with all existing hazardous waste laws and regulations, including the federal RCRA and CERCLA, and CCR Title 22 and Title 26. Alternative 4 operations would comply with these laws and regulations, which would ensure that potential hazardous materials handling would occur in an acceptable manner.

CEQA Impact Determination

The terminal would not conflict with RMP guidelines. Alternative 4 plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, and operation of Alternative 4 would be required to comply with all existing hazardous waste laws and regulations. Therefore, under CEQA, Alternative 4 operations would comply with applicable regulations and policies guiding development within the Port. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-5b: Tsunami-induced flooding would result in fuel releases from ships or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although crude oil tankers would not moor at Berths 136-147, each ship contains large quantities of fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most cases, imperceptible. However, while docked, a tsunami striking the Port could cause significant ship movement and even a hull breach if the ship is pushed against the wharf.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all proposed Project structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m)) above MSL at the proposed Project site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-induced flooding, Port structural engineers have determined that Port reinforced concrete or steel structures designed to meet California earthquake protocols incorporated into MOTEMS would be expected to survive complete inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior

Structural Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to personnel would occur as a result of complete site inundation.

As previously discussed, there is a potential for tsunami-induced flooding under the theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is very low during operation of the proposed Project and the overall probability of this worst-case scenario is less than one in a 100,000 year period.

The most likely worst-case tsunami scenario was based partially on a magnitude 7.6 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude 7.5 earthquake along an offshore fault in the Southern California Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any of these earthquake events would result in a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In addition, available evidence indicates that tsunamigenic landslides would be extremely infrequent and occur less often than large earthquakes. This suggests recurrence intervals for such landslide events would be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-case combination of a large tsunami and extremely high tides would be less than once in a 100,000-year period.

Containers of hazardous substances on ships or on berths could similarly be damaged as a result of a large tsunami. Such damage would result in releases of both hazardous and non-hazardous cargo to the environment, adversely impacting persons and/or the marine waters. However, containers carrying hazardous cargo would not necessarily release their contents in the event of a large tsunami. The DOT regulations (49 CFR Parts 172-180) covering hazardous material packaging and transportation would minimize potential release volumes since packages must meet minimum integrity specifications and size limitations.

The owner or operators of tanker vessels are required to have an approved Tank Vessel Response Plan on board and a qualified individual within the U.S. with full authority to implement removal actions in the event of an oil spill incident, and to contract with the spill response organizations to carry out cleanup activities in case of a spill. The existing oil spill response capabilities in the POLA/POLB are sufficient to isolate spills with containment booms and recover the maximum possible spill from an oil tanker within the Port.

Various studies have shown that double-hull tank vessels have lower probability of releases when tanker vessels are involved in accidents. Because of these studies, the USCG issued regulations addressing double-hull requirements for tanker vessels. The regulations establish a timeline for eliminating single-hull vessels from operating in the navigable waters or the EEZ of the U.S. after January 1, 2010 and double-bottom or double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or with an approved double containment system will be allowed to operate after those times. It is unlikely that single-hull vessels will utilize the Alternative 4 terminal facilities given the current schedule and the planned phase-out of these vessels.

CEQA Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 4. However, because the Alternative 4 elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 4, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as "improbable" (less than once every 10,000 years). The potential consequence of such an event is classified as "moderate," resulting in a Risk Code of 4 that is "acceptable." The volume of spilled fuel is also expected to be relatively low. While there will be fuel containing equipment present during construction, most equipment is equipped with watertight tanks, with the main problem being the infiltration of water into the tank and fuel combustion chambers. Thus, the volume spilled in the event of a tsunami would be less than 10,000 gallons, which is considered minor. In light of such a low probability and acceptable risk of a large tsunami, Alternative 4 impacts would be less than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-6b: A potential terrorist attack would result in adverse consequences to areas near the Alternative 4 site during the operations period.

Risk of Terrorist Actions associated with Operations

The probability of a terrorist attack on the alternative project facilities is not likely to appreciably change over the existing baseline. It is possible that the increase in vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

Consequences of Terrorist Attack

The risks associated with terrorism discussed in Section 3.7.2.4 would apply to the terminal during operations. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of such an event would not be impacted by alternative-related infrastructure or throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for the alternative project are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; nevertheless, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project alternative. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.5 percent

of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). With the implementation of the alternative, and compared to regional and national growth projections, the relative importance of the project will decrease to 0.7 percent of national containerized cargo throughput and decrease to 1.3 of the POLA/POLB cargo volume (based on projections in MARAD 2005b; Parsons 2006). Overall, growth at the Berths 136-147 Terminal would not increase disproportionately as compared to regional (POLA/POLB) and national container terminals growth, and would, therefore, not change the relative importance of the terminal as a terrorist target.

An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project baseline conditions (under which many of these measures had not yet been implemented). These measures have since improved both terminal and cargo security, and have resulted in enhanced cargo screening. Therefore, potential impacts associated with a potential terrorist attack on the Berths 136-147 facility are considered less than significant.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

3.7.4.3.2.5 Alternative 5 – Landside Terminal Improvements

The Landside Terminal Improvements alternative (Alternative 5) comprises only the upland components of the proposed Project, including new terminal buildings, new truck gates, an on-dock rail yard on the site of the Pier A rail yard, the Harry Bridges Buffer Area and roadway widening, and the paving, fencing, utilities, and lighting

necessary for the reconfigured terminal. The Pier A rail yard would be relocated as in the proposed Project, and PHL's operations transferred to the new rail yard. The new terminal's area would be 190 acres because it would include the 5-ac fill placed by the Channel Deepening project and land required to build the on-dock rail yard and new terminal buildings.

In Alternative 5 there would be no wharf upgrades, no new wharves or container cranes, no dredging to deepen berths, and no 10-acre fill in the Northwest Slip. Because there would be no in-water work and thus no need for an Army Corps of Engineers permit, this alternative also corresponds to the No Federal Action alternative. There would be no significance determinations under NEPA for this alternative.

3.7.4.3.2.5.1 Construction Impacts

Impact RISK-1a: Construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Construction equipment could spill oil, gas, or fluids during normal usage or during refueling, resulting in potential health and safety impacts to not only construction personnel, but to people and property occupying operational portions of the project area, as the Berths 136-147 Terminal would be operating during construction activities. BMPs and Los Angeles Municipal Code regulations (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4) would govern construction and demolition activities. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials) and the separation of containers holding hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In addition, standard BMPs would be used during construction and demolition activities to minimize runoff of contaminants, in compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and Project-specific SWPPP (see Section 3.13, Water Quality, Sediments, and Oceanography for more information).

CEQA Impact Determination

Implementation of construction and demolition standards, including BMPs, would minimize the potential for an accidental release of petroleum products and/or hazardous materials and/or explosion during construction/demolition activities at Berths 136-147. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as "frequent" (more than once a year). However, because such spills are typically short-term and localized, mainly due to the fact that the volume in any single vehicle is generally less than 50 gallons and fuel trucks are limited to 10,000 gallons or less, the potential consequence of such accidents is classified as "slight" resulting in a Risk Code of 4 that is "acceptable." Therefore, under CEQA, Alternative 5 construction and demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of an

accidental release or explosion of a hazardous substance. Based on criterion **RISK-1**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-2a: Construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards.

Risk of upset impacts during construction would be reduced compared to those described for the proposed Project. Under this alternative, the proposed 10-acre Northwest Slip would not be filled and the 400-foot adjacent wharf would not be constructed. Consequently, the potential for construction equipment to spill oil, gas, or fluids during normal usage or during refueling would be reduced. Therefore, Alternative 5 would reduce the potential for an accidental release of hazardous materials and/or contamination of soil or water and would reduce the potential for an accidental release from a fire or explosion during construction activities.

Construction and demolition activities would be conducted using BMPs and in accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to an RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI, such as limiting the types of materials stored and size of packages containing hazardous materials, would limit both the frequency and severity of potential releases of hazardous materials, thus minimizing potential health hazards and/or contamination of soil or water during construction/demolition activities. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures

for the materials being handled. Impacts from contamination of soul or water during construction/demolition activities would apply to not only construction personnel, but to people and property occupying operational portions of the Project area, as Berths 136-147 Terminal would be operating during construction activities.

Near-surface contaminated soil may be encountered during demolition of the Pier A rail yard, resulting in potential health hazards to demolition and/or construction personnel. See Section 3.6, Groundwater and Soils for more information.

CEQA Impact Determination

Several standard policies regulate the storage of hazardous materials including the types of materials, size of packages containing hazardous materials, and the separation of containers containing hazardous materials. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Implementation of these preventative measures would minimize the potential for spills to impact members of the public and limit the adverse impacts of contamination to a relatively small area. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as "frequent" (more than once a year). However, because such spills are typically short-term and localized, the potential consequence of such accidents is classified as "slight" resulting in a Risk Code of 4 that is "acceptable." Therefore, under CEQA, Alternative 5 construction/demolition activities at Berths 136-147 would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards. Based on risk criterion **RISK-2**, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-3a: Construction/demolition activities would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death.

Emergency response and evacuation planning is the responsibility of the LAPD, LAFD, Port Police, and USCG. Construction and demolition activities would be subject to emergency response and evacuation systems implemented by LAFD. During construction/demolition activities, the LAFD would require that adequate vehicular access to the site be provided and maintained. Prior to commencement of construction/demolition activities, all plans would be reviewed by the LAFD to ensure adequate access is maintained throughout construction/demolition.

CEQA Impact Determination

Alternative 5 contractors would be required to adhere to all LAFD emergency response and evacuation regulations, ensuring compliance with existing emergency response plans. Therefore, under CEQA construction/demolition activities associated with Alternative 5 would not substantially interfere with an existing emergency response or evacuation plan or increase risk of injury or death. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-4a: Alternative 5 construction/demolition would comply with applicable regulations and policies guiding development within the Port.

As described in Section 3.7.3.1, List of Regulations, the Alternative 5 would be subject to numerous regulations for development and operation of the proposed facilities. For

example, construction and demolition would be completed in accordance with RCRA, HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste Control Law, which would govern proper containment, spill control, and disposal of hazardous waste generated during demolition and construction activities. Implementation of increased inventory accountability, spill prevention controls, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Potential releases of hazardous substances during demolition and/or construction would be addressed through the federal Emergency Planning and Right-To-Know Act, which is administered in California by the SERC, and the Hazardous Material Release Response Plans and Inventory Law. In addition, demolition and construction would be completed in accordance with the Los Angeles Municipal Fire Code, which regulates the construction of buildings and other structures used to store flammable hazardous materials, and the Los Angeles Municipal Public Property Code, which regulates the discharge of materials into the sanitary sewer and storm drain. The latter requires the construction of spill-containment structures to prevent the entry of forbidden materials, such as hazardous materials, into sanitary sewers and storm drains. LAHD maintains compliance with these federal, state, and local laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. LAHD has implemented various plans and programs to ensure compliance with these regulations. These regulations must be adhered to during design and construction of Alternative 5. Implementation of increased spill prevention controls, spill release notification requirements, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Construction/demolition activities would be conducted using BMPs in accordance with City guidelines, as detailed in the Development Best Management Practices Handbook (City of Los Angeles 2002a). Applicable BMPs include, but are not limited to, vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; solid and hazardous waste management; and contaminated soil management. Alternative 5 plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Implementation of increased spill prevention controls associated with these BMPs would limit both the frequency and severity of potential releases of hazardous materials.

CEQA Impact Determination

Because Alternative 5 construction/demolition would be completed using standard BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all hazardous waste laws and regulations, impacts relating to compliance with applicable regulations and policies guiding development in the Port would be less than significant under CEQA under criterion **RISK-4**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-5a: Tsunami-induced flooding would result in fuel releases from demolition/construction equipment or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill from demolition and/or construction equipment, as well as from containers of petroleum products and hazardous substances used during the demolition/construction period. Unfinished structures are especially vulnerable to damage from tsunamis during the construction period.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all Alternative 5 structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m))above MSL at the Alternative 5 site, under both earthquake and landslide scenarios. Incorporating the Port MSL of

+2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the Alternative 5 site. Because the Alternative 5 site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the Alternative 5 site. Because the Alternative 5 site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-induced flooding, Port structural engineers have determined that Port reinforced concrete or steel structures designed to meet California earthquake protocols incorporated into MOTEMS would be expected to survive complete inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior Structural Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to personnel would occur as a result of complete site inundation.

As previously discussed, there is a potential for tsunami-induced flooding under the theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is very low during construction of Alternative 5 and the overall probability of this worst-case scenario is less than one in a 100,000-year period.

The most likely worst-case tsunami scenario was based partially on a magnitude 7.6 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude 7.5 earthquake along an offshore fault in the Southern California Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any of these earthquake events would result in a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In addition, available evidence indicates that tsunamigenic landslides would be extremely infrequent and occur less often than large earthquakes. This suggests recurrence intervals for such landslide events would be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-case combination of a large tsunami and extremely high tides would be less than once in a 100,000-year period.

CEQA Impact Determination

Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 5. However, because the Alternative 5 site elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of

coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 5, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as "improbable" (less than once every 10,000 years). The potential consequence of such an event is classified as "moderate," resulting in a Risk Code of 4 that is "acceptable." The volume of spilled fuel is also expected to be relatively low. While there will be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks, with the most likely scenario being the infiltration of water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less than 10,000 gallons, which is considered "slight." In light of such a low probability and acceptable risk of a large tsunami, Alternative 5 impacts would be less than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-6a: A potential terrorist attack would result in adverse consequences to areas near the Alternative 5 site during the construction period.

Risk of Terrorist Actions during Construction

The probability of a terrorist attack on the Alternative 5 facilities is not likely to appreciably change over the existing baseline during construction. It is possible that the increase in construction vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

Consequences of Terrorist Attack

The Berths 136-147 Terminal will be fully operational during the construction period; therefore the risks associated with terrorism discussed in Section 3.7.2.4 will apply to the terminal during this period. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the alternative. The likelihood of such an event would not be impacted by alternative-related throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for Alternative 5 are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; nevertheless, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.1 percent of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project baseline conditions (under which many of these measures had not yet been implemented). These measures have since improved both

terminal and cargo security, and have resulted in enhanced cargo screening. Therefore, potential impacts associated with a potential terrorist attack on the Berths 136-147 facility are considered less than significant.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

3.7.4.3.2.5.2 Operational Impacts

Impact RISK-1b: Berths 136-147 Terminal operations would not increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Under Alternative 5, Berths 136-147 Terminal operations would handle a maximum throughput of 1,697,000 TEUs per year when optimized and functioning at maximum capacity (year 2025). This alternative would result in 692,000 fewer TEUs per year compared to the proposed Project. Thus, the number of hazardous materials containers and the overall risk to the public would be reduced compared to the proposed Project.

Terminal operations would be subject to safety regulations that govern the storage and handling of hazardous materials, which would limit the severity and frequency of potential releases of hazardous materials resulting in increased exposure of people to health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements, and DOT regulations). For example, as discussed in Section 3.7.3.1, List of Regulations, and summarized below, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. In addition, the DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost

all aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging Maintenance) would all apply to the alternative project activities.

Hazardous materials cargo associated with the Alternative 5 would be shipped, transported, handled, and stored in compliance with the USCG regulations, fire department requirements, and Caltrans regulations. For example, as discussed in Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. Among other requirements, Alternative 5 would conform to the USCG requirement to provide a segregated cargo area for containerized hazardous materials. Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). Implementation of increased hazardous materials inventory control and spill prevention controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Terminal maintenance activities would involve the use of hazardous materials such as petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to an RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI would limit both the frequency and severity of potential releases of hazardous materials. Based on the limited volumes that could potentially spill, quantities of hazardous materials utilized at Berths 136-147 that are below the thresholds of Chapter 6.95 would not likely result in a substantial release into the environment.

CEQA Impact Determination

Because projected terminal operations at Berths 136-147 would accommodate approximately a 90 percent increase in containerized cargo compared to the CEQA Baseline, the potential for an accidental release or explosion of hazardous materials would also be expected to increase proportionally. During the period 1997-2004 there were 40 "hazardous material" spills directly associated with container terminals in the Ports of Los Angeles and Long Beach. This equates to approximately five spills per year for the entire port complex. During this period, the total throughput of the container terminals was 76,874,841 TEU. Therefore, the probability of a spill at a container terminal can be estimated at 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill probability conservatively represents the baseline hazardous material spill probability since it include materials that would not be considered a risk to public safety (e.g., perfume spills), but would still be considered an environmental hazard. The probability of spills associated with future operations

would be based on the spill probability per TEU times the number of TEUs under Alternative 5.

It should be noted that during this period there were no reported impacts to the public (injuries, fatalities and evacuations), with potential consequences limited to port workers (two worker injuries that were treated at the scene and 20 workers evaluated as a precaution).

Based on the Port's accident history of containers containing hazardous materials, which includes 40 incidents over an eight year period, the frequency of project-related spills can be estimated as follows:

Table 3.7-21. Existing and Projected Cargo Throughput Volumes at Berths 136-147

Operations	*Overall Throughput (TEUs)1*	*Increase in TEU (%)*	*Potential Spills (per year)*
POLA Baseline (2003)	4,977,818	NA	3.7
Project Baseline (2003)	891,976	NA	0.5
Alternative 5	1,697,000	90%	0.9
Note: 1. TEUs = twenty-foot equivalent units			

Based on the projected increase in TEUs, the frequency of potential Alternative 5-related spills would increase to 0.9 from 0.5 spills per year, or about one spill per year. This spill frequency would be classified as "periodic" (between once per year and once in 10 years). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the consequence of such accidents is classified as "slight," resulting in a Risk Code of 4 that is "acceptable." It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under CEQA, Alternative 5 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Impacts would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-2b: Alternative 5 operations would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards.

Under Alternative 5, Berths 136-147 Terminal operations would handle a maximum throughput of 1,697,000 TEUs per year when optimized and functioning at maximum capacity (year 2025). This alternative would result in 692,000 fewer TEUs per year compared to the proposed Project. Because projected terminal operations at Berths 136-147 would accommodate approximately 692,000 fewer TEUs per year compared to the proposed Project, the number of hazardous materials containers and the overall health risk to people or property would be reduced proportionally.

Because projected terminal operations at Berths 136-147 would accommodate approximately a 90 percent increase in containerized cargo compared to the CEQA Baseline, the potential for increased truck transportation-related accidents would also occur. Potential Alternative 5-related increases in truck trips could result in an increase in vehicular accidents, injuries and fatalities. Therefore, potential impacts of increased truck traffic on regional injury and fatality rates have been evaluated.

According to an FMCSA detailed analysis (FMCSA 2001), the estimated non-hazardous materials truck accident rate is more than twice the hazardous materials truck accident rate. The non-hazardous materials truck accident rate was estimated to be 0.73 accidents per million vehicle miles and the average hazardous materials truck accident rate was estimated to be 0.32 accidents per million vehicle miles. The hazardous material truck accident rate is not directly applicable to existing terminal container trucks since they are generally limited to bulk hazardous material carriers. Therefore, for this analysis, the higher accident rate associated with non-hazardous material trucks was used.

Based on the NHTSA (DOT 2003), of the estimated 457,000 truck crashes in 2000 (causing fatalities, injuries, or property damage), an estimated 1 percent produced fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the sources of data for this analysis, which primarily examined fatalities associated with vehicle impact and trauma.

Based on these statistics and the projected truck trips for the existing facilities and future operations under the Alternative 5, the potential rate of truck accidents, injuries and fatalities can be evaluated.

CEQA Impact Determination

Potential Alternative 5-related truck accident rates can be estimated based on national average accident rates and the average number of miles per cargo truck trip. Based on the port's air pollutant emission inventory, it was determined that the average truck trip was approximately 49 miles (Starcrest Consulting Group 2003). Given the annual number of truck trips, the average distance of each trip, and the published accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-22. Existing and Projected Truck Trips at Berths 136-147

Operations	*Annual Truck Trips*	*Increase (%)*	*Accident Rate (per year)*	*Injury Probability (per year)*	*Fatality Probability (per year)*
Baseline (2003)	1,197,589	NA	42.8	9.4	0.4
Alternative 5	1,879,127	57%	67.1	14.8	0.7

Because the occurrence of truck accidents associated with Berth 136-147 occur at a frequency greater than one per year, truck accidents are considered a "frequent" event. Because the possibility exists for injury and/or fatality to occur during one of these frequent accidents as noted in Table 3.7-22, the consequence of such accidents is classified as "severe" since the number of injuries would increase to 14.8 from a baseline of 9.4, resulting in a Risk Code of 2 that is "undesirable" and requires additional engineering or administrative controls.

The Port is currently developing a Port-wide TMP for roadways in and around its facilities. Present and future traffic improvement needs are being determined based on existing and projected traffic volumes. The results will be a TMP providing ideas on what to expect and how to prepare for the future volumes. Some of the transportation improvements already under consideration include: I-110/SR-47/Harbor Boulevard interchange improvements; Navy Way connector (grade separation) to westbound Seaside Ave.; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is working on several strategies to increase rail transport, which will reduce reliance on trucks. These projects would serve to reduce the frequency of truck accidents.

In addition, the Port is currently phasing out older trucks as part of the TMP, and the TWIC program will also help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent (ADL 1990). In addition, proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would reduce potential accidents by approximately 30 percent. The potential number of injuries would be reduced to approximately 9.3, which would reduce the consequence classification to "moderate" and a Risk Code to 3 or less, as required by under Risk Code 2.

Therefore, under CEQA, Alternative 5 operations would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards and would meet criterion **RISK-2** and impacts would be considered less than significant under criterion **RISK-2**.

Mitigation Measure

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-3b: Alternative 5 operations would not substantially interfere with any existing emergency response plans or emergency evacuation plans.

Under Alternative 5, The Berths 136-147 Terminal would continue to operate as a container terminal; therefore, proposed terminal operations would not interfere with any existing contingency plans, since the current activities are consistent with the contingency plans and the alternative project would not add any additional activities that would be inconsistent with these plans. All Berths 136-147 facilities personnel, including dock laborers and equipment operators, would be trained in emergency response and evacuation procedures. The Project site would be secured, with access allowed only to authorized personnel. The LAFD and Port Police would be able to provide adequate emergency response services to the Project site. Additionally, Alternative 5 operations would be subject to emergency response and evacuation systems implemented by the LAFD, which would review all plans to ensure that adequate access in the Project vicinity is maintained. All contractors would be required to adhere to plan requirements.

CEQA Impact Determination

Because the terminal would continue to be operated as a container terminal, Alternative 5 operations would continue to be subject to emergency response and evacuation

systems implemented by the LAFD. Alternative 5 operations would not interfere with any existing emergency response or emergency evacuation plans or increase the risk of injury or death. Therefore impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-4b: Alternative 5 operations would comply with applicable regulations and policies guiding development within the Port.

Alternative 5 operations would be subject to numerous regulations. LAHD has implemented various plans and programs to ensure compliance with these regulations, which must be adhered to during Alternative 5 operations. For example, as discussed in Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials.

Among other requirements, Alternative 5 operations would conform to the USCG requirement to provide a segregated cargo area for containerized hazardous materials. Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System, prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). Any facilities identified as either a hazardous cargo facility or a vulnerable resource

would be required to conform to the RMP, which includes packaging constraints and the provision of a separate storage area for hazardous cargo.

LAHD maintains compliance with these state and federal laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. Most notably, the Port RMP implements development guidelines in an effort to minimize the danger of accidents to vulnerable resources. This would be achieved mainly through physical separation as well as through facility design features, fire protection, and other risk management methods. There are two primary categories of vulnerable resources, people, and facilities. People are further divided into subgroups. The first subgroup is comprised of residences, recreational users, and visitors. Within the Port setting, residences and recreational users are considered vulnerable resources. The second subgroup is comprised of workers in high density (i.e., generally more than 10 people per acre, per employer).

Facilities that are vulnerable resources include Critical Regional Activities/Facilities and High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that are important to the local or regional economy, the national defense, or some major aspect of commerce. These facilities typically have a large quantity of unique equipment, a very large working population, and are critical to both the economy and to national defense. Such facilities in the Port have been generally defined in the Port RMP as the former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas Bridge.

High Value Facilities are non-hazardous facilities, within and near the Ports, which have very high economic value. These facilities include both facility improvements and cargo in-place, such as container storage areas. However, the determination of a vulnerable resource is made by the Port and LAFD on a case-by-case basis. Although the Port generally considers container terminals to be High Value Facilities, these types of facilities have never been considered vulnerable resources in risk analyses completed by the Port and LAFD (personal communication, Dan Knott 2007). Alternative 5 would be located immediately adjacent to the ConocoPhillips liquid bulk facility (Berths 148-149) and immediately across Slip 1 from several other liquid bulk facilities (Berths 161-169), at a distance of approximately 400 to 800 feet. Because container terminals are not considered vulnerable resources, this alternative would not conflict with the RMP.

Plans and specifications of existing facilities have been reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Buildings have been equipped with fire protection equipment as required by the Los Angeles Municipal Fire Code. Access to all buildings and adequacy of road and fire lanes have been reviewed by the LAFD to ensure that adequate access and firefighting features are provided.

Operation of Alternative 5 would be required to comply with all existing hazardous waste laws and regulations, including the federal RCRA and CERCLA, and CCR Title 22 and Title 26. Alternative 5 operations would comply with these laws and regulations, which would ensure that potential hazardous materials handling would occur in an acceptable manner.

CEQA Impact Determination

Alternative 5 operations would not conflict with RMP guidelines or the Los Angeles Municipal Fire Code and would be required to comply with all existing hazardous waste laws and regulations. Therefore, under CEQA, Alternative 5 operations would comply with applicable regulations and policies guiding development within the Port. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-5b: Tsunami-induced flooding would result in fuel releases from ships or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in Section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although crude oil tankers would not moor at Berths 136-147, each ship contains large quantities of fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most cases, imperceptible. However, while docked, a tsunami striking the Port could cause significant ship movement and even a hull breach if the ship is pushed against the wharf.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all proposed Project structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The

recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m)) above MSL at the proposed Project site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-induced flooding, Port structural engineers have determined that Port reinforced concrete or steel structures designed to meet California earthquake protocols incorporated into MOTEMS would be expected to survive complete inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior Structural Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to personnel would occur as a result of complete site inundation.

As previously discussed, there is a potential for tsunami-induced flooding under the theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is very low during operation of the proposed Project and the overall probability of this worst-case scenario is less than one in a 100,000 year period.

The most likely worst-case tsunami scenario was based partially on a magnitude 7.6 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude 7.5 earthquake along an offshore fault in the Southern California Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any of these earthquake events would result in a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In addition, available evidence indicates that tsunamigenic landslides would be extremely infrequent and occur less often than large earthquakes. This suggests recurrence intervals for such landslide events would be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5

earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-case combination of a large tsunami and extremely high tides would be less than once in a 100,000-year period.

Containers of hazardous substances on ships or on berths could similarly be damaged as a result of a large tsunami. Such damage would result in releases of both hazardous and non-hazardous cargo to the environment, adversely impacting persons and/or the marine waters. However, containers carrying hazardous cargo would not necessarily release their contents in the event of a large tsunami. The DOT regulations (49 CFR Parts 172-180) covering hazardous material packaging and transportation would minimize potential release volumes since packages must meet minimum integrity specifications and size limitations.

The owner or operators of tanker vessels are required to have an approved Tank Vessel Response Plan on board and a qualified individual within the U.S. with full authority to implement removal actions in the event of an oil spill incident, and to contract with the spill response organizations to carry out cleanup activities in case of a spill. The existing oil spill response capabilities in the POLA/POLB are sufficient to isolate spills with containment booms and recover the maximum possible spill from an oil tanker within the Port.

Various studies have shown that double-hull tank vessels have lower probability of releases when tanker vessels are involved in accidents. Because of these studies, the USCG issued regulations addressing double-hull requirements for tanker vessels. The regulations establish a timeline for eliminating single-hull vessels from operating in the navigable waters or the EEZ of the U.S. after January 1, 2010 and double-bottom or double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or with an approved double containment system will be allowed to operate after those times.

CEQA Impact Determination

Because projected terminal operations at Berths 136-147 would accommodate approximately 692,000 fewer TEUs per year compared to the proposed Project, the number of hazardous materials containers and ship calls subject to accidental release or explosion of hazardous materials would also be expected to decrease. Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by Alternative 5 operations. However, because the Project site elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 5, but could occur (see Section 3.5, Geology for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as “improbable” (less than once every 10,000 years). The consequence of such an event is classified as “moderate,” resulting in a Risk Code of 4 that is “acceptable.” The volume of spilled fuel is also expected to be relatively low since all fuel storage containers at the project site would be quite small in comparison to the significance criteria volumes. While there will be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks, with the most likely scenario being the infiltration of

water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less than 10,000 gallons, which is considered "slight." In light of such a low probability and acceptable risk of a large tsunami, Alternative 5 impacts would be less than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-6b: A potential terrorist attack would result in adverse consequences to areas near the Alternative 5 site during the operations period.

Risk of Terrorist Actions associated with Operations

The probability of a terrorist attack on the alternative project facilities is not likely to appreciably change over the existing baseline. It is possible that the increase in vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

The risks associated with terrorism discussed in Section 3.7.2.4 would apply to the terminal during operations. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the

port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of such an event would not be impacted by alternative-related infrastructure or throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for the alternative project are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; nevertheless, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project alternative. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.5 percent of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). With the implementation of the alternative, and compared to regional and national growth projections, the relative importance of the project will decrease to 2.2 percent of national containerized cargo throughput and decrease to 4.0 of the POLA/POLB cargo volume (based on projections in MARAD 2005b; Parsons 2006). Overall, growth at the Berths 136-147 Terminal would not increase disproportionately as compared to regional (POLA/POLB) and national container terminals growth, and would, therefore, not change the relative importance of the terminal as a terrorist target.

An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project baseline conditions (under which many of these measures had not yet been implemented). These measures have since improved both terminal and cargo security, and have resulted in enhanced cargo screening. Therefore, potential impacts associated with a potential terrorist attack on the Berths 136-147 facility are considered less than significant.

Mitigation Measures

As terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

3.7.4.3.3 Summary of Impact Determinations

The following Table 3.7-23 summarizes the CEQA and NEPA impact determinations of the proposed Project and its Alternatives related to Hazards and Hazardous Materials, as described in the detailed discussion in Sections 3.7.4.3.1 and 3.7.4.3.2. This table is meant to allow easy comparison between the potential impacts of the Project and its Alternatives with respect to this resource. Identified potential impacts may be based on federal, state, or City of Los Angeles significance criteria, Port criteria, and the scientific judgment of the report preparers.

For each type of potential impact, the table describes the impact, notes the CEQA and NEPA impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e.: the impact remaining after mitigation). All impacts, whether significant or not, are included in this table. Note that impact descriptions for each of the Alternatives are the same as for the proposed Project, unless otherwise noted.

3.7.4.4 Mitigation Monitoring

No mitigation monitoring is required.

3.7.5 Significant Unavoidable Impacts

There are no significant unavoidable impacts associated with hazards and hazardous materials.

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.7 Hazards and Hazardous Materials				
Proposed Project	**RISK-1a:** Phase I/II construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2a: Phase I/II construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3a: Phase I/II construction/demolition activities would not substantially interfere with an existing emergency response or evacuation plan, thereby increasing risk of injury or death.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4a: The proposed Project would comply with applicable regulations and policies guiding development within the Port.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5a: Tsunami-induced flooding would result in fuel releases from demolition/construction equipment or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6a: A potential terrorist attack would result in adverse consequences to areas near the proposed Project site during the construction period.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-1b: Berths 136-147 Terminal operations would not increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.7 Hazards and Hazardous Materials (continued)				
Proposed Project (continued)	**RISK-2b:** Proposed Project operations would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3b: Proposed Project operations would not substantially interfere with any existing emergency response plans or emergency evacuation plans.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4b: The proposed Project would comply with applicable regulations and policies guiding development within the Port.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5b: Tsunami-induced flooding would result in fuel releases from ships or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6b: A potential terrorist attack would result in adverse consequences to areas near the proposed Project site during the operations period.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
Alternative 1	No construction impacts would occur in association with the No Project Alternative (Alternative 1). Therefore, there would be no impacts under CEQA and NEPA for **RISK-1a, RISK-2a, RISK-3a, RISK-4a**, **RISK-5a,** and **RISK-6a.**	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	RISK-1b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-2b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.7 Hazards and Hazardous Materials (continued)				
Alternative 1 (continued)	**RISK-3b**	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-4b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-5b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-6b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
Alternative 2	**RISK-1a:** Construction impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2a: Construction impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3a:	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4a:	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.7 Hazards and Hazardous Materials (continued)				
Alternative 2 (continued)	**RISK-5a**	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-1b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.7 Hazards and Hazardous Materials (continued)				
Alternative 2 (continued)	**RISK-6b**	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
Alternative 3	**RISK-1a:** Construction impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2a: Construction impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.7 Hazards and Hazardous Materials (continued)				
Alternative 3 (continued)	**RISK-1b:** Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.7 Hazards and Hazardous Materials (continued)				
Alternative 4	**RISK-1a:** Construction impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-2a: Construction impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-3a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-4a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-5a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-6a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-1b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-2b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-3b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.7 Hazards and Hazardous Materials (continued)				
Alternative 4 (continued)	**RISK-4b**	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-5b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-6b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
Alternative 5	**RISK-1a:** Construction impacts would be similar but less than those described for the proposed Project. Construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-2a: Construction impacts would be similar but less than those described for the proposed Project. Construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-3a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-4a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-5a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	*Environmental Impacts**	*Impact Determination*	*Mitigation Measures*	*Impacts after Mitigation*
3.7 Hazards and Hazardous Materials (continued)				
Alternative 5 (continued)	**RISK-6a**	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-1b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-2b: Operations impacts would be similar to those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-3b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-4b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-5b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-6b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable

* Unless otherwise noted, all impact descriptions for each of the Alternatives are the same as those described for the Proposed Project.