

CHAPTER 5

CUMULATIVE IMPACTS

Introduction

Cumulative Impact Analysis

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5.0 CUMULATIVE IMPACTS

5.1 INTRODUCTION

This chapter presents the analysis of the cumulative impacts, including the analysis of the potential for the proposed project, together with other past, present, and reasonably foreseeable probable future projects producing related impacts in each environmental resource area's cumulative geographic scope, to have significant cumulative effects. Following the presentation of the requirements related to cumulative impact analyses and a description of the related projects (Sections 5.1.1 and 5.1.2, respectively), the analysis in Section 5.2 addresses each of the environmental resource areas for which the proposed project may make a cumulatively considerable contribution to cumulative impacts, when combined with other foreseeable and probable projects in the area causing related impacts. As discussed in the following analysis, some of the impacts to environmental resources affected by the proposed project and other potentially related projects would occur during the construction phase, e.g., air quality and traffic impacts. Construction impacts of cumulative projects causing related impacts were evaluated to determine if their construction activities would occur during the same construction period as the proposed project. If environmental information for a cumulative project is available when the timing of the construction phase of other projects is uncertain or unknown, the construction activities of related projects were assumed to overlap with the proposed project. Other impacts may occur primarily during the operational phase, e.g., hazards. Still other impacts could occur during both phases, e.g., air quality and noise.

5.1.1 REQUIREMENTS FOR CUMULATIVE IMPACT ANALYSIS

CEQA Guidelines §15130 requires that an EIR reflect the severity of the cumulative impacts from a proposed project and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness. Cumulative impacts are defined by CEQA as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (CEQA Guidelines, §15355).

Cumulative impacts are further described as follows:

- The individual effects may be changes resulting from a single project or a number of separate projects (CEQA Guidelines §15355(a)).
- The cumulative impacts from several projects are the changes in the environment which result from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (CEQA Guidelines §15355(b)).

- A “cumulative impact” consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR (CEQA Guidelines §15130(a)(1)).

In addition, as stated in the CEQA Guidelines §15064(h)(4), “The mere existence of cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulatively considerable.” Therefore, the cumulative impacts analysis in an EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.

The cumulative impact analysis in the following sections first identifies potential cumulative projects, evaluates whether their cumulative impacts are significant, and then determines whether the proposed project’s incremental effects, though individually limited, are cumulatively considerable, and, therefore, potentially contributing to significant adverse cumulative impacts (CEQA Guidelines §15064(h)(1)). The cumulative impact analysis focuses on whether the impacts of the proposed project are cumulatively considerable within the context of impacts caused by other past, present, or reasonably foreseeable probable future projects. Section 5.1.2 of this cumulative impact analysis identifies other projects proposed within the area defined for each environmental resource that may have the potential to contribute to cumulatively considerable impacts.

5.1.2 PROJECTS CONSIDERED IN CUMULATIVE IMPACT ANALYSIS

For this EIR, related projects with the potential to contribute to cumulative impacts were identified using the “list approach,” using a list of related projects that would be constructed in the geographic scope of the area affected by the cumulative impact, as defined for each technical area (CEQA Guidelines §15130(b)(1)(A)). The list of closely related projects utilized in this analysis is provided in Table 5.1-1.

5.1.2.1 Past Projects

Currently, the proposed project area includes a mixture of industrial, commercial, transportation, and residential uses. The proposed project site itself is located in an industrial area that stretches from Pacific Coast Highway in Wilmington to just south of Interstate 405 in Carson. The proposed project area is zoned for and has been devoted to industrial uses for nearly a century, and includes other refineries, transportation facilities, railroads, intermodal container transfer facilities, tank farms, and other industrial facilities. The Ports of Long Beach (POLB) and Los Angeles (POLA) are located south of the proposed project area. Residents are located west of the Tesoro Carson Operations in the City of Carson; west of the Tesoro Wilmington Operations in the community of Wilmington; and east of the Tesoro Wilmington Operations in the City of Long Beach.

Development of the area has occurred steadily over the past century. However, by the early 1960s the current mix of uses and most of the actual structures such as rail lines, freeways,

refineries, warehouses, and tank farms were in place. Further development has consisted of the intensification of industrial uses in response to growth of population and international trade. The major new developments in the area since the 1960s include the Intermodal Container and Transfer Facility (ICTF), which opened in the late 1980s; the Air Products Hydrogen Plant, which opened in the early 1990s; and the Alameda Corridor, which opened in 2002. Other industrial development has also continued to occur within the area as well.

Past development of the area and general vicinity has resulted in various environmental effects that have changed the character of the area, which are described in greater detail in the individual resource analysis sections below (Section 5.2).

5.1.2.2 Current and Future Projects

The geographic scope for the cumulative analysis is discussed under each resource category. These cumulative projects have been identified using databases from the State Clearinghouse, POLA, POLB, City of Long Beach, City of Carson, Joint Powers Authority, City of Los Angeles, SCAQMD, Caltrans, and Alameda Corridor Transportation Authority (ACTA). A total of 44 projects were identified within an approximately one-mile radius of the proposed project (“the cumulative projects”), which, along with the proposed project, could contribute to cumulative impacts to each environmental resource under evaluation (see Table 5.1-1). The study area includes the area around the integrated Tesoro Refinery Carson and Wilmington Operations. Note that Table 5.1-1 focuses on large and substantial projects such as large industrial, residential, and commercial developments and major projects undertaken by the Ports, local cities, and by regional transportation authorities.

Table 5.1-1 does not include numerous small projects such as small-scale residential and commercial developments, conditional use permits for cell towers, permits for new signs, stores and restaurants, modifications to small residential and commercial facilities, and so forth. As long as such minor projects are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified, CEQA does not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. This streamlines the review of such projects and reduces the need to prepare repetitive environmental studies (CEQA Guidelines §15183(a)). Further, if a cumulative impact was adequately addressed in a prior EIR for a community plan, zoning action, or general plan, and the project is consistent with that plan or action, then an EIR for such a project should not further analyze that cumulative impact. Similarly, the cumulative effects of such minor projects are captured in the projections of overall future growth, e.g., general or specific plans, which typically undergo a comprehensive CEQA analysis. Projected traffic growth is based on the SCAG travel demand model, which captures regional population growth and the related support services/businesses to support that growth from all cities and counties within SCAG’s jurisdiction, providing an estimate of cumulative impacts related to population growth.

Table 5.1-1 lists the identified potential cumulative projects where all potential impacts may not have been identified in a certified EIR for existing zoning, community plan, or general plan policies and, thus, would be subject to further CEQA review. Such proposed cumulative

projects, along with the proposed project, have the potential to contribute to significant adverse cumulative impacts. In addition to identifying potential cumulative projects, Figure 5.1-1 shows the corresponding locations of the cumulative projects. The projects listed in Table 5.1-1 constitute the “cumulative projects” for purposes of the cumulative impact analysis. In order to provide a conservative estimate of cumulative impacts, it is assumed that the construction and operational impacts associated with the projects listed in Table 5.1-1 could overlap with the proposed project, unless it is clear that construction activities have already been completed.

The list of cumulative projects includes additional projects identified for the Tesoro Los Angeles Refinery (Projects No. 34 through 44 on Table 5.1-1). These projects are not related to or dependent upon the Tesoro Integration and Compliance Project, each of the projects has independent value and purpose, e.g., safety upgrade projects, remediation, emission controls, maintenance activities, or to comply with applicable rules and regulations, and each would proceed regardless of whether the Tesoro Integration and Compliance Project proceeds. Further, these projects have already been evaluated for CEQA applicability

TABLE 5.1-1
List of Cumulative Projects

No.	Project Title	Project Description	Status
Port of Long Beach			
1	Pier A East	Conversion of 32 acres of existing auto storage area into container terminal uses.	Conceptual project. No environmental information available.
2	Pier B Rail Yard Expansion	Expansion of the existing Pier B Rail Yard in two phases, including realignment of the adjacent Pier B Street and utility relocation.	DEIR under preparation. Limited environmental information available.
Port of Los Angeles			
3	Consolidated Slip Restoration Project	Remediation of contaminated sediment at Consolidated Slip at the Port of Los Angeles. Remediation may include capping sediments or removal/disposal to an appropriate facility. Work includes capping and/or treatment of approximately 30,000 cubic yards of contaminated sediments.	Remedial actions are being evaluated in conjunction with Los Angeles RWQCB and U.S. EPA. No schedule established. No environmental information available

TABLE 5.1-1 (Continued)

No.	Project Title	Project Description	Status
4	Southern California International Gateway Project (SCIG)	Construction and operation of a 157-acre near dock railyard intermodal container transfer facility and various associated components, including the relocation of an existing rail operation.	Final EIR certified May 2013. Construction on hold pending litigation.
5	Anchorage Road Soil Storage Site Open Space	This project would create approximately 30 acres of passive open space at the Anchorage Road Soil Site. The project may also include undergrounding utilities and roadway improvements at the Anchorage and Shore Road intersection.	Conceptual plan. On hold. No environmental information available.
6	International Longshore and Warehouse Union Local 13 Dispatch Hall Project	The project will accommodate current and anticipated needs of the International Longshore and Warehouse Union by providing a meeting space and administrative offices for dispatching longshore workers to cargo terminals within the Port and Port of Long Beach.	Final MND certified May 19, 2011. Construction completed at the end of 2015.
ICTF Joint Powers Authority			
7	Intermodal Container Transfer Facility (ICTF) Modernization and Expansion	Modernize and expand the existing ICTF to increase capacity, modernize existing equipment, and rail yard operation methods.	DEIR under preparation by the Joint Powers Authority. Limited environmental information available.
Community of Wilmington			
8	Ultramar Inc. Wilmington Refinery Cogeneration Project	Construct and operate a 35 MW cogeneration plant including new infrastructure supporting the processes and operations throughout the Refinery.	Final ND certified October 10, 2014. Not yet constructed.
9	WesPac Smart Energy Transport System Project	Construct a jet fuel pipeline system to support airport operations at Los Angeles International Airport (LAX) and other airports in the western U.S.	Revised EIR certified July 2011. Not yet constructed.
10	LAUSD SR Span K-8 School	Construction of 1278-student elementary school. Harry Bridges Span School opened August 2012.	FEIR published January 2008. Project complete.
11	Banning Museum and Banning Park	Banning Museum: Refurbishment of museum buildings and improvements to the open space/garden. Banning Park: Improvements to Athletic Fields, Recreation Center and Walking Paths.	Project complete.

TABLE 5.1-1 (Continued)

No.	Project Title	Project Description	Status
12	Warren E&P, Inc. WTU Central Facility, New Equipment Project	Implement gas sales without interim gas reinjection and to modify the gas handling component of the 2011 Project to facilitate gas sales.	Final ND published August 2014.
City of Carson			
13	2055 E 223rd St	Proposal for a new Honda motorcycle dealership, including showroom and service area, on a 1.9-acre site with three existing buildings.	Application submitted 09/23/14. . No environmental information available.
14	21801 S Vera St	Proposal to demolish an existing industrial building for development of 18 single-family detached residences, on a 1.2-acre site.	Application submitted 08/25/14. No environmental information available.
15	Sepulveda and Panama Mixed Use Project	Construction of a mixed-use development with 65 senior residential apartment units and 3,000 sq. ft. of commercial space on a 1.22-acre site located to the southwest of E. Sepulveda Blvd and Panama Ave.	MND published April 2015.
16	Shell Oil Products - Carson Revitalization Project - Specific Plan	Shell Oil Products is proposing the redevelopment of the 448-acre Shell Carson Terminal facility located at 20945 South Wilmington Avenue. The project will allow for the subsequent development over a 15- to 25-year time period. The initial phases will include development of an 8.8-acre retail center at Del Amo and Wilmington Avenue, a 12.3-acre business park on Chico Street and the addition of product storage tanks within the center of the property.	DEIR comment period ended March 26, 2014. FEIR under preparation.
17	Winn Hyundai and Winn Chevrolet	A new 24,285-square-foot Hyundai automotive dealership building was constructed to the east of the existing Winn Chevrolet automotive dealership. Winn Chevrolet also modernized the appearance of the existing building with a façade remodel to establish updated architectural features consistent with the new design standards established for the Chevrolet brand.	No environmental information available. Project complete.

TABLE 5.1-1 (Continued)

No.	Project Title	Project Description	Status
18	Wilmington/I-405 Interchange Project	The proposed project includes modification of the ramps, construction of a new I-405 northbound on-ramp, widening of Wilmington Avenue from 223rd Street, south of I-405, to I-405 northbound onramp north of the Interchange, and construction of a right turn lane from Wilmington Avenue northbound to 223th Street eastbound. Additionally, this project includes synchronizing all traffic signals at this location, extending from 220th Street to the north, to 223rd Street to the south.	MND approved in January 2009. Currently, under construction and expected to be complete early 2017.
19	223rd Street Improvement Project	The project includes construction of a raised landscape median and street widening between Wilmington Avenue and Arco Way; rehabilitation of the existing landscape and irrigation system between Lucerne Street and Wilmington Avenue; rehabilitation of approximately 5,750 lineal-feet of existing roadway; installation of parkway trees; construction of new, and replacing of, existing curb, gutter and sidewalks; regulatory traffic signing; pavement striping and all associated work as necessary to these specific improvements.	No environmental information available. Construction expected to begin after completion of Wilmington/Interstate 405 Interchange Project.
20	Sepulveda Blvd Widening from Alameda Street to the east Carson City Limit	The project involves the widening of Sepulveda Boulevard by approximately 1,475 linear feet to provide three lanes of traffic in both directions, an eight foot wide sidewalk, and the modification of the existing traffic signal. The project also involves the widening of the Dominguez Channel Bridge.	No environmental information available. Construction is on-going.
21	Phillips 66 Los Angeles Refinery Carson Plant - Crude Oil Storage Capacity Project - 1520 E Sepulveda Blvd.	Phillips 66 is proposing to increase crude oil storage capacity at its Los Angeles Refinery Carson Plant by installing one new 615,000 barrel crude oil storage tank with a geodesic dome, increasing the annual permit throughput limit of two existing 320,000 barrel crude oil storage tanks, and installing geodesic domes on the same two existing 320,000 barrel crude oil storage tanks. Tie-ins to the Pier "T" crude oil delivery pipeline from Berth 121 would be installed.	Final ND approved December, 2014. Currently under construction.

TABLE 5.1-1 (Continued)

No.	Project Title	Project Description	Status
22	Shell Carson Facility Ethanol (E10) Project - 20945 S Wilmington Ave	Shell proposes to convert existing smaller (69,000 bbl) gasoline storage tanks to ethanol service to maximize efficiency in using its existing storage facilities. The EIR for this project included the following project objectives: 1. Increase the Carson Facility's ethanol storage capacity by approximately 75 percent; 2. Increase ethanol tanker-truck loading capacity by at least 75 percent; 3. Include modifications that would minimize impacts to its existing capacity to receive, store and deliver other petroleum products at current levels; and 4. Maintain operational efficiency, safety and flexibility.	FEIR published December 2012.
23	Carousel Tract	The Los Angeles Regional Water Quality Control Board is the lead agency overseeing Shell Oil Company in the environmental investigation of the Carousel Tract neighborhood. The Water Board has initiated the environmental investigation as a result of potentially significant and harmful contamination in the soils and groundwater underlying the Carousel Tract neighborhood.	DEIR published November 2014. Remediation is ongoing.
24	ProLogis - 21038 S. Wilmington Ave	Operation of a new trailer storage and truck yard use in the MH (Manufacturing, Heavy) zone district. Several shading structures, mechanical equipment, and a rail spur will be removed. Three buildings totaling 11,547 square feet will remain and will be used for the trailer storage and truck yard operation. Approximately 315 truck parking spaces will be added.	No environmental information available. Planning Commission approved on July 22, 2014. Not yet constructed.
25	Panattoni - 2245 E. 223rd St	Proposal includes three industrial concrete tilt-up dock-high warehouse/manufacturing buildings with offices on a five-acre site formerly owned by the Carson Redevelopment Agency. The total building size is 131,754 square feet.	No environmental information available. Plans are under Planning Commission review.

TABLE 5.1-1 (Continued)

No.	Project Title	Project Description	Status
26	Equassure - 440 E. Sepulveda Blvd	Proposal includes developing a two-story apartment complex with 11 units. Total parking includes 25 spaces with 17 alley-loaded garage spaces, 5 canopy spaces and 3 uncovered guest spaces. The project site is 19,326 square feet with a net site area of 18,326 square feet once a five-foot dedication is provided to expand the alley.	No environmental information available. Project approved July 8, 2014. Plans under review by Building and Safety.
27	Car Pros Kia of Carson - 21243 S. Avalon Blvd	Car Pros Kia purchased the former Altman's Winnebago property on Recreation Road so that a new Kia dealership could be constructed. The property will be used for car storage with the main dealership still operating from the Avalon Boulevard location. Upon completion of the new dealership, the Avalon location will continue to be used as a satellite facility.	No environmental information available. Project approved by Planning Commission April 22, 2014.
28	Inland Kenworth - 1202 E. Carson St	Project was a new truck sales and service dealership offering truck sales, parts and repair services.	No environmental information available. Project complete.
29	22303 S Avalon Blvd	Project is a new drive through car wash.	Application submitted June 15, 2015. No environmental information available.
30	1601 E 223rd St	Verizon Wireless proposed to install a new wireless telecom facility.	Application submitted March 26, 2015. No environmental information available.
31	Yusen Logistics Truck Yard - 2250 E Dominguez St	Remodel an existing site to accommodate 428 new truck parking spaces	Project pending review as of November 24, 2015. No environmental information available.

TABLE 5.1-1 (Continued)

No.	Project Title	Project Description	Status
City of Long Beach			
32	California State University Long Beach Foundation Project - 1645 W. Pacific Coast Highway	This project includes demolition of the existing buildings and carports on the site and construction of a new single story building for retail use that would be up to 122,500 square feet in size with 490 on-site parking spaces. The proposed retail building would have a maximum height of 32 feet and could be used by a single retail tenant or by two tenants with separate (side-by-side) entrances.	FEIR published July 2014.
33	Century Villages at Cabrillo (CVC) Phase IV - 2001 River Ave	CVC secured site plan approval for its Cabrillo Gateway project. Construction will be in the southwest quadrant of the community and will add 81 permanent supportive housing units to the Villages and increase CVC's population to approximately 1,250 residents.	No environmental information available. Construction completed in October 2015.
Tesoro Refinery Modifications Independent of the Proposed Project			
34	LPG Recovery Unit PSV Installation, Tesoro Carson Operations	As part of an ongoing refinery-wide Pressure Safety Valve (PSV) validation program and to ensure compliance with SCAQMD's Rule 1118, that regulates atmospheric venting to PSVs, Tesoro intends to connect atmospheric-venting PSVs in the LPG Recovery Unit to the Hydrocracker Flare System. This safety project would reduce atmospheric venting of emissions from the LPG Recovery Unit in the event of pressure buildup. A new knock out drum and heat exchanger equipped with a new PSC will be installed replacing the existing knock out drum that will be removed from services. One PSV will be replaced with a larger PSV. The one new, one replacement and five existing PSVs will be connected to the Hydrocracker Flare System.	Planned for 1 st and 2 nd quarter of 2017

TABLE 5.1-1 (Continued)

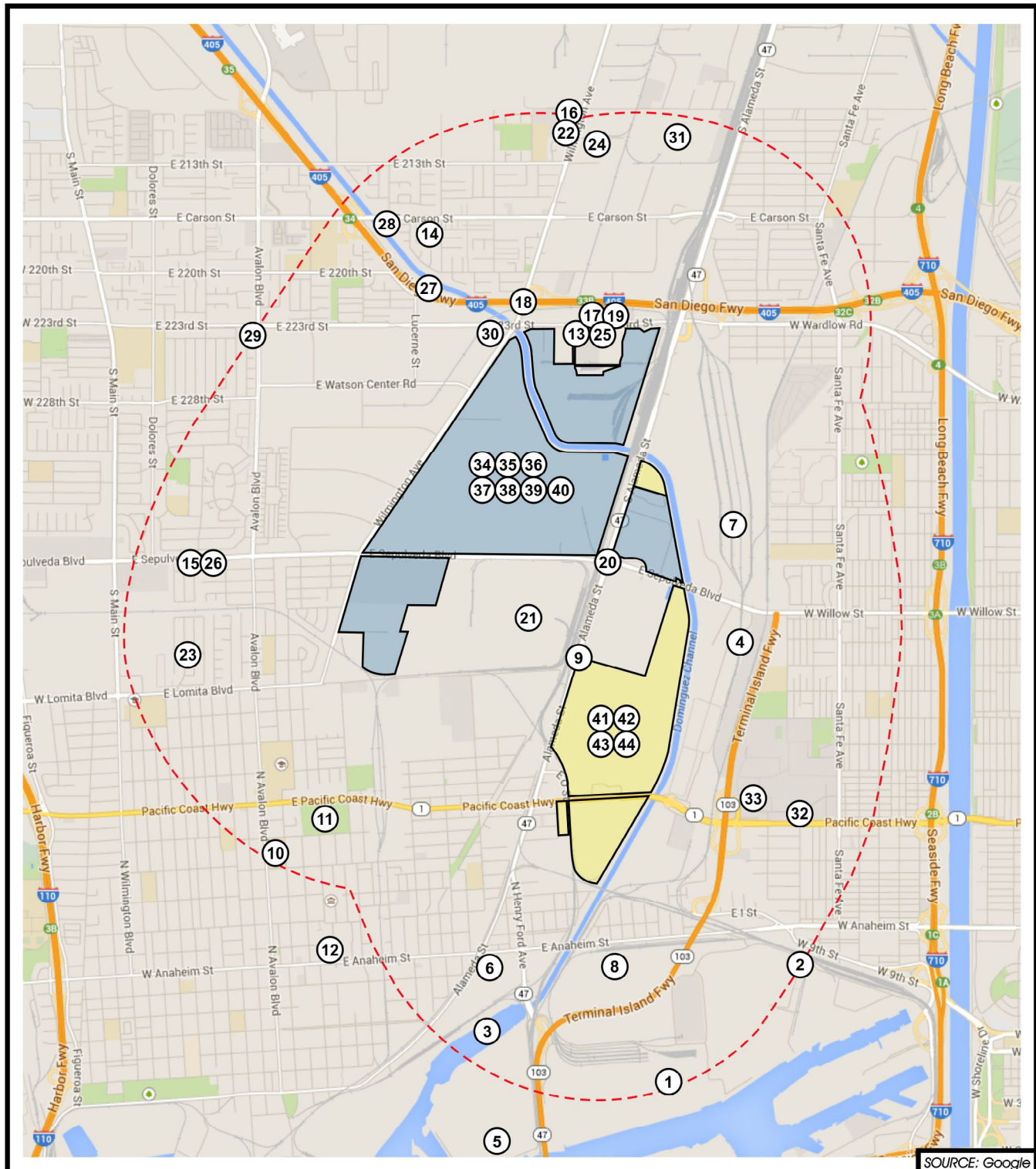
No.	Project Title	Project Description	Status
35	Modification to Dehexanizer Unit, Tesoro Carson Operations	The Dehexanizer Unit will be modified with the addition of a coalescer vessel on the feed going to the straight-run dehexanizer towers. The modification will enhance unit safety and reliability by addressing current and ongoing corrosion and fouling issues related to water carryover in the dehexanizer tower feed. The Dehexanizer Unit will be modified by installing a coalescer vessel and associated piping and instrumentation.	Planned for 1 st quarter 2018
36	North Tank Farm Area Remediation System, Tesoro Carson Operations	Tesoro is planning to install a full scale remediation system using multiphase extraction (MPE) technology to control and remove light non-aqueous phase liquid (LNAPL), or free product, in the shallow sand layer in the North Tank Farm area of the Carson Operations. The MPE remediation system will consist of a series of extraction wells that are under vacuum with transfer of recovered vapor and LNAPL to product storage and off-gas treatment. This system is being installed to enhance the existing recovery system and to comply with the existing RWQCB Abatement Order.	Construction planned for 2016 with operation in 2017.
37	FCCU Catalyst Multi-Loader Project, Tesoro Carson Operations	In order to upgrade the overall catalyst handling and injection system, Tesoro proposes to install a new catalyst multi-loader. The new multi-loader would be able to manage the injection of the three catalysts/additives in the FCCU. Additionally, in the unlikely event of malfunction of the SCR system, the multi-loader would also be able to simultaneously inject DeNOx additive, in order to control the NOx emissions from the FCCU while the SCR system was temporarily unavailable, enabling the FCCU to continue operating within applicable NOx control requirements. The multi-loader is expected to reduce particulate matter emissions because it will be more efficient and have better emissions control efficiency than existing equipment, and thus will result in lower emissions.	Construction planned 3 rd quarter 2017 through 1 st quarter 2018

TABLE 5.1-1 (Continued)

No.	Project Title	Project Description	Status
38	SCAQMD Rule 1114 Compliance – Coker Venting, Tesoro Carson Operations	SCAQMD Rule 1114 requires the coke drum pressure to be reduced below two pounds per square inch gauge (psig) before opening the drum to the atmosphere. The proposed project includes modifying both No. 1 and No. 2 Cokers at the Carson Operations to comply with SCAQMD Rule 1114 by the required compliance deadlines. Compliance with Rule 1114 will require installation of additional equipment, such as vapor ejectors and associated piping and instrumentation changes, to divert coke drum vapors to existing vapor recovery systems. This will enable the Refinery to comply with the Rule 1114 requirements and to keep the overall coke drum cycle time unchanged.	Construction for Coker No. 1 and No. 2 will be complete in the 1 st quarter of 2016 and the 1 st quarter of 2018 respectively. Impacts from this project were evaluated in the SCAQMD's Environmental Assessment conducted to evaluate the impacts of implementing SCAQMD Rule 1114.
39	Nos. 1 and 2 Coker Bottom Head Modifications, Tesoro Carson Operations	Currently, the bottom heads of the coke drums in Nos. 1 and 2 Cokers are opened manually to remove the petroleum coke, requiring a worker to physically open the valves. The bottom heads of the coke drums will be upgraded with remotely operated valves. This is a safety project that will allow remote operation of the valves to enhance safety during the de-heading process to remove coke at the end of the coking cycle.	Construction for Coker no. 1 and No. 2 will be complete in the 1 st quarter of 2016 and the 1 st quarter of 2018 respectively.
40	Storage Tank Modifications Tesoro Wilmington and Carson Operations	Tesoro plans on upgrading two existing fixed roof storage tanks to install internal floating roofs at the Wilmington Operations (Tank 80085 and Tank 125001). In addition, Tesoro plans on installing a heat coil in an existing tank at the Carson Operations (Tank 956)	Construction ^{4th} quarter 2017 through early 2018.

TABLE 5.1-1 (Concluded)

No.	Project Title	Project Description	Status
41	New Degassing Facilities or Slops Sphere, Tesoro Wilmington Operations	New degassing facilities or a new storage sphere will be installed on the slops rundown header at LARW. This will enable the degassing of slops streams and will minimize potential safety and odor issues associated with managing slops streams containing light ends in atmospheric tanks. Installation of the degassing facilities or a new sphere will allow the slops to de-gas to the vapor recovery system before being routed to the existing atmospheric tanks.	Construction planned 4 th quarter 2017 through 3 rd quarter 2018.
42	Debutanizer Unit Modifications, Tesoro Wilmington	The LARW Debutanizer Unit will be modified with the addition of a coalescer vessel on the feed to the debutanizer tower. The modification will enhance unit safety and reliability by addressing current and ongoing corrosion issues related to water carryover into the debutanizer tower. The debutanizer removes butane from Refinery overhead gases. The Debutanizer Unit will be modified by installing a coalescer vessel and associated piping and instrumentation.	Construction planned 4 th quarter 2017.
43	HTU-3 Modifications, Tesoro Wilmington Operations	The LARW HTU-3 jet filtration system will be modified with the addition of new clay and particulate filters placed in parallel to the existing filters to allow for a more efficient maintenance process on the system. HTU-3 is a distillate hydrotreater, which is a process unit that uses catalyst and hydrogen to reduce impurities such as sulfur from jet and diesel. The HTU-3 Unit modifications include the addition of new clay and particulate filters and associated piping and instrumentation.	Construction was completed in August of 2015.
44	Tesoro Wilmington Operations Fire Water Distribution System Replacement and Upgrade	Tesoro has completed the majority of the planned upgrades to its firewater distribution system at the Wilmington Operations. Piping replacements and system upgrades are being installed throughout the system to meet minimum flow requirements of the City of Los Angeles Fire Department.	Final portions of the system upgrade construction to be completed 4 th quarter of 2017.



SOURCE: Google



Environmental Audit, Inc.

0 ~3,800'



FIGURE 5.1-1
ONE MILE RADIUS MAP
TESORO LOS ANGELES REFINERY

5.2 CUMULATIVE IMPACT ANALYSIS

The following sections analyze the cumulative impacts identified for each resource area evaluated in this EIR. As described in the NOP/IS the proposed project has been found to have either no impact or a less than significant impact on all environmental resource areas except for those discussed below. No comments were received on the NOP/IS that identified new potentially significant adverse environmental impacts. As a result, all environmental resource areas for which the proposed project were found to have either no impact or a less than significant impact are considered to be rendered less than cumulatively considerable and are not discussed in this EIR. Except where noted, the significance criteria used for the cumulative analysis are the same as those used in Chapter 4 for the evaluation of the proposed project impacts. In addition, some of the projects listed in Table 5.1-1 are in very early stages of planning, as a result, information on their potential environmental impacts is unavailable. The cumulative analysis in the following sections does not provide speculation on potential impacts from the cumulative projects for which environmental information is not available as CEQA recommends against speculation (CEQA Guidelines §15145). Detailed environmental information on the SCIG project has been provided, but it is important to note that the results of the environmental analyses provided in the EIR have been legally challenged.

5.2.1 AIR QUALITY

5.2.1.1 Scope of Analysis

The region of analysis for cumulative effects on air quality is the South Coast Air Basin, but the analysis is focused on the communities adjacent to the proposed project (i.e., the City of Carson, City of Long Beach and community of Wilmington) because they are the areas of maximum potential effect. The significance thresholds for cumulative air quality impacts are the same as the significance thresholds for project-specific impacts and are shown in Table 4.2-1.

The SCAQMD has provided guidance on an acceptable approach to addressing the cumulative impacts issue for air quality (SCAQMD, 2003a). “As Lead Agency, the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment (SCAQMD’s certified regulatory program CEQA document) or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the HI significance threshold for non-cancer TAC emissions (SCAQMD, 2003a). Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.”

To some extent, the ambient air quality of the Basin provides a summary of the cumulative air quality impacts. The Basin is designated as non-attainment for PM_{2.5} and ozone for both state and federal standards. The Basin is classified as attainment for both the state and federal standards for NO₂ (except the federal 1-hr standard is unclassifiable/attainment), SO₂, CO, sulfates, and lead except in Los Angeles County and is classified as attainment for the federal

PM10 standards, but non-attainment for the state PM10 standards and lead in Los Angeles County. The 2012 AQMP predicted attainment of all National Ambient Air Quality standards by 2019, and ozone standards by 2020 (SCAQMD, 2013a). The total number of days on which the Basin experiences high ozone levels has decreased dramatically over the last two decades. The maximum 8-hour ozone levels measured in the Basin were well above 200 ppb in the early 1990s, and are now less than 140 ppb. However, the Basin still exceeds the federal 8-hour standard more frequently than any other location in the U.S. (SCAQMD, 2013a).

As described in Section 3.2, air quality within the South Coast Air Basin has generally improved in the last couple of decades. The improvement in air quality can be attributed to emission reductions from industrial sources, introduction of low emission fuels used in on-road motor vehicles and trucks (e.g., low sulfur fuels, reformulated gasoline, low carbon fuel standard, etc.), and implementation of Air Quality Management Plans (AQMPs), which identify strategies for further reducing emissions from all emissions sources regulated by the SCAQMD and which are subsequently promulgated as enforceable rules or regulations.

5.2.1.2. Construction Emissions

5.2.1.2.1 Contributions of Cumulative Projects

The projects identified in Table 5.1-1 have the potential for construction activities that could overlap with the construction activities of the proposed project. Table 5.2-1 summarizes the available construction emissions data for the cumulative projects from other CEQA documents where they are available. Construction emissions were not included in Table 5.2-1 where insufficient data are available.

The proposed project is scheduled to be constructed from third quarter 2016 through first quarter of 2021 (see Figure 2-18). During that time frame, construction activities at a number of other projects could occur in that same period. The construction impacts of the cumulative projects would be cumulatively significant if their combined emissions would exceed the SCAQMD daily emission thresholds for construction. As shown in Table 5.2-1, construction activities associated with the cumulative projects would exceed SCAQMD significance thresholds and could result in significant cumulative air quality criteria pollutant impacts during construction activities.

5.2.1.2.2 Contributions of the Proposed Project

The proposed project would contribute to potentially significant adverse cumulative construction air quality impacts if project-specific construction emissions are considered to be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1). SCAQMD policy is that impacts are cumulatively considerable if they exceed the project-specific air quality significance thresholds. The construction emissions associated with the proposed project are expected to be 106.65 lbs/day of VOC, 515.54 lbs/day of CO, 575.73 lbs/day of NO_x, 1.41 lbs/day of SO_x, 68.55 lbs/day of PM₁₀, and 38.67 lbs/day of PM_{2.5}. Because the proposed project's construction emissions exceed the applicable project-specific VOC and NO_x significance thresholds (see Table 4.2-2), they are considered cumulatively considerable and cumulatively significant when considered in combination with related projects. Since CO, SO_x, PM₁₀, and

PM2.5 construction emissions do not exceed their respective project-specific thresholds, they are not considered to be cumulatively considerable and, therefore, are not considered to contribute to cumulative construction impacts.

TABLE 5.2-1
Cumulative Construction Emissions
(lbs/day)

No.	Project	VOC	CO	NO _x	SO _x	PM10	PM2.5
4	Southern California International Gateway Project ^(a)	243	579	4,038	56	90	67
6	ILWU Local 13 Dispatch Hall ^(b)	70.7	45.3	76.5		34.2	7.4
8	Valero Cogen ^(c)	6.4	37.6	46.7	0.1	43.2	23.8
9	WesPac ^(d)	130.82	954.36	669.80	52.96	68.81	40.11
10	LAUSD Span K-8 School ^(e)	-14	-214	89	<1	-36	-37
12	Warren E&P ^(f)	0.82	3.12	7.62	--	0.39	0.33
15	Sepulveda/Panama Project ^(g)	53.59	30.11	43.73	0.05	3.17	2.45
16	Shell Revitalization Project ^(h)	487.03	334.0	734.0	1.17	645.88	88.44
19	Wilmington/Interstate 405 Interchange ⁽ⁱ⁾	8	42	94	--	13	--
21	Phillips 66 Crude Oil Storage ^(j)	65.30	71.06	85.75	0.16	46.56	20.15
22	Shell Carson Facility E10 Project ^(k)	124.9	387.7	745.2	1.0	103.0	39.1
23	Carousel Tract ^(l)	5	57	62	2	27	8
32	CSULB Foundation Retail Project ^(m)	71.2	218.1	280.6	0.36	29.7	19.1

(a) POLA, 2013 (The environmental analysis has been challenged and is being litigated)

(b) POLA, 2011a

(c) SCAQMD, 2014a

(d) City of Los Angeles, 2011

(e) LAUSD, 2007

(f) SCAQMD, 2014b

(g) City of Carson, 2015

(h) City of Carson, 2014

(i) Caltrans, 2008

(j) SCAQMD 2014c

(k) SCAQMD, 2012

(l) RWQCB, 2014

(m) City of Long Beach, 2014

Localized air quality significance impacts from construction activities were analyzed for CO, NO₂, PM10, and PM2.5. The construction activities associated with the proposed project are expected to cause significant adverse localized NO₂ air quality impacts and mitigation measures have not been identified to reduce the localized impacts to less than significant during construction. Because the proposed project construction emissions exceed the applicable LST threshold levels (see Table 4.2-3), they are considered cumulatively considerable and cumulatively significant when considered in combination with related projects.

This conclusion is consistent with CEQA Guidelines §15064(h)(4), which states, “The mere existence of significant cumulative impacts caused by other projects alone shall not constitute

substantial evidence that the proposed project’s incremental effects are cumulatively considerable.”

5.2.1.3 Operational Emissions

5.2.1.3.1 Contributions of Cumulative Projects

The cumulative projects would have a significant cumulative impact if their combined operational emissions would exceed the SCAQMD daily emission thresholds for operations (see Table 4.2-1). The cumulative projects identified in Table 5.2-2 have the potential for operational activities that could overlap with operational activities associated with the proposed project. Table 5.2-2 summarizes the available operational emissions data for the cumulative projects from other CEQA documents where they are available. Operational emissions were not presented where insufficient data are available.

TABLE 5.2-2
Cumulative Operational Emissions
(lbs/day)

No.	Project	VOC	CO	NO _x	SO _x	PM10	PM2.5
4	Southern California International Gateway Project ^(a)	-316	-2,905	-5,619	-139	-313	-228
6	ILWU Local 13 Dispatch Hall ^(b)	19.9	--	26.9	--	16.9	1.5
8	Valero Cogen ^(c)	33.4	201.8	0	0	95.8	20.6
9	WesPac ^(d)	-27	-266	-40	<1	-33	-30
10	LAUSD Span K-8 School ^(e)	8.76	--	--	--	--	--
12	Warren E&P ^(f)	19.0	14.4	20.5	--	3.7	4.3
15	Sepulveda/Panama Project ^(g)	339.1	546.9	521.6	2.82	203.9	32.4
16	Shell Revitalization Project ^(h)	50.83	0	0	0	0	0
21	Phillips 66 Crude Oil Storage ⁽ⁱ⁾	166.8	109.1	249.4	0.3	18.9	12.8
22	Shell Carson Facility E10 Project ^(j)	0	0	0	0	0	0
23	Carousel Tract ^(k)	30	200	50	0.48	32	9.1
32	CSULB Foundation Retail Project ^(l)	4.89	18.95	3.61	0.03	2.26	0.67
34	Tesoro LPG Recovery Unit	0.46	0	0	0	0	0
35	Tesoro Dehexanizer Unit	0.68	0	0	0	0	0
40	Tesoro Storage Tank 956	0.15	0	0	0	0	0

(a) POLA, 2013 (As reported in FEIR, but subject to revision pending outcome of ongoing litigation.)

(b) POLA, 2011a

(c) SCAQMD, 2014c

(d) City of Los Angeles, 2011

(e) LAUSD, 2007

(f) SCAQMD, 2014b

(g) City of Carson, 2015

(h) City of Carson, 2014

(i) SCAQMD 2014c

(j) SCAQMD, 2012

(k) RWQCB, 2014

(l) City of Long Beach, 2014

5.2.1.3.2 Contributions of the Proposed Project

The proposed project includes the shutdown of the Refinery's Wilmington Operations FCCU, which is a major source of emissions. As discussed in Section 4.2.2.2, peak daily emissions associated with the proposed project would result in emission increases from new and modified units, increased mobile source emissions, and increased utilization of some equipment. However, as shown in Table 4.2-4, the overall change in emissions associated with implementing the proposed project is a reduction in emissions of CO and a less than significant increase in VOC, NO_x, SO_x, PM₁₀, and PM_{2.5} emissions. In addition, emissions of CO, NO_x, SO_x, and PM₁₀ were modeled using the appropriate average times for each pollutant. Based on the AERMOD air dispersion model results, the ground-level concentrations of the criteria pollutants of concern will be below SCAQMD CEQA significance thresholds at all offsite receptor locations. As a result, criteria pollutant emissions from the proposed project operation are not considered to be cumulatively considerable and, therefore, are not considered to contribute to cumulative operational emission impacts.

5.2.1.4 Toxic Air Contaminants

5.2.1.4.1 Contributions of Cumulative Projects

The SCAQMD measured TAC concentrations as part of its fourth Multiple Air Toxics Exposure Study (MATES IV). The 2012-2013 Basin average population-weighted risk summed for all the toxic components yielded a cancer risk of 897 in one million in MATES IV, using the current OEHHA health risk assessment guidelines. Diesel particulate matter continues to be responsible for the largest contribution (76.2 percent) to cancer risk from air toxics. The next highest contributors include benzene (6.2 percent), hexavalent chromium (5.6 percent), and 1,3-butadiene (3.4 percent) (SCAQMD, 2015a).

The operational impacts of the cumulative projects would be cumulatively significant if their combined emissions would exceed the SCAQMD significance thresholds for health risk assessments (see Table 5.2-3). Impacts associated with TAC emissions are dependent on the location of the receptors so that the results of the TAC emissions are not necessarily additive unless they are emitted from the same or similar location. As shown in Table 5.2-3, no single project would exceed the applicable cancer and non-cancer chronic or acute health risk thresholds. However, TAC emissions associated with the Shell Revitalization Project (#16) and the Shell Carson E10 Project (#22) would be significant for exposure to the MEIR because those two projects are at the same location (see Figure 5.1-1), the TAC emissions would impact the same (or nearby) receptors (residents), and the TAC emissions from those two projects would exceed the 10 per million significance thresholds. Several other large projects would also be expected to generate additional TAC emissions (e.g., trucks and other mobile sources), including the Pier A East (#1), Pier B Rail Yard Expansion (#2), and the ICTF Expansion and Modernization Project (#7). However, TAC emission estimates from these projects are not currently available and the projects are located in the Wilmington/Long Beach area as opposed to Carson. Based on this information, exposure to toxic air contaminants at the MEIR associated with the cumulative projects within the project region is considered to be cumulatively significant. Acute and chronic non-carcinogenic health risks are expected to be less than

significant as the hazard index associated with all of the cumulative projects would be less than the SCAQMD significance threshold of 1.0 (see Table 5.2-3).

TABLE 5.2-3
Cumulative Health Risk Assessment Results Associated with
Exposure to Toxic Air Contaminant Emissions

No.	Cumulative Project	MEIR	MEIW	Chronic Hazard Index	Acute Hazard Index
4	Southern California International Gateway Project ^(a)	-160×10^{-6}	-114×10^{-6}	0.11	0.13
6	ILWU Local 13 Dispatch Hall ^(b)	NS	NS	--	--
8	Valero Cogen ^(c)	0.57×10^{-6}	0.33×10^{-6}	0.024	0.019
12	Warren E&P ^(d)	0.4×10^{-6}	0.05×10^{-6}	0.0007	0.014
16	Shell Revitalization Project ^(e)	8.90×10^{-6}	7.20×10^{-6}	0.022	0.105
21	Phillips 66 Crude Oil Storage ^(f)	0.13×10^{-6}	0.13×10^{-6}	0.0005	0.0015
22	Shell Carson Facility E10 Project ^(g)	2.11×10^{-6}	1.55×10^{-6}	0.0196	0.002
23	Carousel Tract ^(h)	0.81×10^{-6}	0.09×10^{-6}	0.01	0.01
32	CSULB Foundation Retail Project ⁽ⁱ⁾	0.16×10^{-6}		0.001	NA

(a) POLA, 2013 (The environmental analysis has been challenged and is being litigated)

(b) POLA, 2011a

(c) SCAQMD, 2014a

(d) SCAQMD, 2014b

(e) City of Carson, 2014

(f) SCAQMD 2014c

(g) SCAQMD, 2012

(h) RWQCB, 2014

(i) City of Long Beach, 2014

5.2.1.4.2 Contributions of the Proposed Project

An HRA was performed to determine if TAC emissions generated by the proposed project would exceed the SCAQMD thresholds of significance for cancer risk and non-cancer chronic and acute hazard risks. The maximum cancer risk from the proposed project for the MEIR was determined to be 3.6 in one million. The maximum cancer risk to a non-residential sensitive receptor was estimated to be 2.1 in one million. The maximum cancer risk at a worker (MEIW) was estimated to be 9.2 in one million. The estimated cancer risk at all of the local receptors was below the 10 in a million threshold. In addition, as described in Section 4.2.2.5, the non-cancer health risks were also determined to be well below the hazard index significance threshold of 1.0. Therefore, TAC emissions from operation of the proposed project would not make a cumulatively considerable contribution to cumulatively significant impacts for carcinogenic and non-carcinogenic health impacts. Note that the HRA did not include the emission reductions associated with the shutdown of the Wilmington Operations FCCU and only included estimated increases associated with the modification of existing and construction of new units, thus

providing a conservative analysis of TAC emissions and related health risk. Therefore, the TAC emission impacts associated with the proposed project are not considered to be cumulatively considerable and are not considered to contribute to significant adverse cumulative health risk impacts.

5.2.1.5 Mitigation Measures and Cumulative Impacts

The proposed project's construction emissions exceed the applicable significance thresholds for VOC, and NO_x (see Table 4.2-2) and, therefore, are cumulatively considerable and cumulatively significant when considered in combination with related projects. Mitigation measures A-1 through A-9 will be imposed on construction activities associated with the proposed project (see Section 4.2.3). However, after mitigation, construction emissions are expected to remain above SCAQMD thresholds for VOCs, and NO_x. Therefore, the construction of the proposed project would make a cumulatively considerable and unavoidable contribution to a cumulatively significant air quality impact. Implementing mitigation measures at other cumulative projects is not considered feasible because the SCAQMD does not have jurisdictional authority to impose mitigation measures on a project where it is not the lead agency. Once construction is complete, the proposed project, as well as the cumulative projects, would no longer contribute to cumulative construction air quality impacts in the area of the Refinery. Operation emissions from the proposed project are not cumulatively considerable and, therefore, are not considered to contribute to cumulative significant impacts for operational emissions, ambient air quality, or exposure to TACs. Based on these results, operational air quality impact mitigation measures are not required.

5.2.2 GREENHOUSE GASES

5.2.2.1 Scope of Analysis

While the cumulative impact of GHG emissions is global, the geographic scope of this cumulative impact analysis is the State of California. The analysis of GHG emissions is a different analysis than for criteria pollutants for the following reasons. For criteria pollutants, significance thresholds are based on daily emissions because attainment or non-attainment is typically based on daily exceedances of applicable ambient air quality standards. Further, the ambient air quality standards for criteria pollutants are based on relatively short-term exposure effects to human health, e.g., one-hour and eight-hour. Using the half-life of carbon dioxide (CO₂), 100 years, for example, the effects of GHGs are longer-term, affecting the global climate over a relatively long time frame. As a result, the SCAQMD evaluates GHG effects over a longer timeframe than a single day. The interim significance threshold for industrial projects is 10,000 metric tons per year of CO₂ equivalent emissions (see Table 4.2-1).

It is the increased accumulation of GHGs in the atmosphere that may result in global climate change. Due to the complexity of conditions and interactions affecting global climate change, it is not possible to predict the specific impact, if any, attributable to GHG emissions associated with a single project, which is why GHG emission impacts are considered to be a cumulative impact. The following paragraphs provide summaries of some adverse impacts of global climate

change identified by the Intergovernmental Panel on Climate Change (IPCC, 2014) that are expected to occur or are occurring as a result of GHG emissions accumulating in the atmosphere.

Climate change involves complex interactions and changing likelihoods of diverse impacts. Emissions of GHGs, especially combustion of fossil fuels for energy, transportation, and manufacturing, contribute to warming of the atmosphere that may cause rapid changes in the way a number different types of ecosystems typically function. For example, in some regions, changing precipitation or acceleration of melting snow and ice are altering hydrological systems, affecting water resources in terms of quantity and quality. Melting glaciers and polar ice sheets are expected to contribute to sea level rise. Rising sea levels are expected to contribute to an increase in coastal flooding events.

A warmer atmosphere could also contribute to chemical reactions increasing the formation of ground-level ozone. Ozone is a well-known lung irritant and a major trigger of respiratory problems like asthma attacks. Local changes in temperature and rainfall could alter the distribution of some waterborne illnesses and disease vectors. For example, warmer freshwater makes it easier for pathogens to grow and contaminate drinking water.

Although the GHG emissions from the Tesoro Los Angeles Refinery will be reduced by the proposed project, the significance of potential impacts from GHG emissions related to the proposed project has been analyzed for long-term operations on a cumulative basis, as discussed below.

5.2.2.2 Contributions of Cumulative Projects

As described in Chapter 3.2 and the discussion in Subsection 5.2.2.1, GHG emissions from human activities are considered to contribute to global climate change. Cumulative projects, which emit GHGs, would contribute to global climate change. In the South Coast Air Basin, CO₂ emissions totaled approximately 155 million metric tons in year 2008 (see Table 3.2-6), most of which comes from energy production and transportation.

The GHG emissions from the cumulative projects would be cumulatively significant if their combined emissions would exceed the SCAQMD emission thresholds for GHGs. As shown in Table 5.2-4, GHG emissions associated with the cumulative projects would exceed the SCAQMD GHG significance threshold of 10,000 metric tons per year. Therefore, the GHG emissions associated with the cumulative projects could result in significant cumulative impacts. Several other large projects would also be expected to generate additional GHG emissions (e.g., trucks and other mobile sources), including the Pier A East (#1), Pier B Rail Yard Expansion (#2), and the ICTF Expansion and Modernization Project (#7). Based on this information, GHG emissions from cumulative projects would exceed the SCAQMD GHG significance threshold and are cumulatively significant.

TABLE 5.2-4
Cumulative GHG Emissions
(metric tons per year)

No.	Project	CO ₂ e
4	Southern California International Gateway Project ^(a)	126,491
6	ILWU Local 13 Dispatch Hall ^(b)	2,205
8	Valero Cogen ^(c)	0
12	Warren E&P ^(d)	9,979
15	Sepulveda/Panama Project ^(e)	613
16	Shell Revitalization Project ^(f)	68,888
21	Phillips 66 Crude Oil Storage ^(g)	106
22	Shell Carson Facility E10 Project ^(h)	12,349
23	Carousel Tract ⁽ⁱ⁾	3,480
32	CSULB Foundation Retail Project ^(j)	7,100

- (a) POLA 2013 (The environmental analysis has been challenged and is being litigated)
 (b) POLA, 2011a
 (c) SCAQMD, 2014a
 (d) SCAQMD, 2014b
 (e) City of Carson, 2015
 (f) City of Carson, 2014
 (g) SCAQMD 2014c
 (h) SCAQMD, 2012
 (i) RWQCB, 2014
 (j) City of Long Beach, 2014

5.2.2.3 Contributions of the Proposed Project

5.2.2.3.1 Construction

Construction equipment may include backhoes, compressors, concrete pumps, concrete saws, cranes, excavators, forklifts, front-end loaders, generators, pavers, roll-off trucks, tractors, water truck and welding machines. The construction equipment is assumed to operate up to ten hours per day during most of the construction period. Also, during peak construction periods, a Refinery turnaround is expected to occur requiring two work shifts per day. Emission factors for construction equipment were taken from the Construction Equipment Emissions tables in CARB's Offroad Inventory Model. Estimated GHG emissions from construction equipment are included in Table 5.2-5, with more detailed calculations in Appendix B-1.

TABLE 5.2-5
Construction GHG Emissions for the Proposed Project
(metric tons)

Source	CO ₂ e ^(a)
Construction Equipment	11,582
Vehicle Emissions	11,591
TOTAL	23,173
30 Year Amortized	772

(a) CO₂ equivalent emissions or CO₂e.

The project will also include construction emissions from vehicles traveling off-site. Construction vehicles traveling off-site include trucks, construction worker vehicle emissions, etc. Emission factors for off-site construction vehicles were taken from CARB's EMFAC 2011 Inventory Model. The SCAQMD significance threshold for GHG emissions does not distinguish between construction and operational GHG emissions because of the fact that GHG emissions from all sources remain in the atmosphere for up to 100 years or more. In addition, because there are not many GHG emission reduction opportunities for most types of construction equipment, SCAQMD policy is to combine construction emissions amortized over 30 years (the typical life of a project) with operational emissions and then compare the results to the SCAQMD's GHG significance threshold. The total GHG construction emissions associated with the proposed project are estimated to be 23,173 metric tons (see Table 5.2-5) over the entire construction period, or 772 metric tons per year amortized over 30 years.

5.2.2.3.2 Operation

The total GHG operational emissions from stationary and mobile sources associated with the proposed project are included in Table 5.2-6 (see Appendices B-3 and B-4 for detailed calculations). The proposed project is expected to result in a local overall reduction in GHG emissions associated with the shutdown of the FCCU and associated equipment at the Wilmington Operations (see Table 5.2-6).

Indirect impacts from equipment potentially impacted by the proposed project (upstream or downstream) were also calculated to determine their effect on the proposed project's overall GHG emissions. These potential indirect GHG emission sources include equipment that will not be modified as part of the proposed project, but will operate within existing permit conditions, so no permit modification would be required. Indirect GHG emissions have been calculated and are shown in Table 5.2-7.

TABLE 5.2-6

**Direct Operational GHG Emissions for the Proposed Project
(metric tons per year)**

Source	CO ₂ e
Stationary Sources	
DCU H-100 Heater Duty Bump (Wilmington)	33,282
HCU H-300/301 Heater Duty Bump (Wilmington)	28,074
SARP Process Air Heater (Wilmington)	9,306
SARP Decomp. Furnace (Wilmington)	19,542
SARP Converter Heater (Wilmington)	2,326
FCCU Shutdown ^(b) (Wilmington)	
FCCU	-247,466
CO Boiler	-72,569
Heaters H2, H3/H4, and H5	-63,577
Startup Heater	-433
No. 51 Vacuum Unit Heater (Carson)	59,707
Naphtha HDS ULNB Conversion (Carson)	3,910
Total Stationary Source Emissions	-227,898
Mobile Source Emissions	
Vehicle Emissions	24
Off-site Rail Emissions	1,200
On-site Rail Emissions	125
Total Mobile Source Emissions	1,349
TOTAL GHG EMISSIONS	-226,549

Note: Negative numbers represent emission reductions.

TABLE 5.2-7

**Tesoro Los Angeles Refinery - Indirect Operational GHG Emissions Summary
(metric tons per year)**

Source	CO ₂ e
DCU Heater H-101 (Wilmington)	3,414
HTU #3 Heaters H-30 and H-21/22 (Wilmington)	3,999
CRU Heaters H-501A/B, H-502, H-503/504, and H-510 (Wilmington)	975
Boilers 7, 8, 9, and 10 (Wilmington)	4,886
SRP Boilers H-1601/1602 (Wilmington)	53
SRP Incinerators F-704 and F-754 (Wilmington)	66
FCCU (Carson)	104,986
HC Heater R-1 (Carson)	7,146
HC Heater R-2 (Carson)	9,528
LHU Heater (Carson)	2,377
Watson Cogen Facility	22,208
TOTAL INDIRECT GHG EMISSIONS	159,638

The total GHG emissions for the proposed project including the project operational emissions (both stationary and mobile sources), indirect GHG emissions from increased utilization of refinery equipment and amortized GHG emissions from construction activities are summarized in Table 5.2-8.

TABLE 5.2-8
Tesoro Los Angeles Refinery
Proposed Project Total GHG Emissions Summary
(metric tons per year)

Source	CO ₂ e
Construction Emissions ^(a)	772
Stationary Sources	-227,898
Mobile Source Emissions	1,349
Increased Utilization Emissions	159,638
TOTAL PROJECT GHG EMISSIONS	-66,139
AB32 Cap and Trade Allowance Program	66,139
OVERALL PROJECT IMPACT	0
Significance Threshold	10,000
SIGNIFICANT?	No

Note: Negative numbers represent emission reductions.

(a) Construction Emissions were amortized for 30 years.

As shown in Table 5.2-8, the proposed project is expected to result in local GHG emission reduction of approximately 66,139 metric tons per year, providing a net GHG emission reduction from the Refinery, thus, reducing the Refinery's contribution to global climate change. Beginning in 2015, Refineries are obligated to provide allowances for transportation fuels produced. Therefore, mobile source GHG emissions are included in the AB32 Cap and Trade Program. However, per the requirements of AB 32, the number of GHG allowances in California's Cap and Trade Program are reduced each year by the California Air Resources Board. An individual project that reduces GHG emissions may reduce local GHG emissions, but will not have an impact on the overall pool of allowances in the GHG Cap and Trade Program.

CEQA Guideline §15130(a) indicates that an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency need not consider the effect significant, but must briefly describe the basis for concluding that the incremental effect is not cumulatively considerable. The proposed project would not result in any increase in GHG emissions and GHG impacts are not considered to be cumulatively considerable. Further, "The mere existence of cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable" (CEQA Guidelines §15064(h)(4)). Therefore the project's contribution to GHG emissions is not cumulatively considerable and thus not significant because

the GHG emissions would be reduced as a result of implementing the proposed project (CEQA Guidelines §15130).

5.2.2.4 Mitigation Measures and Cumulative Impacts

Mitigation measures are not required because GHG emissions from the proposed project are not considered to be cumulatively considerable and, therefore, would not contribute to an existing cumulative significant impact for GHG emissions from other cumulative projects. No residual cumulative impacts are expected.

5.2.3 HAZARDS AND HAZARDOUS MATERIALS

5.2.3.1 Scope of Analysis

The geographic scope for cumulative impacts associated with a release of hazardous materials encompasses two main areas: (1) refining activities and facilities; and (2) product transport. The related projects list is based on the geographic area of the proposed project site (i.e., Tesoro Carson and Wilmington Operations, including the Interconnecting Pipelines. Hazard impacts generally occur within the vicinity of the proposed project, e.g., the maximum distance a hazard impact from the proposed project is likely to reach is approximately 1,905 feet (see Chapter 4, Table 4.3-2). Thus, cumulative hazard impacts associated with past, present, and reasonably foreseeable future projects are expected to be limited to less than one mile from proposed project activities. The cumulative impact analysis herein evaluates projects within one mile to provide a conservative analysis. The cumulative projects that could contribute to these cumulative impacts and where environmental information is available include those projects that would handle and transport hazardous materials within and near the Cities of Carson and Long Beach, and the community of Wilmington (see Table 5.1-1).

5.2.3.2 Contributions of Cumulative Projects

5.2.3.2.1 Construction

A number of projects have the potential to uncover contaminated soils during construction activities including WesPac (#9), Shell Revitalization Project (#16), Phillips 66 Crude Oil Storage Capacity Project (#21), Shell Carson Facility Ethanol Project (#22), and the Carousel Tract remediation (#23). A summary of the conclusions from the CEQA documents prepared for these and other cumulative projects is provided in Table 5.2-9. The construction hazard impacts were considered to be less than significant or mitigated to less than significant for all of the related projects (see Table 5.2-9). Since the construction hazard impacts are less than significant for each cumulative project and the geographical distance between the cumulative projects, shown in Figure 5.1-1, would preclude overlap of impact areas, no significant cumulative impact from construction hazards is expected.

5.2.3.2.2 Operations

There are a number of cumulative projects in the vicinity of the Tesoro Los Angeles Refinery that include increasing the storage or transport of hazardous materials. Those projects would include WesPac Smart Energy Transport Project (#9), Warren E&P (#12), Phillips 66 Crude Oil Storage Capacity Project (#21), Shell Carson Facility Ethanol Project (#22), and the Carousel Tract remediation (#23). A summary of the conclusions from the CEQA documents prepared for these and other cumulative projects is provided in Table 5.2-9.

TABLE 5.2-9
Cumulative Projects – Summary of Hazard Impact Analyses

No.	Project	Construction	Operation
4	Southern California International Gateway Project ^(a)	NS	NS
6	ILWU Local 13 Dispatch Hall ^(b)	NS	NS
8	Valero Cogen ^(c)	NS	NS
9	WesPac ^(d)	MNS	NS
10	LAUSD Span K-8 School ^(e)	NA	MNS
12	Warren E&P ^(f)	NS	NS
15	Sepulveda/Panama Project ^(g)	NS	NS
16	Shell Revitalization Project ^(h)	MNS	NS
19	Wilmington/Interstate 405 Interchange ⁽ⁱ⁾	MNS	NA
21	Phillips 66 Crude Oil Storage ^(j)	NS	NS
22	Shell Carson Facility E10 Project ^(k)	NS	S
23	Carousel Tract ^(l)	NS	Beneficial
32	CSULB Foundation Retail Project ^(m)	MNS	NS

Key: NA = not applicable, resource was not evaluated; NS – not significant; MNS = mitigated not significant; S = significant; Beneficial = site is being remediated so the hazards associated with the site are expected to be reduced.

(a) POLA, 2013 (The environmental analysis has been challenged and is being litigated)

(b) POLA, 2011a

(c) SCAQMD, 2014a

(d) City of Los Angeles, 2011

(e) LAUSD, 2007

(f) SCAQMD, 2014b

(g) City of Carson, 2015

(h) City of Carson, 2014

(i) Caltrans, 2008

(j) SCAQMD 2014c

(k) SCAQMD, 2012

(l) RWQCB, 2014

(m) City of Long Beach, 2014

The hazard impacts associated with the Carousel Tract (#23) were expected to be beneficial because the site would be remediated and eliminate the existing contaminated areas that currently exist (RWQCB, 2014).

As discussed in Section 4.3 of this EIR, the effects of an accidental release of a hazardous material or potential explosion can be shown to occur in discrete areas, referred to as vulnerability zones. To determine if cumulative hazard impacts are significant, the off-site vulnerability zones from two or more facilities would need to overlap. The off-site vulnerability zones for a specific type of hazard (e.g., thermal radiation, BLEVE, etc.) would need to be located sufficiently close so that they overlap and the events would need to occur simultaneously for there to be a cumulative effect. As shown in Figure 5.1-1, the distance between cumulative projects and the proposed project is great enough that no cumulative project off-site vulnerability zones are expected to overlap with the proposed project. The only cumulative project with the potential for off-site hazard impacts is the Shell Carson Facility E10 Project (#22) and hazard impacts associated with that project were considered to be significant (SCAQMD, 2012). The hazards from the Shell Carson Facility E10 Project (#22) could have off-site hazards that would impact the Shell Revitalization Project (#16) and the ProLogis trailer storage and truck yard (#24). However, the Shell Revitalization Project (#16) and the ProLogis Project (#24) are not expected to have significant off-site hazard impacts, so cumulative hazard impacts would not be expected.

In addition to distance between facilities, another factor that may affect cumulative hazard impacts is whether or not the cumulative projects handle large volumes of hazardous materials. For example, while projects identified in Table 5.1-1, such as a new Honda motorcycle dealer (#13); new Hyundai and Chevrolet dealer (#17); Wilmington Avenue/Interstate 405 Interchange (#18); 223rd Street Improvements (#19), and new warehouses (#25) are located in close proximity to each other, they would not be expected to store large volumes of hazardous materials. Finally, regulatory requirements for facilities that handle large volumes of hazardous materials, such as spill prevention and containment requirements, are designed to limit the impacts of a spill or other type of on-site release, which would further minimize cumulative hazard impacts by reducing the size any vulnerability zones.

The cumulative projects listed in Table 5.1-1 have and would continue to generate truck trips that travel through the Wilmington/Carson areas. Some cumulative projects that would potentially increase transportation-related hazards include: Pier B Rail Yard Expansion (#2), SCIG Gateway Project (#4), and ICTF Modernization and Expansion Project (#7). POLA reports that in 2011 24,192 hazardous materials permits were issued for containers and over 4 million 20-foot equivalent containers were received (approximately 0.7%) (POLA, 2011 and POLA, 2013a). Therefore, these projects involve the transport of containers which do not typically include the transport of hazardous materials. Further, most of the other cumulative projects do not involve the transport of substantial amounts of hazardous materials (including Projects #3, #5, #6, #8, #10 through #20, and #23 through #44).

The only project that increases the transport of hazardous materials is the Shell Carson Facility E10 Project (#22). The incremental increase in the annual probability of an accident involving a release of ethanol resulting in a fire or explosion from the Shell E10 Project would be 0.038 per year (0.073 per year - 0.035 per year). This accident probability is equivalent to a transportation accident with a resultant fire or explosion every 26 years. Thus, the incremental probability of a transportation accident and a resultant fire or explosion during operation of the proposed project is small and, therefore, concluded to be less than significant (SCAQMD, 2012). Therefore, the

transportation hazards associated with the cumulative projects is considered to be less than significant. The probable frequency and/or severity of consequences are also minimized because all vehicles are subject to traffic laws and restrictions, weight and speed limits, designated truck routes, and cargo packaging and labelling requirements.

Several cumulative projects in Table 5.1-1 would provide transportation improvements, including improvements in traffic flow such as the Wilmington/Interstate 405 Interchange Project (#18), 223rd Street Improvement Project (#19), and the Sepulveda Boulevard Widening Project (#20). By improving traffic flow, traffic congestion is expected to be reduced, thus reducing one factor that influences traffic accidents, especially for heavy-duty transport trucks.

5.2.3.3 Contributions of the Proposed Project

5.2.3.3.1 Construction

Construction activities will require the excavation of potentially contaminated soil and potentially expose workers to soil and groundwater contamination. Compliance with existing regulations and implementation of the proposed project safety measures are intended to minimize the potential impacts associated with excavation. Such compliance is expected to reduce the potential hazard impacts associated with hydrocarbon-contaminated soil and groundwater. Therefore, hazards and hazardous material impacts generated by excavation activities associated with the proposed project are expected to be less than significant, are not cumulatively considerable, and would not contribute to significant adverse hazard impacts associated with construction.

5.2.3.3.2 Operations

As indicated in Section 4.3 of this EIR, the proposed project would be subject to applicable federal, state, and local laws and regulations governing the spill prevention, storage, use, and transport of hazardous materials, as well as emergency response to hazardous material spills, thus minimizing the potential for adverse health and safety impacts. Potential health and environmental impacts associated with hazardous materials spills are also localized due to the containment facilities that currently exist and the new containment facilities that will be required to be built as part of the proposed project. For example, all storage tanks are required to provide secondary containment facilities (e.g., berms) that would contain 110 percent of the volume of the storage tanks, which assures that spills remain on-site and not overlap with hazards at other facilities.

New units have the potential to generate off-site impacts that could potentially expose off-site receptors to new hazards, e.g., the SARP (exposure to SO₂), and the new crude storage tanks at the Carson Operations (pool fire), as well as the new Interconnecting Pipelines (flash fire), and modifications to the Naphtha Isomerization Unit (flash fire). The largest project-related hazard zone or vulnerability zone is associated with the SARP and could result in a hazard impact of up to 1,905 feet in the southern portion of the Wilmington Operations (see Chapter 4, Table 4.3-2). The closest off-site cumulative project to the SARP is about 3,000 feet away (Valero Cogen Project #8). Although the project-related hazard impacts would generally be limited to industrial

areas, they are not expected to overlap with hazards from cumulative projects. The only other cumulative project that has the potential for off-site hazards, based on the available environmental information, is the Shell Carson Facility E10 Project (#22), which is located over one mile away from any of the proposed project hazard areas. Nonetheless, hazard impacts from the proposed project would make a cumulatively considerable contribution to a significant adverse cumulative hazard impact.

The proposed project would also include transporting hazardous materials by truck and rail. The proposed project would decrease the transportation hazards associated with sulfuric acid as sulfuric acid would be regenerated on-site. However, the proposed project will increase the transportation of LPG via rail and increase the transport of caustic and spent caustic via truck and rail. The proposed project was considered to be less than significant for the transport of hazardous materials by truck and rail. Therefore, the proposed project is not cumulatively considerable as it relates to hazardous material transport and, therefore, would not contribute to significant adverse hazardous materials transport impacts.

5.2.3.4 Mitigation Measures and Cumulative Impacts

As discussed in Section 4.3.2.1 of this EIR, project-specific fire hazard impacts of the proposed project associated with the operation of the Naphtha Isomerization, new crude tanks, and Interconnecting Pipelines could extend off-site as well as SO₂ hazards associated with the proposed SARP and are considered to be significant and are concluded to be cumulatively considerable (see Table 4.3-2). Compliance with existing regulations (e.g., PSM, RMP, and CalARP requirements) and implementation of mitigation measure HHM-1 would further minimize the potential impacts associated with a release, but are not expected to eliminate the potential hazard impacts. No feasible mitigation measures were identified to further reduce significant adverse hazard impacts. Implementing mitigation measures at other cumulative projects is not considered feasible because the SCAQMD does not have jurisdictional authority to impose hazard mitigation measures on a project where it is not the lead agency and, for projects that are under the jurisdiction of the SCAQMD, all feasible mitigation measures were imposed. Therefore, cumulative adverse hazard impacts would remain significant after implementing mitigation measures and the proposed project would make a cumulatively considerable contribution to a cumulative hazard impact.

5.2.4 HYDROLOGY AND WATER QUALITY

5.2.4.1 Scope of Analysis

The geographic scope for cumulative impacts on water quality would be the Dominguez Channel and the area south of Interstate 405 extending to the Los Angeles-Long Beach Harbor which receives the wastewater discharges from the cumulative projects. For water demand, the geographic scope of the analysis is the West Coast Basin.

5.2.4.2 Contributions of Cumulative Projects

5.2.4.2.1 Water Demand

Construction: Some of the cumulative projects are urban in-fill projects and, as such, are not expected to generate extensive water use impacts. Those projects would include ILWU Dispatch Hall (#6), LAUSD K-8 School (#10), Banning Museum and Banning Park (#11), new Honda dealer (#13), 18 new single family residences (#14), Sepulveda and Panama Project (#15), new Hyundai and Chevrolet dealership (#17), ProLogis Project (#24), Panattoni Project (#25), Equassure Project (#26), Car Pros Kia (#27), and Inland Kenworth (#28). A summary of the water demand impacts in the CEQA documents prepared for the cumulative projects is provided in Table 5.2-10. A review of the available CEQA documents for the cumulative projects did not identify any other projects that were concluded to have potentially significant adverse impacts to water demand during construction or operational activities, with the exception of the Shell Carson Facility E10 Project which is discussed in the paragraph below.

Operation: As shown in Table 5.2-10, the only project with potentially significant water demand impacts is the Shell Carson Facility E10 Project as up to 7.7 million gallons of water would be used for hydrostatic testing prior to operation of the tanks. Reclaimed water is not currently available so the impacts on water demand were considered significant for both construction and operation as hydrostatic testing would be required approximately once every 20 years (SCAQMD, 2012).

The proposed project was considered to be less than significant for the water demand. Therefore, the proposed project is not cumulatively considerable as it relates to water demand (CEQA Guidelines §15064(h)(1)) and, therefore, would not contribute to significant adverse water demand impacts.

5.2.4.2.1 Water Quality

Construction and Operation: A review of the available CEQA documents for the cumulative projects did not identify any other projects that were concluded to have potentially significant adverse impacts to water quality/wastewater discharge during construction or operation. Water quality impacts associated with the cumulative projects are not expected to result in cumulative impacts. If applicable, all projects would be required to comply with stormwater pollution prevention requirements during project operation and construction as well as NPDES requirements for commercial and industrial facilities required to obtain such permits. Compliance with existing stormwater and wastewater discharge requirements is expected to ensure cumulative water quality impacts are less than significant during both construction and operation.

TABLE 5.2-10

Cumulative Projects – Summary of Hydrology and Water Quality Impacts

No.	Project	Water Demand Construction	Water Demand Operation	Water Quality/ Wastewater Construction	Water Quality/ Wastewater Operation
4	Southern California International Gateway Project	NS	NS	MNS	NS
6	ILWU Local 13 Dispatch Hall ^(b)	NS	NS	NS	NS
8	Valero Cogen ^(c)	NS	NS	NS	NS
9	WesPac ^(d)	NA	NA	NS	MNS
10	LAUSD Span K-8 School ^(e)	NS	NS	NS	NS
12	Warren E&P ^(f)	NA	NS	NA	NS
15	Sepulveda/Panama Project ^(g)	NA	NS	MNS	MNS
16	Shell Revitalization Project ^(h)	NS	NS	NS	NS
19	Wilmington/Interstate 405 Interchange ⁽ⁱ⁾	--	--	NS	NS
21	Phillips 66 Crude Oil Storage ^(j)	NS	NS	NS	NS
22	Shell Carson Facility E10 Project ^(k)	S	S	NS	NS
23	Carousel Tract ^(l)	NA	NA	NS	NS
32	CSULB Foundation Retail Project ^(m)	NS	NS	NS	MNS

Key: NA = not applicable, resource was not evaluated; NS – not significant; MNS = mitigated not significant; S = significant.

(a) POLA, 2013 (The environmental analysis has been challenged and is being litigated)

(b) POLA, , 2011a

(c) SCAQMD, 2014a

(d) City of Los Angeles, 2011

(e) LAUSD, 2007

(f) SCAQMD, 2014b

(g) City of Carson, 2015

(h) City of Carson, 2014

(i) Caltrans, 2008

(j) SCAQMD 2014c

(k) SCAQMD, 2012

(l) RWQCB, 2014

(m) City of Long Beach, 2014

5.2.4.3 Contributions of the Proposed Project

5.2.4.3.1 Water Demand

Construction: The proposed project's impacts on water demand during construction operation are expected to be less than significant as minimal potable water use is expected to be required. During hydrostatic testing associated with construction activities, the daily amount of potable water needed would be approximately 40,000 gpd, which is less than the SCAQMD's potable water significance threshold of 262,820 gpd. It should be noted that the water use associated with grading activities and hydrotesting would cease following construction activities and no further water demand would be required for these purposes. Furthermore, the new pipeline hydrostatic testing using potable water would only occur on a small number of days during the

construction period and the water would be recycled and reused to the greatest extent possible to reduce potable water demand. See Chapter 4.4 for more detailed discussion of water demand associated with proposed project construction. Therefore, the proposed project impacts on water demand during construction do not contribute to cumulative water demand impacts.

Operation: The Refinery currently uses on average about 13.8 million gpd of fresh/potable water and about 4.5 million gpd of reclaimed water. The proposed project is expected to increase potable water demand by about 191,275 gpd (approximately 69.8 million gallons per year), which is less than the SCAQMD's potable water demand significance threshold of 262,820 gpd. The incremental increase in potable water use from the proposed project is expected to be supplied by the Refinery's privately-owned wells (i.e., from the available 2.8 billion gallons per year of adjudicated water rights). The existing water supply can meet the water demand of the proposed project and the daily water use associated with the proposed project is less than the potable water significance threshold of 262,820 gpd. Therefore, the proposed project water supply impacts are expected to be less than significant. See Chapter 4, subsection 4.4.2.1.2 for a more detailed discussion of the water demand associated with the proposed project operation. Since the water supply impacts during operation of the proposed project are expected to be less than the potable water significance threshold and the Refinery has sufficient adjudicated water rights to support the proposed project's increase in water demand, the proposed project's water demand impacts are not cumulatively considerable and cumulative impacts are considered less than significant.

5.2.4.3.2 Water Quality

Construction: The potential for wastewater generation and water quality impacts associated with construction activities at the Refinery was determined to be less than significant in the NOP/IS (see Appendix A) because construction activities are not expected to generate any additional wastewater as there will be no changes to any refinery units during construction activities and stormwater runoff is contained on-site.

Operation: The proposed project is expected to reduce overall wastewater generated at the Refinery by approximately 79,344 gpd (see Table 4.4-2). The major source of wastewater reduction associated with the proposed project is from the shutdown of the Wilmington Operations FCCU. There is expected to be a large increase in wastewater generation from the SARP. However, overall the proposed project will result in an estimated reduction of over 79,000 gpd. Therefore, no new wastewater treatment facilities are needed and the existing facilities are adequate to meet the needs of the proposed project. Because the proposed project reduces wastewater and demand on wastewater treatment facilities, the proposed project impacts on water quality are not cumulatively considerable and do not contribute to cumulative water quality impacts.

5.2.4.4 Mitigation Measures and Residual Cumulative Impacts

Mitigation is not required because the impacts of the proposed project on water demand and water quality are not cumulatively considerable and, therefore, do not contribute to significant cumulative water demand or water quality impacts.

5.2.5 NOISE

5.2.5.1 Scope of Analysis

The geographic scope for cumulative noise impacts generally includes the areas surrounding the Tesoro Carson and Wilmington Operations. The analysis of cumulative noise impacts uses the same thresholds of significance as the project-specific analysis (Section 4.5.1) and assesses the potential of the proposed project, along with other cumulative projects within the geographic scope of the project (Carson and Wilmington areas), to cause a significant cumulative noise impact as a result of project construction and operational activities (including on-site operations).

5.2.5.2 Construction

5.2.5.2.1 Contributions of Cumulative Projects

A summary of the noise impacts in the CEQA documents prepared for the cumulative projects is provided in Table 5.2-11. As noted in Table 5.2-11, none of the cumulative projects were expected to generate in significant noise impacts, except that remediation activities associated with the Carousel Tract (#23) would occur close to homes, generating potentially significant noise impacts.

Construction of some of the other cumulative projects that are near the proposed project could occur concurrently with the proposed project, e.g., ICTF (#7), new Honda dealership (#13), new Hyundai and Chevrolet dealership (#17), Wilmington/Interstate 405 Interchange (#18), 223rd Street Improvement Project (#19), Phillips 66 (#21), LPG Recovery (#34), Dehexanizer Unit (#35), North Tank Farm (#36), FCCU Catalyst (#37), Rule 1114 Compliance (#38), Nos. 1 and 2 Coker (#39), New Degassing Facilities (#40), Debutanizer Unit (#41), Storage Tank Modifications (#43), and Fire Water Replacement/Upgrade (#44). However, noise, including construction noise, is generally site-specific and localized to the vicinity of the noise source at each cumulative project. As shown in Table 4.5-2, noise levels associated with construction activities subside quickly with distance from the location of the noise source. Because noise is measured on a logarithmic scale, to increase noise by three decibels (triggering a significant noise impact) it would take a doubling of noise levels in the area. The Wilmington/Carson area in the vicinity of the proposed project contains a number of heavy industrial facilities, as well as transportation corridors that generate noise, and a doubling of noise sources during the construction phase is not expected to occur. Table 3.5-3 shows ambient noise levels in the vicinity of the Refinery. It is assumed that ambient noise levels near cumulative projects located in industrial areas would be similar, although the ambient noise levels could be higher for cumulative projects located near substantial noise sources, such as the Interstate 405 freeway. Further, noise levels decrease at least six decibels with every doubling of distance. For example, a noise level of 65 dBA at 50 feet from a source would be about 59 dBA at 100 feet from the source, 53 dBA at 200 feet from the source, and so forth. If the cumulative projects generate comparable noise levels as the proposed project, 0.1 to 0.9 dBA at the closest residential receptor (see Table 4.5-2 and Subsection 5.2.5.2.2), then because of the distance between the cumulative projects it is unlikely that any overlapping noise levels would exceed the applicable noise significance thresholds. In spite of the information regarding noise impacts from the proposed project, other cumulative projects have concluded that construction noise impacts could exceed

applicable noise significance thresholds. Therefore, cumulative noise impacts from the cumulative projects are considered to be significant. Further, construction activities at the cumulative projects are temporary and would cease when construction or remediation activities are completed.

TABLE 5.2-11
Cumulative Projects – Summary of Noise Impacts

No.	Project	Construction	Operation
4	Southern California International Gateway Project ^(a)	MNS	S
6	ILWU Local 13 Dispatch Hall ^(b)	NS	NS
8	Valero Cogen ^(c)	NS	NS
9	WesPac ^(d)	MNS	None
10	LAUSD Span K-8 School ^(e)	MNS	NS
12	Warren E&P ^(f)	NS	NS
15	Sepulveda/Panama Project ^(g)	MNS	NS
16	Shell Revitalization Project ^(h)	MNS	NS
19	Wilmington/Interstate 405 Interchange ⁽ⁱ⁾	MNS	MNS
21	Phillips 66 Crude Oil Storage ^(j)	NS	NS
22	Shell Carson Facility E10 Project ^(k)	NS	NS
23	Carousel Tract ^(l)	S	MNS
32	CSULB Foundation Retail Project ^(m)	MNS	MNS

Key: NA = not applicable, resource was not evaluated; NS – not significant; MNS = mitigated not significant; S = significant.

- (a) POLA Los Angeles, 2013 (The environmental analysis has been challenged and is being litigated)
- (b) POLA, 2011a
- (c) SCAQMD, 2014a
- (d) City of Los Angeles, 2011
- (e) LAUSD, 2007
- (f) SCAQMD, 2014b
- (g) City of Carson, 2015
- (h) City of Carson, 2014
- (i) Caltrans, 2008
- (j) SCAQMD 2014c
- (k) SCAQMD, 2012
- (l) RWQCB, 2014
- (m) City of Long Beach, 2014

5.2.5.2.2 Contributions of the Proposed Project

As described in Section 4.5.2.1, construction of the proposed project would result in minor increases in noise levels at the closest residential areas. As shown in Table 4.5-2, the increase in noise associated with the proposed project construction activities are expected to increase from 0.1 to 0.9 dBA depending on the location of the noise receptor and the time of day. Noise levels are reduced quickly with distance. The construction noise sources range from about 75-80 dBA and those noise levels are reduced to less than 59 dBA at the closest noise receptor located approximately 1,000 feet from the source, which would be true during either daytime or nighttime. Construction activities associated with the proposed project are not expected to occur

within 1,000 feet of construction activities associated with other cumulative projects in areas where there are sensitive receptors (see Figure 5.1-1). The Wilmington/Carson area in the vicinity of the proposed project contains a number of heavy industrial facilities, as well as transportation corridors that contribute to ambient noise levels (see Table 4.5-2 for ambient noise levels monitored near the Refinery), and a substantial change in these noise sources is not expected to occur. In addition, as stated in the CEQA Guidelines, §15064(h)(4), “The mere existence of cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulatively considerable”. Further, construction activities are temporary and would cease when construction is completed. These construction noise increases are less than significant and not cumulatively considerable, and do not contribute to significant adverse cumulative noise impacts during construction.

5.2.5.3 Operations

5.2.5.3.1 Contributions of Cumulative Projects

As noted in Table 5.2-11, none of the cumulative projects were expected to result in significant adverse noise impacts during operation, except for SCIG (#4). Off-site noise, including noise from truck trips and trains, can also increase ambient noise levels along transportation corridors. Several other large cumulative projects would also be expected to generate additional noise (e.g., trucks and other mobile sources), including the Pier A East (#1), Pier B Rail Yard Expansion (#2), and the ICTF Expansion and Modernization Project (#7). Based on the existing environmental information on the cumulative projects, only SCIG (#4) would be expected to generate significant cumulative noise impacts associated with the operation of the cumulative projects.

5.2.5.3.2 Contributions of the Proposed Project

As demonstrated in Subsection 4.5.2.2, project-specific operational noise impacts associated with the proposed project were determined to be less than significant. As shown in Table 4.5-3, the increase in noise associated with equipment and activities related to the proposed project would increase overall noise by 0.1 dBA at the nearest sensitive receptor, which shows that noise levels from the refinery equipment subside quickly with distance from the Refinery. As noted above, an increase in noise of 0.1 dBA is not detectable to the human ear. Also as discussed above, noise levels are reduced with distance from the noise source and operational noise sources from the proposed project are not expected to overlap with other cumulative projects, especially those cumulative projects that are 1,000 feet or more from the new noise sources at the Refinery. Noise sources associated with the proposed project are not expected to occur within 1,000 feet of noise sources associated with other cumulative projects in areas where there are sensitive receptors (see Figure 5.1-1).

Because noise from the proposed project is substantially less than the applicable noise significance thresholds and noise from cumulative projects are not expected to overlap, there are no sensitive receptors located in areas where they could be subject to noise levels from both the proposed project and cumulative projects. Therefore, since the proposed project-specific noise

impacts are less than significant, they are not considered to be cumulatively considerable and would not contribute to a significant adverse cumulative noise impact during operation.

5.2.5.4 Mitigation Measures and Cumulative Impacts

Mitigation is not required because potential cumulative noise impacts of the proposed project are less than significant. No residual cumulative impacts are expected.

5.2.6 SOLID AND HAZARDOUS WASTE

5.2.6.1 Scope of Analysis

The geographic scope for cumulative solid and hazardous waste would be the County of Los Angeles as waste is managed at the County level. The analysis uses the same thresholds of significance as the proposed project-specific analysis (Section 4.6.1) and assesses the potential of the proposed project, along with other cumulative projects within the geographic scope of the project (Carson and Wilmington areas), to cause a substantial increase in solid and hazardous waste as a result of project construction activities and operational activities.

5.2.6.2 Construction

5.2.6.2.1 Contributions of Cumulative Projects

Solid Waste: A number of the past, present, and reasonably foreseeable future cumulative projects identified in Table 5.5-1 have the potential to generate additional solid and hazardous waste during construction activities. As noted in Table 5.2-12, none of the cumulative projects were expected to generate significant adverse solid waste impacts during construction.

Several other projects (i.e., projects where sufficient solid/hazardous waste information is not available and not included in Table 5.2-12) would result in the demolition of existing structures, e.g., ICTF (#7), 21801 Vera Street (#14), and Winn Hyundai and Chevrolet (#17), which could generate additional solid waste associated with demolition activities. Demolition wastes are often recycled including concrete and metal components, which minimize the potential impact to solid waste landfills. Valero Cogen (#8), Shell Revitalization Project (#16), Shell Carson Facility E10 Project (#22), and Carousel Tract (#23) projects are expected to cumulatively generate up to approximately 10,200 cubic yards of solid waste, which is less than the remaining capacity of the solid waste landfills. In general, construction activities represent one-time waste disposal requirements which typically cease following construction activities. Therefore, the cumulative projects are not expected to generate significant quantities of solid waste during construction activities.

TABLE 5.2-12

Cumulative Projects – Summary of Solid/Hazardous Waste Impacts

No.	Project	Solid Waste Construction	Solid Waste Operation	Hazardous Waste Construction	Hazardous Waste Operation
4	Southern California International Gateway Project ^(a)	MNS	MNS	NS	NS
8	Valero Cogen ^(b)	NS	NS	NS	NS
10	LAUSD Span K-8 School ^(c)	NS	NS	NS	NS
12	Warren E&P ^(d)	NS	NS	NS	NS
16	Shell Revitalization Project ^(e)	NA	NS	NA	NA
19	Wilmington/Interstate 405 ^(f)	MNS	NA	NA	NA
21	Phillips 66 Crude Oil Storage ^(g)	NS	NS	NS	NS
22	Shell Carson Facility E10 Project ^(h)	NS	NS	NS	NS
23	Carousel Tract ⁽ⁱ⁾	NS	NA	NA	NA
32	CSULB Foundation Retail Project ^(j)	NS	NS	NA	NA

Key: NA = not applicable, resource was not evaluated; NS – not significant.

- (a) POLA, 2013 (The environmental analysis has been challenged and is being litigated)
- (b) SCAQMD, 2014a
- (c) LAUSD, 2007
- (d) SCAQMD, 2014b
- (e) City of Carson, 2014
- (f) Caltrans, 2008
- (g) SCAQMD 2014c
- (h) SCAQMD, 2012
- (i) RWQCB, 2014
- (j) City of Long Beach, 2014

Hazardous Waste: Cumulative projects could result in the generation of contaminated soils (which could be either solid or hazardous waste) including the Consolidated Slip Restoration Project (#3), WesPac (#9), Shell Oil Products Revitalization Project (#16); Phillips 66 Crude Tank Project (#21); Shell Carson Ethanol Project (#23), Carousel Tract (#25), and other independent Tesoro Projects (#36-45). Nonetheless, based on the available information in the CEQA documents, it is expected that the cumulative projects will generate up to 204,100 cubic yards of hazardous waste. There is available capacity at hazardous waste landfills to accommodate the waste. Therefore, the cumulative projects are not expected to generate significant quantities of hazardous waste during construction activities.

5.2.6.2.2 Contributions of the Proposed Project

Solid Waste: As noted in Section 4.6.2, demolition of a substantial number of refinery structures is not expected to occur. The proposed project, does, however, include the demolition and removal of two existing storage tanks and affected existing piping at the Wilmington

Operations. The tanks and piping are constructed of steel. Because steel is a commodity, it would be sent for recycling in lieu of disposal in a landfill. The concrete foundations that support the existing tanks would generate an estimate 265 cubic yards that would be transported off-site for crushing and recycling or disposal at inert or municipal landfills.

As shown in Table 4.6-1, the proposed project has the potential to generate up to 206,953 cubic yards of non-hazardous construction soil waste, which can be disposed of in Class III landfills. Solid waste would be stored on-site and daily shipments would be scheduled to avoid exceeding any landfill's permitted daily capacity, if necessary. The total remaining permitted Class III landfill capacity in southern California is estimated to be approximately 129.2 million tons (about 2,584 million cubic yards). Therefore, landfills in southern California have the capacity to accept the solid waste produced during the construction phase of the proposed project on a one-time basis (see Table 3.6-6). Following the construction phase, these waste streams will cease and the project would not generate a continuous long-term waste stream. Therefore, because the proposed project impacts on solid wastes during construction activities are less than significant, they are not considered to be cumulatively considerable and are not considered to contribute to significant adverse cumulative solid waste impacts.

Hazardous Waste: Site preparation, grading, and construction activities for the proposed project have the potential to encounter contaminated soils. It is estimated that the proposed project has the potential to uncover a total of approximately 290,148 cubic yards of contaminated soil, which may require removal and disposal; of that, approximately 83,213 cubic yards would be hazardous materials, and the remainder is expected to be non-hazardous materials (see Table 4.6-1). Therefore, up to about 83,000 cubic yards of contaminated soils could be disposed of as hazardous wastes. Tesoro would consider the type and extent of contamination and explore the variety of options available for disposal and remediation, which could include *in situ*, on-site, and off-site treatment (e.g., incineration, soil vapor extraction, bioremediation). In the event that the material still requires disposal (i.e., cannot be treated/remediated), the Kettleman Hills facility has sufficient available capacity (5,000,000 cubic yards) and the Clean Harbors Buttonwillow facility has available capacity (over 8,000,000 cubic yards) to accept the total amount of one-time contaminated soil generated by construction activities associated with the proposed project. The landfills in California have the capacity to accept hazardous waste generated during the construction phase of the proposed project on a one-time basis. Following the construction phase, these waste streams will cease and the project would not generate a continuous long-term waste stream. Therefore, because the proposed project's solid/hazardous waste impacts were concluded to be less than the applicable solid waste significance threshold, they are not considered to be cumulatively considerable and are not considered to contribute to significant adverse cumulative solid/hazardous waste impacts.

5.2.6.3 Operations

5.2.6.3.1 Contributions of Cumulative Projects

Solid Waste: Similar to the proposed project, the cumulative projects, including commercial and industrial facilities, in the project area have the potential to generate solid waste consisting of non-hazardous materials, such as paper products and other miscellaneous municipal solid waste

disposed by on-site staff. As discussed in Section 3.6.1, non-hazardous solid waste is disposed of at several landfills in Los Angeles County. Based on the results of the analysis and considering permit restrictions, the total remaining permitted Class III landfill capacity in the County is estimated at 129.2 million tons as of December 31, 2012 (see Table 3.6-6) (County of Los Angeles, 2013). The cumulative projects in Table 5.1-1 all generate, or will generate, solid waste that must be disposed of in landfills for the foreseeable future. As shown in Table 5.2-12, none of the cumulative projects were expected to generate significant adverse solid waste impacts.

Hazardous Waste: As noted in Table 5.2-12, none of the cumulative projects were expected to result in significant hazardous waste impacts associated with operational activities. Most of the cumulative projects are not expected to generate hazardous waste on a routine basis. Therefore, impacts of the cumulative projects on hazardous waste generation would be less than significant.

5.2.6.3.2 Contributions of the Proposed Project

Solid Waste: As discussed in Section 4.6.3, the average annual amount of solid waste is not expected to change because there would be no change in the number of workers and refinery units do not typically generate solid waste. Therefore, solid waste impacts from the proposed project are less than significant, not cumulatively considerable, and do not contribute to significant adverse solid waste impacts.

Hazardous Waste: The proposed new and modified equipment associated with the proposed project will perform similar functions as the existing equipment. The proposed project will result in an increase in spent catalyst associated with the operation of the SARP and spent caustic associated with operation of the Wet Jet Treater, and SARP. As explained in Section 4.6.3, both of these waste streams are expected to be recycled and, therefore, would not impact hazardous waste landfill facilities.

While operation of the proposed project may generate hazardous waste streams (e.g., sludge for tanks during maintenance activities), those waste streams are expected to be reused or recycled into the DCUs. Therefore, operation of the proposed project is not expected to require additional waste disposal capacity and is not expected to interfere or undermine the Tesoro Refinery's ability to comply with existing federal, state, and local regulations for solid and hazardous waste handling and disposal. Significant hazardous waste impacts are not expected from operation of the proposed project. Therefore, potential hazardous waste impacts from the proposed project during operation are expected to be less than significant, are not considered to be cumulatively considerable, and would not contribute to significant adverse cumulative hazardous waste impacts.

5.2.6.4 Mitigation Measures and Cumulative Impacts

Mitigation is not required because the solid/hazardous waste impacts of the proposed project are less than significant and are not considered to be cumulatively considerable. No significant adverse cumulative solid/hazardous waste impacts are expected.

5.2.7 TRANSPORTATION AND TRAFFIC

5.2.7.1 Scope of Analysis

The analysis of transportation and traffic impacts includes streets and intersections that would be impacted by construction and operational activities associated with the proposed project at the Tesoro Carson and Wilmington Operations and generally includes the area shown in Figure 3.7-1. Therefore, the scope of the cumulative transportation and traffic analysis is limited to the road segments potentially impacted by the proposed project as evaluated in Section 4.7. Thresholds of significance used in the cumulative analysis are the same as those used for the project analysis in Section 4.7.1.

5.2.7.2 Contributions of Cumulative Projects

5.2.7.2.1 Construction

Construction activities associated with the cumulative projects could result in temporary increases in traffic volumes and roadway disruptions in the vicinity of the Tesoro Los Angeles Refinery, including short-term, temporary impacts at selected roadway links, intersections and ramps. However, once construction is completed, no further construction traffic impacts would occur. Sufficient information to prepare a cumulative construction traffic analysis is not available for most of the related proposed project. The traffic analysis prepared for the construction portion of the proposed project includes construction activities associated with the I-405/Wilmington Avenue on ramps along with traffic associated with the proposed project, providing an estimation of cumulative traffic impacts (see Table 4.7-3). As shown in Table 4.7-3, the LOS at all intersections is expected to be LOS A, B or C, except Interstate 405/Wilmington Avenue Southbound Ramps during the morning peak hour. The construction-related trips are forecast to result in a significant impact during construction of the proposed project at the Interstate 405/Wilmington Avenue Southbound Ramps under their pre-construction configuration of the freeway ramps. This is due to the large number of project-related trips utilizing the southbound ramp to access the proposed project site in the a.m. peak hour. Mitigation measure TT-1 has been imposed that would require that construction traffic from Tesoro avoid this intersection, which will help mitigate the cumulative traffic impacts.

5.2.7.2.2 Operation

The cumulative traffic impacts from the cumulative projects have been estimated in the traffic analysis (see Table 5.2-13 and Appendix E for further details). Year 2021 conditions without construction traffic from the proposed project were forecasted by applying a 0.4 percent per year growth as calculated from the SCAG travel demand model and are shown in Table 5.2-13. It was assumed that the traffic forecast in Table 5.2-13 includes traffic from all projects in the local area and includes the estimated increase of 10 trucks per day from the proposed project. There will be no increase in permanent workers associated with the proposed project. As shown in Table 5.2-13, assuming a 0.4 percent growth in traffic, no intersections in the traffic study would operate at a LOS worse than LOS C. Therefore, because LOS C represents generally represents

good traffic operating conditions, the potential cumulative traffic impacts of the cumulative projects are expected to be less than significant on transportation and circulation.

5.2.7.3 Contributions of the Proposed Project

5.2.7.3.1 Construction

As shown in Table 4.7-3, the LOS at all intersections during the proposed project construction activities is expected to be LOS A, B or C, except Wilmington Ave./Interstate 405 SB Ramps during the morning peak hour. The construction-related trips from the proposed project are forecast to result in a significant traffic impact during construction conditions at the Wilmington Ave./Interstate 405 Southbound Ramps because of the number of construction workers anticipated to be needed during the peak construction period and the fact that this intersection is currently under construction. Although construction traffic impacts from the proposed project were concluded to be significant at the Wilmington Ave./Interstate 405 Southbound Ramps during the peak morning traffic period, a mitigation measure was identified and will be required to be implemented during construction, which reduce construction traffic impacts from the proposed project at the Wilmington Ave./Interstate 405 Southbound Ramps to less than significant. Therefore, the proposed project traffic impacts during construction activities are not cumulatively considerable and do not contribute to significant adverse cumulative traffic impacts.

5.2.7.3.2 Operation

The NOP/IS (see Appendix A) concluded that the traffic impacts associated with the operation of the proposed project would be less than significant as no increase in workers would be expected on a permanent basis and a maximum ten trucks per day would be added, but truck miles traveled would be reduced once the SARP is completed. Therefore, the proposed project traffic impacts during operational activities are not cumulatively considerable and do not contribute to significant adverse cumulative traffic impacts.

5.2.7.4 Mitigation Measures and Cumulative Impacts

As noted above construction traffic impacts from the proposed project at the Wilmington Ave./Interstate 405 Southbound Ramps during the peak morning traffic period were concluded to be significant. However, mitigation measures were identified and will be required to be implemented during the construction period. Mitigation measure TT-1 is required and is expected to substantially reduce the number of construction related trips from the proposed project at the Wilmington Avenue/Interstate 405 Southbound Ramps intersection prior to the completion of the Interstate 405/Wilmington Avenue Interchange Project. TT-1 requires the applicant to implement a traffic management plan that requires project workers to avoid the Wilmington Avenue/Interstate 405 Southbound Ramps intersection during morning peak travel periods (while that onramp is under construction) by traveling either outside of the morning peak travel time or along alternative routes. The impacts of the proposed project on construction traffic and circulation are expected to be less than significant following implementation of mitigation measure TT-1. Therefore, the proposed project's construction traffic impacts are not

considered to be cumulatively considerable and would not contribute to significant adverse cumulative traffic impacts.

TABLE 5.2-13
YEAR 2021 – CUMULATIVE TRAFFIC ANALYSIS

Intersection	Year 2020 Without Project						Year 2020 With Project Operations						A.M. Change in V/C or Delay	P.M. Change in V/C or Delay	Significant Impact?	
	A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour						
	V/C Ratio	Delay (sec)	LOS	V/C Ratio	Delay (sec)	LOS	V/C Ratio	Delay (sec)	LOS	V/C Ratio	Delay (sec)	LOS				
1	Wilmington Ave/ Interstate 405 NB Ramps	0.512	21.7	C	0.420	18.4	B	0.512	21.7	C	0.420	18.4	B	0.0 s	No	
2	Wilmington Ave/ Interstate 405 SB Ramps	0.364	21.8	C	0.362	15.7	B	0.365	21.8	C	0.363	15.8	B	0.0 s	No	
3	Wilmington Ave/223 rd St	0.656	-	B	0.703	-	C	0.657	-	B	0.703	-	C	0.001	No	
4	Alameda St./Interstate 405 NB Ramps	0.687	23.4	C	0.681	23.5	C	0.687	23.4	C	0.682	23.6	C	0.0 s	No	
5	Alameda St./223 rd St (along Alameda St.)	0.470	-	A	0.581	-	A	0.471	-	A	0.581	-	A	0.001	No	
6	Alameda St./223 rd St (along 223 rd St)	0.355	-	A	0.647	-	B	0.355	-	A	0.647	-	B	0.0	No	
7	Alameda St./Sepulveda Blvd (along Alameda St.)	0.380	-	A	0.548	-	A	0.381	-	A	0.549	-	A	0.001	No	
8	Alameda St./Sepulveda Blvd (along Sepulveda Blvd)	0.422	-	A	0.758	-	C	0.423	-	A	0.759	-	C	0.001	No	
9	Interstate 405 SB Ramps/223 rd St	0.484	23.5	C	0.514	19.1	B	0.484	23.5	C	0.514	19.1	B	0.0 s	No	
10	Terminal Island Fwy (SR- 103)/Sepulveda Blvd	0.396	-	A	0.590	-	A	0.397	-	A	0.591	-	A	0.001	No	
11	Santa Fe Ave/Sepulveda Blvd	0.636	-	C	0.798	-	C	0.637	-	B	0.799	-	C	0.001	No	
12	Interstate 710 SB Ramps/Willow St	Uncontrolled Intersection														No
13	Interstate 710 NB Ramps/Willow St	Uncontrolled Intersection														No

Notes: V/C = Volume to Capacity Ratio, LOS = Level of Service, Delay = Average Vehicle Delay (Seconds)

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