



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • <http://www.aqmd.gov>

**SUBJECT: NOTICE OF PREPARATION OF A DRAFT
ENVIRONMENTAL IMPACT REPORT**

**PROJECT TITLE: TESORO RELIABILITY IMPROVEMENT AND
REGULATORY COMPLIANCE PROJECT**

In accordance with the California Environmental Quality Act (CEQA), the South Coast Air Quality Management District (SCAQMD) is the Lead Agency and will prepare a Draft Environmental Impact Report (EIR) for the project identified above. The purpose of this Notice of Preparation (NOP) is to solicit comments on the environmental analysis to be contained in the EIR.

In conjunction with the development of the proposed project, it is necessary to address the potential adverse effects of the proposed project on the environment. The SCAQMD is preparing the appropriate environmental analysis consistent with CEQA. The NOP serves two purposes: to solicit information on the scope of the environmental analysis for the proposed project and notify the public that the SCAQMD will prepare a Draft EIR to further assess potential adverse environmental impacts that may result from implementing the proposed project. The Draft EIR will discuss all applicable topics required by CEQA.

This NOP, and the attached Initial Study, are not SCAQMD applications or forms requiring a response from you. Their purpose is simply to provide information to you on the above project. If the proposed project has no bearing on you or your organization, no action on your part is necessary. The project's description, location, and potential environmental impacts are described in the NOP and the attached Initial Study.

The SCAQMD will hold a scoping meeting to discuss the proposed project and review the environmental issues to be discussed in the EIR on Thursday, February 28, 2008, at the Wilmington YMCA located at 1121 N. Avalon Boulevard, Wilmington, California at 6:30 p.m.

Comments focusing on your area of expertise, your agency's area of jurisdiction, or issues relative to the environmental analysis should be addressed to Ms. Barbara Radlein at the address shown above, sent by FAX to (909) 396-3324, or e-mailed to bradlein@aqmd.gov. Comments must be received no later than 5:00 p.m. on March 21, 2008. Please include the name and phone number of the contact person for your organization.

Project Applicant: Tesoro Los Angeles Refinery

Date: February 20, 2008 **Signature:**

Steve Smith

Steve Smith, Ph.D.
Program Supervisor
Planning, Rules, and Area Sources

Reference: California Code of Regulations, Title 14, Sections 15082, 15103, and 15375

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765-4182

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

Project Title:

Tesoro Reliability Improvement and Regulatory Compliance Project

Project Location:

The Refinery is located at 2101 East Pacific Coast Highway, Wilmington, California 90744.

The Sulfur Recovery Plant is located at 23208 S. Alameda Street, Carson, California 90810.

Description of Nature, Purpose, and Beneficiaries of Project:

The Tesoro Reliability Improvement Project will occur at Tesoro's Refinery and at their separate Sulfur Recovery Plant. The purpose of the proposed project is to increase the reliability of specific existing processing equipment at both Tesoro facilities. The proposed changes to the Refinery include the following: 1) install a new fuel gas treatment unit; 2) replace an existing cogeneration system with a new cogeneration system; 3) replace multiple, existing steam boilers with new equipment; 4) modify the Delayed Coking Unit (DCU), the Hydrocracking Unit (HCU) and the Fluid Catalytic Cracking Unit (FCCU) to increase recovery of liquefied petroleum gas (LPG); 5) modify the existing coke handling, screening, and loading system; 6) modify the existing Hydrotreating Unit (HTU) No. 2 in order to comply with the revised California Air Resources Board's gasoline specifications (revised CARB Phase III); 7) upgrade the existing amine/sour water system to improve hydrocarbon removal efficiency; 8) connect certain existing atmospheric pressure relief devices to the existing flares to prevent direct atmospheric releases; 9) improve sulfur treatment for the sour gas from the spent acid storage tank and the LPG sulfur extraction unit; 10) modify the coke drum blowdown system; 11) modify heater number H-101 at the DCU; and, 12) install a new crude oil storage tank. The proposed project at the Sulfur Recovery Plant will modify an existing Claus Unit to improve sulfur recovery.

Lead Agency:

South Coast Air Quality Management District

Division:

Planning, Rule Development and Area Sources

Initial Study and all supporting documentation are available at:

SCAQMD Headquarters
21865 Copley Drive
Diamond Bar, CA 91765

or by calling

(909) 396-2039

The Initial Study is available by accessing the SCAQMD's website at:

<http://www.aqmd.gov/ceqa/nonaqmd.html>

The Notice of Preparation is provided through the following:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Los Angeles Times (February 21, 2008) | <input checked="" type="checkbox"/> SCAQMD Website | |
| <input checked="" type="checkbox"/> SCAQMD Public Information Center | <input checked="" type="checkbox"/> Interested Parties | <input checked="" type="checkbox"/> SCAQMD Mailing List |
-

NOP/IS Review Period:

February 21, 2008 through March 21, 2008

A CEQA scoping meeting will be held on February 28, 2008 at the Wilmington YMCA located at 1121 North Avalon Boulevard, Wilmington, California at 6:30 pm.

Send CEQA Comments to:

Ms. Barbara Radlein

Phone:

(909) 396-2716

Email:

Bradlein@aqmd.gov

Fax:

(909) 396-3324

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

INITIAL STUDY FOR: TESORO RELIABILITY IMPROVEMENT AND REGULATORY COMPLIANCE PROJECT

SCH No. TBD

February, 2008

Executive Officer

Barry Wallerstein, D. Env.

**Deputy Executive Officer,
Planning, Rule Development, and Area Sources**
Elaine Chang, DrPH

**Assistant Deputy Executive Officer,
Planning, Rule Development, and Area Sources**
Laki Tisopulos, Ph.D, P.E.

**Planning and Rules Manager
CEQA and Socioeconomic Analyses**
Susan Nakamura

Submitted to:
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Prepared by:
ENVIRONMENTAL AUDIT, INC.

Reviewed by: Barbara Radlein - Air Quality Specialist
Steve Smith, Ph.D. - Program Supervisor
Jeri Voge – Senior Deputy District Counsel

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CHAPTER 1

PROJECT DESCRIPTION

Introduction
Agency Authority
Project Location
Project Description
Project Construction Schedule

1.0 INTRODUCTION

The Tesoro Refining and Marketing Company (Tesoro) is proposing a project at its Los Angeles Refinery (Refinery) and Sulfur Recovery Plant (SRP) to improve the reliability of refinery operations and to comply with regulatory requirements. The Tesoro Reliability Improvement and Regulatory Compliance Project (proposed project) includes the following changes to the Los Angeles Refinery: 1) install a new fuel gas treatment unit; 2) replace an existing cogeneration system with a new cogeneration system; 3) replace multiple, existing steam boilers with new equipment; 4) modify the Delayed Coking Unit (DCU), the Hydrocracking Unit (HCU) and the Fluid Catalytic Cracking Unit (FCCU) to increase recovery of liquefied petroleum gas (LPG); 5) modify the existing coke handling, screening, and loading system; 6) modify the existing Hydrotreating Unit (HTU) No. 2 in order to comply with the revised California Air Resources Board's gasoline specifications (revised CARB Phase III); 7) upgrade the existing amine/sour water system to improve hydrocarbon removal efficiency; 8) connect certain existing atmospheric pressure relief devices (PRDs) to the existing flares to prevent direct atmospheric releases; 9) improve sulfur treatment for the sour gas from the spent acid storage tank and the LPG sulfur extraction unit; 10) modify the coke drum blowdown system; 11) modify heater number H-101 at the DCU; and, 12) install a new crude oil storage tank. The proposed project at the Sulfur Recovery Plant will modify an existing Claus Unit to improve sulfur recovery. The proposed project will not increase or change the crude throughput capacity of the Tesoro Refinery.

1.1 AGENCY AUTHORITY

The California Environmental Quality Act (CEQA), Public Resources Code Section 21000 *et seq.*, requires that the environmental impacts of proposed "projects" be evaluated and that feasible methods to reduce, avoid or eliminate significant adverse impacts of these projects be identified and implemented. The proposed modifications constitute a "project" as defined by CEQA. To fulfill the purpose and intent of CEQA, the South Coast Air Quality Management District (SCAQMD) is the "lead agency" for this project and has prepared a Notice of Preparation and Initial Study (NOP/IS) to address the potential environmental impacts associated with the proposed project at the Tesoro Refinery and SRP.

The lead agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant adverse effect upon the environment (Public Resources Code §21067). It was determined that the SCAQMD has the primary responsibility for supervising or approving the entire project as a whole and is the most appropriate public agency to act as lead agency (CEQA Guidelines §15051(b)). The proposed project requires discretionary approval from the SCAQMD for modifications to existing stationary source equipment and installation of new stationary source equipment.

1.2 PROJECT LOCATION

The proposed project will occur at Tesoro's Refinery and at their separate Sulfur Recovery Plant. Tesoro is the owner and operator of both facilities which operate at two locations: (1) the main refinery operations are located in Wilmington; and (2) the SRP is located in Carson.

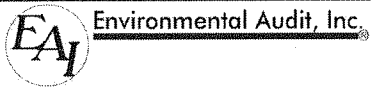
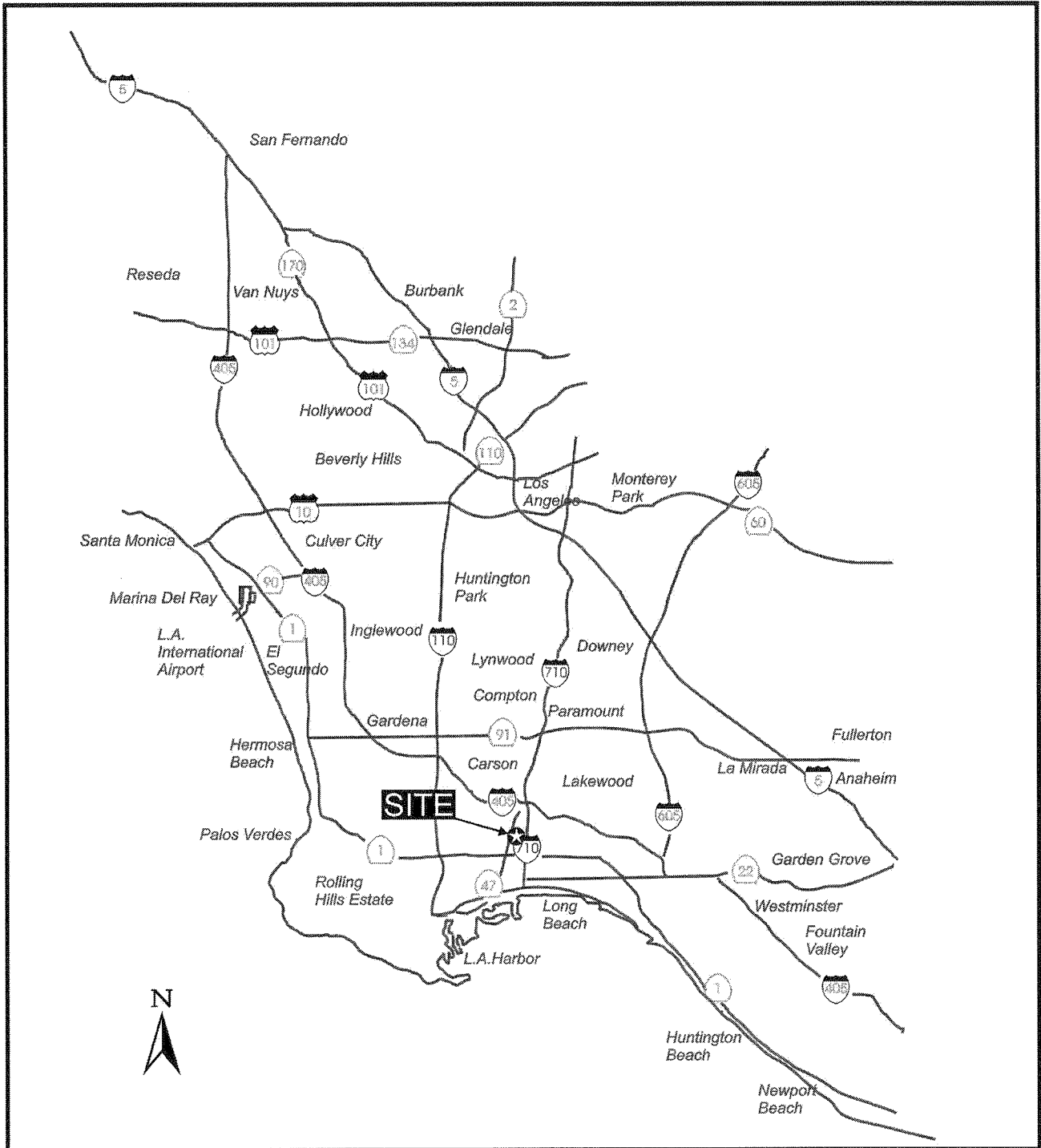
The Tesoro Refinery is located at 2101 East Pacific Coast Highway in the Wilmington district of the City of Los Angeles. Figures 1 and 2 show the regional and site locations of the Refinery, respectively. The Refinery occupies about 300 acres of land, with the larger portion located within the jurisdiction of the City of Los Angeles and the smaller portion located within the City of Carson. The Refinery is bounded to the north by Sepulveda Boulevard, to the west by Alameda Street, to the south by the Southern Pacific Railroad tracks, and to the east by the Dominguez Channel. The Refinery is bisected by Pacific Coast Highway, with the larger portion of the Refinery to the north of Pacific Coast Highway and the smaller portion to the south. The Refinery and all adjacent areas are zoned for heavy industrial use. The closest residential area is about one-half mile east of the Refinery in the City of Long Beach (see Figure 2).

The Refinery is zoned for heavy industrial uses (M3-1). The land uses in the vicinity of the Refinery includes oil production facilities, refineries, hydrogen plants, coke handling facilities, automobile wrecking/dismantling facilities, and other industrial facilities. The main operating portions of the Refinery are located within the Wilmington-Harbor City Planning Area (City of Los Angeles), which permits heavy industrial uses including petroleum refining on the Tesoro property (City of Los Angeles, 1999). A separate conditional use permit from the City of Los Angeles is not required for this proposed project. The Wilmington-Harbor City Plan places no additional restrictions on refineries, and specifically allows for construction without regard to height limitations. A portion of the Refinery is located in the City of Carson and includes the Refinery's tank farm and portions of the coke handling facilities.

The SRP is located at 23208 South Alameda Street in the City of Carson (see Figure 2), north of the Refinery. The SRP is zoned for heavy manufacturing uses (MH) by the City of Carson's Land Use element of its General Plan. Adjacent land uses to the SRP also are heavy industrial and include other refineries, a hydrogen plant, undeveloped lots, and container storage areas.

1.3 PROJECT DESCRIPTION

Tesoro is proposing a project at its Refinery and SRP to improve process safety and reliability and comply with regulatory requirements. Currently, Tesoro operates multiple HTUs, a DCU, a HCU, a FCCU, a coke handling, screening, and loading system, multiple cogeneration units, multiple steam boilers and other process equipment at the Refinery. Some of this equipment is scheduled for replacement due to age, while the balance is proposed for modifications to reduce emissions, improve reliability and comply with regulatory requirements. The following sections provide additional detail on the proposed project. Figure 3 provides the location of the proposed modified units

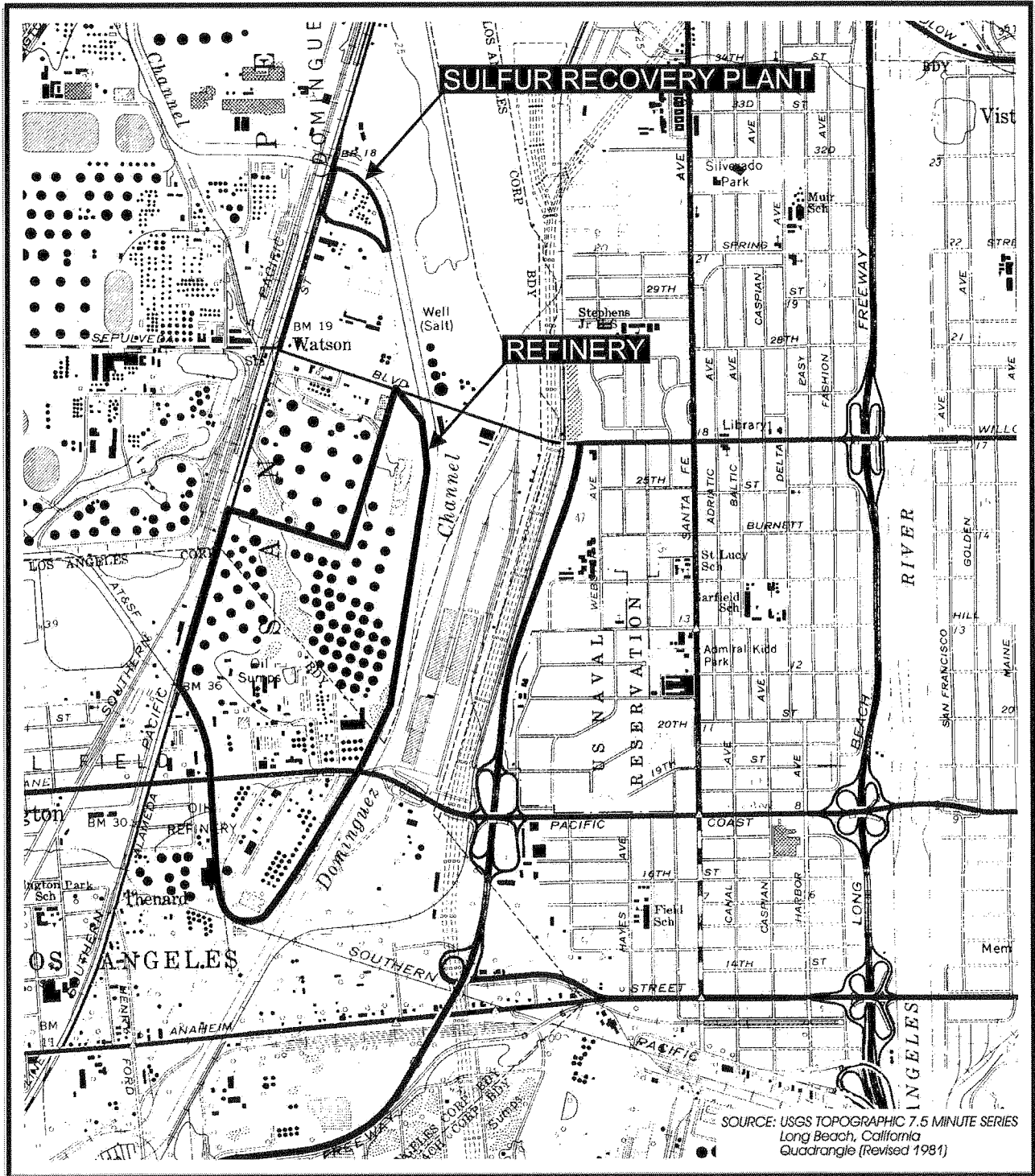


REGIONAL MAP TESORO LOS ANGELES REFINERY / SULFUR RECOVERY PLANT

Project No. 2550

Figure 1

N:\2550\Tesoro\Regional Map.cdr



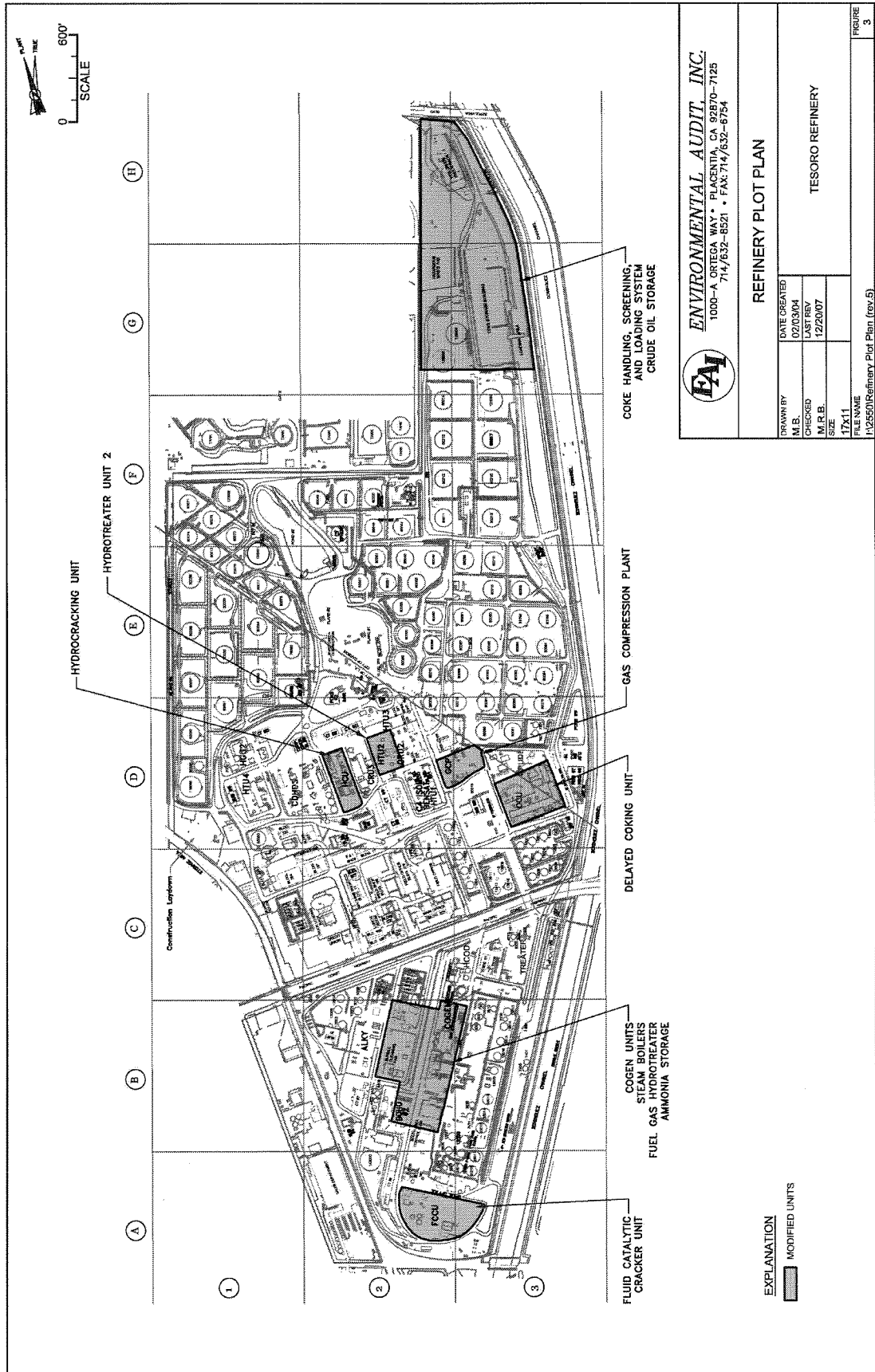
EA Environmental Audit, Inc.

**SITE LOCATION MAP
TESORO LOS ANGELES REFINERY / SULFUR RECOVERY PLANT**

Project No. 2550

Figure 2

N:\2550\Tesoro\Site\ocMap.cdr



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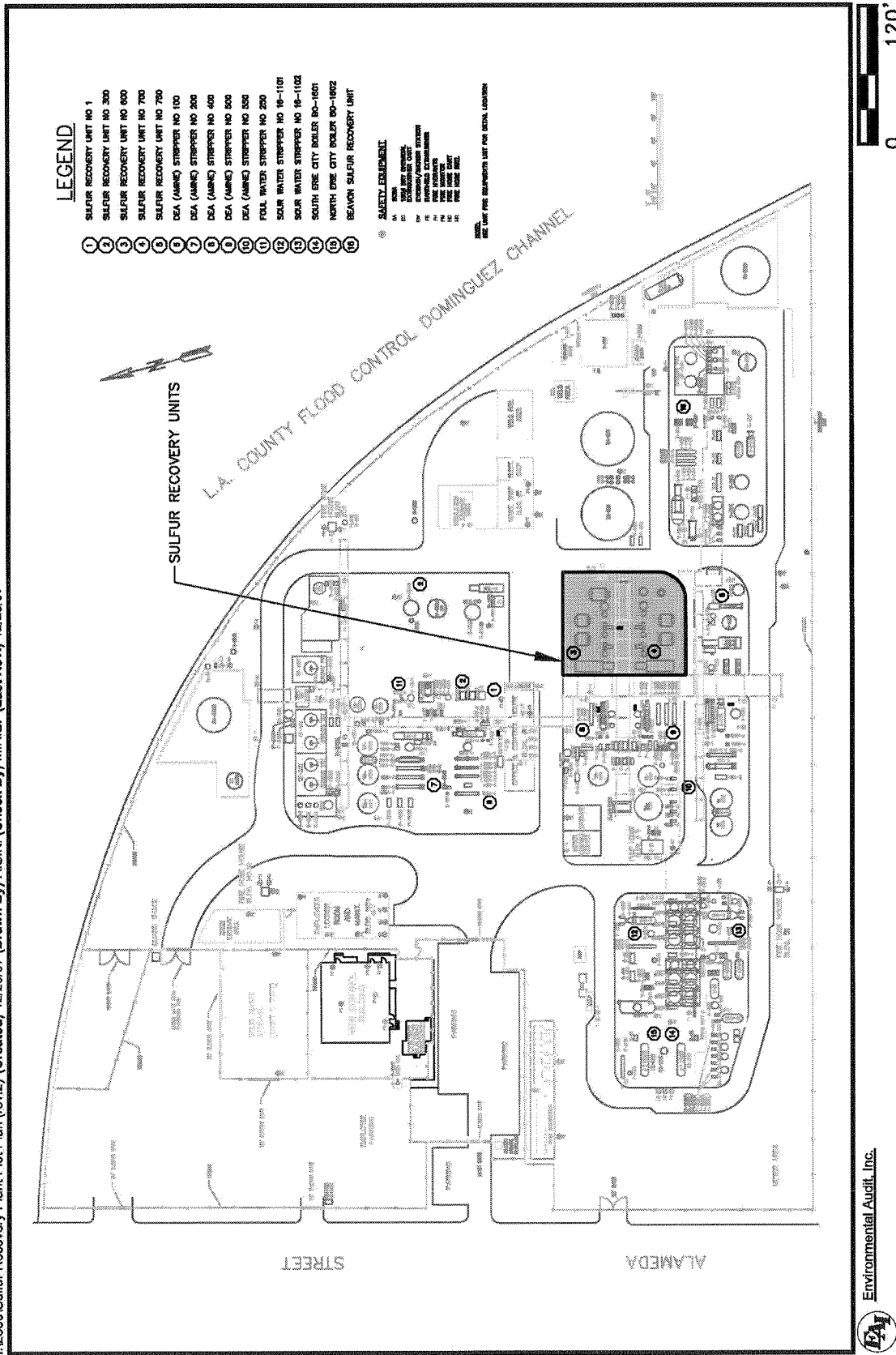


Figure 4

within the Refinery. Figure 4 provides the location of the proposed modified units at the SRP. Construction of the proposed project is scheduled to begin in July 2008 and to be complete by September 2010.

1.3.1 RECLAIM NO_x and SO_x Reduction

Emissions of nitrogen oxides (NO_x) and sulfur oxides (SO_x) at the Refinery and SRP are subject to SCAQMD's Regulation XX - Regional Clean Air Incentive Market (RECLAIM). Unlike the command-and-control regulations for which each NO_x and SO_x emitting equipment is subject to a concentration limit or an emission rate, RECLAIM limits total facility NO_x and SO_x emissions and offers the flexibility of trading emissions with other facilities and/or reducing NO_x or SO_x emissions within the facility. Currently, the actual annual NO_x emissions at the Refinery exceed the annual allocation. In order to comply with RECLAIM, Tesoro has been purchasing NO_x RECLAIM Trading Credits (RTCs) from the market to comply with the facility's annual allocation requirement. During fiscal year 2006-2007, the total combined NO_x emissions from the existing two cogeneration units and four steam boilers accounted for approximately 48 percent of the total NO_x emissions from major combustion equipment at the Refinery. In lieu of continuing to purchase credits, Tesoro plans to reduce NO_x emissions at the Refinery by replacing: (1) two existing 30 megawatt (MW) cogeneration units with one new 65 megawatt cogeneration system; and (2) four existing steam boilers with two new steam boilers. The new cogeneration system and boilers will be equipped with Best Available Control Technology (BACT) and are expected to substantially reduce NO_x emissions and minimize the need for Tesoro to purchase NO_x RTCs.

1.3.1.1 Cogeneration Units

Tesoro currently operates a cogeneration system that supplies a portion of electricity and steam used by the process equipment at the Refinery. Tesoro supplements onsite generation by purchasing electricity from the Los Angeles Department of Water and Power (LADWP) to meet remaining demands for the refining operation. The existing cogeneration system is a major source of NO_x emissions at the Refinery. To reduce NO_x emissions and remain within Tesoro's annual RECLAIM NO_x allocations, Tesoro is proposing to replace the two existing 30 MW cogeneration units and their associated air pollution control equipment with one new cogeneration system, consisting of a gas turbine, a steam turbine, a heat recovery steam generator, and the associated air pollution control equipment (including NO_x control technology such as a selective catalytic reduction (SCR) unit). A new emergency internal combustion engine will also be installed to supply power to the instruments and auxiliary equipment in the gas turbine which will allow the boilers to continue to operate and provide sufficient steam as necessary, and maintain a safe shutdown and start up of the Refinery during a power outage.

The proposed new cogeneration system would increase the maximum electrical generating capacity at the Refinery by about five megawatts while reducing NOx emissions. The increased electrical generation capacity will allow the Refinery to rely mainly on onsite power generation under normal operating conditions as part of an effort to reduce the risk of process upset due to interruption of power supplied by any outside provider.

1.3.1.2 Steam Boilers

Currently the existing cogeneration systems and four steam boilers generate steam for multiple processes at the Refinery. The total combined permitted heat input for the four boilers at the Refinery are 734.16 million British Thermal Units per hour (mmBtu/hr). Similar to the existing gas turbines, these existing steam boilers are major sources of NOx emissions at the Refinery. As part of the strategy to reduce existing NOx emissions to comply with the annual reductions to Tesoro's RECLAIM NOx Annual Allocation, Tesoro will replace the four existing boilers with two new boilers, each with total heat input rating of no more than 400 mmBtu/hr. The new boilers will burn refinery fuel gas or natural gas and will be equipped with SCR units to reduce NOx emissions.

1.3.1.3 Fuel Gas Treatment Unit

A new fuel gas treatment unit will be installed to remove sulfur in fuel gas to allow Tesoro to meet future regulatory requirements (BACT requirements for sulfur in fuel gas). The fuel gas treatment unit will be a custom design using hydrotreating technology to treat high sulfur fuel gas streams at the Refinery. Under this process, the fuel gas is compressed, heated and catalytically reacted with hydrogen in a bed of hydrotreater catalyst to convert sulfur compounds into hydrogen sulfide. The carbonyl sulfide (COS) formed during the reaction will be hydrolyzed to hydrogen sulfide in an additional downstream reactor. The gas will be cooled and the hydrogen sulfide removed using amine scrubbing.

1.3.1.4 Ammonia Storage

Ammonia is an integral part of the SCR process for NOx control. New SCRs are included in the proposed project as NOx emission control systems for all new and modified combustion devices. The proposed project includes a total of three new SCR Units, one for the new cogeneration system, and one for each of the two new boilers. The proposed project includes a new 12,000 gallon storage tank to provide an adequate supply of aqueous ammonia for the proposed new SCR units.

1.3.2 Liquefied Petroleum Gas (LPG) Recovery

Tesoro is planning to recover liquid products from light petroleum gases at the DCU, the HCU and the FCCU by: 1) replacing a distillation column, three overhead accumulators, a reflux drum, and heat exchangers; 2) adding a new Fractionator overhead wash water system; and, 3) adding a knock-out drum and associated piping and pumps as needed.

Additionally, a depropanizer column in the DCU will be replaced with an identical column.

1.3.2.1 Delayed Coking Unit (DCU) Modification

The DCU converts atmospheric residuum and heavy crude fraction into gases, light liquids, naphtha, distillate oils and petroleum coke. The feed to the DCU is heated to a high temperature causing the light materials to boil off leaving behind solid materials called petroleum coke. Tesoro is proposing to remove water and recover more liquid products (i.e., LPG) from process gas in the DCU by: 1) replacing the existing deethanizer column with a taller column; 2) replacing three existing fractionator overhead accumulators with larger vessels, 3) adding a new fractionator overhead wash water system; and 4) adding new pumps and piping as necessary. In addition, Tesoro plans to replace the depropanizer column with an identical column.

1.3.2.2 Hydrocracking Unit (HCU) Modification

The HCU converts gas oil in the presence of hydrogen into gases, light liquids, light naphtha, heavy naphtha and diesel streams. The HCU consists of a reaction section and a fractionation section. The proposed modifications will be made to the fractionation section and will include: 1) adding an amine scrubber feed knockout drum; and 2) adding booster pumps and piping. The purpose of the proposed modifications is to increase the amount of liquid recovered, reduce process gas by improving liquid/vapor separation, and reduce the potential for entrained liquids moving into the amine system.

1.3.2.3 Fluid Catalytic Cracking Unit (FCCU) Modification

The FCCU converts heavy oil into lighter hydrocarbon compounds. The FCCU produces a large quantity of gasoline blending components and feedstocks for the alkylation process. As part of an effort to recover more liquid fuel and reduce process gas generation, two heat exchangers in the FCCU Recovery section will be replaced to allow better heat transfer and better recovery of liquid fuel from process gas.

1.3.3 Coke Handling, Screening and Loading System

Petroleum coke generated at the DCU is transferred via conveyor belts to the coke storage and loading area for distribution to offsite facilities by either trucks or rail cars. The existing coke barn is scheduled for replacement. The existing coke storage facility will be replaced with a new coke storage facility. In addition to the new coke storage facility, Tesoro is proposing to build new coke loading facilities and make modifications to the associated coke transfer equipment as necessary.

1.3.4 Compliance with Revised CARB Phase III - Hydrotreating Unit (HTU) Modification

The proposed modifications to the HTU-2 are designed to increase throughput to desulfurize more naphtha in order to meet sulfur specifications for blending into revised CARB Phase III compliant gasoline products. The proposed HTU maximum capacity may increase from 23,000 Barrels per Stream Day (BPSD) to 27,000 BPSD. The proposed project may be completed solely by modifying existing heat exchangers or adding new heat exchangers.

1.3.5 Amine/Sour Water Reliability Upgrades

The proposed upgrades include the installation of a new larger amine flash drum to allow for the proper residence time of the amine solution to enhance removal of hydrocarbons and prevent the hydrocarbons from being inadvertently routed to the sulfur plants. Excess hydrocarbons in the sulfur plants can increase the operating temperatures, causing the plant to shutdown and release exhaust gas with high sulfur concentrations to the atmosphere, potentially creating odors and nuisance situations. The existing flash drum will be modified for use primarily as a sour water flash drum and as a back up to the new amine flash drum. The existing vapor recovery heat exchanger and knock out drum will also be replaced with a larger system to increase reliability of the amine system.

1.3.6 New Sour Gas Treatment Units for the Sour Gas from the Spent Acid Storage Tank and the LPG Sulfur Extraction Unit

New sour gas treatment units will be installed to reduce sulfur content in the sour gas from the spent acid storage tank and the LPG Sulfur Extraction Unit at the Alkylation Unit. This proposed modification will reduce the sulfur content from a vent gas stream and help the Refinery comply with the United States Environmental Protection Agency's (USEPA) Maximum Achievable Control Technology (MACT) Standards for Petroleum Refineries (40 Code of Federal Regulations Part 63, Subpart CC).

1.3.7 Connecting Atmospheric Pressure Relief Device to Flare

Tesoro has a company policy to minimize the potential for atmospheric releases from Pressure Relief Valves (PRVs) associated with refinery equipment and will connect PRVs to the flare gas recovery system whenever feasible. Therefore, as part of the proposed project, Tesoro is proposing to connect all of the PRVs in the FCCU to the flare gas recovery system, except for the PRVs on the main fractionator. This modification will also assist Tesoro in complying with SCAQMD Rule 1173 - Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants.

1.3.8 Delayed Coker Unit (DCU) Modifications

1.3.8.1 Coke Drum Blowdown System Modifications

The coke drum blowdown system processes steam and hydrocarbons from coke drum decoking (i.e., removing the built-up coke) and warm-up. This system recovers water, oil, and any non-condensable gas. The proposed modifications to this system include: 1) replacing the blowdown contactor and blowdown accumulator with larger vessels; and 2) adding a new heat exchanger and condensers. These proposed modifications will allow better oil and water separation while reducing the amount of heavy hydrocarbons being carried over to the slop oil storage tank.

1.3.8.2 DCU Heater H-101 Modification

Heater H-101 is proposed to be modified to improve heat transfer efficiency by enlarging the fire box to increase the heat transfer area. Additionally, new low NOx burners will be installed to reduce NOx emissions.

1.3.9 Crude Oil Storage Tank

The proposed project includes the construction of a new 500,000 barrel crude oil storage tank in order to provide additional crude oil storage capacity and to provide operational flexibility.

1.3.10 Sulfur Recovery Plant (SRP) Claus Unit 600/700 Modification

One objective of the proposed project is to increase sulfur removal capacity of the SRP Claus Units 600 and 700 by adding oxygen to the inlet air. Liquid oxygen will be purchased from a local production facility and delivered by truck to the SRP where it will be stored in a new pressurized oxygen tank. The proposed project also includes the replacement of the reaction furnace burners, modification of the existing Safety Instrumented System, and upgrades to the Waste Heat Boilers.

1.4 PROJECT CONSTRUCTION SCHEDULE

Construction activities for the proposed Tesoro Project are expected to begin in the second quarter of 2008 and are expected to be completed by the end of 2010. As shown in Figure 5, the construction schedule for each component of the proposed project varies. The construction activities for most of the components are expected to overlap from about April 2009 to October 2009. Construction work shifts are expected to last about ten hours per day during most portions of the construction schedule. During normal construction periods, one work shift per day is expected. During Refinery turnaround periods (when the refinery is shutdown), two work shifts are expected.

CHAPTER 2

ENVIRONMENTAL CHECKLIST FORM

Introduction
General Information
Potentially Significant Impact Areas
Determination
Environmental Checklist and Discussion
 Aesthetics
 Agriculture Resources
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 Hazards and Hazardous Materials
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 Mandatory Findings of Significance
 Conclusion
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Acronyms
Glossary

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	Tesoro Reliability Improvement and Regulatory Compliance Project
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive, Diamond Bar, CA 91765
Lead Agency Contact Person and Phone Number:	Barbara Radlein (909) 396-2716
Project Sponsor's Name:	Tesoro Refining and Marketing Company
Project Sponsor's Address:	The Refinery is located at 2101 East Pacific Coast Highway, Wilmington, CA 90744. The Sulfur Recovery Plant is located at 23208 South Alameda Street, Carson, CA 90810.
Project Sponsor's Contact Person and Phone Number:	Pang Mueller (310) 522-4976
General Plan Designation:	Heavy Industrial
Zoning:	M3-1 and MH
Description of Project:	The Tesoro Reliability Improvement Project will occur at Tesoro's Refinery and at their separate Sulfur Recovery Plant. The purpose of the proposed project is to increase the reliability of specific existing processing equipment at both Tesoro facilities. The proposed changes to the Refinery include the following: 1) install a new fuel gas treatment unit; 2) replace an existing cogeneration system with a new cogeneration system; 3) replace multiple, existing steam boilers with new equipment; 4) modify the DCU, the HCU and the FCCU to increase recovery of LPG; 5) modify the existing coke handling, screening, and loading system; 6) modify the existing HTU No. 2 in order to comply with the revised California Air Resources Board's gasoline specifications (revised CARB Phase III); 7) upgrade the existing amine/sour water system to improve hydrocarbon removal efficiency; 8) connect certain existing atmospheric PRDs to the existing flares to prevent direct atmospheric releases; 9) improve sulfur treatment for the sour gas from the spent acid storage tank and the LPG sulfur extraction unit; 10) modify the coke drum blowdown system; 11) modify heater number H-101 at the DCU; and, 12) install a new crude oil storage tank. The proposed project at the Sulfur

	Recovery Plant will modify an existing Claus Unit to improve sulfur recovery.
Surrounding Land Uses and Setting:	Industrial and commercial uses including petroleum refining, hydrogen production facilities, storage tank facilities, distribution terminals, and scrap yards.
Other Public Agencies Whose Approval is Required:	City of Los Angeles City of Carson

POTENTIALLY SIGNIFICANT IMPACT AREAS

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture Resources | <input checked="" type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology/Soils | <input checked="" type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/
Water Quality |
| <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Solid/Hazardous Waste | <input checked="" type="checkbox"/> Transportation/
Traffic | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: February 20, 2008

Signature: *Steve Smith*

Steve Smith, Ph.D.
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

	Potentially Significant Impact	Less Than Significant Impact	No Impact
1. AESTHETICS. Would the project:			
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Checklist Response Explanation

1. a), b) and c) Construction activities at the Tesoro Refinery/SRP are not expected to adversely impact views and aesthetics since most of the construction activities, which include the operation of heavy equipment, are expected to occur within the existing facility boundaries and are not expected to be visible to areas outside the facility. At the Tesoro Refinery/SRP, the construction activities associated with the proposed project will occur within the operating portion of the Refinery/SRP. Construction activities may be visible to the adjacent industrial areas, e.g., truck terminal, but are consistent with the industrial uses, so no significant adverse aesthetic impacts are expected.

The potential for aesthetic impacts relating to the operational activities of the proposed project at the Tesoro Refinery/SRP are expected to be less than significant. Modifications and new equipment associated with the DCU, HCU, FCCU, HTU-2, coke storage facility, cogeneration units, steam boilers, storage tanks sulfur recovery plant, amine/sour water treatment and the fuel gas treatment unit, will be located at, or immediately adjacent to, where the same or similar equipment currently exists. Because the proposed project consists of modified or new equipment that is of the same or similar size and height, and is located in the same or similar location, aesthetic impacts from the Tesoro Reliability Improvement and Regulatory Compliance Project are not expected to have any significant adverse impacts on aesthetics.

All of the modifications and new equipment installations at the Tesoro Refinery/SRP are expected to be about the same size profile as existing equipment within the Refinery/SRP.

Further, installation of new or replacement of existing equipment at the facility, either inside or outside the existing structures, would not appreciably change the visual profile of the entire facility. In light of these considerations, no significant adverse impacts to aesthetics are expected from implementing the Tesoro Reliability Improvement and Regulatory Compliance Project.

1. d) New lighting may be provided as necessary in accordance with applicable safety standards on new structures constructed as a result of the proposed project. If installed, the lighting is expected to be consistent with existing lighting at the Refinery/SRP. However, the new lights are not expected to create new light and glare impacts to areas adjacent to the Refinery due to the industrial nature of the surrounding area and the fact that refineries are typically lighted at night for safety reasons. Specifically, for the proposed project, modifications of existing equipment will use the same lighting and installation of new equipment will require similar in lighting requirements with the equipment being replaced. Therefore, no significant adverse light and glare impacts are expected from implementing of the Tesoro Reliability Improvement and Regulatory Compliance Project.

Conclusion

No significant adverse aesthetics impacts are expected to occur as a result of construction and operational activities that Tesoro would undertake in order to complete the proposed project. Since no potentially significant adverse aesthetic impacts were identified, no further evaluation will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
2. AGRICULTURE RESOURCES. Would the project:			
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

2. a) b) & c) The potential for agricultural resources impacts associated with the activities associated with the proposed project is expected to be less than significant for the following reasons. All construction and operational activities that would occur as a result of the proposed project will occur within the confines of the existing Tesoro Refinery/SRP. The proposed project would be consistent with the heavy industrial zoning for the Tesoro Refinery/SRP and there are no agricultural resources or operations on or near the Tesoro Refinery/SRP. No agricultural resources including Williamson Act contracts are located within the project locations or would be impacted by the proposed project. Based upon the above considerations, significant agricultural resources impacts are not expected from the Tesoro Reliability Improvement and Regulatory Compliance Project.

Conclusion

No significant adverse impacts to agricultural resources are expected to occur as a result of construction and operational activities that the Tesoro Refinery/SRP would undertake in order to complete the proposed project. Since no potentially significant adverse agricultural resources impacts were identified, no further evaluation will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
3. AIR QUALITY. Would the project:			
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

3. a) & f) The 2007 Air Quality Management Plan (AQMP) demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are some of the inputs used to develop the AQMP. As indicated in the Population and Housing and Transportation/Traffic sections of this IS, the proposed project will not require additional Refinery employees or generate additional traffic during operation. Therefore, the proposed project will not cause increases in the growth projections in the Wilmington-Harbor City Community Plan (City of Los Angeles, 1999). Additionally, this project must comply with applicable SCAQMD requirements and promulgation of future AQMP control measures for new or modified sources. For example, new emission sources associated with the proposed project are required to comply with the SCAQMD’s Regulation XIII – New Source Review and Rule 2005 - New Source Review for RECLAIM, requirements that include the use of BACT, air quality modeling, and emission reduction credit offsets for any emission increases greater than one pound per day. The proposed project must also comply with prohibitory rules, such as SCAQMD Rule 403 – Fugitive Dust.

By meeting these requirements, the proposed project will be consistent with the goals and objectives of the AQMP to improve air quality in the Basin. In addition, some modifications associated with the proposed project are expected to result in a reduction in criteria and toxic air contaminant emissions. Examples include replacement of the old cogeneration equipment with new gas turbines and steam generators, the installation of SCR equipment in the modification to the Cogen Unit to reduce NOx emissions, installation of a fuel gas treatment system, and connecting PRDs to vapor recovery. As a result, the proposed project is consistent with the 2007 AQMP and is not expected to diminish an existing air quality rule or a future compliance requirement.

3. b) Construction activities associated with the proposed project would result in emissions of carbon monoxide (CO), particulate matter less than 10 and 2.5 microns in diameter (PM10 and PM 2.5, respectively), volatile organic compounds (VOCs), NOx and SOx. Construction activities include standard site preparation activities including grading, pouring new foundations, and all other activities associated with the installation of the new equipment. Construction-related activities will generate emissions from worker vehicles, delivery trucks, and construction equipment. The air quality impacts associated with the construction phase of the proposed

project are potentially significant and will be evaluated in the EIR. Some of the proposed project modifications will increase air pollutants during operation including the HCU and DCU modifications, the HTU modifications, the SRP Claus Unit modifications and the Crude Oil Storage Tank addition. Some portions of the proposed project such as the gas turbine and steam generator replacement in the Cogeneration units, and the new boilers for the Boiler Replacement project, are being completed for air quality compliance purposes to reduce NO_x emissions (e.g., SCAQMD Regulation XX – RECLAIM).

Although equipment associated with the proposed project must comply with SCAQMD rules and regulations, the proposed project has the potential to increase emissions of some criteria pollutants. The proposed project would add new emission sources to the Refinery including pumps, valves, and flanges and some of the proposed project modifications may result in an increase in the throughput of the unit (e.g., HTU, Amine/Sour Water upgrades, SRP Claus unit modification, and the Crude Oil Storage Tank). The SCAQMD requires the installation of BACT (e.g., SCR units) for new emission sources within the South Coast Air Basin, which should minimize project-related emissions. Nonetheless, the proposed project impacts on air quality during the operational phase are potentially significant and will be evaluated in the EIR.

The proposed project may also alter the transport of raw materials to the Refinery and the transport of products from the Refinery. The emission impacts related to changes in the amount or type of materials transported will be evaluated in the EIR.

3. c) The proposed project may result in an increase in emissions from the operation of the Refinery and has the potential to result in cumulative impacts. Since the project-specific air quality impacts may be significant, they may contribute to impacts that are cumulatively considerable. The cumulative air quality impacts for criteria pollutants, toxic air contaminants, and greenhouse gases are potentially significant and will be evaluated in the EIR.

3. d) New emission sources associated with the proposed project may emit toxic air contaminants, e.g., fugitive components from the fuel gas treatment unit, DCU, HCU, FCCU, and HTU-2. The impact of the emissions of toxic air contaminants and criteria pollutants on sensitive populations, including individuals at hospitals, nursing facilities, daycare centers, schools, and elderly intensive care facilities, as well as residential and off-site occupational areas, will be evaluated in the EIR.

3. e) The proposed project is not expected to create significant objectionable odors either during construction or operation of the new or modified equipment. Sulfur compounds (e.g., hydrogen sulfide) are the primary sources of odors from existing operations throughout the Refinery. The sulfur-bearing materials are handled and treated in the Sulfur Recovery Units where they are converted to elemental (solid) sulfur, which does not emit an appreciable odor. Though the Refinery will continue to process sulfur-bearing materials in the Sulfur Recovery Units, the proposed project is expected to increase the reliability associated with handling sulfur-bearing material. The proposed amine/sour water reliability upgrades include a new larger amine flash drum to allow for increased residence time to prevent contaminants from being inadvertently routed to the sulfur plants and creating upsets (i.e., releases of sulfur-bearing compounds), thus, reducing the potential for odor impacts from the existing Refinery. Additionally, the SRP Claus

Unit modifications will make the Refinery more efficient in sulfur removal by adding oxygen to the combustion air, thus reducing the potential for odor impacts. Further, the Tesoro Refinery/SRP maintains staff available 24 hours per day for odor investigation, which contributes to minimizing the frequency and magnitude of odor events. In addition, all new and modified components of the proposed project will be required to comply with BACT requirements as well as existing SCAQMD rules and regulations, including Rule 402 – Prohibition of Nuisances. Compliance with BACT and Rule 402 is expected to help minimize the frequency and magnitude of odor events at the Refinery/SRP. Therefore, no significant odor impacts are expected from constructing and implementing the proposed project.

The ammonia from the SCR stack is typically less than 10 parts per million (ppm) or less and substantially less than the Occupational Safety and Health Administration (OSHA) odor threshold for ammonia which is 20 ppm. Ammonia can have a strong odor; however, the proposed project is not expected to generate substantial ammonia emissions, since the project will use aqueous ammonia and the aqueous ammonia will be stored in an enclosed pressurized tank, which prevents fugitive ammonia emissions. Ammonia emissions from the SCR unit stack (also referred to as ammonia slip) are expected to be limited to less than 10 ppm as emitted from the stack. Since exhaust emissions are buoyant as a result of being heated, ammonia will disperse and ultimate ground level concentrations will be substantially lower than 10 ppm, which is below the odor threshold for ammonia of 20 ppm (OSHA, 2005). The Refinery maintains a 24-hour environmental surveillance effort, which helps to minimize the frequency and magnitude of odor events. No odors are expected from the new equipment. Potential odor impacts from the proposed project are not expected to be significant. Therefore, no significantly adverse incremental odor impacts are expected due to the proposed project.

Conclusion

Project-specific and cumulative adverse air quality impacts associated with increased emissions of air contaminants (criteria air pollutants, greenhouse gases, and toxic air contaminants) during the construction and operation phases of the proposed project will be evaluated in the EIR. Impacts to sensitive receptors will also be analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
4. BIOLOGICAL RESOURCES. Would the project:			
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

4. a) b) c) d) e) & f) All construction and operational activities that would occur as a result of the proposed project will occur within the confines of the existing Tesoro Refinery/SRP. Previous development and operation of the Tesoro Refinery/SRP has left the proposed sites with no natural habitats within their confines. Currently, no species of rare, threatened, or endangered plants or animals have been reported in the vicinity of the proposed project. Because the area within the Tesoro Refinery/SRP boundary is devoid of native habitat for safety reasons, impacts to other, non-listed species are not expected. The proposed project is not located on or near a wetland habitat, and will not create any barriers to the movements of animals. The proposed project would be consistent with the heavy industrial zoning and there are no biological resources or operations on or near the Tesoro Refinery/SRP. Further, no substantial increase in storm water runoff from the Tesoro Refinery or SRP is expected so no impacts on biological

resources within the Dominguez Channel are expected. Based upon the above considerations, significant adverse impacts on biological resources are not expected from the proposed project.

Conclusion

No significant adverse impacts to biological resources are expected to occur as a result of construction and operational activities that the Tesoro Refinery/SRP would undertake in order to implement the proposed project. Since no potentially significant adverse biological resources impacts were identified, no further evaluation will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
5. CULTURAL RESOURCES. Would the project:			
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of a archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside a formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

5. a) CEQA Guidelines state that “generally, a resource shall be considered ‘historically significant’ if the resource meets the criteria for listing in the California Register of Historical Resources including the following:

- A) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- B) Is associated with the lives of persons important in our past;

- C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values;
- D) Has yielded or may be likely to yield information important in prehistory or history” (CEQA Guidelines §15064.5).

Generally, resources (buildings, structures, equipment) that are less than 50 years old are excluded from listing in the National Register of Historic Places¹ unless they can be shown to be exceptionally important). The buildings, structures, and equipment associated with the proposed project are not listed on registers of historic resources, and do not meet the eligibility criteria presented above (e.g., associated with historically important events or people, embodying distinctive characteristics of a type, period, or method of construction), and would not be likely to yield historically important information. The only components of the proposed project that are being removed are old Refinery structures including boilers, columns, fans, towers, coke storage facilities, etc. None of these structures meet the aforementioned historical significance criteria. Therefore, no significant impacts to historic cultural resources are expected as a result of implementing the proposed project.

5 b) c) & d) All construction and operational activities that would occur as a result of the proposed project will occur within the confines of the existing Tesoro Refinery/SRP. The proposed project would be consistent with the heavy industrial zoning.

Based on previous studies, the area near the Dominguez Channel was used by the Tongva/Gabrielino people. Cultural studies found a Tongva/Gabrielino village site and a large cemetery was exposed in 1998 near the BP Refinery, which is adjacent to the Tesoro SRP (east of the Dominguez Channel) (SCAQMD, 2001). Construction activities at the Tesoro Refinery uncovered human remains within the confines of the Refinery near the eastern property line, just north of Pacific Coast Highway and adjacent to the Dominguez Channel. The human remains were determined to be of Native American origin. Construction activities were suspended until all the remains were uncovered and a complete site investigation could be conducted. Additional site investigations did not uncover any additional human remains (Applied Earth Works, 1999).

The entire active portion of the Refinery and SRP have been previously graded and developed. Proposed project activities will occur in areas of the Refinery and SRP where the ground surface has already been disturbed, within or adjacent to existing refining units, and this past disturbance reduces the likelihood that previously unknown cultural resources will be encountered. Further, the Refinery/SRP sites do not contain known paleontological resources and thus the proposed project also is not expected to impact any sites of paleontological value.

While the likelihood of encountering cultural resources is low, there is still a potential that additional buried archaeological resources may exist. Any such impact would be eliminated by using standard construction practices and complying with state law, which require the following, in the event that unexpected sub-surface resources were encountered:

¹ The eligibility criteria of the California Register criteria are modeled on those of the eligibility criteria of the National Register of Historic Places.

- Conduct a cultural resources orientation for construction workers involved in excavation activities. This orientation will show the workers how to identify the kinds of cultural resources that might be encountered, and what steps to take if this occurred;
- Monitoring of subsurface earth disturbance by a professional archaeologist and a Gabrielino/Tongva representative if cultural resources are exposed during construction;
- Provide the archaeological monitor with the authority to temporarily halt or redirect earth disturbance work in the vicinity of cultural resources exposed during construction, so the find can be evaluated and mitigated as appropriate; and,
- As required by State law, prevent further disturbance if human remains are unearthed, until the County Coroner has made the necessary findings with respect to origin and disposition, and the Native American Heritage Commission has been notified if the remains are determined to be of Native American descent.

Based upon the above considerations, no significant cultural resources impacts are expected from the proposed Tesoro Reliability Improvement and Regulatory Compliance Project.

Conclusion

No significant adverse impacts to cultural resources are expected to occur as a result of construction and operational activities that Tesoro would undertake in order to complete the proposed project. Since no potentially significant adverse cultural resources impacts were identified, no further evaluation will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
6. ENERGY. Would the project:			
a) Conflict with adopted energy conservation plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the need for new or substantially altered power or natural gas utility systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Create any significant effects on local or regional energy supplies and on requirements for additional energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
d) Create any significant effects on peak and base period demands for electricity and other forms of energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with existing energy standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

6. a) & e) The potential for energy impacts associated with the activities from the proposed project was determined to be less than significant for the following reasons. The proposed project is not subject to any existing energy conservation plans or standards, so it is not expected to conflict with energy plans or standards. The proposed project includes a new replacement cogeneration system that will allow the Refinery to produce all of its own electricity during normal operations. Cogeneration facilities are more energy efficient than purchasing electricity from off-site providers. Therefore, the proposed project will increase the Refinery’s energy efficiency.

6. b), c) & d) It is not expected that natural gas-fired or electrically powered construction equipment (other than electric welders) or vehicles will be used and; thus, there will be no need for new or substantially altered power or natural gas utility systems during construction of the proposed project. Electric welders will be used in areas of the Refinery/SRP where electrical power is already available. Although construction equipment uses diesel fuel and some gasoline, use of these fuels is not considered to be a wasteful use of energy resources.

At the Tesoro Refinery the electricity required is typically supplied by the Refinery’s cogeneration units and by the local electrical utility when the demand exceeds the capacity of the existing cogeneration facilities. The proposed project will increase the electricity generated by the Refinery so that Tesoro is expected to be able to supply nearly all of the electricity required for normal operations, thus, decreasing the amount of electricity provided to the Refinery by the local utility. The modifications at the SRP are not expected to require any additional electrical requirements. Therefore, the proposed project will have no adverse impact on electricity providers.

The proposed project will use either natural gas, Refinery fuel gas, or a combination to operate the new Cogeneration system and new boilers. The proposed project is not expected to result in an increase in the use of natural gas because the new equipment will replace old existing equipment. The new equipment is much more efficient than the existing equipment. Further, Tesoro generates sufficient quantities of refinery fuel gas that is currently used in its cogeneration system and boilers and will continue to use refinery fuel gas in its new cogeneration system and new boilers. Therefore, the proposed project modifications will not

require the purchase of additional quantities of natural gas. No new or substantially altered power utility systems will need to be built to accommodate the cogeneration system.

Based upon the above considerations, the energy impacts during the construction and operation phases of the proposed project are expected to be less than significant.

Conclusion

No significant adverse impacts to energy resources are expected to occur as a result of construction and operational activities that Tesoro would undertake in order to complete the proposed project. Since no potentially significant adverse energy impacts were identified, no further evaluation will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
7. GEOLOGY AND SOILS. Would the project:			
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Strong seismic ground shaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

7. a and c) The potential for geology and soils impacts associated with the activities of the proposed project at the Tesoro Refinery/SRP was determined to be less than significant for the following reasons. The proposed project is located in a seismically active region. There is the potential for damage to the new structures in the event of an earthquake. New structures must be designed to comply with the Uniform Building Code Zone 4 requirements since the project is located in a seismically active area. The local cities are responsible for assuring that the proposed project complies with the Uniform Building Code as part of the issuance of the building permits (City of Los Angeles for the Refinery and City of Carson for the SRP) and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage, but with some non-structural damage; and (3) resist major earthquakes without collapse, but with some structural and non-structural damage.

The Uniform Building Code determines seismic design based on minimum lateral seismic forces ("ground shaking"). The Uniform Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site.

Tesoro must obtain building permits, as applicable, for all new proposed project structures. Tesoro shall submit building plans to the local cities for review. Tesoro must receive approval of all building plans and building permits to assure compliance with the latest Building Code adopted by the local cities prior to commencing construction activities.

Portions of the Refinery and SRP are located within an area where there has been historic occurrence of liquefaction or existing conditions indicate a potential for liquefaction (California Division of Mines and Geology, 1999). Therefore, there is the potential for liquefaction induced impacts at the Refinery since the appropriate parameters for liquefaction exist at the site, including unconsolidated granular soils and a high water table. The Uniform Building Code requirements consider liquefaction potential and establish more stringent requirements for building foundations in areas potentially subject to liquefaction. Therefore, compliance with the Uniform Building Code requirements is expected to minimize the potential impacts associated

with liquefaction. The issuance of building permits from the City will assure compliance with the Uniform Building Code requirements. Therefore, no significant impacts from liquefaction are expected.

Accordingly, the installation of new equipment at the Tesoro Refinery/SRP is required to conform with the Uniform Building Code and all other applicable state and local building codes. Thus, modifications and installations of new equipment would not alter the exposure of people or property to geological hazards such as earthquakes, liquefaction, subsidence, landslides, mudslides, ground failure, or other natural hazards. As a result, substantial exposure of people or structures to the risk of loss, injury, or death is not anticipated.

7. b) The proposed project is located within the confines of the existing Tesoro Refinery/SRP. Concrete foundations presently support Refinery structures and equipment. Most of the Tesoro Refinery/SRP roads, including all high traffic roads have been paved. The operating portions of the Tesoro Refinery/SRP are relatively flat. No unstable earth conditions, loss of topsoil, changes in topography or changes in geologic substructures are anticipated to occur with the proposed project because of the limited grading and excavation involved. No significant adverse impacts on topography and soils are expected.

The proposed project involves adding new equipment to existing facilities so construction activities are limited to foundation work and trenching for piping. At most, ground disturbance will be limited to installing foundations for new units and trenching for piping and utilities. Since the proposed project will occur within already developed facilities, no significant adverse impacts related to soil erosion are expected. No significant change in topography is expected because little grading/trenching is required that could substantially increase wind erosion or runoff from affected sites.

The proposed project will be required to comply with SCAQMD Rule 403 – Fugitive Dust, which imposes requirements to minimize dust emissions associated with wind erosion. Relative to operation, no change in surface runoff is expected because surface conditions will remain relatively unchanged.

7. d) & e) Since the proposed project is located in a heavy industrial zone, it is expected that people or property will not be exposed to expansive soils or soils incapable of supporting water disposal. Further, the Tesoro Refinery/SRP has existing wastewater treatment systems that will continue to operate and that will be available to handle wastewater produced by refining activities. The Tesoro Refinery does not use septic systems or alternative wastewater disposal systems. Further, no increase in water use or wastewater generated is expected due to the proposed project. Thus, the proposed project will not adversely affect soils associated with a septic system or alternative wastewater disposal system.

Based upon the above considerations, significant geology and soils impacts are not expected from the proposed project.

Conclusion

No significant adverse impacts to geology and soils are expected to occur as a result of construction and operational activities associated with the proposed project. Since no potentially significant adverse geology and soils impacts were identified, no further evaluation will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
8. HAZARDS AND HAZARDOUS MATERIALS. Would the project:			
a) Create a significant hazard to the public or the environment through the routine transport, use, disposal of hazardous materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Significantly increased fire hazard in areas with flammable materials?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Checklist Response Explanation

8. a), b) & i) Though hazard analyses have been previously completed for the existing equipment at the Tesoro Refinery/SRP, the proposed project may alter the existing hazards setting. For example, some of the new units that are proposed to be installed, such as the new Fuel Gas Treatment unit, may increase the potential hazards at the Tesoro Refinery or the SRP in the event of a release from the new unit. The proposed project could also increase the potential for fires and explosions associated with additional storage/use of flammable materials. In addition, the proposed project may increase the quantity of hazardous materials that will need to be transported to the Refinery for use (e.g., ammonia, sulfuric acid, etc.). The proposed project may also alter the transportation modes for feedstock and products delivered to and shipped from the Refinery and related terminals. The potential hazard impacts related to the proposed project are potentially significant and will be addressed in the EIR.

Increases in potential hazards associated with the implementation of the proposed project could potentially alter the probability for upset and accident conditions that could cause a release of hazardous materials into the environment. The potential effects of an accidental release of the additional hazardous materials being stored, used and transported as part of implementing the proposed project will be evaluated in the EIR.

8. c) The Tesoro Refinery and SRP are not located within one-quarter mile of an existing or proposed school. Therefore, no potential for impacts from hazardous emissions or the handling of acutely hazardous materials, substances and wastes on schools are expected.

8. d) The proposed project will be constructed within the confines of the existing Tesoro Refinery. In 1985, the Regional Water Quality Control Board (RWQCB) adopted Order 85-17 requiring Tesoro (Texaco at the time) (and 14 other local refineries) to conduct subsurface investigations of soil and ground water. Areas of soil contamination have been detected at the

site and remediated, as appropriate. Public Resources Code §21092.6 requires the lead agency to consult the lists compiled pursuant to §65962.5 of the Government Code to determine whether the project and any alternatives are located on a site that is included on such list. The Tesoro Refinery is included on a list compiled by CalEPA under Government Code §65962.5, dated May 6, 1999. The Refinery is listed on the May 6, 1999 list because it is on a list of Cleanup and Abatement Orders prepared by the State Water Resources Control Board (Order No. 97-118). For sites that are listed pursuant to Government Code §65962.5, the following information is required. Note that the SRP is not included on an applicable CalEPA List and, thus, not subject to §65962.5 requirements of the Government Code.

Applicant:	Tesoro
Address:	2101 E. Pacific Coast Highway, Wilmington, California 90744
Phone:	(310) 522-6000
Address of Site:	2101 E. Pacific Coast Highway, Wilmington, California 90744
Local Agency:	Wilmington, City of Los Angeles
Assessor's Book:	Parcel numbers 7315-014-008, 7315-017-005, 7428-007-003
List:	See above.
Regulatory ID No:	19290032, 4B192121001
Date of List:	See above.

Hazardous wastes from the existing Tesoro Refinery/SRP are managed in accordance with applicable federal, state, and local rules and regulations. The proposed project is not expected to alter the types of waste generated by the Refinery. Accordingly, significant adverse hazards and hazardous materials impacts from the disposal/recycling of hazardous materials are not expected from the proposed project.

8. e) & f) The proposed project will be constructed within the confines of the existing Refinery/SRP. The Tesoro Refinery/SRP is not located within two miles of an airport (either public or private), and is not located within an airport land use plan.

8. g) The proposed project is not expected to interfere with an emergency response plan or emergency evacuation plan. The Tesoro Refinery/SRP has an emergency response plan in effect. However, no modifications to the emergency response plan or the emergency evacuation plan are expected to be required as a result of the proposed project because it generally involves replacing end-of-life equipment with new, modern equipment.

8. h) The proposed project will not increase the existing risk of fire hazards in areas with flammable brush, grass, or trees. Although, additional natural gas may be used, and flammable materials may be stored, no substantial or native vegetation exists on or near the processing units so the proposed project is not expected to expose people or structures to wild fires. Therefore, no significant increase in wildland fire hazards is expected at the Tesoro Refinery/SRP.

Conclusion

Based on the above considerations, the potential hazards and hazardous materials impacts related to the operations at the Tesoro Refinery/SRP, and the transport of hazardous materials associated

with the Tesoro Reliability Improvement and Regulatory Compliance Project are potentially significant. Therefore, hazards and hazardous material impacts will be further evaluated in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
9. HYDROLOGY AND WATER QUALITY.			
Would the project:			
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
k) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
l) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
m) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
n) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o) Require a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

9. a), f), k), l) & o) Wastewater Generation

The potential for hydrology and water quality impacts associated with construction and operational activities at the Tesoro Refinery/SRP was determined to be less than significant for the following reasons. Construction activities are not expected to create additional wastewater.

Wastewater streams from the Refinery/SRP include process wastewater, boiler blowdown, sanitary wastewater, and surface runoff. Process wastewater and surface water streams are treated by the Refinery's existing wastewater treatment facilities prior to discharge to the Los Angeles County Sanitation District (LACSD) sewer system; the sanitary wastewater stream is discharged directly to the sewer without prior treatment. Wastewater is treated and sampled in compliance with the LACSD Industrial Wastewater Discharge Permit. The LACSD places limitations on wastewater parameters such as oil and grease contents, pH levels, temperature, heavy metals, organic compounds and so forth. Wastewater that complies with the LACSD permit requirements is discharged to the sewer. Wastewater that does not comply is returned to the wastewater treatment system for further treatment.

Operational activities are not expected to require additional water use, thus, are not expected to generate any additional wastewater at the Refinery/SRP. The proposed project primarily consists of modifying and replacing existing equipment with new equipment. For example, an old cogeneration system will be replaced with a new cogeneration system and old boilers will be replaced with new boilers. The water use associated with the new cogeneration system and the new boilers is expected to be the same or less than the existing equipment. Most of the proposed project modifications will not require water use or generate wastewater including the fuel gas treatment unit, ammonia storage, DCU modifications, HCU modifications, FCCU modifications, coke handling system modifications, HTU-2 modifications, amine/sour water reliability upgrades, connecting PRDs to the flare, modifications to Heater H-101, and SRP Claus Unit modifications.

Wastewater will continue to be discharged in compliance with the LACSD Industrial Wastewater Discharge permit so no significant impacts on wastewater are expected from the proposed project. Based on the above considerations, the potential hydrology and water quality impacts, especially those associated with wastewater discharge, are expected to be less than significant for the proposed project.

9. b) & n) Water Demand

The proposed project is not expected to significantly adversely affect the quantity or quality of groundwater in the area of the Refinery/SRP. There is no beneficial use of ground water in the area of the Tesoro facilities since most of the aquifers are unusable for fresh water supply because of salt-water intrusion. Water will be used for dust suppression during grading activities, but the amount needed is not expected to exceed the SCAQMD's water demand significance threshold of five million gallons per day or more. The new or modified equipment is not expected to increase water use during operations at the Refinery/SRP because the proposed

project primarily consists of modifying and replacing existing equipment with new equipment. For example, an old cogeneration system will be replaced with a new cogeneration system and old boilers will be replaced with new boilers. The water use associated with the new cogeneration system and the new boilers is expected to be the same or less than the existing equipment. Most of the proposed project modifications will not require water use or generate wastewater including the fuel gas treatment unit, ammonia storage, DCU modifications, HCU modifications, FCCU modifications, coke handling system modifications, HTU-2 modifications, amine/sour water reliability upgrades, connecting PRDs to the flare, modifications to Heater H-101, and SRP Claus Unit modifications. Therefore, no significant adverse impacts are expected to ground water supplies or water demand from implementing the Tesoro Reliability Improvement and Regulatory Compliance Project.

9. c), d), e) & m) Surface Water Runoff

The Refinery and SRP are located adjacent to the Dominguez Channel and approximately 1.5 miles west of the Los Angeles River. The Los Angeles River and the Dominguez Channel are the major drainages that flow into the Los Angeles-Long Beach Harbor complex. Sediments and contaminants are transported into the harbor with the flows from the Los Angeles River and, to a lesser degree, the Dominguez Channel. The Los Angeles River drains an 832-square mile watershed basin, into the Long Beach Harbor. The Los Angeles River watershed is controlled by a series of dams, and an improved river channel with a design flow capacity of 146,000 cubic feet per second.

The Dominguez Channel originates in the area of the Los Angeles International Airport and flows southward into the East Channel of the Los Angeles Harbor. The Dominguez Channel, an 8.5-mile long structure, drains approximately 80 square miles west of the Los Angeles River drainage basin. Permitted discharges from industrial sources are a substantial percentage of the persistent flows in the Dominguez Channel.

Changes to the existing storm water collection systems are expected to be less than significant since most of the proposed modifications will occur within existing units. The proposed project is expected to increase paved areas at the Refinery by less than 0.1 acre so that no measurable increase in storm water is expected from the proposed project. The proposed project consists of modifications within or adjacent to existing units. At the Tesoro Refinery/SRP, storm water runoff within process unit areas is handled by the existing wastewater system and sent to an on-site wastewater treatment system prior to discharge to the Los Angeles County Sanitation Districts' system. Storm water runoff from outside the process unit areas will be collected, treated as necessary, and discharged pursuant to the Refinery/SRP's existing NPDES permit. The proposed project is not expected to result in a significant increase in storm water runoff, therefore, no significant adverse impacts on storm water runoff are expected.

9. g), h), & i) Flood Hazards

The proposed project is expected to involve construction and modification activities located within existing industrial facilities and does not include the construction of any new housing or construction of new housing within a 100-year flood hazard area. The Tesoro Refinery and SRP

are not located within a 100-year flood zone and would not expose people or property to any known water-related flood hazards. No significant adverse impacts associated with flood hazards are expected due to the proposed project.

9. j) Other Hydrological Hazards

The proposed project is located near the Ports of Long Beach and Los Angeles, but at a sufficient distance from the shore to avoid potential tsunami impacts. The Tesoro Refinery/SRP is located north of the Port of Long Beach. The construction of breakwaters offshore, combined with the distance of the Refinery/SRP from the water, is expected to minimize the potential impacts of a tsunami or seiche so that no significant impacts are expected. Further, the Tesoro Refinery/SRP is located in a relatively flat area, therefore, the proposed project is not susceptible to mudflows (e.g., hillside or slope areas) so that no significant impacts from mudflows would be expected.

Conclusion

No significant adverse impacts to hydrology and water quality are expected to occur as a result of construction and operational activities that the Tesoro Refinery/SRP would undertake in order to complete the proposed project. Since no potentially significant adverse hydrology and water quality impacts were identified, no further evaluation will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
10. LAND USE AND PLANNING. Would the project:			
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

10. a) The proposed project will occur within the confines of the existing Tesoro Refinery/SRP, thus, it will not result in physically dividing any established communities, but will continue the use of the site as a Refinery/SRP.

10. b) & c) Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by adoption of the proposed project. The proposed project will occur within the confines of the existing Tesoro Refinery/SRP, which is zoned for heavy industrial use. The proposed project is consistent with the heavy industrial land use of the site. Therefore, present or planned land uses in the region will not be affected as a result of the proposed project. Further, there are no habitat conservation or natural community conservation plans located within or adjacent to the existing Refinery/SRP.

Based upon the above considerations, significant adverse land use planning impacts are not expected from the implementation of the proposed project.

Conclusion

No significant adverse impacts to land use and planning are expected to occur as a result of construction and operational activities that the Tesoro Refinery/SRP would undertake in order to complete the proposed project. Since no potentially significant adverse land use and planning impacts were identified, no further evaluation will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
11. MINERAL RESOURCES. Would the project:			
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

11. a) & b) All construction and operational activities that would occur as a result of the proposed Tesoro project will occur within the confines of the Refinery/SRP. The proposed project would be consistent with the heavy industrial zoning for the Refinery/SRP and there are no mineral resources or operations on or near the Tesoro Refinery/SRP.

There are no provisions of the proposed project that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state such as aggregate, coal, clay, shale, et cetera, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Based upon the above considerations, significant mineral resources impacts are not expected from the proposed project.

Conclusion

No significant adverse impacts to mineral resources are expected to occur as a result of construction and operational activities that the Tesoro Refinery/SRP would undertake in order to complete the proposed project. Since no potentially significant adverse mineral resources impacts were identified, no further evaluation will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
12. NOISE. Would the project result in:			
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airship, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

12. a), b), c), & d) The existing noise environment at the Tesoro Refinery/SRP is dominated by refinery equipment, other heavy industrial activities, and traffic. Construction activities for the proposed project are expected to generate noise associated with the use of heavy construction equipment and construction-related traffic. However, noise from the proposed project is not expected to produce noise in excess of current operations. The location of the construction activities will be adjacent to existing equipment and located adjacent to other industrial areas. The closest residents are located approximately one-quarter mile east of the Refinery/SRP and will be located about one-quarter mile to one-half mile from construction activities. These residents are located immediately east of the Terminal Island Freeway, which is the dominant noise source in adjacent areas. Because of the attenuation of noise over distance, the noise impacts associated with construction activities are expected to be less than significant since sufficient distance exists between the construction noise sources and sensitive receptors for the noise to be completely attenuated.

Operational noise from the proposed project is not expected to exceed that of current operations at the existing Refinery and SRP. The proposed project primarily consists of modifying and replacing existing equipment. For example, an old cogeneration system will be replaced with a new cogeneration system, old boilers will be replaced with new boilers, and the existing coke handling system will be replaced with a new coke handling system. The noise levels of the new equipment are expected to be about the same or less than the old, so no change in noise levels is expected during the operation of the proposed project. A number of the refinery modifications include replacing columns, accumulators, drums, heat exchangers, and condensers, e.g., DCU, HCU, FCCU, and HTU modifications, and the amine/sour water reliability upgrades. These modifications do not involve equipment that generates noise so no change in noise levels is expected. The proposed new equipment at the Refinery includes a new fuel gas treatment unit, ammonia storage tank, and crude oil storage tank. Of these, only the new fuel gas treatment unit will have pumps and other equipment that is a new noise source at the Refinery. Finally the modifications to the SRP (oxygen injection, burner replacement) are not expected to generate additional noise. Any new equipment installed at the Refinery or SRP is required to be limited to 85 decibels to minimize potential impacts to workers and the surrounding community. The new fuel gas treatment unit will be limited to 85 dBA and the closest residential areas to this unit are over on-half mile away. Therefore, because of the distance, the noise from this unit will be less than background noise levels at the residential areas. The overall noise levels at the Refinery/SRP equipment are expected to be about the same, so no change in noise levels is expected during the operation of the proposed project. Further, Occupational Safety and Health

Administration (OSHA) and California-OSHA have established noise standards to protect worker health. Noise impacts are expected to be less than significant.

12. e) & f) The Tesoro Refinery and SRP are not located within an airport land use plan, and the proposed project would not expose people residing or working in the project area to excessive noise levels associated with airplanes.

Based upon the above considerations, significant noise impacts are not expected from the proposed project.

Conclusion

No significant adverse impacts to noise are expected to occur as a result of construction and operational activities that the Tesoro Refinery/SRP would undertake in order to complete the proposed project. Since no potentially significant adverse noise impacts were identified, no further evaluation will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
13. POPULATION AND HOUSING. Would the project:			
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

13. a) Construction and operational activities associated with the proposed project are not expected to involve the relocation of individuals, impact housing or commercial facilities, or change the distribution of the population because the proposed project will occur completely within existing industrial facilities. Up to about 500 construction workers are expected during peak construction activities and most of the workers are expected to come from the large labor

pool in southern California. No increase in the permanent number of workers at the Tesoro Refinery/SRP is expected following the construction phase because the primary effect of the proposed project is to modify and replace existing equipment.

13. b) & c) Since the proposed project includes modifications and/or changes at an existing Refinery and SRP which are located in an industrial setting, the proposed project is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of people or housing elsewhere in the district.

Based upon these considerations, significant population and housing impacts are not expected from the implementation of the proposed project.

Conclusion

No significant adverse impacts to population and housing are expected to occur as a result of construction and operational activities that the Tesoro Refinery/SRP would undertake in order to complete the proposed project. Since no potentially significant adverse population and housing impacts were identified, no further evaluation will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
14. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:			
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

14.2 Environmental Setting and Impacts

14. a) & b) The Tesoro Refinery/SRP receives fire protection services from the City and County of Los Angeles and the City of Carson. The Tesoro Refinery/SRP is surrounded by fences and entry is restricted to several gates. A 24-hour security force operates at the Refinery/SRP. Fire protection services are supplemented by an on-site fire department. The proposed project will be constructed within the confines of the existing Refinery/SRP and involves the modification or replacement of existing equipment. The proposed project is not expected to increase the need or demand for additional public services (e.g., fire departments and police departments) above current levels because the proposed project will maintain existing operational capacity.

14. c), d) & e) The local labor pool (e.g., workforce) from the southern California area is expected to be adequate to fill the short-term construction positions for the proposed project. The proposed project will require a maximum of about 500 construction workers during peak construction periods. These workers are expected to come primarily from the labor pool in southern California. The proposed project will not result any additional permanent workers at the facility or increase the local population. Thus, no impacts are expected to local schools, parks, other public facilities or government services.

Based upon these considerations, significant public services impacts that could adversely affect service ratios, response times, etc., are not expected from the implementation of the proposed project.

Conclusion

No significant adverse impacts to public services are expected to occur as a result of construction and operational activities that the Tesoro Refinery/SRP would undertake in order to complete the proposed project. Since no potentially significant adverse public services impacts were identified, no further evaluation will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
15. RECREATION.			
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

15. a) & b) The potential for recreation impacts associated with the proposed project at the Tesoro Refinery/SRP were determined to be less than significant for the following reasons. The proposed project will require a maximum of about 500 construction workers during the peak construction phase. These workers are expected to come from the large labor pool in southern California. The proposed project will not result in additional permanent workers at the facility or increase the local population. Thus, no impacts are expected to recreational facilities and the proposed project would not require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Conclusion

No significant adverse impacts to recreation are expected to occur as a result of construction and operational activities that the Tesoro Refinery/SRP would undertake in order to complete the proposed project. Since no potentially significant adverse recreation impacts were identified, no further evaluation will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
16. SOLID/HAZARDOUS WASTE. Would the project:			
a) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

16. a) Solid Waste: The potential for solid/hazardous waste impacts associated with proposed project at the Tesoro Refinery/SRP were determined to be less than significant for the following reasons. Construction activities associated with the proposed project will increase the amount of solid waste generated and disposed. Demolition activities are expected to generate waste from the removal of the existing equipment that is proposed to be replaced. However, this equipment is expected to be either reused at another site outside of the district or recycled for metal content so that demolition activities are not expected to generate significant volumes of solid waste requiring disposal.

It is expected that a maximum of one cubic yard of asbestos containing material (ACM) will be present with the demolition of end-of-life equipment so that small volumes of ACM may require disposal. ACM may be disposed at a Class III disposal facility, e.g., the Waste Management's Azusa Land Reclamation Co. Landfill. The remaining capacity of the facility is about 34 million cubic yards of waste (CIWMB, 2006). Therefore, sufficient disposal capacity exists to handle the one time disposal of ACM associated with the demolition of the existing equipment.

Following completion of construction activities, no increase in solid waste is expected from the operation of the proposed project.

Hazardous Wastes: There are two hazardous waste (Class I) facilities in California, the Chemical Waste Management Inc. (CWMI) Kettleman Hills facility in King's County, and the Safety-Kleen facility in Buttonwillow (Kern County). Kettleman Hills receives an average of 2,700 tons per day and has an estimated two million cubic yard capacity. The facility is expected to continue receiving wastes for approximately three years without an expansion or 25 years with an expansion. The facility operators are in the process of obtaining permits for expansion which would increase the landfill's life by another five years. The facility operators would then seek a permit for development of a new landfill with a 15-year life (email Communication, Fred Paap, Chemical Waste Management Inc., September 2007). Buttonwillow receives approximately 960 tons of hazardous waste per day and has an approximate remaining capacity of 8.8 million cubic yards. The expectant life of the Buttonwillow Landfill is approximately 40 years (Personal Communication, Marianna Buoni, Clean Harbors Buttonwillow, Inc., September 2007).

Hazardous waste also can be transported to permitted facilities outside of California. The nearest out-of-state landfills are U.S. Ecology, Inc., located in Beatty, Nevada; USPCI, Inc., in Murray, Utah; and Envirosafe Services of Idaho, Inc., in Mountain Home, Idaho. Incineration is provided at the following out-of-state facilities: Aptus, located in Aragonite, Utah and Coffeyville, Kansas; Rollins Environmental Services, Inc., located in Deer Park, Texas and Baton Rouge, Louisiana; Chemical Waste Management, Inc., in Port Arthur, Texas; and Waste Research & Reclamation Co., Eau Claire, Wisconsin.

Excavation activities associated with the proposed project could potentially generate up to about 30,000 cubic feet of soil, of which about 60 percent could be contaminated and require off-site disposal. The soil will be disposed at a hazardous waste facility, if it meets the definition of hazardous waste, or at another landfill if not. As demonstrated above, sufficient capacity exists

to handle the one-time generation of hazardous waste from contaminated soil during the construction phase.

The existing SCR units at the Refinery generate waste associated with removing NOx from the flue gas. The proposed project will add more equipment to the Refinery that requires the use of catalysts, including SCRs, gas turbines with carbon monoxide catalyst, and the hydrotreater catalysts associated with the fuel gas treatment system. The spent catalyst material generated by the new equipment is expected to be of the same or similar composition as spent catalyst currently generated by the Refinery/SRP (e.g., existing SCR catalyst). Spent catalysts are recycled for their heavy metal content so that additional quantities of hazardous wastes are not expected to be sent to a landfill. Therefore, the amount of additional wastes generated as part of the proposed project is not expected to exceed the capacity of any landfills used by Tesoro because they are expected to be recycled.

16. b) The Refinery/SRP currently complies with, and upon completion of the proposed project, is expected to continue to comply with federal, state, and local regulations related to solid and hazardous wastes. The Tesoro Reliability Improvement and Regulatory Compliance Project is not expected to adversely affect the Tesoro’s ability to comply with federal, state, and local solid/hazardous waste regulations.

Conclusion

No significant adverse impacts to solid/hazardous waste are expected to occur as a result of construction and operational activities that the Tesoro Refinery/SRP would undertake in order to complete the proposed project. Since no potentially significant adverse solid/hazardous waste impacts were identified, no further evaluation will be required in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
17. TRANSPORTATION/TRAFFIC. Would the project:			
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access or access to nearby uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Checklist Response Explanation

17. a) & b) The proposed project will increase the traffic in the area associated with construction workers, construction equipment, and the delivery of construction materials. The proposed project is expected to require up to about 500 construction workers during the peak construction phase. Therefore, the traffic impacts associated with the proposed project during the construction phase are potentially significant and will be analyzed in the EIR.

Once construction of the proposed project is completed, the existing work force at the Refinery/SRP is not expected to increase or substantially change the volume of traffic. The proposed project will require additional delivery of aqueous ammonia for use in the SCRs and oxygen for use at the SRP (about once per month). In addition, catalyst in various units (SCRs and hydrotreater catalyst) will need to be changed once every three to 10 years. As a result, the proposed project may result in a maximum increase in trucks of one per day since the delivery of all project-related materials is infrequent. Therefore, the operation-related traffic is not expected to change so no significant impacts on traffic during operation of the proposed project is expected. Traffic impacts during operation, therefore, will not be further evaluated in the EIR.

17. c) The proposed project includes modifications to existing equipment and installation of new equipment within the existing Tesoro Refinery/SRP. The proposed modifications and new structures will be similar in height and appearance to the existing industrial structures. Since the proposed modifications and new structures will not be greater than 250 feet in height and are not expected to result in a change to air traffic patterns, notification to the Federal Aviation Administration pursuant to Advisory Circular AC 70/7460-2K is not required. Further, since the Refinery/SRP is located about four miles west of the nearest airport, Long Beach Airport (LGB), the Refinery/SRP is located outside of the normal flight pattern of LGB. In addition, the proposed project will not involve the delivery of materials via air cargo so no increase in air traffic is expected.

17. d) & e) The proposed project is not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to the Refinery/SRP. The proposed project does not include construction of roadways that could include design hazards. Emergency access at the Refinery will not be impacted by the proposed project and Tesoro will continue to maintain the existing emergency access gates to the Refinery/SRP.

17. f) Parking for the construction workers is usually provided within the confines of the existing Tesoro facilities. Portions of the proposed project at the Refinery are expected to impact onsite parking that is used for contractor parking. The construction of the proposed new crude storage tank is proposed to be located at a site used for contractor parking. Therefore, additional parking will be required during the construction phase and Tesoro is currently investigating the feasibility for off-site parking and transporting workers to the site. Once construction is complete, no increase in permanent workers is expected. As a result, operational parking impacts will not be further evaluated in the EIR. Therefore, the proposed project may result in significant parking impacts during the construction phase, which will be evaluated in the EIR.

17. g) The proposed project will be constructed within the confines of the existing Refinery/SRP and is not expected to conflict with adopted policies, plans, or programs supporting alternative transportation modes (e.g., bus turnouts, bicycle racks).

Conclusion

No significant adverse impacts to transportation/traffic are expected to occur as a result of operational activities at the Refinery/SRP due to implementation of the proposed project. Since no potentially significant adverse operational transportation/traffic impacts were identified, no further evaluation will be required in the EIR. The traffic and parking impacts associated with construction activities for the proposed project are potentially significant; therefore, these impacts will be further evaluated in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
18. MANDATORY FINDINGS OF SIGNIFICANCE.			
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18.1 Checklist Response Explanation

18. a) As shown in Section 4 – Biological Resources and Section 5 – Cultural Resources of this environmental checklist evaluation, the proposed project is not expected to reduce or eliminate any plant or animal species or destroy prehistoric records of the past. The affected site is part of an existing Refinery/SRP facility, which has been previously graded, such that the proposed project is not expected to extend into biologically or culturally sensitive areas, so that no significant adverse impacts are expected.

18. b) and c) The proposed project has the potential to result in an increase in emissions (including criteria pollutants, toxic air contaminants, and greenhouse gas emissions), hazard impacts, and traffic from the construction of the proposed project and has the potential to result in cumulative impacts in these areas. The potential cumulative impacts will be analyzed, as necessary, in the EIR. Potential adverse air quality and hazards and hazardous materials impacts could also adversely affect humans, either directly or indirectly. Potential adverse effects on humans will be included in the air quality and hazards and hazardous materials analyses.

Conclusion

Based on the a review of the environmental impacts associated with the proposed Tesoro Reliability Improvement and Regulatory Compliance Project, the SCAQMD has concluded that the proposed project may result in significant environmental impacts in the areas of air quality, hazards and hazardous materials, and transportation and traffic (including parking). Therefore, the preparation of an Environmental Impact Report is required.

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ACRONYMS

ABBREVIATION DESCRIPTION

ACM	Asbestos Containing Material
AQMP	Air Quality Management Plan
BACT	Best Available Control Technology
BPSD	Barrels per Stream Day
CARB Phase III	California Air Resources Board's gasoline requirements
CEQA	California Environmental Quality Act
CO	Carbon monoxide
COS	Carbonyl sulfide
DCU	delayed coking unit
FCCU	Fluid Catalytic Cracking Unit
HCU	Hydrocracking Unit
HTU	Hydrotreating Unit
LADWP	Los Angeles Department of Water and Power
LAR	Los Angeles Refinery
LGB	Long Beach Airport
LPG	liquefied petroleum gas
MACT	Maximum achievable control technology
mmBtu/hr	million British Thermal Units per hour
MW	Megawatts
NOP/IS	Notice of Preparation and Initial Study
NOx	nitrogen oxide
OSHA	Occupational Safety and Health Administration
PM10	particulate matter less than 10 microns in diameter
PRV	Pressure Relief Valve
PRD	Pressure Relief Device
RECLAIM	Regional Clean Air Incentive Market
RTCs	RECLAIM Trading Credits
RWQCB	Regional Water Quality Control Board, Los Angeles Region
SCAQMD	South Coast Air Quality Management District
SCR	Selective Catalytic Reduction
SOx	sulfur oxide
SRP	Sulfur Recovery Plant
Tesoro	Tesoro Refining and Marketing Company
USEPA	United States Environmental Protection Agency
VOC	volatile organic compounds

GLOSSARY

TERM	DEFINITION
Ambient Noise	The background sound of an environment in relation to which all additional sounds are heard..
Barrel	42 gallons.
Catalyst	A substance that promotes a chemical reaction to take place but which is not itself chemically changed.
Cogeneration	A cogeneration unit is a unit that produces electricity and useful thermal energy for steam or heating processes.
Cracking	The process of breaking down higher molecular weight hydrocarbons to components with smaller molecular weights by the application of heat; cracking in the presence of a suitable catalyst produces an improvement in product yield and quality over simple thermal cracking.
dBA	The decibel (dDB) is one tenth of a bel where one bel represents a difference in noise level between two intensities I_1, I_0 where one is ten times greater than the other. (A) indicates the measurement is weighted to the human ear.
Flue Gas	Gases produced by burning fuels in a furnace, heater or boiler.
Heater	Process equipment used to raise the temperature of refinery streams processing.
Hydrocarbon	Organic compound containing hydrogen and carbon, commonly occurring in petroleum, natural gas, and coal.
L_{50}	Sound level exceeded 50 percent of the time (average or mean level).
Natural Gas	A mixture of hydrocarbon gases that occurs with petroleum deposits, principally methane together with varying quantities of ethane, propane, butane, and other gases.
Paleontological	Prehistoric life.

Peak Hour	This typically refers to the hour during the morning (typically 7 AM to 9 AM) or the evening (typically 4 PM to 6 PM) in which the greatest number of vehicles trips are generated by a given land use or are traveling on a given roadway.
Residumm	Bottom portion (solids/residue) from fractionation columns that is unable to be refined further.
Seiches	A vibration of the surface of a lake or landlocked sea that varies in period from a few minutes to several hours and which may change in intensity.
Selective Catalytic Reduction	An air pollution control technology that uses a catalyst to remove nitrogen oxides from flue gas.