MITIGATED NEGATIVE DECLARATION
AND
INITIAL STUDY

CONDITIONAL USE PERMIT (CUP) 757
AND ZONE VARIANCE (ZV) 401
PARAMOUNT PETROLEUM
ALT AIR PROJECT
14700 DOWNEY AVENUE
PARAMOUNT, CALIFORNIA

LEAD AGENCY:

CITY OF PARAMOUNT
COMMUNITY DEVELOPMENT DEPARTMENT
16400 COLORADO AVENUE
PARAMOUNT, CALIFORNIA 90723

DECEMBER 30, 2013

PARA 059

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

MITIGATED NEGATIVE DECLARATION

PROJECT NAME: Paramount Petroleum Alt-Air Renewable Fuels Project, CUP 757 & ZV 401.

PROJECT ADDRESS: 14700 Downey Avenue.

CITY AND COUNTY: Paramount, Los Angeles County.

PROJECT: The Applicant, Paramount Petroleum, is requesting the City of Paramount consider the approval of a Conditional Use Permit (CUP 757) that would permit the construction and operation of the Alt-Air Renewable Fuels Project (referred herein-after as "the proposed project" or "the project"). The proposed project is designed to produce renewable jet fuel and renewable diesel fuel from non-edible vegetable oil and high-quality beef tallow. The proposed project also requires the approval of a zone variance for the increased height of the new tower. A 168 foot tower is proposed while the current height limit in the Heavy Industrial Zone is 85-feet. The proposed project is a joint venture between Paramount Petroleum and Alt-Air Fuels, LLC. All of the construction and operational activities will be confined to the Paramount Petroleum Refinery located at 14700 Downey Avenue in the City of Paramount.

FINDINGS: The environmental analysis provided in the attached Initial Study indicates that the proposed project will not result in any significant adverse unmitigable impacts. For this reason, the City of Paramount determined that a M*itigated Negative Declaration* is the appropriate CEQA document for the proposed project. The following findings may be made based on the analysis contained in the attached Initial Study:

- The proposed project *will not* have the potential to degrade the quality of the environment.
- The proposed project *will not* have the potential to achieve short-term goals to the disadvantage of long-term environmental goals.
- The proposed project *will not* have impacts that are individually limited, but cumulatively considerable, when considering planned or proposed development in the City.
- The proposed project *will not* have environmental effects that will adversely affect humans, either directly or indirectly.

The environmental analysis is provided in the attached Initial Study prepared for the proposed project. The project is also described in greater detail in the attached Initial Study.

Signature
City of Paramount Department of Community Development

Date: December 16, 2013

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

TABLE OF CONTENTS

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

SECTION 1 - INTRODUCTION

1.1 PURPOSE OF THE INITIAL STUDY

The Applicant, Paramount Petroleum, is requesting the City of Paramount consider the approval of a Conditional Use Permit (CUP 757) and a Zone Variance (ZV 401) that would allow the construction and operation of the Alt-Air Renewable Fuels Project (referred herein-after as "the proposed project" or "the project"). The proposed project is a joint venture between Paramount Petroleum and Alt-Air Fuels, LLC. All of the construction and operational activities will be confined to the Paramount Petroleum Refinery (PPR) located at 14700 Downey Avenue in the City of Paramount. The proposed project is designed to produce renewable jet fuel and renewable diesel fuel from non-edible vegetable oil and high-quality beef tallow.[1] The Applicant is Paramount Petroleum Corporation (Glenn Clauson), 14700 Downey Avenue, Paramount, California, 90723.

The proposed project is anticipated to convert up to 3,500 barrels per day (BPD) of non-edible vegetable oils and high-quality beef tallow into renewable jet and diesel fuel. Small quantities of naphtha and liquid petroleum gas (LPG) also will be produced as byproducts.[2] The proposed project will involve the modifications of certain existing refinery equipment and the addition of new vessels (containers or tanks) and reactors. As indicated above, all of the equipment required as part of the proposed project's implementation will be located within the existing PPR complex. The project elements are described herein in greater detail in Section 2.

The proposed Alt-Air Renewable Fuels Project is considered to be a project under the California Environmental Quality Act (CEQA).[3] The City of Paramount (also referred to herein as "the City") is the designated *Lead Agency* for the proposed project and the City will be responsible for the project's environmental review.[4] As part of the proposed project's environmental review, the City of Paramount has authorized the preparation of this Initial Study.[5] To fulfill the purpose and intent of CEQA, the City of Paramount, in its capacity as Lead Agency for this project, oversaw the preparation of this Mitigated Negative Declaration, the Initial Study, the Mitigation Monitoring and Reporting Program, and the supporting technical analysis. Following the completion of the environmental analysis and the Initial Study, the City determined that a Mitigated Negative Declaration is the appropriate CEQA document.

---

[1] City of Paramount. Conditional Use Permit Application (Case # 757). June 18, 2013.

[2] Jet and diesel products are of higher quality than the same products produced from crude oil, and have only 25 to 30 percent of the carbon footprint of crude oil derived products.

[3] California, State of. *Title 14. California Code of Regulations. Chapter 3. Guidelines for the Implementation of the California Environmental Quality Act*. as Amended 1998 (CEQA Guidelines). § 15060 (b).

[4] 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). Since the proposed project requires discretionary approval from the City of Paramount and the City has the greatest responsibility for supervising or approving the project as a whole, it was determined that the City would be the most appropriate public agency to act as Lead Agency (CEQA Guidelines §15051[b]).

[5] Ibid.(CEQA Guidelines) § 15050.

The primary purpose of CEQA is to ensure that decision-makers and the public understand the environmental implications of a specific action or project. The purpose of this Initial Study is to ascertain whether the proposed project will have the potential for significant adverse impacts on the environment once it is implemented. Pursuant to the CEQA Guidelines, additional purposes of this Initial Study include the following:

- To provide the City of Paramount with information to use as the basis for deciding whether to prepare an environmental impact report (EIR), mitigated negative declaration, or negative declaration for the proposed project;

- To facilitate the project's environmental assessment early in the design and development of the proposed project;

- To eliminate unnecessary EIRs; and,

- To determine the nature and extent of any impacts associated with the proposed project's implementation.

Certain projects or actions may also require oversight approvals or permits from other public agencies. These other agencies are referred to as *Responsible Agencies* and *Trustee Agencies*, pursuant to Sections 15381 and 15386 of the State CEQA Guidelines. The South Coast Air Quality Management District (SCAQMD) is a responsible agency for this project. In addition, the project Applicant and the City consulted with representatives of the Paramount Unified School District pursuant to the requirements of CEQA. This Initial Study and the *Notice of Intent to Adopt a Mitigated Negative Declaration* will be forwarded to responsible agencies, trustee agencies, and the public for review and comment. A 20-day public review period will be provided to allow these entities and other interested parties to comment on the proposed project and the findings of this Initial Study.[6] Comments must be sent to the attention of:

Mr. John Carver
City of Paramount Community Development Department
16400 Colorado Street
Paramount, California 90723

Comments received on the Mitigated Negative Declaration will be considered during the City's review of the proposed project.

[6] California, State of. Public Resources Code Division 13. *The California Environmental Quality Act. Chapter 2.6, Section 2109(b).* 2000.

1.2 INITIAL STUDY'S ORGANIZATION

This Initial Study was prepared pursuant to both the State of California CEQA Guidelines and the local CEQA Guidelines of the City of Paramount. The following annotated outline summarizes the contents of this Initial Study:

- *Section 1 - Introduction,* provides the procedural context surrounding this Initial Study's preparation and insight into its composition.

- *Section 2 - Project Description,* describes the proposed project's physical and operational characteristics and provides an overview of the existing environment as it relates to the affected area.

- *Section 3 - Environmental Analysis,* includes an analysis of potential impacts associated with the construction and the subsequent operation of the proposed project.

- *Section 4 - Conclusions,* indicates the manner in which the mitigation measures identified in the environmental analysis will be implemented as a means to address potential environmental impacts.

- *Section 5 - References,* identifies the sources used in the preparation of this Initial Study.

1.3 INITIAL STUDY CHECKLIST

The environmental analysis provided in Section 3 of this Initial Study indicates that the proposed project will not result in any significant adverse unmitigable impacts on the environment with the recommended mitigation. The findings of this Initial Study are summarized in Table 1-1 provided below and on the following pages.

Table 1-1
Summary (Initial Study Checklist)

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
Section 3.1 Aesthetic Impacts. *Would the project:*				
a) Have a substantial adverse affect on a scenic vista?		**X**		
b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?				**X**
c) Create a new source of substantial light or glare that would adversely affect day- or night-time views in the area?		**X**		

Table 1-1
Summary (Initial Study Checklist)

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
Section 3.2 Agriculture and Forestry Resources Impacts. *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?				**X**
b) Conflict with existing zoning for agricultural use or a Williamson Act Contract?				**X**
c) Conflict with existing zoning for or cause rezoning of, forest land (as defined in Public Resources Code §4526), or zoned timberland production (as defined by Government Code §51104[g])?				**X**
d) Result in the loss of forest land or the conversion of forest land to a non-forest use?				**X**
e) Involve other changes in the existing environment that, due to their location or nature, may result in conversion of farmland to non-agricultural use?				**X**
Section 3.3 Air Quality Impacts. *Would the project:*				
a) Conflict with or obstruct implementation of the applicable air quality plan?				**X**
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			**X**	
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?			**X**	
d) Expose sensitive receptors to substantial pollutant concentrations?			**X**	
e) Create objectionable odors affecting a substantial number of people?				**X**
Section 3.4 Biological Resources Impacts. *Would the project have a substantial adverse effect:*				
a) 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 Wildlife or U. S. Fish and Wildlife Service?				**X**

Table 1-1
Summary (Initial Study Checklist)

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
b) On any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				**X**
c) On Federally protected wetlands as defined by Section 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?				**X**
d) In interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory life corridors, or impede the use of native wildlife nursery sites?				**X**
e) In conflicting with any local policies or ordinances, protecting biological resources, such as a tree preservation policy or ordinance?				**X**
f) By conflicting with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?				**X**
Section 3.5 Cultural Resources Impacts. *Would the project:*				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5 of the CEQA Guidelines?				**X**
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the CEQA Guidelines?				**X**
c) Directly or indirectly destroy a unique paleontological resource, site or unique geologic feature?				**X**
d) Disturb any human remains, including those interred outside of formal cemeteries?				**X**
Section 3.6 Geology Impacts. *Would the project result in or expose people to potential impacts involving:*				
a) The exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving 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), ground–shaking, liquefaction, or landslides?				**X**
b) Substantial soil erosion or the loss of topsoil?				**X**

Table 1-1
Summary (Initial Study Checklist)

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
c) Location on a geologic unit or a 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?				**X**
d) Location on expansive soil, as defined in California Building Code (2012), creating substantial risks to life or property?				**X**
e) Soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				**X**
Section 3.7 Greenhouse Gas Emissions Impacts. *Would the project:*				
a) Result in the generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?				**X**
b) Increase the potential for conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gasses?			**X**	
Section 3.8 Hazards and Hazardous Materials Impacts. *Would the project:*				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		**X**		
b) Create a significant hazard to the public or the environment or result in reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		**X**		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				**X**
d) Be located on a site, which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5, and as a result, would it create a significant hazard to the public or the environment?				**X**
e) Be located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?				**X**
f) Within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area?				**X**
g) Impair implementation of, or physically interfere with, an adopted emergency response plan, emergency response plan or emergency evacuation plan?				**X**

Table 1-1
Summary (Initial Study Checklist)

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury, or death involving wild lands fire, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands?				**X**
Section 3.9 Hydrology and Water Quality Impacts. *Would the project:*				
a) Violate any water quality standards or waste discharge requirements?				**X**
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge in such a way that would cause 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)?				**X**
c) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?				**X**
d) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in flooding on- or off-site?				**X**
e) Create or contribute runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?				**X**
f) Substantially degrade water quality?				**X**
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?				**X**
h) Place within a 100-year flood hazard area, structures that would impede or redirect flood flows?				**X**
i) Expose people or structures to a significant risk of flooding because of dam or levee failure?				**X**
j) Result in inundation by seiche, tsunami, or mudflow?				**X**
Section 3.10 Land Use and Planning Impacts. *Would the project:*				
a) Physically divide an established community, or otherwise result in an incompatible land use?				**X**

Table 1-1
Summary (Initial Study Checklist)

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
b) Conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation or natural community conservation plan?				X
Section 3.11 Mineral Resources Impacts. *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?				X
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?				X
Section 3.12 Noise Impacts. *Would the project result in:*				
a) Exposure of persons to, or the generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b) Exposure of people to, or the generation of, excessive ground-borne noise levels?		X		
c) Substantial permanent increase in ambient noise levels in the project vicinity above noise levels existing without the project?		X		
d) Substantial temporary or periodic increases in ambient noise levels in the project vicinity above levels existing without the project?			X	
e) For a project located with 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?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X
Section 3.13 Population and Housing Impacts. *Would the project:*				
a) Induce substantial growth in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X

Table 1-1
Summary (Initial Study Checklist)

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				**X**
Section 3.14 Public Services Impacts. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which would cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives in any of the following areas:*				
a) Fire protection services?		**X**		
b) Police protection services?				**X**
c) School services?				**X**
d) Other governmental services?				**X**
Section 3.15 Recreation Impacts. *Would the project:*				
a) 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?				**X**
b) Affect existing recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?				**X**
Section 3.16 Transportation Impacts. *Would the project:*				
a) Cause a conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			**X**	
b) Exceed, either individually or cumulatively, a level of service standard established by the County Congestion Management Agency for designated roads or highways?				**X**
c) A change in air traffic patterns, including either an increase in traffic levels or a change in the location that results in substantial safety risks?				**X**
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				**X**
e) Result in inadequate emergency access?		**X**		

Table 1-1
Summary (Initial Study Checklist)

Environmental Issues Area Examined	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less Than Significant Impact	No Impact
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				**X**
Section 3.17 Utilities Impacts. *Would the project:*				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			**X**	
b) 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 impacts?				**X**
c) 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?				**X**
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			**X**	
e) Result in a determination by the provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			**X**	
f) Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?			**X**	
g) Comply with Federal, State, and local statutes and regulations related to solid waste?				**X**
h) Result in a need for new systems, or substantial alterations in power or natural gas facilities?				**X**
i) Result in a need for new systems, or substantial alterations in communication systems?				**X**

SECTION 2 - PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The proposed project site is located within the existing Paramount Petroleum Refinery (PPR) which is located in the northeastern portion of the City of Paramount. The City of Paramount is located in the south-central portion of Los Angeles County, approximately 16.5 miles southeast of downtown Los Angeles. The City is bounded by South Gate and Downey on the north; the Los Angeles River, Lynwood, Compton, and the unincorporated community of Rancho Dominguez on the west; Long Beach and Bellflower on the south; and Bellflower and Downey on the east.[7] The location of Paramount in a regional context is shown in Exhibit 2-1.

Regional access to the City is provided by the Century Freeway (I-105) which traverses the northern portion of the City in a west-to-east orientation, and the Long Beach Freeway (SR-710), which is situated in a north-south orientation along the western boundary of Paramount. Major thoroughfares within the City include Rosecrans Avenue and Alondra Boulevard, both of which are oriented in a west-to-east direction. Other major arterials located in the City include Garfield Avenue, Paramount Boulevard, and Lakewood Boulevard which are oriented in a north-to-south direction.

As indicated previously, all of the proposed improvements associated with the operation of the proposed project will be located within the existing PPR complex. The PPR is located at 14700 Downey Avenue and is bounded by Lakewood Boulevard, Somerset Boulevard, Downey Avenue, and Contreras Street. The PPR is located immediately west of the City of Bellflower municipal boundary lines, and approximately one-quarter mile south of the City of Downey boundary line. Primary truck access to the PPR is provided by Andry Drive, which is accessible from both Somerset Boulevard and Lakewood Boulevard. A map of the project site within the City is shown in Exhibit 2-2. A vicinity map is provided in Exhibit 2-3. The main entrance to the PPR offices is located on Downey Avenue.[8] A local map is provided in Exhibit 2-4.

2.2 ENVIRONMENTAL SETTING

All of the proposed physical improvements required as part of the proposed project's operation will be located within the PPR. The refinery has been in continuous operation for over 70 years. The refinery property consists of approximately 66 acres and the facility is bounded on the north by Contreras Street, on the south by the Los Angeles Metropolitan Transportation Authority (MTA) right-of-way, on the west by Downey Avenue, and on the east by Lakewood Boulevard. The PPR is located within the Somerset Ranch Area which is a specific plan that governs development and land uses in an area that includes the PPR. The Somerset Ranch Area of Paramount is designated as *Mixed Use* and includes a mix of residential, commercial, industrial, and public uses. The PPR is zoned *M-2, Heavy Manufacturing*.[9] The PPR accounts for slightly more than half of the total land area of the Somerset Ranch Area.

[7] City of Paramount. General Plan. Adopted August 7, 2007.

[8] Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description*. September 2013.

[9] City of Paramount. General Plan. Adopted August 7, 2007.

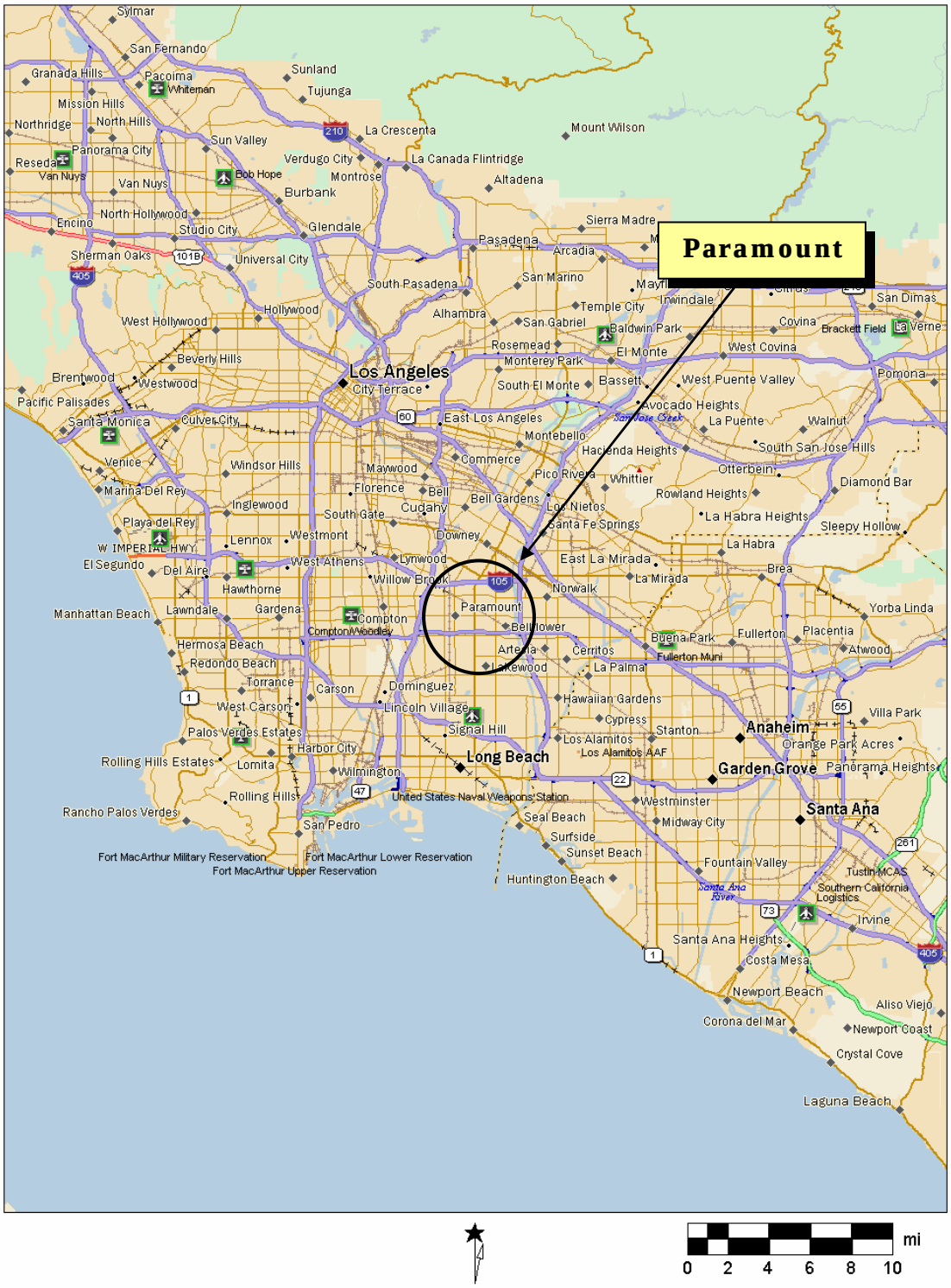


EXHIBIT 2-1
REGIONAL LOCATION
SOURCE: DELORME MAPS, 2009

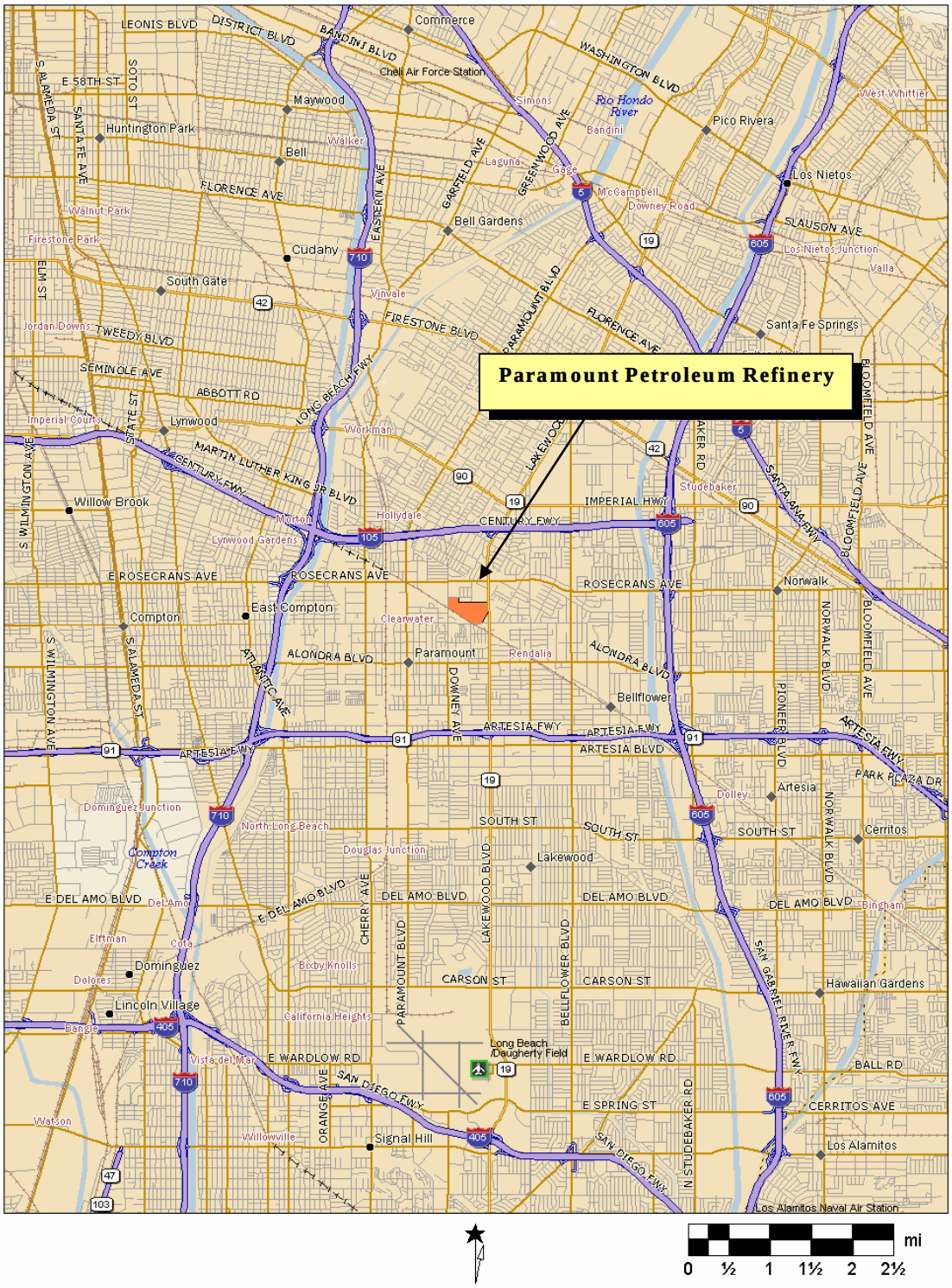


EXHIBIT 2-2
PROJECT SITE IN THE CITY OF PARAMOUNT
SOURCE: DELORME MAPS, 2009

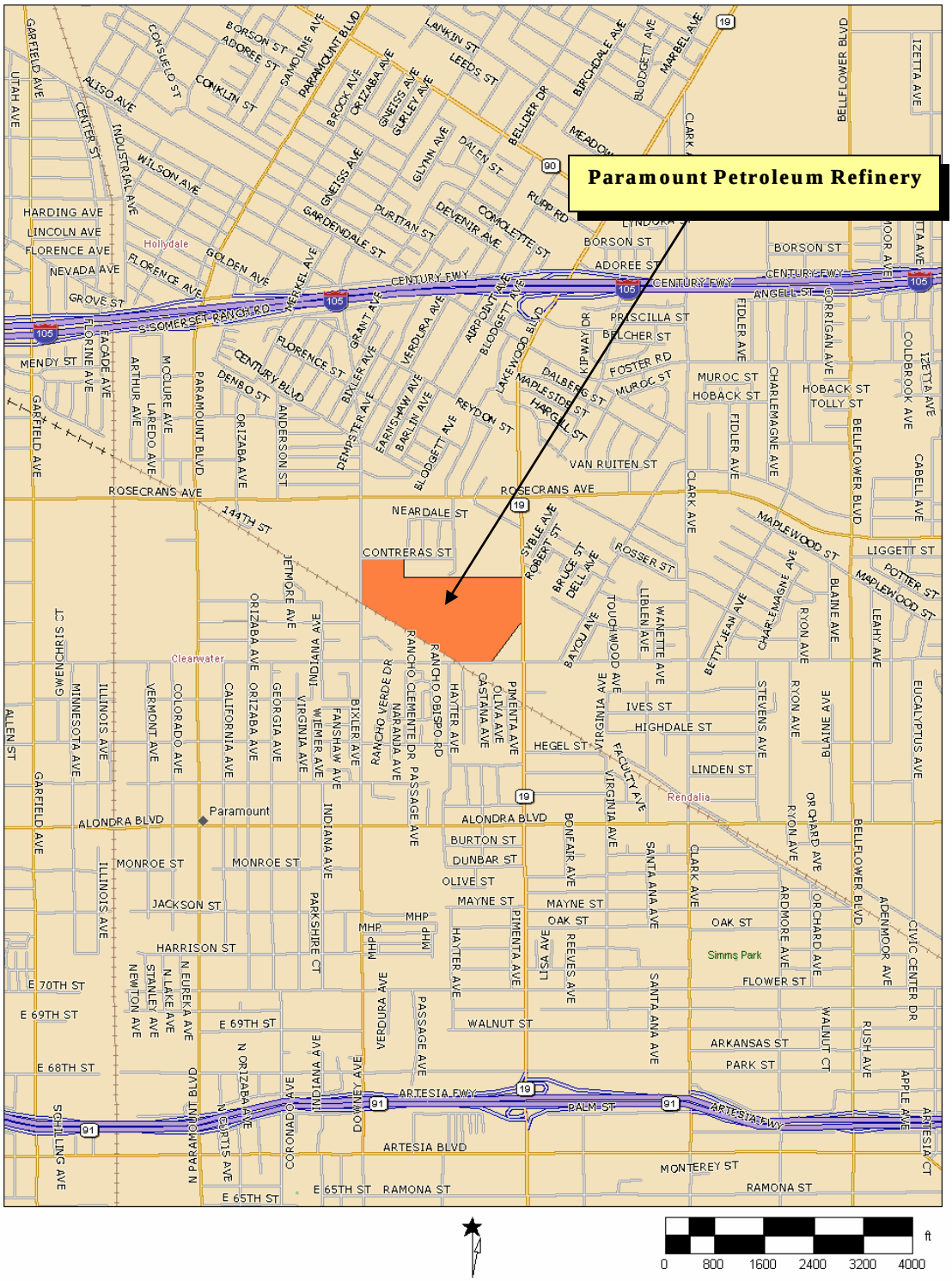


EXHIBIT 2-3
VICINITY MAP
SOURCE: DELORME MAPS, 2009

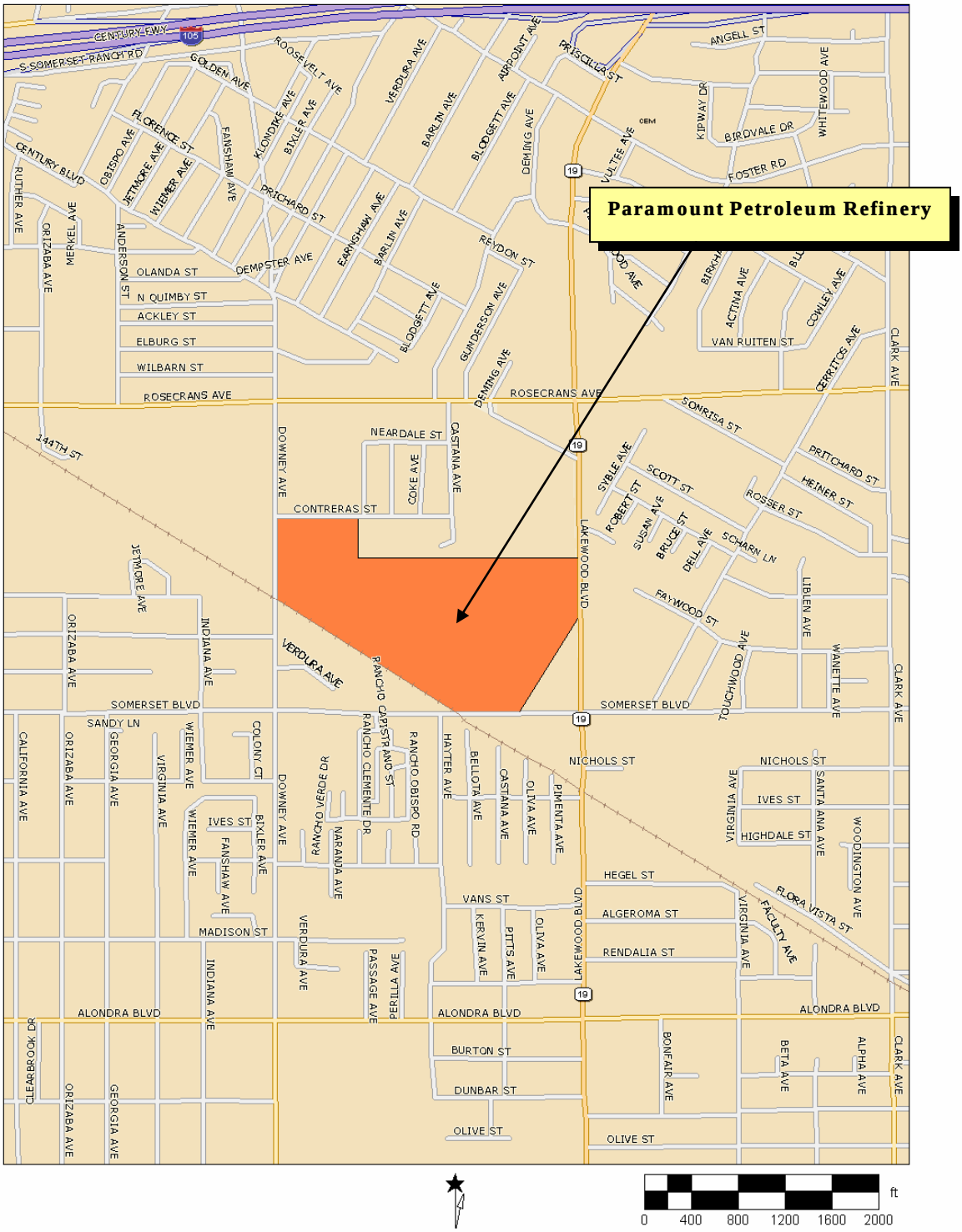


EXHIBIT 2-4
LOCAL AREA
SOURCE: DELORME MAPS, 2009

As indicated previously, the PPR is located within a completely urbanized setting. Land uses and development found in the vicinity of the PPR include the following:

- The Wirtz (elementary) School is located north of the PPR at the corner of Contreras Avenue and Downey Avenue. This school is operated by the Paramount Unified School District.

- Paramount High School is located to the west of the PPR, on the west side of Downey Avenue. This school is also operated by the Paramount Unified School District.

- The Cinderella Mobile Home Community and other single-family homes are located further east along Contreras Avenue.

- The two parcels located to the northeast of the PPR is occupied by a commercial retail center that includes a supermarket and Walmart.

- The Los Angeles Department of Water and Power (LADWP) easement and the Union Pacific Railroad (UPPR) tracks extend diagonally across Somerset Boulevard and Downey Avenue and separate the PPR from the Somerset Village condominiums and a neighborhood that consists of single-family dwellings.

- The Somerset Village Condominiums are located to the south of the aforementioned LADWP easement and north of Somerset Boulevard.

- A public storage facility (A-1 Self Storage) is located to the south of the LADWP easement, on the east side of Downey Avenue.

- The east side of Lakewood Boulevard is developed with commercial uses, including several auto-related businesses, the Rainbow Trailer Park, the Fox Trailer Court, and the Super Inn Motel.

- The Albert Baxter (Elementary) School is located east of Lakewood Boulevard in the City of Bellflower approximately 415 feet west of the PPR. This school is operated by the Bellflower Unified School District.

- Further south, along the south side of Somerset Boulevard, there are single-family neighborhoods and commercial and industrial land uses. The opposite side of Downey Avenue contains a mix of single- and multiple-family developments and Paramount High School.[10]

An aerial photograph of the refinery and the surrounding area is provided in Exhibit 2-5. The existing improvements within the PPR are varied and include more than 80 above-ground storage tanks of various sizes, concrete and block buildings that house control rooms, maintenance shops, and warehouses.

[10] Blodgett/Baylosis Associates. Site Visit, October 30, 2013; and Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description*. September 2013.

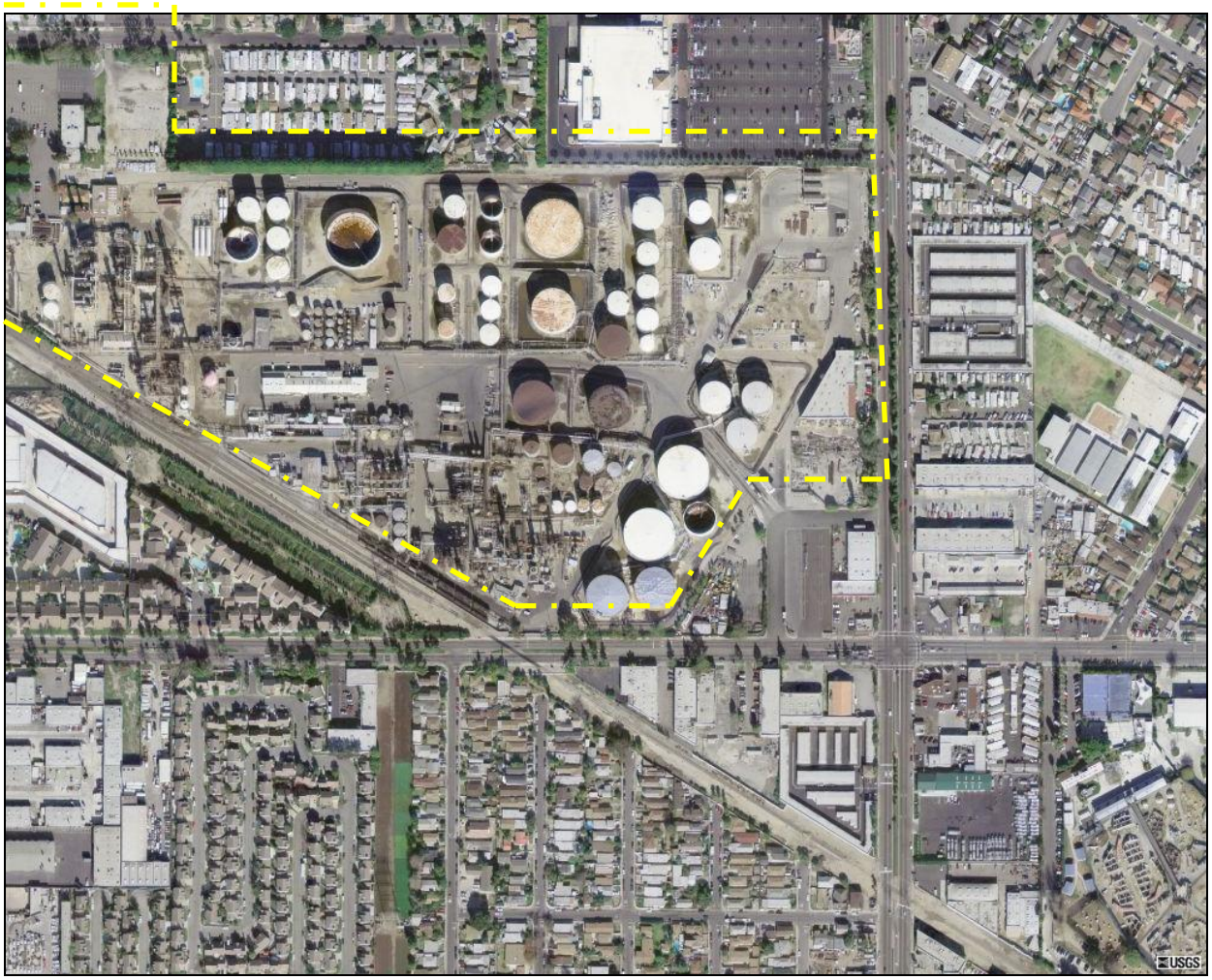


EXHIBIT 2-5
AERIAL PHOTOGRAPH
SOURCE: UNITED STATES GEOLOGICAL SURVEY

The main staging area and truck entrance is located on the east side of the refinery near Lakewood Boulevard. The main entrance to the office and administration area is provided by a driveway located along Downey Avenue.[11] The area where the proposed improvements will be located is within that portion of the refinery that contains the above-ground tanks and other refining equipment.

2.3 OVERVIEW OF THE EXISTING REFINERY OPERATIONS

The PPR historically has produced a variety of products including gasoline, jet fuel, diesel fuel, petroleum gases, asphalt, and liquid sulfur from crude oil. Crude oil is a mixture of hydrocarbon compounds and relatively small amounts of other materials, such as oxygen, nitrogen, sulfur, salt, and water. Petroleum refining is a manufacturing process that produces physical and chemical changes to crude oil as a means to remove most of the non-hydrocarbon substances, to break-down the crude oil into its various components, and to blend the resulting byproducts into various products. The overall refining process uses three processing techniques:

- *Separation*, including distilling hydrocarbon liquids into gases, gasoline, diesel fuel, fuel oil, and heavier residual materials;

- *Reforming*, using heat and catalysts to rearrange the chemical structure of a particular oil stream to improve its quality for use in marketable products; and,

- *Chemically combining* two or more hydrocarbons to produce high-grade gasoline.[12]

A generalized flow diagram of the existing PPR operations is provided in Exhibit 2-6. The PPR currently processes crude oil into marketable products including gas oil, naphtha, asphalt, diesel fuel, jet fuel, and other products. The facility can process up to 50,000 barrels per day (BPD) of crude oil. In recent months, the production has declined significantly due to changes in the market demand and other factors. Current production at the PPR includes a full line of petroleum products that include:

- Heavy fuel oil, gas oil, diesel products, military jet fuel, full range naphtha, as well as gasoline and diesel fuels;

- A full line of asphalt products, including polymer-modified and tire-rubber modified products, used in the construction industry primarily in the production of roofing products and paved roadways;

- Heavy fuel oils used to produce fuels for the marine industry; and,

- A full range naphtha and gas oil that may be further processed on-site or sold to other refiners for further processing into finished products.

[11] Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description*. September 2013.

[12] Ibid.

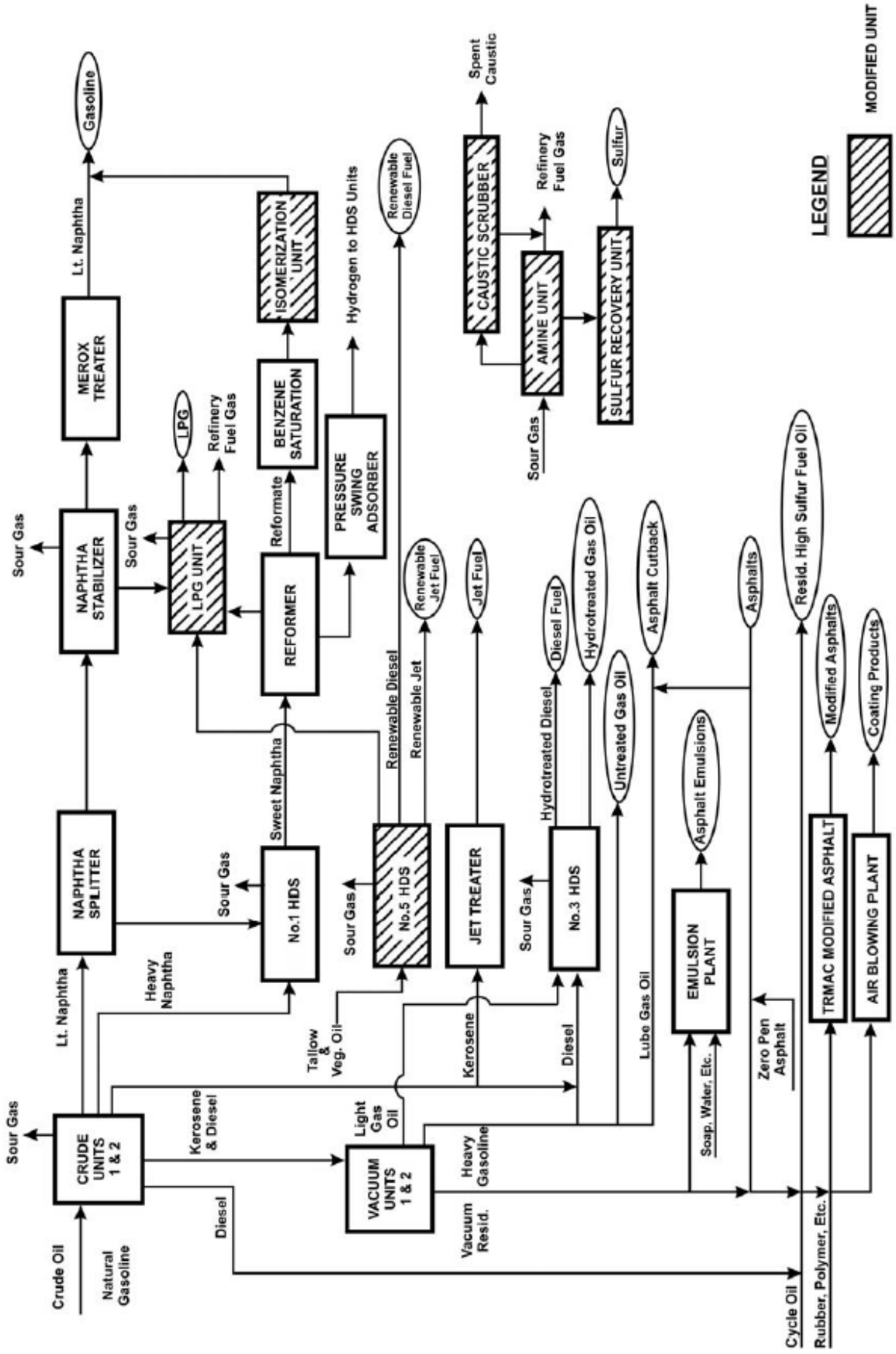


EXHIBIT 2-6
DIAGRAM OF THE EXISTING PPR PROCESSING OPERATIONS
SOURCE: ENVIRONMENTAL AUDIT, INC.

The PPR has the ability to produce about 7,500 BPD (315,000 gallons per day) of reformulated gasoline and 8,500 BPD (357,000 gallons per day) of ultra-low sulfur diesel (ULSD). Except for those periods of maintenance or repair activity, or reduced activity due to market conditions, the PPR operates 24 hours per day, 365 days per year. The facility typically employs approximately 150 to 200 people during normal refinery operations. At the present time, less than 140 persons are employed at the PPR.[13]

The specific equipment in operation at any given time depends on the types of products being produced. The main equipment at the PPR includes two crude units, two vacuum distillation units, a reformer (used in gasoline and hydrogen production), three distillate hydro-desulfurization (HDS) units, a Claus Sulfur Recovery train, a light naphtha stabilizer, a jet treater, a naphtha splitter, a benzene saturation and isomerization unit, a light naphtha storage chiller, a pressure swing adsorption unit, an asphalt air blowing plant, an asphalt emulsion plant, and a polymer-modified asphalt plant. Support facilities include equipment for water treatment, fuel gas systems, boilers, a cogeneration unit, cooling towers, truck- and rail-loading and unloading facilities, and various pollution control devices.[14]

The PPR receives most of its crude oil (approximately 96%) via underground pipelines. The remainder is generally received using truck transport, though crude oil may now be received by rail following the recent approval of CUP 751 and the issuance of the requisite SCAQMD permits. Most of its distilled products (gasoline, full range naphtha, military fuels, diesel products, and gas oil) are shipped out via underground pipelines or in trucks. The PPR ships all of its asphalt products in trucks or via rail transport.[15]

2.4 BACKGROUND FOR THE PROPOSED PROJECT

The PPR has operated as an asphalt plant and petroleum refinery since the 1930's. The original rated capacity of the refinery was 20,000 BPD. Between 1970-1976, a second crude unit, with a rated capacity of 30,000 BPD, as well as other hydroprocessing units were added. This increased the refining capability to produce light petroleum products such as gasoline and diesel fuel. [16]

Alon acquired the Paramount Petroleum Corporation in August 2006. Refining operations have been temporarily suspended periodically based on market conditions. After assessing its options, the PPR resumed operation of many of the refining units in June of 2011, processing crude oil. However, in October of 2012, the refinery suspended most refining activities, although other operations and activities continue. These variations in refinery operations lead to variations in operating activity. Table 2-1 summarizes the PPR's operations since 2009. [17] As is evident from the examination of Table 2-1, activities have experienced a significant reduction over the previous four years beginning in 2009 through 2012.

---

[13] Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description.* September 2013.

[14] The existing pollution control devices include selective catalytic reduction units installed on the boilers and heaters, an amine unit, caustic scrubber, and incinerators.

[15] Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description.* September 2013.

[16] Ibid.

[17] Ibid.

Table 2-1
Historical Refinery Activities (2009 to 2012)

Description of Activity	2012	2011	2010	2009
Trucks Activity				
Metered Trucks Loading	594	1,783	7,180	9,423
Scale Trucks Loading	19,369	20,610	17,101	20,450
Scale Trucks Unloading	4,437	6,208	3,677	2,892
Total Trucks	**24,400**	**28,601**	**27,958**	**32,765**
Railcar Activity				
Railcars Loading	386	844	165	1,470
Gasoil Railcar Loading	0	331	0	0
Railcars Unloading	503	181	115	0
Total Railcars	**889**	**1,356**	**280**	**1,470**
Operational Activities				
Average Employees	140	155	177	197
Electrical Purchases (MWh)	13,438	11,977	10,413	24,568
Natural Gas Purchases (million therms)	14.9	17.0	22.2	19.4
Wastewater Discharge (million gallons)	53.1	68.1	104.7	135.1
SRU Caustic Shipments	0	2	0	45
Jet Treater Caustic Shipments	1	0	1	2
Purchased Water (million gallons)	125.6	120.4	154.7	135.8
Spend Catalyst Generation (tons)(4)	0	9	16	22

Source: Paramount Petroleum Corporation.

Although crude refining has been temporarily suspended, other activities have continued including asphalt and terminal activities. The PPR has continued to manage an inventory of finished diesel and other materials, to receive fuels and fuel blending products, to blend and market finished fuels, and to produce and market asphalt products. The PPR also continues to function as a terminal. These activities require the continued use of on-site storage tanks, and truck and rail loading and unloading racks, pipelines and pipeline connections through pump stations to the regional pipeline network operated by various third parties. In addition, the PPR continues to operate steam boilers, the wastewater treatment system, and the vapor recovery system.[18]

This Alt-Air project primarily involves modifications to the existing Number 5 Hydrodesulfurization Unit (No. 5 HDS) as well as some auxiliary treating and stripping units to handle the corrosive nature of feedstock and to separate diesel, jet, naphtha, and LPG into finished products. Overall, there will be limited modifications made to other refinery processing equipment. The existing throughput of the No. 5 HDS is about 7,200 BPD. The proposed modifications to the No. 5 HDS will reduce the throughput of the No.5 HDS from 7,200 BPD to about 3,500 BPD.[19]

2.5 DESCRIPTION OF THE PROPOSED PROJECT

2.5.1 PROJECT BACKGROUND

The Alt-Air Renewable Fuels Project, the proposed project, is a joint venture between the Paramount Petroleum and Alt-Air Fuels, LLC. Alt-Air is a supplier of renewable fuels to the United States military and commercial airlines. Alt-Air has already produced, sold, and tested more than one million gallons of renewable jet fuel from a pilot plant located in Houston, Texas. Between 2008 and 2011, Alt-Air provided fuel for approximately two dozen successful commercial and military test flights, including supersonic, transatlantic, and jumbo-jet renewable fuel flights. All test flights were successful, with no performance variation between renewable jet fuel and conventional jet fuel.[20]

The United States Navy announced that by 2020, 50 percent of the total Navy energy consumption will be from alternative sources and the Navy entered into a contract with Alt-Air for approximately one million gallons of renewable jet and diesel fuel. The renewable fuel was successfully tested in both air and ground military applications. In 2010, the U.S. Navy conducted the first-ever supersonic renewable fuel test flight using Alt-Air fuel in a F/A 18 jet. Alt-Air is currently the largest supplier of renewable aviation fuel to the U.S. Navy, Air Force and Army.[21]

[18] Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description*. September 2013.

[19] Ibid.

[20] Ibid.

[21] Ibid.

2.5.2 CHARACTERISTICS OF THE PROPOSED PROJECT

The proposed project, if approved, will convert up to 3,500 barrels per day of non-edible vegetable oils and high-quality technical beef tallow into renewable jet and diesel fuel.[22] Small quantities of naphtha and liquid petroleum gas (LPG) will also be produced as byproducts. Jet and diesel products are of higher quality than the same fuel products derived from crude oil, and have only 25 to 30 percent of the carbon footprint of crude oil based products.[23]

The proposed project's implementation will involve the modification of certain existing refinery equipment including the addition of new vessels and reactors. As indicated previously, all of the proposed improvements and the facility's operations will occur within the confines of the existing PPR. A flowchart diagram illustrating the proposed Renewable Fuel Project is provided in Exhibit 2-7. The locations of the Alt-Air project components are shown in Exhibit 2-8. The key operational elements of the proposed project are described in the remainder of this section.

TRANSPORT AND UNLOADING OF FEEDSTOCK

Instead of using crude oil distillates, the Renewable Fuels Project will use feedstock that will consist of *non-edible beef tallow* and *non-edible vegetable oils* (as they become available). Both beef tallow and the vegetable oils have essentially the same chemical structure.[24] They are non-toxic, non-hazardous, and have little or no odor. The melting point for tallow is about 104 degrees Fahrenheit (F), so low pressure steam heating of the rail cars and storage tanks will be provided as needed to keep the tallow in liquid form. Tallow and vegetable oil will be transported to the PPR via transport trucks or rail cars.[25]

The existing rail-unloading rack will be modified to add an off-loading manifold, a pump, and piping to unload the new feedstock (tallow and vegetable oil). The existing truck-unloading rack will also be modified to add an unloading pump and piping to unload trucked feedstock. Approximately 50 rail cars per week of beef tallow and vegetable oils will be delivered to the refinery with seven rail cars of feedstock expected to be offloaded at the rail-unloading rack per day. Non-edible vegetable oils will also be delivered by truck and unloaded at the existing tank truck-unloading rack. The PPR has a conditional use permit from the City of Paramount to operate the railcar-loading and unloading racks which limits the refinery to receive 25 railcars per delivery. The proposed project will not exceed that current limitation.

---

[22] The technology for the processing of fuels from organic waste products is called "Ecofining" and is designed by Universal Oil Products (UOP). Ecofining is a two-stage hydrotreating process, similar to conventional jet/diesel hydrotreating processes (refer to the flow chart provided in Exhibit 2-8).

[23] Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description*. September 2013.

[24] Beef Tallow: Animal (specifically beef) by-products that have undergone a "rendering" process. This process includes the ultimate separation of the animal protein from the desired liquid product (Tallow). Vegetable Oil: A triglyceride extracted from a plant, characterized by existing as a liquid at room temperature. Triglycerides are the main constituents of Beef Tallow and Vegetable Oil.

[25] Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description*. September 2013.

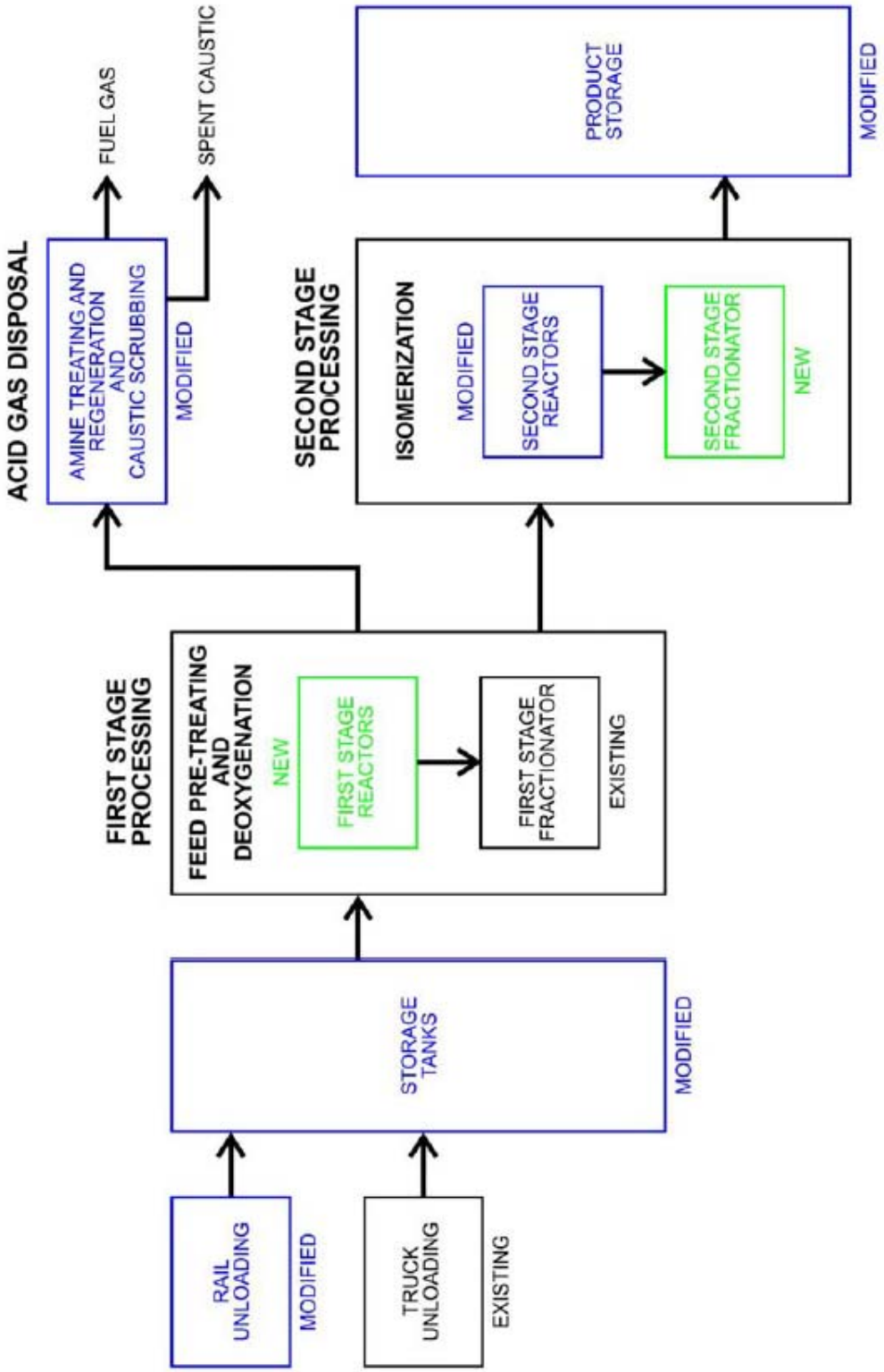


EXHIBIT 2-7
FLOWCHART OF THE PROPOSED RENEWABLE FUELS PROJECT PROCESS
SOURCE: ENVIRONMENTAL AUDIT, INC.

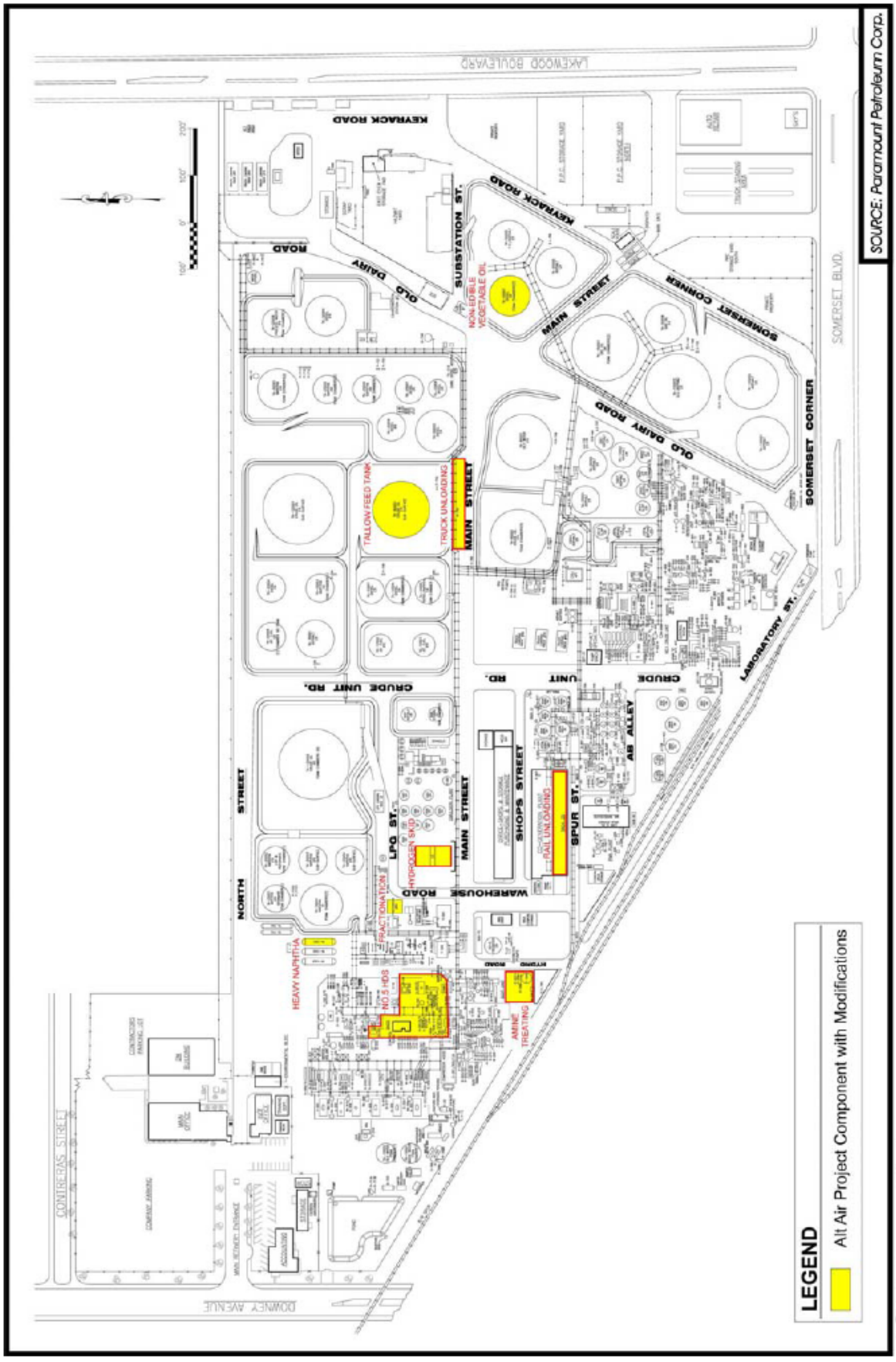


EXHIBIT 2-8
LOCATION AND EXTENT OF RENEWABLE FUEL PROJECT EQUIPMENT
SOURCE: SOURCE: ENVIRONMENTAL AUDIT, INC.

FIRST STAGE PROCESSING – FEED PRE-TREATING AND DEOXYGENATION

The beef tallow or vegetable oil will first be treated to remove trace minerals (e.g., calcium, magnesium, etc.) and then *deoxygenated*.[26] The first stage process will use two reactors to remove particulates and trace amounts of contaminants from the feed and then remove the oxygen. The feed will be heated and then separated, with gases going to the amine scrubbing system; liquid products (i.e., "*green paraffinic diesel*") going to a stripper tower; and residual water going to the wastewater treatment system.[27] The vessels for the first stage reactors will be new and some of the existing piping and ancillary equipment around the first stage reactors will be replaced or retrofitted with stainless steel or other alloy piping for corrosion protection. The first stage fractionator stripper tower, and all ancillary equipment around the stripper tower, will not require any physical modification. Additionally, no modifications are required to the wastewater treatment system as a result of implementation of the proposed project.[28]

SECOND STAGE PROCESSING – RENEWABLE FUELS ISOMERIZATION PROCESS

The second stage process will *lightly hydrocrack, isomerize*, and *fractionate* the "green paraffinic diesel" from the First Stage to produce renewable jet fuel and diesel.[29] Some naphtha and LPG will also be produced. The project's isomerization process will be a new process at the PPR. However, most of the vessels, heat, exchangers, pumps, piping, and other fugitive components around the second stage reactor will utilize the existing equipment currently in operation in the No. 5 HDS, which will be retrofitted to accommodate the new renewable fuels isomerization process.[30]

The fractionation of the second stage reactor effluent into finished products will take place in a new fractionation tower which will be approximately 168 feet tall. All vessels, pumps, and heat exchangers associated with this tower will also be new. Finished products from isomerization process will include: renewable diesel fuel; renewable jet fuel; renewable naphtha; LPG; and refinery fuel gas. Minor piping modifications to the existing *de-ethanizer* fractionator in the reformer unit will be made to receive light overhead gases from the second stage fractionation tower.[31] The de-ethanizer fractionator separates naphtha and LPG from fuel gas for the existing refinery operations and will accommodate the LPG produced by the proposed project as well.

---

[26] Deoxygenation: The process of removing oxygen from the beef tallow/vegetable oil.

[27] Green Paraffinic Diesel: liquid products (Biodiesel/saturated hydrocarbons) arising from the first stage processing of beef tallow/vegetable oil.

[28] Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description*. September 2013.

[29] Hydrocracking of the Green Paraffinic Diesel involves cracking the heavy molecules into lighter hydrocarbons, which then become saturated with hydrogen via reaction with hydrogen and a catalyst. During this process, Green Paraffinic Diesel becomes isomerized; it is converted into a number of products (i.e. different fuel grades) which contain the same quantity and type of atoms with a different spatial arrangement. These products then undergo Fractionation, a process that separates the resulting hydrocarbon mixture into their individual components or grades (i.e. renewable diesel fuel, renewable jet fuel, naptha, LPG, etc.).

[30] Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description*. September 2013.

[31] As a part of the Fractionation process, the De-ethanizer will assist in the separation and ultimate recovery of the renewable fuel products. The product of a de-ethanizer is ethane.

ACID GAS DISPOSAL

Amine from the modified amine scrubber in the amine treating unit is used to remove carbon dioxide (CO_2) and hydrogen sulfide (H_2S) from the first stage process.[32] The amine solution will be regenerated in the existing refinery amine regenerator tower. Acid gas from the overhead of the amine regenerator tower will contain approximately 91 percent CO_2, 4 percent H_2S, and some light gases.

The amine solution currently used in the amine treating unit, which removes H_2S, will be replaced with a different amine solution that can remove both H_2S and CO_2.[33] In the existing refinery operation, *sour gas* produced in refinery units is routed through the amine treating unit to the sulfur recovery unit (SRU).[34] From the SRU, the exit gas is routed to the tail gas treating unit (TGTU) and then the incinerator. The caustic scrubber is used as a backup for the SRU. In the proposed project, the renewable fuels overhead gas will be combined with the existing sour gas produced in the other refinery units that is processed in the amine treating unit and the SRU.

Piping will be installed to route the exit gas from the SRU to caustic scrubber instead of the TGTU. The exit gas from the caustic scrubber will continue to be routed to the incinerator. Additional piping will be installed to convey the exit gas from the amine treating unit to the caustic scrubber to allow operation at low flow conditions, which are below the minimum operating design of the SRU. The caustic scrubber will be used in lieu of TGTU to remove sulfur from the SRU exit gas. The caustic scrubber is more effective at removing H_2S from the exhaust gas, which reduces the amount of SOx generated from the incinerator. The caustic scrubber currently operates as a backup for the SRU and will require a change of condition in the SCAQMD permit to operate in full time service. Spent caustic will be accumulated in existing tank (#1000). Periodically the spent caustic will be transported by truck to appropriate disposal or recycling facilities.[35]

STORAGE TANKS

The Alt-Air facility will require the use of a number of the existing storage tanks at the PPR for the storage of feed stocks, intermediate products and finished projects, including technical beef tallow, non-edible vegetable oil, jet fuel, and diesel fuel. The storage tanks are already permitted and no new storage tanks are required. However, two storage tanks are expected to require SCAQMD permit modifications. Tank 1201 is currently permitted for LPG storage so the SCAQMD permit needs to be modified to include storage of both LPG and heavy naphtha. Another existing storage tank (#80003) will be used to store beef tallow and will require an SCAQMD permit modification as the storage tank is currently permitted to store crude oil. Tank 80003 will be vented to an existing refinery incinerator to minimize the potential for vapors and provide odor control. A carbon adsorption unit will also be installed as a backup for the incinerator.

---

[32] Amine: A group of alkylamines used to remove hydrogen sulfide and carbon dioxide from gases. A few examples of Amines include, but are not limited to, Diethanolamine (DEA), Monoethanolamine (MEA), and Methyldiethanolamine (MDEA).

[33] Ibid.

[34] Sour Gas is a gas containing hydrogen sulfide.

[35] Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description*. September 2013.

OTHER FACILITIES

The proposed project will generate about nine gallons per minute of sour water, which will go directly to the existing effluent water treating system. Plant and instrument air, nitrogen and fuel gas will be supplied as in the current refinery operation. If fuel gas is not being generated by other refinery processes, natural gas from Sempra will be used to start up heaters H-501 and H-502. Once the process units are running, overhead gas (refinery fuel gas) generated from the renewable fuel units will be used to operate the existing heaters H-501 and H-502. The existing maximum firing duty of heaters H-501/502 is 28 million *BTU* per hour (mmBTU/hr).[36] Heaters 501/502 are of sufficient capacity to handle the heat demands of the Alt-Air process and no change or increase in fired duty is required to these existing heaters. Heater H-501 may require modifications to the heater tubes to handle potential higher pressures associated with the Alt-Air process. Modifications to tubes would not change or increase the fired duty of the heater and no changes to the burner are required. There are no other fired heaters in the project.[37]

Hydrogen is required for reactions in both the first and second stage reactors. Hydrogen will be supplied to the units from a new hydrogen system via a new hydrogen compressor. Liquid hydrogen will be delivered to the refinery via truck, stored, and then converted to gas as needed to provide hydrogen to the Alt-Air process. The hydrogen system will include three 18,000 gallon capacity storage tanks (with a working capacity of 15,000 gallons).[38] Hydrogen is expected to be delivered to the refinery at a maximum of four truck trips per day.[39]

The proposed project will require that renewable jet fuel be mixed with non-renewable jet fuel to meet applicable American Society for Testing Materials (ASTM) specifications. Renewable diesel will meet the ASTM specifications as produced. If the refinery is operating its hydroprocessing system, jet fuel can be supplied by the PPR. Alternatively, if hydroprocessing is not operating at the PPR, finished jet fuel will be brought into the refinery and stored in existing storage tanks for blending into the final jet product.[40]

2.6 CONSTRUCTION SCHEDULE

Alt-Air expects to begin construction as soon as all permits have been obtained. Alt-Air will modify existing equipment at the PPR so that construction activities are expected to be limited to an eight-month period.

---

[36] British Thermal Unit (Btu) is a measure of power or the amount of energy needed to heat one pound of water by one degree Fahrenheit.

[37] Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description*. September 2013.

[38] A sulfiding agent, dimethyl disulfide (DMDS) will be used by the Refinery to ensure the optimal function of the hydrotreating catalyst. Normally, hydrotreating catalysts are sulfided for initial startup of the hydrotreating process and then the charge material provides an ongoing source of sulfur (crude oil contains sulfur). In the case of Alt-Air, the feedstocks (technical beef tallow or non-edible vegetable oils) do not contain sufficient concentrations of sulfur for the catalyst. Therefore, the continued injection of a compound that contains sulfur (DMDS) will be required.

[39] Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description*. September 2013.

[40] Ibid.

2.7 BENEFITS RELATED TO THE PROPOSED PROJECT'S IMPLEMENTATION

Preliminary evaluations of the renewable fuel technology that will be employed indicate a number of advantages associated with the production and use of renewable diesel relative to petroleum-based diesel. These advantages include the following:

- Renewable diesel can be used directly in today's diesel-powered vehicles without modification.
- Renewable diesel is compatible with current diesel distribution infrastructure and does not require new or modified pipelines, storage tanks, trucking infrastructure, or retail station pumps.
- Renewable diesel can be produced using existing oil refinery capacity and does not require extensive new production facilities.
- Renewable diesel's fuel properties, specifically its high cetane number, suggest it will provide similar or better vehicle performance than conventional ultra-low sulfur diesel (ULSD).
- Renewable diesel has a low sulfur content.
- The production of renewable diesel does not produce a glycerin co-product.
- Renewable diesel can be produced domestically from a variety of feedstock.
- Carbon dioxide used by the growing vegetables that become feedstock reduces overall greenhouse gas emissions by off-setting carbon dioxide released from burning renewable fuels.

Preliminary tests of renewable diesel emissions indicate that, relative to standard diesel, there is a potential for significantly better emissions during combustion with reduced particulate, nitrogen oxide, hydrocarbons, and carbon monoxide emissions. In addition to producing a fuel that uses recycled carbon, renewable diesel benefits include: a high level of quality control; compliance with ASTM standards; and easy blending with petroleum diesel.

In 2010, the California Air Resources Board (CARB) adopted the Low-Carbon Fuel Standard (LCFS) regulation, which became fully effective in April of 2010 (Title 17, California Code of Regulations, Sections 95480-95490). The LCFS will reduce greenhouse gas emissions by reducing the *carbon intensity* of transportation fuels used in California by at least 10 percent by 2020.[41] The renewable fuels that would be produced under the proposed project would assist in the implementation of California's LCFS.[42]

[41] Carbon intensity is a measure of the GHG emissions associated with the various production, distribution, and use steps in the "lifecycle" of a transportation fuel.

[42] Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description*. September 2013.

2.8 PROJECT OBJECTIVES, DISCRETIONARY ACTIONS, AND REQUIRED PERMITS

This section of the Initial Study indicates the project's objectives and the necessary public approvals that will be required to implement the project. The City of Paramount seeks to accomplish the following objectives as part of the proposed project's implementation:

- To ensure that the proposed project is consistent with the intent of the City of the Paramount General Plan, the Somerset Ranch Area Plan, and other land use and development regulations of the City; and,

- To ensure that the proposed project will not adversely impact the adjacent land uses; and,

- To mitigate any potential environmental impacts that may arise as part of the proposed project's construction and subsequent operation.

A Discretionary Decision is an action taken by a government agency (for this project, the government agency is the City of Paramount) that calls for an exercise of judgment in deciding whether to approve a project. The City will be required to consider the following discretionary approvals:

- The review and approval of the Mitigated Negative Declaration and the Mitigation Monitoring Program pursuant to the State's CEQA Guidelines and the City's local Guidelines for the Implementation of CEQA;

- The approval of a Conditional Use Permit (CUP 757) required for the construction and subsequent operation of the proposed Alt-Air Renewable Fuels Project within the geographic area governed by the Somerset Ranch Area; and,

- The proposed project also requires the approval of a zone variance for the increased height of the new tower. A 168 foot fractionation tower is proposed while the current height limit in the Heavy Industrial Zone is 85-feet.

The proposed project will require Permits to Construct/Operate from the SCAQMD, as well as compliance with SCAQMD rules and regulations. Building permits will also be required from the City of Paramount. The proposed project will require additional oversight by the Los Angeles County Fire Department.

SECTION 3 - ENVIRONMENTAL ANALYSIS

This section of the Initial Study prepared for the proposed project analyzes the potential environmental impacts that may result from the proposed project's implementation. The issue areas evaluated in this Initial Study include the following:

- Aesthetics (Section 3.1);
- Agricultural/Forestry (Section 3.2);
- Air Quality (Section 3.3);
- Biological Resources (Section 3.4);
- Cultural Resources (Section 3.5);
- Geology & Soils (Section 3.6);
- Greenhouse Gas Emissions (Section 3.7);
- Hazards/Hazardous Materials (Section 3.8);
- Hydrology & Water Quality (Section 3.9);
- Land Use & Planning (Section 3.10);
- Mineral Resources (Section 3.11);
- Noise (Section 3.12);
- Population & Housing (Section 3.13);
- Public Services (Section 3.14);
- Recreation (Section 3.15);
- Transportation (Section 3.16);
- Utilities (Section 3.17); and,
- Mandatory Findings of Significance (Section 3.18).

The environmental analysis included in this section reflects the Initial Study Checklist format used by the City of Paramount in its environmental review process (refer to Table 1-1 provided in Section 1.3 herein). Under each issue area, an analysis of impacts is provided in the form of questions and answers. The analysis then provides a response to the individual questions. For the evaluation of potential impacts, questions are stated and an answer is provided according to the analysis undertaken as part of this Initial Study's preparation. To each question, there are four possible responses:

- *No Impact*. The proposed project *will not* have any measurable environmental impact on the environment.

- *Less Than Significant Impact*. The proposed project *may have* the potential for affecting the environment, although these impacts will be below levels or thresholds that the City of Paramount or other responsible agencies consider to be significant.

- *Less Than Significant Impact with Mitigation*. The proposed project *may have* the potential to generate impacts that will have a significant impact on the environment. However, the level of impact may be reduced to levels that are less than significant with the implementation of mitigation measures.

- *Potentially Significant Impact*. The proposed project *may result* in environmental impacts that are significant.

This Initial Study will assist the City of Paramount in making a determination as to whether there is a potential for significant adverse impacts on the environment associated with the implementation of the proposed project.

3.1 AESTHETIC IMPACTS

3.1.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project may be deemed to have a significant adverse aesthetic impact if it results in any of the following:

- An adverse effect on a scenic vista;
- Substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway; or,
- A new source of substantial light and glare that would adversely affect day-time or night-time views in the area.

3.1.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project affect a scenic vista? Less than Significant Impact with Mitigation.

The dominant scenic views from Paramount include the views of the San Gabriel Mountains located approximately 22 miles to the north of the City.[43] The PPR is located in the midst of an urban area that includes a commercial center, strip commercial development, schools, and residential uses. The refinery property consists of approximately 66 acres bounded on the north by Contreras Street, on the south by the Los Angeles Metropolitan Transportation Authority (MTA) right-of-way, on the west by Downey Avenue and on the east by Lakewood Boulevard. The existing improvements within the refinery are varied and include more than 80 above-ground storage tanks of various sizes, concrete and block buildings that house control rooms, maintenance shops, and warehouses.

The proposed project includes modifications to the No. 5 HDS Unit within the existing Paramount Petroleum Refinery (PPR). The proposed modifications will include reconfiguring the No. 5 HDS Unit into two units: a hydrotreater and an isomerization unit. The existing columns will remain and ten new process vessels (one drum, three separator vessels, three fractionation towers, and three reactors) will be installed. The new vessels will be located in the central portion of the PPR near existing equipment (refer to Exhibit 2-8 in Section 2). The new vessels will have varied heights, all will be shorter than the existing equipment with the exception of the one new fractionation tower. This new fractionation tower will be 168 feet tall. The new fractionation tower will introduce a minor visual change to the PPR and will be the only project element that will be visible from outside the PPR. The new tower is illustrated in Exhibits 3-1 through 3-4. Additionally, the PPR is proposing to upgrade existing equipment and piping, though these improvements will not be readily visible from off-site locations.[44]

[43] United States Geological Survey. *The National Map [Terra Server USA]. Paramount, California.* July 1, 1998.

[44] Ms. Marcia Baverman, Environmental Audit. *Aesthetics Analysis.* E-Mail dated December 6, 2013.

Photographs Taken By Marcia Baverman

Photograph 1
Date: 07/07/13

Existing

Facing Northwest at Rail Line near Hayter Street on Somerset Boulevard

Rendering 1

Future

Artist Rendering of Photograph 1 Post Project

EXHIBIT 3-1
AESTHETICS AND VISUAL ANALYSIS
SOURCE: ENVIRONMENTAL AUDIT

Photographs Taken By Marcia Baverman

Facing East from 2nd Street at Downey Avenue

Artist Rendering of Photograph 2 Post Project

EXHIBIT 3-2
AESTHETICS AND VISUAL ANALYSIS
SOURCE: ENVIRONMENTAL AUDIT

Photographs Taken By Marcia Baverman

Photograph 3
Date: 09/13/13

Existing

Facing South on Contreras Street

Rendering 3

Future

Artist Rendering of Photograph 3 Post Project

EXHIBIT 3-3
AESTHETICS AND VISUAL ANALYSIS
SOURCE: ENVIRONMENTAL AUDIT

Photographs Taken By Marcia Baverman

Photograph 4
Date: 07/07/13

Existing

Facing Southwest from Parking Lot on Lakewood Boulevard

Rendering 4

Future

Artist Rendering of Photograph 4 Post Project

EXHIBIT 3-4
AESTHETICS AND VISUAL ANALYSIS
SOURCE: ENVIRONMENTAL AUDIT

As indicated previously, the new equipment, with the exception of the fractionation tower, will be the same height as existing structures. Existing structural elements at the PPR include heavy industrial equipment such as white cylindrical tanks, several which are nearly 40 feet tall, and grey-toned industrial equipment including vessels, reactors, and stacks which are approximately 60 feet tall. A 135-foot high crude column and a 97.6-foot high heater (#H802) stack are located adjacent to the existing SCR stack. Additional columns and stacks at the PPR (including the flare) are up to 150 feet high.

The views of the facility from various locations showing views before and after the installation of the new fractionation tower are provided in Exhibits 3-1 through 3-4. As shown in the different artistic renderings in the aforementioned exhibits, the new fractionation tower will be visible from locations outside the PPR. However, the overall views of the PPR from adjacent properties are not expected to change substantially. Overall, the new equipment will blend into the surrounding industrial environment. The new fractionation tower will have a similar appearance to the existing structures. As a result, no significant change in the visual characteristics of the PPR is anticipated. As is the case for similar previous improvements within the PPR, the following mitigation will be required:

- The new fractionation tower must be painted in lighter colors that will blend into the background. In previous projects the colors used have been light blue or white.

The above mitigation will further reduce the potential aesthetic impacts to levels that are less than significant.

B. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway? No Impact.

As indicated previously, all of the new equipment will be located within the existing PPR complex. The Paramount General Plan does not include any designated scenic corridors.[45] In addition, there are no designated State or County designated scenic highways located near the PPR..[46] In addition, there are no historically significant buildings within the refinery that could be affected by the proposed project.[47] As a result, no significant adverse impacts on scenic resources will result from the proposed project's implementation.

C. Would the project create a new source of substantial light or glare that would adversely affect day or night-time views in the area? Less than Significant Impact with Mitigation.

Exterior lighting can be a nuisance to adjacent land uses that are sensitive to this lighting. For example, lighting emanating from unprotected or unshielded light fixtures may shine through windows that could disturb the residents inside. This light spillover is referred to as *light trespass* which is typically defined

[45] City of Paramount. *Paramount General Plan. Land Use Element*. August 2007.

[46] The nearest officially designated Scenic Highway to the Refinery is Route 2 (Angeles Crest Scenic Byway) near La Canada/Flintridge, located in the northeastern portion of Los Angeles County. It is approximately 22 miles north from the Refinery to the most southern portion of Route 2.

[47] The historical significance of the site and the potential impacts are evaluated herein in Section 3.5.

as the presence of unwanted light on properties located adjacent to the source of lighting. The nearest light sensitive receptors found in the vicinity of the project site that could be affected by any new lighting are located to the south of the refinery. These residences are located to the south of the Southern California Edison (SCE) and MTA right-of-way.

In general, construction activities are not anticipated to require additional lighting because they are scheduled to take place during daylight hours. However, when daylight hours are limited during the winter months, temporary lighting may be required. Since the proposed project would be located within the boundaries of the existing PPR, additional temporary lighting, if needed, is not expected to be discernible from the existing permanent night lighting already associated with the PPR operations. In addition, the proposed project components will be located within existing industrial facilities, which are already illuminated for nighttime operations. Therefore, no overall increase in lighting associated with the proposed project is expected at the refinery. To further ensure that there are no light and glare impacts, the following measure is required:

- The Applicant must ensure that appropriate light shielding is provided for any new lighting equipment as a means to limit glare and light trespass. The plan for the lighting must be submitted to the Chief Building Official for review and approval prior to the issuance of any building permits.

The aforementioned mitigation measures will reduce the potential impacts to levels that are less than significant.

3.1.3 CUMULATIVE IMPACTS

The potential aesthetic impacts related to views, aesthetics, and light and glare is site specific. As a result, no cumulative aesthetic impacts are anticipated.

3.1.4 MITIGATION MEASURES

The analysis determined that the proposed project would potentially result in light and glare impacts. For this reason, and to ensure the facility is maintained, the following mitigation measures are required:

Mitigation Measure # 1 (Aesthetics). The new tower must be painted in lighter colors that will blend into the background. In previous projects the colors used have been light blue or white.

Mitigation Measure # 2 (Aesthetics). The Applicant must ensure that appropriate light shielding is provided for any new lighting equipment as a means to limit glare and light trespass. The plan for the lighting must be submitted to the Chief Building Official for review and approval prior to the issuance of any building permits.

3.2 AGRICULTURE AND FORESTRY RESOURCES

3.2.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project may be deemed to have a significant impact on agricultural resources if it results in any of the following:

- The conversion of prime farmland, unique farmland or farmland of Statewide importance;
- A conflict with existing zoning for agricultural use or a Williamson Act Contract;
- A conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §4526), or zoned timberland production (as defined by Government Code §51104[g]);
- The loss of forest land or the conversion of forest land to a non-forest use; or,
- Changes to the existing environment that due to their location or nature may result in the conversion of farmland to non-agricultural uses.

3.2.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

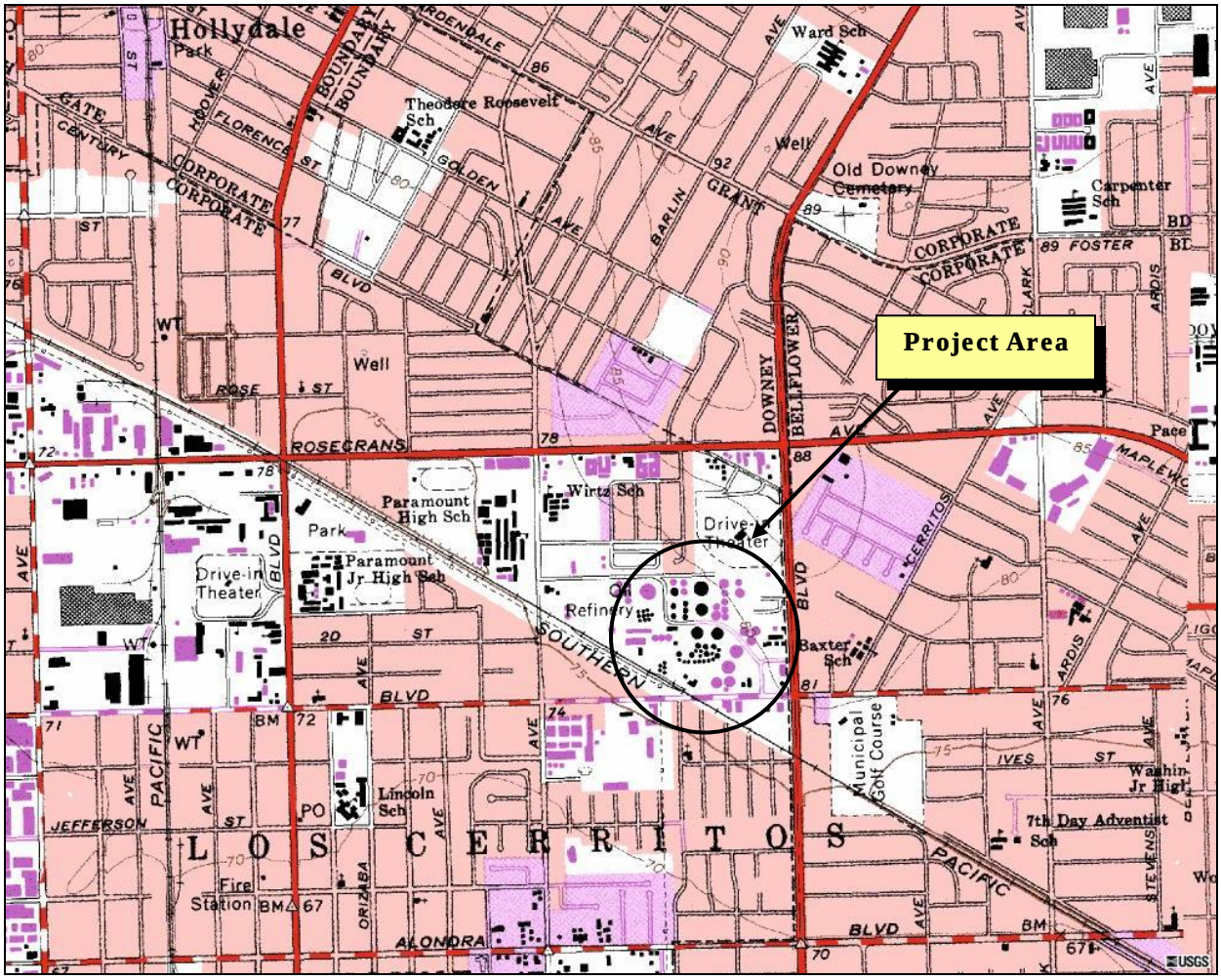
A. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? No Impact.

No agricultural activities are located within the PPR (refer to Exhibit 3-5). The utility easement located along the south side of the refinery is being used for the storage and maintenance of landscape materials.[48]. In addition, the applicable Somerset Ranch Area Plan designations for the area that includes the PPR do not contemplate any agricultural land uses within the area. Since the proposed project will not involve the conversion of any agricultural land, no impact on any protected farmland soils will occur.

B. Would the project conflict with existing zoning for agricultural use or a Williamson Act Contract? No Impact.

No agricultural activities are located within the PPR where the improvements are proposed. The location of existing land uses and land cover are illustrated in a topographic map provided in Exhibit 3-5. The applicable Somerset Ranch Area Plan designation does not contemplate agricultural land uses within the project site or on the adjacent parcels. No land areas within the PPR are subject to a Williamson Act Contract.[49] As a result, no impacts on existing Williamson Act Contracts will result from the proposed project's implementation.

[48] United States Geological Survey. *The National Map [Terra Server USA]. Paramount, California.* July 1, 1998.
[49] State of California. *The California Land Conservation [Williamson] Act, 2010 Status Report.* November 2010.



Note: This is the most recent USGS 7 ½ Minute Quadrangle of the project area. The drive-in located to the northeast of the PPR has been redeveloped as a commercial shopping center.

EXHIBIT 3-5
TOPOGRAPHIC MAP – EXISTING LAND COVER
SOURCE: UNITED STATES GEOLOGICAL SURVEY

C. Would the project conflict with existing zoning for or cause rezoning of, forest land (as defined in Public Resources Code Section 4526), or zoned timberland production (as defined by Government Code § 51104[g])? No Impact.

The City of Paramount and the PPR are located in the midst of an urban area and no forest lands are located within the City (refer to Exhibit 3-1). The Somerset Ranch Area Plan designation that is applicable to the project site does not provide for any forest land preservation.[50] As a result, no impacts on forest land or timber resources will result.

D. Would the project result in the loss of forest land or the conversion of forest land to a non-forest use? No Impact.

No forest lands are found within the City nor does the applicable land use designations provide for any forest land protection.[51] Furthermore, no loss or conversion of existing forest lands will result from the proposed project's implementation. As a result, no significant adverse impacts are anticipated.

E. Would the project involve other changes in the existing environment that, due to their location or nature, may result in conversion of farmland to non-agricultural use? No Impact.

No agricultural activities or farmland uses are located in the City or within the PPR. The proposed project will not involve the conversion of any existing farmland area to an urban use and no significant adverse impacts are anticipated.

3.2.3 CUMULATIVE IMPACTS

The analysis determined that there are no agricultural or forestry resources located in the project area and that the proposed project's implementation would not result in any significant adverse impacts on these resources. As a result, no cumulative impacts on agricultural or farmland resources will occur.

3.2.4 MITIGATION MEASURES

The analysis of agricultural and forestry resources indicated that no significant adverse impacts on these resources would occur as part of the proposed project's implementation. As a result, no mitigation is required.

[50] City of Paramount. *Paramount General Plan. Land Use Element*. August 2007.

[51] United States Geological Survey. *The National Map [Terra Server USA]. Paramount, California*. July 1, 1998.

3.3 AIR QUALITY

3.3.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project will normally be deemed to have a significant adverse environmental impact on air quality, if it results in any of the following:

- A conflict with the obstruction of the implementation of the applicable air quality plan;
- A violation of an air quality standard or contribute substantially to an existing or projected air quality violation;
- A cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard;
- The exposure of sensitive receptors to substantial pollutant concentrations; or,
- The creation of objectionable odors affecting a substantial number of people.

The South Coast Air Quality Management District (SCAQMD) has established quantitative thresholds for short-term (construction) emissions and long-term (operational) emissions for criteria pollutants. These criteria pollutants include the following:[52]

- *Ozone (O_3)* is a nearly colorless gas that irritates the lungs, damages materials, and vegetation. O_3 is formed by photochemical reaction (when nitrogen dioxide is broken down by sunlight).
- *Carbon monoxide (CO),* a colorless, odorless toxic gas that interferes with the transfer of oxygen to the brain, is produced by the incomplete combustion of carbon-containing fuels emitted as vehicle exhaust.
- *Nitrogen dioxide (NO_2)* is a yellowish-brown gas, which at high levels can cause breathing difficulties. NO_2 is formed when nitric oxide (a pollutant from burning processes) combines with oxygen.
- *PM_{10} and $PM_{2.5}$* refers to particulate matter less than ten microns and two and one-half microns in diameter, respectively. Particulates of this size cause a greater health risk than larger-sized particles since fine particles can more easily be inhaled.

[52] South Coast Air Quality Management District. *CEQA Air Quality Handbook.* April 1993.

Daily and quarterly emissions thresholds for construction activities and the operation of a project have been established by the SCAQMD. Projects in the South Coast Air Basin (SCAB) generating *construction-related* emissions that exceed any of the following emissions thresholds are considered to be significant under CEQA:

- 75 pounds per day of reactive organic compounds;
- 100 pounds per day of nitrogen dioxide;
- 550 pounds per day of carbon monoxide;
- 150 pounds per day of PM_{10};
- 55 pounds per day of $PM_{2.5}$; or,
- 150 pounds per day of sulfur oxides.

A project would have a significant effect on air quality if any of the following *operational* emissions thresholds for criteria pollutants are exceeded:

- 55 pounds per day of reactive organic compounds;
- 55 pounds per day of nitrogen dioxide;
- 550 pounds per day of carbon monoxide;
- 150 pounds per day of PM_{10};
- 55 pounds per day of $PM_{2.5}$; or,
- 150 pounds per day of sulfur oxides.

3.3.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project conflict with or obstruct implementation of the applicable air quality plan? No Impact.

The project site is located within the South Coast Air Basin (SCAB), which covers a 6,600 square-mile area within Orange County, the non-desert portions of Los Angeles County, Riverside County, and San Bernardino County.[53] Measures to improve regional air quality are outlined in the SCAQMD's Air Quality Management Plan (AQMP).[54] The *Final* 2012 AQMP was jointly prepared with the California Air Resources Board (CARB) and the Southern California Association of Governments (SCAG).

The 2012 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 region are provided to the Southern California Association of Governments (SCAG), which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the local general plans and any supporting growth projections are considered to be consistent with the AQMP.

[53] South Coast Air Quality Management District, *Final 2012 Air Quality Plan*, Adopted 2012.

[54] Ibid.

The proposed project would be consistent with the AQMP for the following reasons:

- The estimated 31 construction workers are expected to be drawn from the existing labor pool in the Southern California area. As a result, this additional construction employment would not result in a change in future employment growth forecasts.

- The proposed project's operations is not expected to require additional refinery employees. As a result, the project would not generate additional worker-related traffic during operation requiring traffic improvements already envisioned in local or region transportation plans.

- Because the proposed project would not require additional workers during operations, it would not increase the demand for additional housing. In addition, the proposed project's implementation would not require changes to the applicable General Plan and Zoning designations.[55]

Because the proposed project would not exceed any adopted growth projections, it is considered to be consistent with the AQMP. Additionally, this project must comply with all applicable SCAQMD requirements for new and modified stationary sources. For example, new and modified stationary emission sources associated with the proposed project are required to comply with the SCAQMD's Regulation XIII, New Source Review, which requires the installation of Best Available Control Technology (BACT) and providing 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, and Rule 1173, Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants.[56] By meeting these requirements, the proposed project will be consistent with the emission reduction goals and objectives of the 2012 AQMP and no adverse impacts related to conformity with the AQMP will result.

B. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation? Less than Significant Impact.

The following three categories of pollutants are regulated by the Federal and State Clean Air Acts: criteria air pollutants, toxic air contaminants, and global warming and ozone-depleting gases. Pollutants in each of these categories are monitored and regulated differently. Criteria air pollutants are measured by ambient air sampling and refer to those pollutants that are subject to both Federal and State Ambient Air Quality Standards (AAQS) as a means to protect public health. The Federal and State standards have been established at levels to ensure that human health is protected with an adequate margin of safety. Some of the California AAQS are more stringent than the Federal AAQS. The California AAQS also

[55] Environmental Audit Inc. *Paramount Petroleum Refinery Alt-Air Project, Air Quality and Greenhouse Gas Analysis.* November, 2013.

[56] Ibid.

include additional standards for sulfates, vinyl chloride, and visibility.[57] Table 3-1 lists the current National and State AAQS for each criteria pollutant.

Table 3-1
National and California Ambient Air Quality Standards

Pollutants	National Standards	State Standards
Lead (Pb)	1.5 μg/m³(calendar quarter)	1.5 μg/m³ (30-day average)
Sulfur Dioxide (SO_2)	0.14 ppm (24-hour)	0.25 ppm (1-hour)/0.04 ppm (24-hour)
Carbon Monoxide (CO)	9.0 ppm(8-hour)/35 ppm(1-hour)	9.0 ppm (8-hour)/20 ppm (1-hour)
Nitrogen Dioxide (NO_2)	0.053 ppm (annual average)	0.25 ppm (1-hour)
Ozone (O_3)	0.12 ppm (1-hour)	0.09 ppm (1-hour)
Fine Particulate Matter (PM_{10})	150 μg/m³ (24-hour)	50 μg/m³ (24-hour)
Sulfate	None	25 μg/m³ (24-hour)
Visual Range	None	10 miles (8-hour) w/humidity < 70 percent

Source: South Coast Air Quality Management District. 2013.

The region's air quality has shown a steady and gradual improvement since the 1970's when air quality was at its worst. This improvement is largely due to the elimination of many stationary point sources, more stringent vehicle emissions controls, and new regulations governing those activities that contribute to air pollution (such as open air fires). Ozone pollution continues to be a problem in the SCAB, though the maximum 1-hour ozone concentration in the SCAB measured in recent years was the lowest concentration since monitoring began. Ozone concentrations still exceed both the State and Federal clean air standards in some areas with the highest ozone levels in the Southern California region typically recorded in the Santa Clarita Valley and in the San Bernardino Mountains. The coastal and basin areas of Orange and Los Angeles Counties have not experienced an exceedance of Federal or State ozone standards.[58] Potential project emissions are categorized according to short-term (construction-related) emissions and long-term (operational) emissions. Short-term emissions will occur during the construction phases only while long-term emissions will continue over the operational life of the project.

Significance determinations for construction impacts are based on the maximum or peak daily emissions during the construction period, which provides a "worst-case" analysis of the construction emissions. Construction activities will occur over an eight month period. Construction emissions are expected from the following equipment and processes:

- On-site construction equipment (dump trucks, backhoes, etc.);
- On-site and offsite vehicle emissions, including delivery trucks and worker vehicles;

[57] South Coast Air Quality Management District, *Final 2012 Air Quality Plan*, Adopted 2012.
[58] South Coast Air Quality Management District, *Final 2012 Air Quality Plan*, Adopted 2012.

- On-site fugitive dust associated with site construction activities; and,

- On-site and off-site fugitive dust associated with travel on unpaved and paved roads.

Construction activities will primarily occur near the center of the refinery (refer to Exhibit 2-8 which indicates the location and extent of new equipment) and would be focused in an area that is less than one acre. Construction emissions were calculated for peak daily construction activities in each month construction is expected to occur and the results of this analysis are presented in Table 3-2. Peak daily emissions are the sum of the highest daily emissions for each criteria pollutant from construction employee vehicles, fugitive dust sources, construction equipment, and transport activities occurring during each construction phase.[59] Short-term construction emissions include construction worker commute vehicles, pick-up trucks, flatbed trucks, dump trucks, water trucks, semi-tractors, concrete trucks, delivery trucks, and the use of construction equipment. Other sources of short-term emissions include fugitive dust generation, emissions associated with the use of architectural coatings, and other sources. The short-term emissions anticipated to result from the proposed project's implementation are summarized below:[60]

- Onsite construction equipment would be one source of combustion emissions. Construction equipment may include trucks, cranes, fork lifts, air compressors, compactors, generators, excavators, backhoes, welding machines, and trowels. This equipment is assumed to be operational for no more than ten hours per day. Construction workers may be at the site for longer than ten hours per day, including time for lunch and breaks, organization meetings, and other administrative tasks. A conservative estimate of actual construction activities is ten hours per day.[61]

- *Construction Employee Mobile Emissions.* Construction emissions include emissions from construction worker vehicles traveling to and from the work site. The peak manpower needed during the construction period is expected to be 31 workers. Each worker commute vehicle is assumed to travel 14.7 miles to and from work each day, making two one-way trips per day. Emissions from employee vehicles are presented in Table 3-2.[62]

- *Other Construction Related Mobile Emissions.* Other short-term construction-related vehicle emissions include cars and pickup trucks used for short trips within and near the refinery. These trips are assumed to travel five miles or less per trip and will include medium-duty and heavy-duty diesel trucks used during construction. Dump trucks, haul trucks, lube trucks, water trucks,

[59] Total peak construction emissions occur in Month 2 for nitrogen oxides (NOx); in Month 4 for carbon monoxide (CO), volatile organic compounds (VOC), sulfur oxides (SOx), and particulate matter less than 10 (PM10), and or particulate matter less than 2.5 micron (PM2.5). Detailed construction emissions calculations are provided in Appendix A.

[60] Environmental Audit Inc. *Paramount Petroleum Refinery Alt-Air Project, Air Quality and Greenhouse Gas Analysis.* November, 2013.

[61] Emission factors for construction equipment were taken from the CARB OFF-ROAD 2011 Emissions Inventory model and tables available on the SCAQMD webpage (http://aqmd.gov/ceqa/hdbk.html).

[62] Emissions from employee vehicles were calculated using the EMFAC2011 Emission Inventory model.

delivery trucks, heavy-duty semi-trucks, and concrete trucks were also included in the project construction analysis. Primary emissions generated by these vehicles will include exhaust emissions from diesel engines while they are operating.[63] Estimated emissions for all trucks are included in Table 3-2.

- *Fugitive Dust Generation*. Activities that may generate fugitive dust at the site include excavation, trenching, wind erosion, and truck filling/dumping, which occur primarily during site preparation and when constructing the foundations and supports for the new equipment. During construction activities, water used as a dust suppressant will be applied in the construction area during excavating, trenching, and earth-moving activities to control or reduce fugitive dust emissions pursuant to SCAQMD Rule 403 (d)(2).[64] Fugitive dust suppression, often using water, is a standard operating practice and is one method of complying with SCAQMD Rule 403. Estimated peak controlled PM10 and PM2.5 emissions during peak construction activities for fugitive dust sources are 1.68 pounds per day and 0.97 pounds per day, respectively using the PM10 to PM2.5 fraction ratio of 0.58. These calculations assumes watering three times per day (see Table 3-2) to comply with SCAQMD Rule 402 (d)(2). The detailed emission calculations are provided in Appendix A.

- *Off-Road Fugitive Dust Emissions.* Vehicles and trucks traveling on paved and unpaved roads, including public roads and onsite roads, are also a source of fugitive emissions during the construction period. Fugitive road dust emissions were calculated for vehicles traveling to the refinery, onsite cars, light-duty trucks, and buses. The fugitive emissions for all equipment are assumed to occur on paved roads (both public and onsite).[65] The estimated fugitive PM10 and PM2.5 emissions on paved roads during peak construction activities (anticipated to occur in the fourth month of construction) are 4.24 pounds per day and 0.72 pounds per day, respectively (see Table 3-2 and Appendix A).

- *Architectural Coatings.* The interior of tank #80003 will be coated to inhibit corrosion. The coating used for Tank 80003 will be VOC free and thus would not generate any fugitive VOC emissions. The proposed project is not expected to include the application of architectural coating. However, 10 gallons per day of industrial maintenance coating are included in the analysis in case any touch-up painting is required. The proposed project would use coatings that comply with SCAQMD Rule 1113-Architectural Coatings, which limits the VOC emissions of the industrial maintenance coating to 100 grams per liter (0.83 pounds per gallon). If necessary, touch up painting would occur during the end of the construction phase and would not overlap with the peak daily construction emissions. A maximum of 8.3 pounds per day of VOC emissions would be generated from architectural coatings (see Appendix A).

[63] Emissions from trucks (both medium-duty and heavy-duty) are calculated using the CARB EMFAC2011 model.

[64] Application of water reduces PM emissions by a factor of up to 61 percent (SCAQMD, 2011). It is assumed that one water application per day reduces PM emissions by 34 percent, two applications per day reduce emissions by 50 percent, and three applications per day reduce emissions by 61 percent (SCAQMD, 2011).

[65] Emissions of dust caused by travel on paved roads were calculated using the U.S. EPA's, AP-42, Section 13.2.1 emission factor for travel on paved roads. CARB's Methodology 7.9 was used to determine the appropriate silt loading for calculating fugitive dust emissions.

- *Miscellaneous Emissions*. In addition to the construction-related emissions already identified for the proposed project, another potential source of VOC emissions may be from contaminated soil, if found and the subsequent soil remediation activities. To ensure compliance with SCAQMD Rule 1166, the PPR will contract with a construction contractor holding an SCAQMD-approved various sites Rule 1166 plan. Rule 1166 includes requirements for SCAQMD notification at least 24 hours prior to the start of excavation activities, ongoing monitoring (at least once every 15 minutes, within three inches of the excavated soil surface), as well as implementation of a mitigation plan when VOC-contaminated soil is detected.[66] In addition, VOC-contaminated soils shall be removed from the PPR within 30 days from the time of excavation. VOC emission estimates would be speculative at this time. This is due to the fact that the levels of contamination, if any, are currently unknown.

Construction activities associated with the modifications to the PPR would result in emissions of CO, VOC, NOx, SOx, PM10, and PM2.5. Construction emissions for the proposed project are summarized in Table 3-2, together with the SCAQMD's daily construction significance thresholds. Emissions generated during the construction phase of the proposed project are expected to be below the significance thresholds for those criteria pollutants. Therefore, less than significant potential adverse construction air quality impacts are expected to occur as a result of thee proposed project's implementation.[67]

Table 3-2
Peak Daily Construction Emissions[(a)]

PEAK CONSTRUCTION ACTIVITY	CO (lbs/day)	NOx (lbs/day)	VOC (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5[(b)] (lbs/day)
Construction Equipment	70.09	91.66	9.84	0.14	6.04	5.56
Vehicle Emissions	8.48	4.66	1.12	0.02	0.28	0.28
Fugitive Dust From Construction[(c)]	--	--	--	--	1.68	0.97
Fugitive Road Dust[(c)]	--	--	--	--	4.24	0.72
Architectural Coating	--	--	--	--	--	--
Total Emissions[(d)]	**78.57**	**96.32**	**10.96**	**0.16**	**12.24**	**7.53**
Significance Threshold	550	100	75	150	150	55
Significant?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

(a) Peak emissions for NOx predicted to occur in Month 2. Peak emissions for CO, VOC, SOx, PM10, and PM2.5 predicted to occur during Month 4.
(b) PM2.5 is determined using SCAQMD, 2006. Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 CEQA Significance Thresholds, SCAQMD, October 2006, https://www.aqmd.gov/ceqa/handbook/PM2_5/ finalAppA.doc
(c) Application of water three times per day to comply with SCAQMD Rule 402 (d)(2).
(d) The total emissions in this table may differ slightly from those in Appendix A due to rounding.

[66] Rule 1166 defines VOC-contaminated soil as soil which registers a concentration of 50 ppmv or greater of VOC. An approved Rule 1166 Plan generally includes covering the contaminated soil pile with heavy plastic sheeting and conducting watering activities to assure the soil remains moist.

[67] Environmental Audit Inc. *Paramount Petroleum Refinery Alt-Air Project, Air Quality and Greenhouse Gas Analysis*. November, 2013.

The proposed project, once operational will generate long-term, operational emissions. These emissions will continue over the life of the project. The operational air quality impacts are summarized below and on the following pages.[68]

- *Stationary Sources.* The proposed project would add a new renewable fuels isomerization unit, convert an exiting tank (#80003) from a floating roof tank to a fixed roof tank, modify the existing 5HDS into a renewable fuels hydrotreater, and modify other ancillary equipment (amine system, caustic scrubber, fuel gas system). The proposed project would also decommission the existing isomerization unit though this isomerization unit is not being operated; therefore, the baseline does not include emissions from the isomerization unit in this analysis. Operation of the modified storage tank would not increase VOC emission because the vapor pressure of the feedstock would be lower than existing commodities. However, the operation of the new and modified process units would increase VOC emissions at the refinery.

- *Combustion Sources.* The proposed project would not require new combustion sources. The process will require an additional 18,000 pounds per hour of steam on a peak day to heat the feedstock at the modified storage tanks and rail cars, and for process steam at the amine regeneration unit. Therefore, emissions from boilers will increase CO, VOC, NOx, SOx, PM, and PM2.5 emissions at the refinery. The proposed project would also require heat from existing heaters; however, existing heater duty is not expected to increase. Combustion based heat requirements for the proposed project would be achieved by heat efficiency and integrations units (heat exchangers) throughout the modified units. The incremental boiler emissions from the proposed project are summarized in Table 3-3 (see also Appendix A for more detailed emission calculations).

- *Fugitive Emissions.* Fugitive emissions are emissions released directly into the atmosphere that do not pass through a stack, vent etc., and are not typically permitted (e.g. valves, flanges, and pumps). The modified storage tank, new storage tanks filters, modified 5HDS, and new renewable fuel isomerization units would be sources of fugitive VOC emissions during the operation, and would need new and modified permits to operate. The proposed project would also increase fugitive VOC components associated with the piping to the new filters, and these emissions would be monitored in accordance with the requirements in SCAQMD Rule 1173. The VOC emission estimates for the modified tanks will have similar or lower vapor pressure than the current feedstocks and commodities, therefore, no additional VOC emissions are expected from the operation of the modified tank.[69] The fugitive VOC emissions from the proposed project are summarized in Table 3-3 (see also Appendix A for more detailed emission calculations).

- *Mobile Emissions from Delivery Vehicles.* The refinery would be set up to receive feedstock from either rail or truck unloading racks, with rail expected to be the primary mode of transport.

[68] Environmental Audit Inc. *Paramount Petroleum Refinery Alt-Air Project, Air Quality and Greenhouse Gas Analysis.* November, 2013.

[69] Fugitive emissions from components the process units are based on the Method 2 of the *SCAQMD Guide for Fugitive Emissions Calculations* (SCAQMD, 2003).

Delivery trucks would be utilized if a reliable source of vegetable oil becomes available locally to supplement rail deliveries. The proposed project would generate an additional 3,500 barrels of feedstock deliveries per day translating into seven rail cars per day or 18 delivery truck trips per day. The rail deliveries for the proposed project would replace existing rail car deliveries.[70] Therefore, no additional rail cars emissions are anticipated for the proposed project. Operational vehicle emissions include 28 additional delivery trucks on a peak day. The process is expected to require four hydrogen delivery trucks and one caustic delivery truck on a peak day. As previously mentioned, a majority of the feedstock delivery is expected to arrive via rail, however, as a worse case analysis, 23 feedstock delivery trucks were included in the peak day analysis.[71] Emissions from delivery trucks are also presented in Table 3-3.

- *Mobile Emissions from Employee Vehicles.* No additional permanent workers are expected to be hired for the proposed project.

Daily operational emissions would be generated by stationary sources and mobile sources. Stationary source emissions include fugitive VOCs from the process and storage tanks and CO, VOC, NOx, SOx, PM10, and PM2.5 from increased firing at boiler #9. Mobile source emissions include CO, VOC, NOx, SOx, PM10, and PM2.5 emissions from hydrogen delivery trucks, caustic delivery trucks, and feedstock delivery from rail. The peak daily operational emissions from the proposed project would be below the CEQA significance threshold during operations as demonstrated in Table 3-3. Detailed operational emission calculations are also provided in Appendix A.

Table 3-3
Operational Emissions Summary

Sources	CO (lbs/day)	VOC (lbs/day)	NOx (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
Stage 1 - Hydrotreater	--	16.36	--	--	--	--
Stage 2 - Isomerization Unit	--	24.87	--	--	--	--
Tank Filters (4)	--	1.20	--	--	--	--
Additional Piping	--	1.47	--	--	--	--
Delivery Trucks	6.25	4.19	28.76	0.06	31.02	5.97
Boiler 9	20.16	1.32	24.00	0.14	1.82	1.82
Total Proposed Project Emissions	26.41	49.41	52.76	0.20	32.84	7.79
Baseline 5HDS Emissions	--	4.38	--	--	--	--
Overall Project Emissions	**26.41**	**45.03**	**52.76**	**0.20**	**32.84**	**7.79**
Significance Thresholds	**550**	**100**	**55**	**150**	**55**	**55**
Significant?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Environmental Audit, Inc.

[70] Any rail emissions from the proposed project would be Federally preempted under the Federal Interstate Commerce Commission Termination Act of 1995.

[71] Each delivery vehicle is assumed to travel 30 miles or less each way, making two one-way trips per day. Emissions from delivery trucks were calculated using the CARB EMFAC2011 Emission Inventory model.

Equipment potentially impacted by the proposed project (upstream or downstream) were evaluated to determine if the proposed project would result in an emissions increase, even though the equipment is operating within permit limits and no permit modification would be required. Due to the nature of refinery operations, all equipment fluctuates in activity levels. However, no other units, beyond the feedstock unloading racks, feedstock storage tank, renewable fuels hydrotreater unit, renewable fuels isomerization unit, and the associated piping and ancillary equipment evaluated in this analysis, were identified as potentially resulting in increased emissions.[72] The modified tank, the new renewable fuel hydrotreater and isomerization units, and other ancillary equipment would be subject to the requirements in SCAQMD Rule 1303. Therefore, all VOC emissions increases from the proposed project are required to be offset. The operation of the proposed project is not expected to exceed any significance thresholds (refer to Table 3-3). Therefore, the air quality impacts associated with operational emissions from the proposed project are considered less than significant.

C. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? Less than Significant Impact.

The proposed project would generate emissions of criteria pollutants and toxic air contaminants (TACs). However, the proposed project must comply with SCAQMD rules and regulations in order to receive permits to construct/operate. A Health Risk Assessment (HRA) was prepared for the project in accordance with the August 2003 Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments (OEHHA, 2003) and the October 2003 Air Resources Board Recommended Interim Risk Management Policy for Inhalation-based Residential Cancer Risk memo.[73] The HRA, in its entirety is included as Appendix B.

The HRA includes a comprehensive analysis of the dispersion of certain AB2588-listed compounds into the environment, the potential for human exposure, and a quantitative assessment of individual health risks associated with the predicted levels of exposure. The CARB Hotspots Analysis Reporting Program (HARP) model was used since it is the most appropriate model for determining the air quality impacts from the proposed project because it is well suited for refinery modeling since it can accommodate multiple sources and receptors.[74] The dispersion portion of the model provides estimates of source-specific annual and hourly maximum ambient ground level concentrations. The risk calculator in the HARP model estimates the cancer risk, chronic index, and acute index values. The HARP model incorporates US EPA Industrial Source Complex as the dispersion model, however, AERMOD is now the preferred dispersion model, and therefore, this analysis utilizes HARP On-Ramp to import ground level

[72] Environmental Audit Inc. *Paramount Petroleum Refinery Alt-Air Project, Air Quality and Greenhouse Gas Analysis*. November, 2013.

[73] CARB/OEHHA, 2003. Air Resources Board Recommended Interim Risk Management Policy for Inhalation-Based Residential Cancer Risk, October 2003. http://www.arb.ca.gov /toxics/harp/docs/rmpolicy.pdf (accessed June 6, 2013).

[74] California Air Resources Board (CARB), 2008. Hotspots Analysis and Reporting Program (HARP) Version 1.4a (Build 23.07.00) and Resources. http://www.arb.ca.gov /toxics/harp/downloads.htm (downloaded June 6, 2013).

concentrations from AERMOD into HARP. The model default values were modified to conform to the SCAQMD Supplemental Guidelines for Preparing Risk Assessment for AB2588.[75]

The long-term air quality impacts from exposure to toxics were evaluated through the preparation of the aforementioned HRA. The HRA evaluated the emissions associated with the operation of the proposed project and compared them to carcinogenic and non-carcinogenic significance thresholds to determine potential health impacts. The HRA determined that any potential carcinogenic and non-carcinogenic impacts for all receptors are expected to be less than the significance thresholds. The proposed renewable fuels project would not introduce any new health risk. Therefore, no significant adverse carcinogenic or non-carcinogenic health impacts associated with the operation of the proposed project are expected.

D. Would the project expose sensitive receptors to substantial pollutant concentrations? Less than Significant Impact.

Sensitive receptors refer to land uses and/or activities that are especially sensitive to poor air quality and typically include homes, schools, playgrounds, hospitals, convalescent homes, and other facilities where children or the elderly may congregate.[76] Other sensitive receptors located near the project site include those homes located in the vicinity of the PPR including the homes located to the south, north, and west of the refinery (refer to Exhibit 3-6).

The SCAQMD has developed a Localized Significance Threshold (LST) Methodology to evaluate the potential localized impacts of criteria pollutants from construction activities.[77] The LST Methodology requires that the emissions of CO, NO_2, PM10, and PM2.5 associated with the proposed project be evaluated for impacts on ambient air quality standards at the local receptor. Impacts from other criteria pollutants are regional in nature and, therefore, are not included as part of the localized air quality analysis. Only onsite construction emission sources were included in the LST analysis.

The LST methodology involves the use of lookup tables for screening emission rates for significance for projects with an area of five acres or less. The total construction area for the proposed project is less than one acre. Therefore, the lookup tables were used for a one-acre area site. If the calculated construction emissions are less than the emission levels found in the LST lookup tables, localized air quality impacts from the construction activities are not considered significant. The screening tables were developed using conservative assumptions, including the worst-case meteorological conditions. If localized emissions exceed the values in the lookup tables dispersion modeling, which is more precise, may be performed. The CO, NOx, PM10, and PM2.5 emissions from the construction activities for the proposed project are less than the LST emission levels found in the LST lookup tables and, therefore, are expected to be less than significant (see Table 3-4).

[75] SCAQMD, 2011. SCAQMD Supplemental Guidelines for Preparing Risk Assessment for AB2588, June 2011.

[76] South Coast Air Quality Management District. *CEQA Air Quality Handbook, Appendix 9*. 2004 (as amended).

[77] SCAQMD, 2008. *SCAQMD Final Localized Significance Threshold Methodology*, June 2003, Revised July 2008.

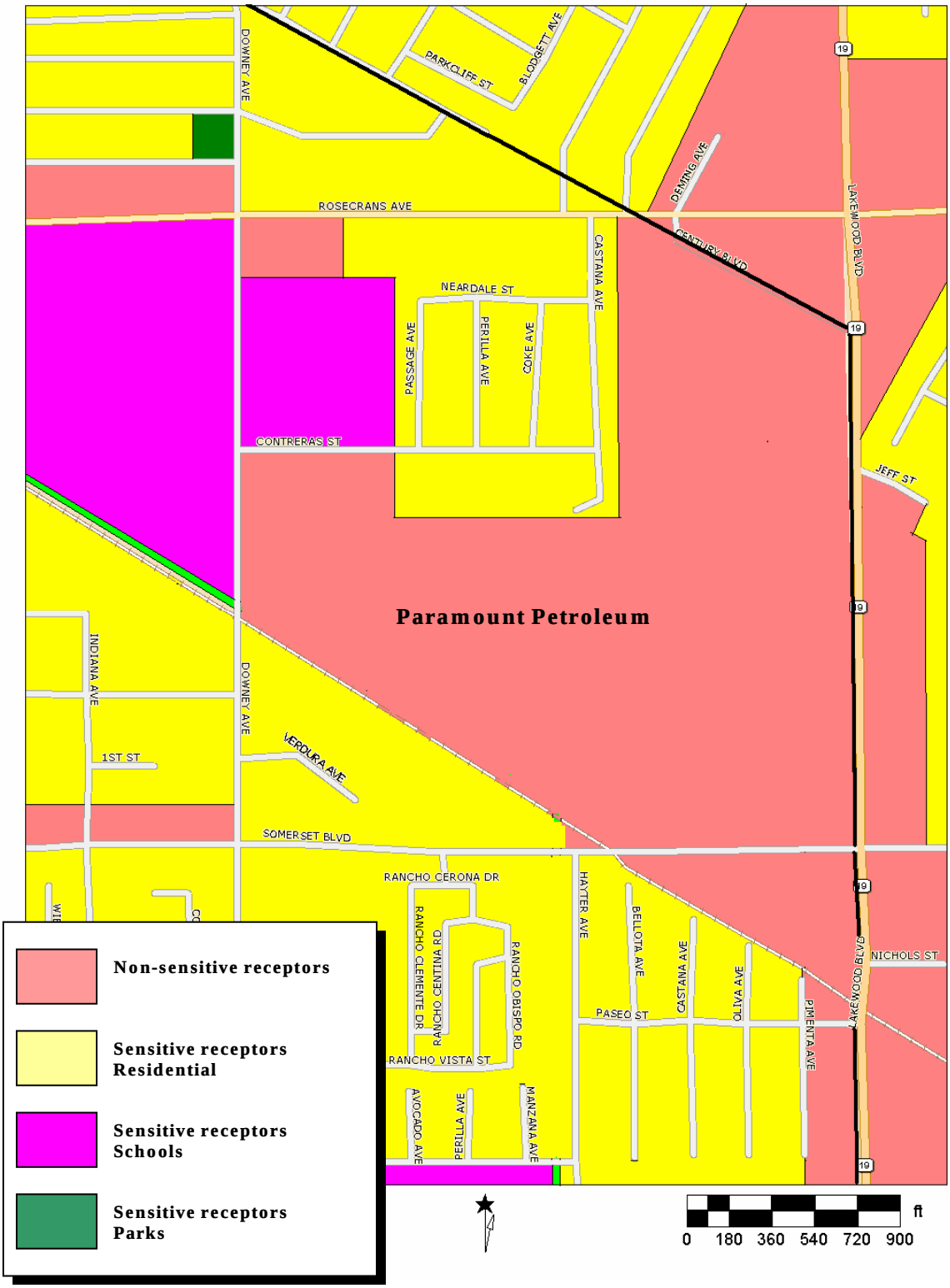


EXHIBIT 3-6
SENSITIVE RECEPTORS – AIR EMISSIONS
SOURCE: BLODGETT/BLODGETT ASSOCIATES 2012

Table 3-4
LST Evaluation for On-site Construction Emissions

Criteria Pollutant	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
Peak On-site Construction Emissions	70.66	92.36	8.18	6.63
Screening Value[a]	1,088	94	30	8
Significant?	No	No	No	No

(a) Appendix B of the SCAQMD Final LST Methodology (Oct. 2009). 1 acre site in SRA #5 at 100 meters

Federal ambient air quality standards were not analyzed because the federal standards are based on a three-year period and the proposed project's construction period would be less than three years. Based on the above analysis, the proposed project would not be expected to create any localized significant impacts on air quality during construction. The SCAQMD has also developed a LST methodology to evaluate potential localized air quality impacts of criteria pollutants from construction and operational activities on sensitive receptors in the vicinity of a proposed project.[78] The SCAQMD requires a LST analysis for CO, NO_2, PM10, and PM2.5 operational emissions associated with the proposed project. Potential air quality impacts from other criteria pollutants are regional in nature and, therefore, are not required to be included as part of the localized air quality analysis. Pursuant to the SCAQMD's LST methodology, only onsite operational emissions sources were included in the LST analysis.

The SCAQMD LST Methodology for operational impacts also includes lookup tables that may be used to determine significance for projects with an area of five acres or less. Again, because the area of the proposed project is less than one acre, the lookup tables used to determine significance are for a one-acre area. If the calculated emissions for the construction activity are below the emission level found in the LST lookup tables, localized air quality impacts from the construction activity are not considered significant. If localized emissions exceed the values in the LST lookup tables, dispersion modeling, which is more precise, may be performed. The CO, NOx, PM10, and PM2.5 emissions from the operational activities for the proposed project are well below the LST emission levels found in the LST lookup tables and, therefore, are expected to be less than significant (see Table 3-5).

Table 3-5
Localized Significance Threshold Screening Evaluation for Operational Emissions (lbs/day)

Criteria Pollutant	CO	NOx	PM10	PM2.5
Peak On-site Emissions	20.16	24.00	1.82	1.82
LST Value[a]	1,088	94	8	2
Significant?	**No**	**No**	**No**	**No**

(a) Appendix C of the SCAQMD Final LST Methodology (Oct. 2009). SRA #5 with the nearest receptor located at or beyond 100 meters for a 1 acre site.

[78] SCAQMD, 2009. *SCAQMD Final Localized Significance Threshold Methodology: Appendix C*, October 2009.

The LST analysis indicated that operational emissions of NO_2, CO, PM10, or PM2.5 from the proposed project are not expected to exceed the LST significance thresholds in Table 3-5. Therefore, the proposed project would not be expected to create any significant localized air quality impacts during the operation of the proposed project.

No additional permanent employees are necessary, so traffic level of service will not change from existing levels. Thus, there is no potential for a high concentration of CO emissions to occur, so the proposed project would not contribute to CO Hot Spots.

E. Would the project create objectionable odors affecting a substantial number of people? No Impact.

The proposed project is not expected to create new significant objectionable odors during construction. The proposed project may create new significant objectionable odors from the modified feedstock storage tank due to an equipment malfunction. The tank will be designed and modified to control emissions and related odors to the maximum extent feasible. The modified storage tank will be vented to an existing incinerator, with a backup passive carbon filter system. The new equipment will be state-of the art and more efficient than the existing, older equipment. Thus, any new odors will be mitigated below objectionable levels. In addition, no increase in odors is expected because the proposed project would not increase the crude throughput of the refinery.

The refinery also follows a process that would deal with any odor issue, including a 24-hour environmental surveillance system where operators are trained to identify and report the source of odors so that the odors can be remedied promptly, and the frequency and magnitude of odor events can be minimized. Lastly, all new or modified components would be required to comply with existing SCAQMD rules and regulations, including SCAQMD Rule 402 - Prohibition of Nuisances. Therefore, no significant odor impacts are expected from the construction and operation of the new equipment.

3.3.3 CUMULATIVE IMPACTS

The proposed project's long-term operational emissions are not considered to represent a significant adverse impact. As a result, no significant adverse cumulative impacts are anticipated.

3.3.4 MITIGATION MEASURES

The proposed project's air quality impacts are considered to be less than significant. The proposed project's construction and operational emissions will be stringently controlled through existing SCAQMD Rules. In addition, the PPR will be required to maintain the existing SCAQMD permits and to obtain any new permits for the new and modified equipment. As a result, no additional mitigation is required.

3.4 BIOLOGICAL RESOURCES

3.4.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project may be deemed to have a significant adverse impact on biological resources if it results in any of the following:

- 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 the U.S. Fish and Wildlife Service;

- A substantial adverse effect on any riparian habitat or other sensitive natural plant community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;

- A substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means;

- A substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory life corridors, or impede the use of native wildlife nursery sites;

- A conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or,

- A conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or State habitat conservation plan.

3.4.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

A. *Would the project 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 Wildlife or U.S. Fish and Wildlife Service? No Impact.*

The sites where the proposed improvements will be constructed are all located within the existing PPR complex. A review of the State of California's Natural Diversity Database (CNDD) indicates that no sensitive habitats or protected plant and animal species are located within the PPR property or within the adjacent parcels.[79] As a result, no impacts on any candidate, sensitive or special status species will result from proposed project's implementation.

[79] California Department of Fish and Wildlife, *Natural Diversity Database*, 2011.

B. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? No Impact.

There are no native or natural riparian plant habitats found within the project sites located within the PPR or in the adjacent properties.[80] As a result, no significant adverse impacts on natural or riparian habitats will result from the proposed project's implementation.

C. Would the project have a substantial adverse effect on Federally protected wetlands as defined by Section 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? No Impact.

The areas where the new equipment will be installed are all located within the PPR. The PPR and the adjacent properties do not contain any natural wetland and/or riparian habitat (refer to Exhibit 3-7).[81] As a result, the proposed project will not impact any protected wetland area or designated blue-line stream.

D. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory life corridors, or impede the use of native wildlife nursery sites? No Impact.

No natural open space areas are located within the project sites or in the surrounding areas that would potentially serve as an animal migration corridor. As a result, no impacts will occur.

E. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? No Impact.

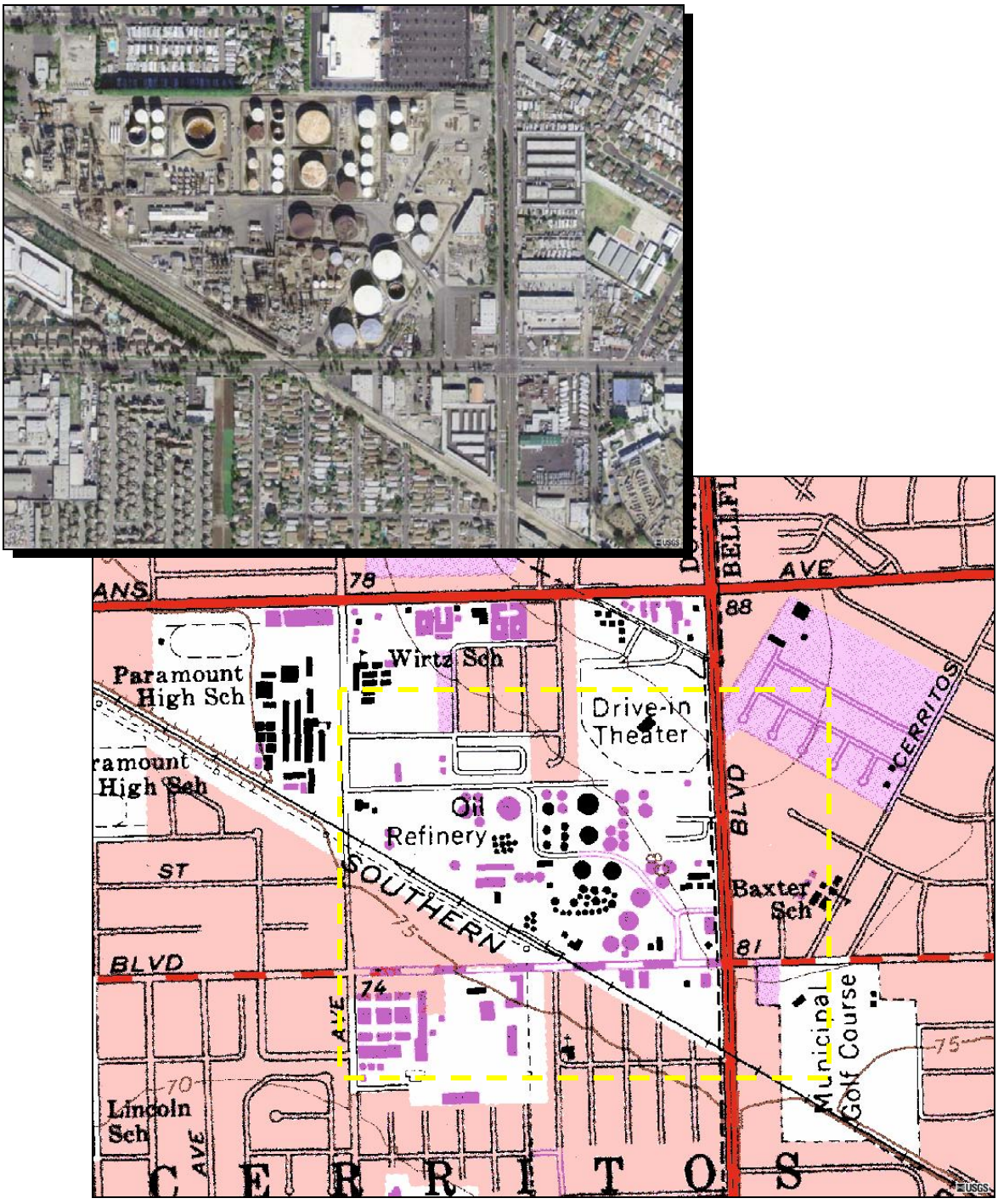
No trees are located within the southern portion of the PPR complex where the new improvements will be installed. The proposed project is not in conflict with any local policies or ordinances protecting biological resources or tree preservation ordinances. As a result, no significant adverse impacts are anticipated.

F. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan? No Impact.

The project area is not located within an area governed by a habitat conservation or community conservation plan. As a result, no adverse impacts on local, regional or State habitat conservation plans will result from the proposed project's implementation.

[80] United States Geological Survey. *Paramount 7½ Minute Quadrangle.* Release Date March 25, 1999.

[81] Ibid.



Note: This is the most recent USGS 7 ½ Minute Quadrangle of the project area. The drive-in located to the northeast of the PPR has been redeveloped as a commercial shopping center.

EXHIBIT 3-7
LAND COVER
SOURCE: BLODGETT/BLODGETT ASSOCIATES 2012

3.4.3 CUMULATIVE IMPACTS

The impacts on biological resources are typically site specific. The proposed project will not involve any loss of protected habitat. Furthermore, the analysis determined that the proposed project will not result in any significant adverse impacts on protected plant and animal species. In addition, the proposed project's implementation will not result in an incremental loss or degradation of those protected habitats found in the Southern California region. As a result, no cumulative impacts on biological resources will be associated with the proposed project's implementation.

3.4.4 MITIGATION MEASURES

The analysis indicated that the proposed project would not result in any significant adverse impacts on biological resources. As a result, no mitigation measures are required.

3.5 CULTURAL RESOURCES

3.5.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project will normally have a significant adverse impact on cultural resources if it results in any of the following:

- A substantial adverse change in the significance of a historical resource as defined in §15064.5 of the State CEQA Guidelines;
- A substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the State CEQA Guidelines;
- The destruction of a unique paleontological resource, site or unique geologic feature; or,
- The disturbance of any human remains, including those interred outside of formal cemeteries.

3.5.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5 of the State CEQA Guidelines? No Impact.

Historic structures and sites are generally defined by local, State, and Federal criteria. A site or structure may be historically significant if it is protected through a local general plan or historic preservation ordinance. In addition, a site or structure may be historically significant if it meets certain State or Federal criteria even if the locality does not recognize such significance. The State of California, through the State Historic Preservation Office (SHPO), also maintains an inventory of those sites and structures that are considered to be historically significant. Finally, the U. S. Department of the Interior has established specific guidelines and criteria that indicate the manner in which a site, structure or district is

to be identified as having historic significance through a determination of eligibility for listing on the National Register of Historic Places.[82]

To be considered eligible for the National Register, a property must meet the *National Register Criteria for Evaluation*. This evaluation involves the examination of the property's age, integrity, and significance. A property may be historic if it is at least 50 years old and appearing the way it did in the past. Significance may also be determined if the property is associated with events, activities, or developments that were important in the past, with the lives of people who were important in the past, or represents significant architectural, landscape or engineering elements. Ordinarily, properties that have achieved significance within the past 50 years are not considered eligible for the National Register. Buildings and properties will qualify for a listing on the National Register if they are integral parts of districts that meet certain criteria or if they fall within the following categories:

- A religious property deriving primary significance from architectural or artistic distinction or historical importance;

- A building or structure removed from its original location but which is primarily significant for architectural value, or which is the surviving structure most importantly associated with a historic person or event;

- A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building associated with his or her productive life;

- A cemetery that derives its primary importance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events;

- A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived;

- A property primarily commemorative in intent if design, age, tradition or symbolic value has invested it with its own exceptional significance; or

- A property achieving significance within the past 50 years if it is of exceptional importance.[83]

The proposed project's implementation does not meet any of the aforementioned criteria. None of the existing facilities located within the PPR are designated historic resources. Furthermore, the proposed improvements will not affect any existing off-site resources listed on the National Register or those identified as being eligible for listing on the National Register. As a result, no significant adverse impacts are associated with the proposed project's implementation.

[82] California State Parks, Office of Historic Preservation. www.parks.ca.gov. 2011.

[83] U. S. Department of the Interior, National Park Service. National Register of Historic Places. http://nrhp.focus.nps.gov. 2011.

B. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the State CEQA Guidelines? No Impact.

No archaeological resources are likely to be discovered during excavation activities due to the previous disturbance and the limited degree of excavation that will be required. As a result no impacts on archaeological resources are anticipated from the proposed project.

C. Would the project directly or indirectly destroy a unique paleontological resource, site or unique geologic feature? No Impact.

The potential for paleontological resources in the area is considered low due to the character of subsurface soils (recent alluvium) and the amount of disturbance associated with the previous development within the affected area. Because of the relatively limited excavation, the nature of the alluvial soils, and the disturbed character of the soils, no significant impacts on paleontological resources are anticipated.

D. Would the project disturb any human remains, including those interred outside of formal cemeteries? No Impact.

No cemeteries are located within the properties that surround the existing PPR. As a result, the proposed construction activities are not expected to impact any interred human remains.

3.5.3 CUMULATIVE IMPACTS

The potential environmental impacts related to cultural resources are site specific. Furthermore, the analysis herein also determined that the proposed project would not result in any impacts on cultural resources. As a result, no cumulative impacts will occur as part of the proposed project's implementation.

3.5.4 MITIGATION MEASURES

The analysis of potential cultural resources impacts indicated that no significant adverse impacts would result from the proposed project's implementation. As a result, no mitigation measures are required.

3.6 GEOLOGY

3.6.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project may be deemed to have a significant adverse impact on the environment if it results in the following:

- The exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving 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), ground-shaking, liquefaction or landslides;

- Substantial soil erosion resulting in the loss of topsoil;

- The exposure of people or structures to potential substantial adverse effects, including location on a geologic unit or a 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;

- Locating a project on an expansive soil, as defined in the California Building Code, creating substantial risks to life or property; or,

- Locating a project in, or exposing people to potential impacts, including soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

3.6.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

A. *Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving 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), ground–shaking, liquefaction, or landslides? No Impact.*

The Southern California region is bisected by numerous faults, many of which are still considered to be active and many more unknown blind thrust faults are also likely to be present in the area.[84] There are a number of active faults located in the surrounding region that could contribute to localized seismic effects. Exhibit 3-8 indicates the location and extent of existing faults in the Southern California region and Exhibit 3-9 indicates the area's liquefaction risk. The nearby faults are summarized below:

- *Newport-Inglewood Fault Zone*. The Newport-Inglewood Fault Zone is a series of northwesterly trending folded hills extending over 40 miles from the Santa Monica Mountains to the offshore area near Newport Beach. This fault is located approximately nine miles southwest of the City.

- *Whittier-Elsinore Fault*. The Whittier Fault extends over 20 miles from the Whittier Narrows area continuing southeasterly to the Santa Ana River where it merges with the southeasterly trending Elsinore Fault. These two faults, combined with smaller faults, form the Whittier-Elsinore Fault Zone. This fault is located approximately eight miles north of the City.

- *Norwalk Fault*. The Norwalk Fault is approximately 16 miles in length and is located approximately two miles to the north of the City. This fault is also active.

[84] U.S. Geological Survey, *Evaluating Earthquake Hazards in the Los Angeles Region - An Earth Science Perspective, USGS Professional Paper 1360*, 1985.

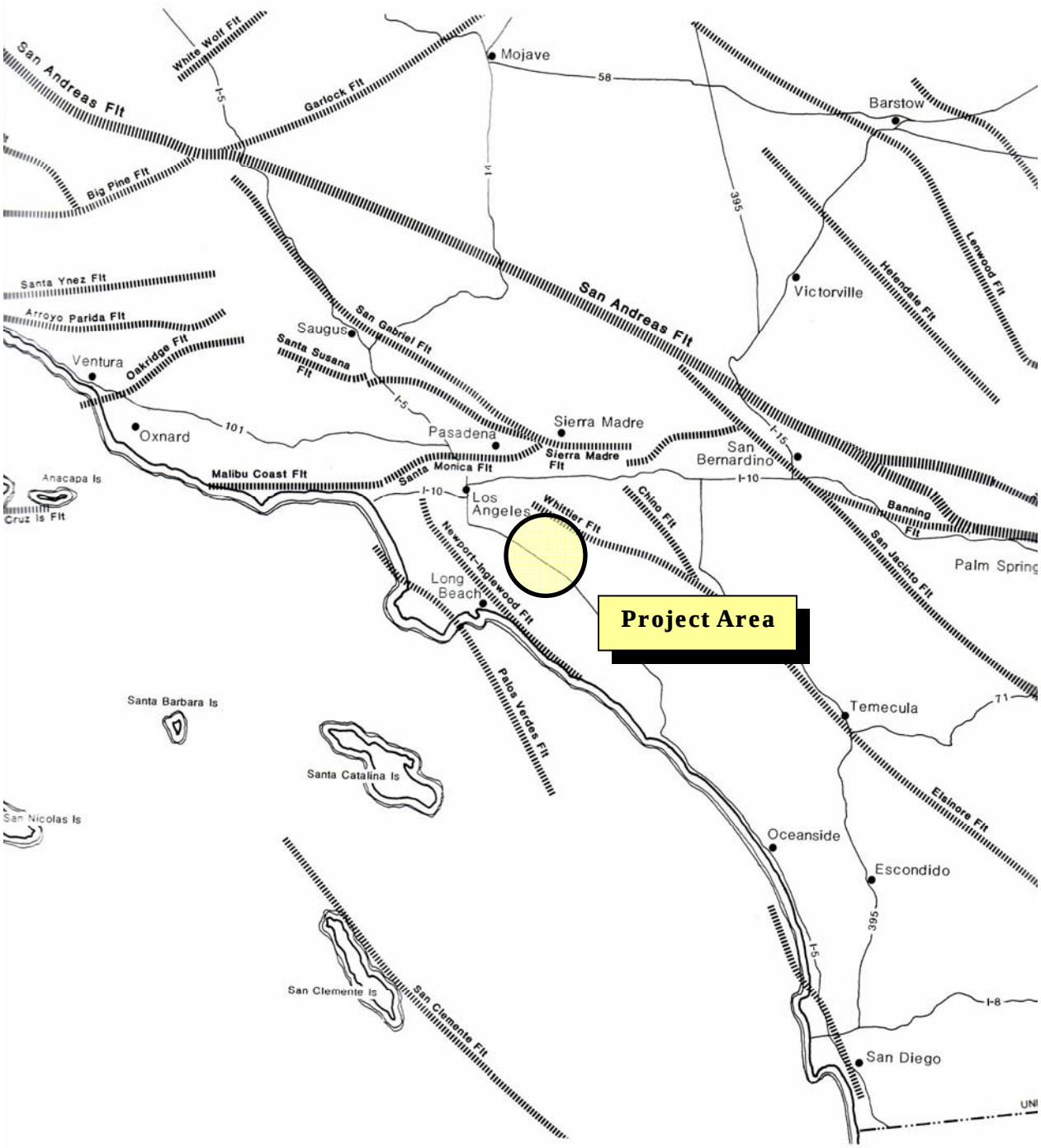


EXHIBIT 3-8
FAULTS IN THE SOUTH CALIFORNIA AREA
SOURCE: UNITED STATES GEOLOGICAL SURVEY

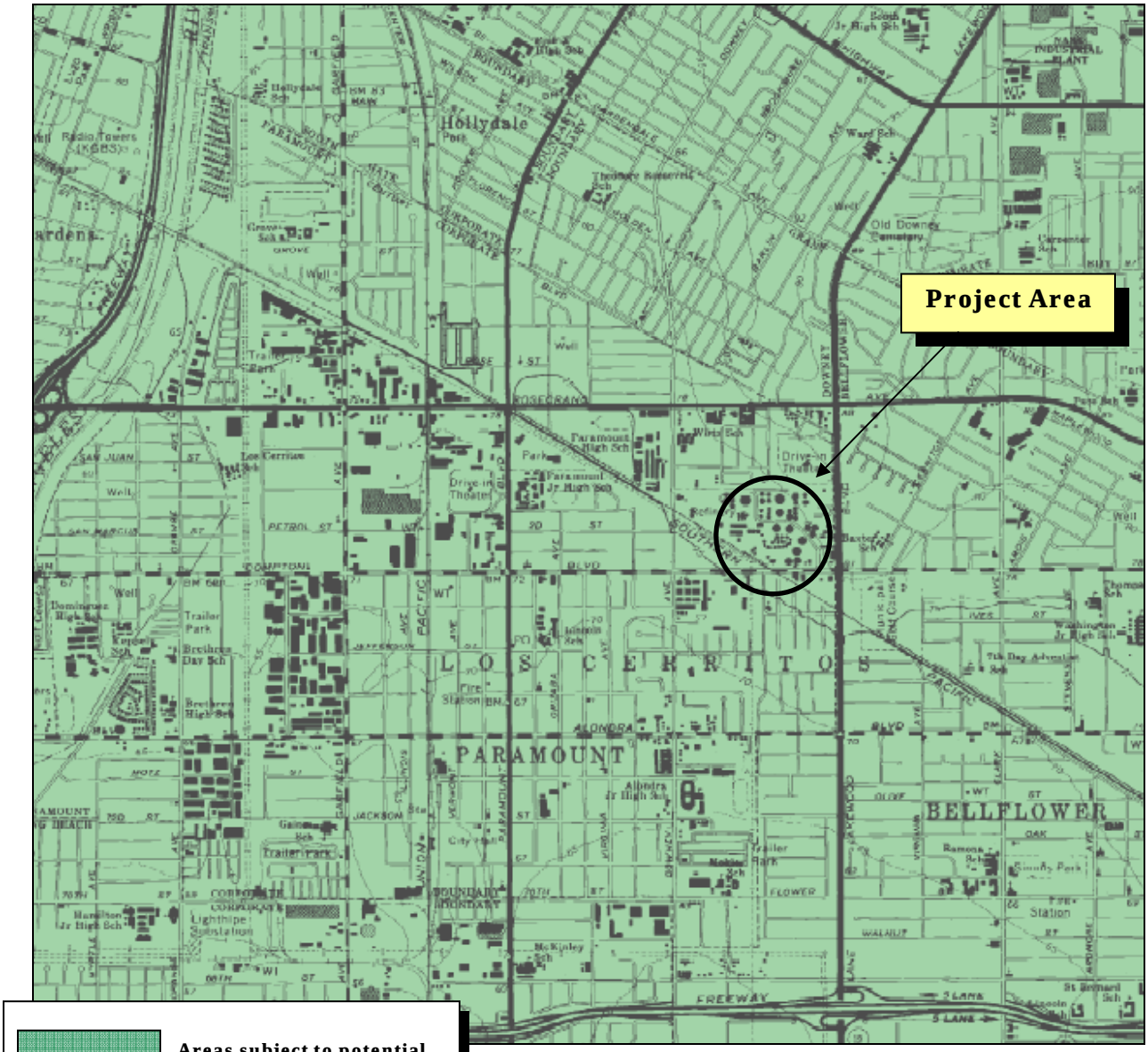


EXHIBIT 3-9
LIQUEFACTION RISK
SOURCE: CALIFORNIA GEOLOGICAL SURVEY

- *Elysian Park Fault*. The Elysian Park Fault is located approximately 15 miles northwest of Paramount in the Montebello and Monterey Park areas. This fault produced the 5.9 magnitude Whittier Narrows earthquake (1987) and is a blind thrust fault that extends from the Puente Hills into downtown Los Angeles.

- *San Andreas Fault*. The San Andreas Fault is located approximately 60 miles north of the City.

No active faults are known to exist in the City. Furthermore, no areas of the City are included within an Alquist-Priolo Special Studies Zone. As a result, no surface rupture impacts are anticipated to impact the project site. According to the Seismic Zones Hazard Map prepared for the Paramount area, the PPR is located within an area where there is an elevated risk for liquefaction (refer to Exhibit 3-8). The degree of ground-shaking is dependent on the location of the earthquake epicenter, the earthquake's intensity and a number of other variables. For the project area, the degree of impact will not be different from that anticipated for the surrounding areas. As a result, no significant adverse impacts are anticipated.

B. *Would the project expose people or structures to potential substantial adverse effects, including substantial soil erosion or the loss of topsoil? No Impact.*

As indicated previously, limited excavation will be required. Given the developed character of the project area and the limited area of disturbance, no significant adverse impacts related to expansive soil erosion or loss of topsoil are anticipated.

C. *Would the project expose people or structures to potential substantial adverse effects, including location on a geologic unit or a 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? No Impact.*

The topography underlying the project sites is level and, as a result, no slope failure will be associated with the proposed improvements. As indicated previously, the project site is located within an area that may be subject to potential liquefaction risk. No significant new grading is anticipated and the excavation will be limited. As a result, no impacts due to potential unstable soils are anticipated.

D. *Would the project result in or expose people to potential impacts, including location on expansive soil, as defined in Uniform Building Code (2012), creating substantial risks to life or property? No Impact.*

The soils that underlie the project sites belong to the Hanford Soil Association. These soils do not represent a constraint to development according to the United States Department of Agriculture (USDA).[85] The existing improvements within the surrounding properties also support this conclusion. In addition, the project site is level. As indicated in the previous section, no new grading is anticipated and the excavation will be limited. As a result, no expansive soil impacts are anticipated.

[85] United States Department of Agriculture, Soil Conservation Service. *Report and General Soil Map, Los Angeles County, California.* Rev. 1969.

E. Would the project result in or expose people to potential impacts, including soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? No Impact.

No septic tanks will be used as part of proposed project's implementation. As a result, no impacts associated with the use of septic tanks will occur as part of the proposed project's implementation.

3.6.3 CUMULATIVE IMPACTS

The potential cumulative impact related to earth and geology is typically site specific. Furthermore, the analysis herein determined that the proposed project would not result in significant adverse impacts related to landform modification, grading or the destruction of a geologically significant landform or feature. As a result, no cumulative earth and geology impacts will occur as part of the proposed project's implementation.

3.6.4 MITIGATION MEASURES

The analysis determined that the proposed project would not result in any significant adverse impacts related to earth and geology. As a result, no mitigation measures are required.

3.7 GREENHOUSE GAS EMISSIONS

3.7.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project may be deemed to have a significant adverse impact on greenhouse gas emissions if it results in any of the following:

- The generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and,

- The potential for conflict with an applicable plan, policy or regulation adopted for the purpose of reducing emissions of greenhouse gasses.

3.7.2 ENVIRONMENTAL ANALYSIS

A. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? No Impact.

The State of California requires CEQA documents to include an evaluation of greenhouse gas (GHG) emissions or gases that trap heat in the atmosphere. GHG are emitted by both natural processes and human activities. Examples of GHG that are produced both by natural and industrial processes include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). The accumulation of GHG in the atmosphere regulates the earth's temperature. Without these natural GHG, the Earth's surface would be about 61°F cooler. However, emissions from fossil fuel combustion have elevated the concentrations of

GHG in the atmosphere to above -natural levels. The resulting environmental changes have potentially negative environmental, economic, and social consequences around the globe. GHG differ from criteria or toxic air pollutants in that the GHG emissions do not cause direct adverse human health effects. Rather, the direct environmental effect of GHG emissions is the increase in global temperatures, which in turn has numerous impacts on the environment and humans. GHGs and other global warming pollutants are perceived as global in their impacts and that increasing emissions anywhere in the world contributes to global climate change. However, a study conducted on the health impacts of CO_2 "domes" that form over urban areas concludes that they can cause increases in local temperatures and local criteria pollutants, which have adverse health effects.[86]

Changes in global climate patterns have been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, recently attributed to accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon) in conjunction with other human activities, appear to be closely associated with global warming.[87] State law defines GHG to include the following: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).[88]. The most common GHG that results from human activity is CO_2, followed by CH_4 and N_2O.

The analysis of GHG emissions is a different analysis than for criteria pollutants for the following reasons. For criteria pollutants, significance thresholds are based on daily emissions because attainment or non-attainment is primarily based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects to human health (one-hour and eight-hour standards). Since the half-life of CO_2 is approximately 100 years for example, the effects of GHGs occur over a much longer timeframe than a single day. GHG emissions are typically considered to be cumulative impacts because they contribute to global climate change. On December 5, 2008, the SCAQMD adopted an interim CEQA GHG Significance Threshold for projects where the SCAQMD is the lead agency.[89] This interim threshold is set at 10,000 metric tons of CO_2 equivalent emissions ($MTCO_2eq$) per year. Projects with incremental increases below this threshold will not be cumulatively considerable. GHG emissions impacts from implementing the proposed project were calculated for both construction and operation.

Sources of GHG emissions from construction equipment were assumed to include backhoes, compressors, cranes, front-end loaders, graders, trenchers, and water trucks. In addition, the equipment is assumed to be operational for up to ten hours per day during most of the construction period. Construction workers

[86] Jacobson (2010) Enhancement of Local Air Pollution by Urban CO2 Domes. *Environ. Sci. Technol.*, pp 2497–2502, March 10, 2010.

[87] Solomon, et. al., 2007. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007 http://www.ipcc.ch /publications_and_data /publications_ipcc_ fourth_assessment_ report_wg1_report _the_physical_science_basis.htm.

[88] (HSC §38505 (g))

[89] SCAQMD, 2008. *SCAQMD Final Localized Significance Threshold Methodology,* June 2003, Revised July 2008.

are expected to be at the site for longer than eight hours per day, but including time for lunch and breaks, organization meetings, and other administrative tasks, a conservative estimate of actual construction activities is ten hours per day, five days per week.[90] The SCAQMD significance threshold for GHG emissions were amortized over 30 years with the operational emissions. The total GHG construction emissions associated with the proposed project are estimated to be 454 metric tons over the entire construction period, or 16 metric tons per year amortized over 30 years.[91]

The operation of the proposed project includes modifications to the existing 5HDS, as well as some auxiliary treating and stripping units, the installation of a new isomerization unit, increased boiler firing, and additional delivery trips. As a byproduct of refining renewable feedstocks, the proposed project will generate 2,537 pounds per hour of CO_2, or 10,082 metric tons of CO_2 per year. Existing infrastructure and tanks will be used to support the new operation, while hydrogen for the process will be supplied in liquid form to new tanks. An additional 1,275 kWh are expected to be needed to power the proposed project with emissions of 3,215 metric tons of CO_2e per year.[92] As previously mentioned, the proposed project would require additional steam from boiler #9, which would generate 2,843 metric tons of CO_2e per year. The GHG emissions from transportation sources included those from delivery trucks. Delivery trucks were based on 28 round trips per day, which would generate 2.75 metric ton of CO_2e per day. The proposed project is expected to generated 1,004 metric tons of CO_2e per year from transportation sources. Thus, the total GHG emissions associated with the proposed project, including the 30-year amortized construction GHG emission, is 17,160 metric tons per year.[93] The estimated GHG emissions from the proposed project are shown in Table 3-6 with more detailed calculations in Appendix A.

Table 3-6
Estimated GHG Emissions (metric tons/year)

Source	CO_2e
Renewable Fuels Refining Process	10,082
Third-Party Power(1)	3,215
Boiler 9	2,843
Transportation	1,004
30-Year Amortized Construction	16
Total GHG w/ Construction	17,160
Total Non-AB32 Emissions	**1,020**
Significance Threshold	**10,000**
Significant?	**No**

(1) Anticipate less than 1,275 kWh increase in purchased power from SCE.

[90] Emissions for construction equipment were calculated based on fuel use derived from the CARB Off-Road 2011 model and CARB default GHG emission factors for diesel fuel.

[91] Environmental Audit Inc. *Paramount Petroleum Refinery Alt-Air Project, Air Quality and Greenhouse Gas Analysis*. November, 2013.

[92] Carbon dioxide equivalent" or "CO_2e" is a term for describing different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO_2e signifies the amount of CO_2 which would have the equivalent global warming impact.

[93] Ibid.

The refinery is subject to GHG emission reductions pursuant to AB32, the state-wide GHG reduction plan. In December 2010, CARB adopted regulations establishing a cap and trade program for the largest sources of GHG emissions in the state that altogether are responsible for about 85 percent of California's GHGs. Among these are fossil-fuel fired power plants, including both plants that generate power within California's borders, and those located outside of California that import power to California. GHG emissions from this universe of sources were capped for 2013 at a level approximately two percent below the emissions level forecast for 2012, and the cap will steadily decrease at a rate of two to three percent annually from now to 2020.

Sources regulated by the cap must reduce their GHG emissions or buy credits from others who have done so. This means that the additional power utilized at the refinery as a result of the proposed project cannot result in an increase in GHG emissions from the increased use of third-party power, compared to GHG emissions at the time of issuance of the NOP. Furthermore, under AB32, the refinery must offset any additional GHG emission generated at the PPR from the proposed project. Therefore, the only GHG emissions increase from the proposed project would be from transportation and construction. The total GHG emissions generated from transportation is 1,004 metric tons per year. The total GHG emissions from construction are 16 metric tons per year. The total non-AB32 GHG emissions are 1,020 metric tons per year. Based on the results of the GHG analysis, the SCAQMD's GHG significance threshold for industrial sources would not be exceeded.[94] Based on the preceding analysis, implementing the proposed project is not expected to generate significant adverse cumulative GHG air quality impacts. In summary, the proposed project is not expected to generate significant adverse air quality and GHG emission impacts.[95]

B. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing emissions of greenhouse gasses? Less than Significant Impact.

The City of Paramount does not have any plans, policies, standards, or regulations related to climate change and GHG emissions. There are also no other government-adopted plans or regulatory programs in effect at this time that have established a specific performance standard to reduce GHG emissions from a single building project. As a result, the potential impacts are considered to be less than significant.

The proposed project will provide additional GHG emissions benefits that are realized by the use of the renewable fuels produced from the proposed project. These benefits are presented here to provide a comprehensive impact of the proposed project. These benefits were not included as part of the aforementioned analysis because the amount and type of fuel produced each year can vary depending on market demand. Additionally, the GHG benefits vary depending on feedstock.

CARB established the Low Carbon Fuel Standard (LCFS) to lower GHG emissions associated with gasoline and diesel fuel use. The LCFS framework is based on the premise that each fuel has a "lifecycle" GHG emission value that is then compared to a standard. This lifecycle analysis represents the GHG

[94] Environmental Audit Inc. *Paramount Petroleum Refinery Alt-Air Project, Air Quality and Greenhouse Gas Analysis.* November, 2013.

[95] Ibid.

emissions associated with the production, transportation, and use of low carbon fuels in motor vehicles. The lifecycle analysis includes the direct emissions associated with producing, transporting, and using the fuels. In addition, the lifecycle analysis considers any other effects, both direct and indirect, that are caused by the change in land use or other effects.[96] The LCFS would reduce GHG emissions by reducing the carbon intensity of transportation fuels used in California by an average of 10 percent by the year 2020.[97]

The reported carbon intensity for diesel and renewable diesel is shown in Table 3-7. Depending on the type of rendering performed, the renewable diesel carbon intensity is from 59.9 to 80 percent less than petroleum diesel. Therefore, by providing renewable diesel from a local source, the burden of implementing the LCFS would be lessened and the impacts will be less than significant.

Table 3-7
Carbon Intensity of Diesel Fuels

Fuel	Pathway Description	Carbon Intensity Value (gCO_2e/MJ)	Percent Reduction Compared to Diesel
Diesel	Ultra-Low Sulfur Diesel – based on the average crude oil delivered to California refineries and average California refinery efficiencies	98.03	--
Renewable Diesel	Produced from tallow using higher energy use for rendering	39.33	59.9%
	Produced from tallow using lower energy use for rendering	19.65	80.0%

Source: CARB LCFS Lookup Tables as of December 2012, http://www.arb.ca.gov/fuels/lcfs/lcfs.htm (assessed November 2013)

3.7.3 CUMULATIVE IMPACTS

The analysis herein also determined that the proposed project would not result in any significant adverse impacts related to the emissions of greenhouse gasses. As a result, no significant adverse cumulative impacts will result from the proposed project's implementation.

3.7.4 MITIGATION MEASURES

The analysis of potential impacts related to greenhouse gas emissions indicated that no significant adverse impacts would result from the proposed project's approval and subsequent implementation. As a result, no mitigation measures are required.

[96] CARB, 2009. Proposed Regulation to Implement the Low Carbon Fuel Standard, Volume I, Staff Report: Initial Statement of Reasons, http://www.arb. ca.gov/regact /2009/lcfs09/lcfsisor1.pdf, March 5. 2009. (accessed November 2013)

[97] Carbon intensity is a measure of the direct and other GHG emissions associated with each of the steps in the full fuel-cycle of a transportation fuel (also referred to as the "well-to-wheels" for fossil fuels, or "seed or field-to-wheels" for biofuels). Depending on the circumstances, GHG emissions from each step can include carbon dioxide (CO_2), methane, nitrous oxide (N_2O), and other GHG contributors. Moreover, the overall GHG contribution from each particular step is a function of the energy that the step requires. Thus, carbon intensity is typically expressed in terms of grams of CO_2 equivalent per mega-Joule (gCO2e/MJ).

3.8 HAZARDS & HAZARDOUS MATERIALS

3.8.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project may be deemed to have a significant adverse impact on risk of upset and human health if it results in any of the following:

- The creation of a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials;
- The creation of 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;
- The generation of hazardous emissions or the handling of hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school;
- Locating the project on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 resulting in a significant hazard to the public or the environment;
- Locating the project within an area governed by an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or a public use airport;
- Locating the project in the vicinity of a private airstrip that would result in a safety hazard for people residing or working in the project area;
- The impairment of the implementation of, or physical interference with, an adopted emergency response plan or emergency evacuation plan; or,
- The exposure of people or structures to a significant risk of loss, injury or death involving wild land fire, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands.

3.8.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials? Less than Significant Impact with Mitigation.

The PPR currently uses a number of hazardous materials at the site to manufacture petroleum products. The major types of public safety risks are related to these petroleum products and consist of impacts from toxic substance releases, fires, and explosions. In addition, the shipping, handling, storing, and disposing of hazardous materials inherently poses a certain risk of a release to the environment. The regulated substances currently handled by the refinery include dimethyl disulfide,

sodium hydroxide (caustic), and aqueous ammonia. The PPR also handles petroleum products including LPG, gasoline, fuel oils, diesel, and other products, which pose a risk of fire and explosion at the PPR. Accident scenarios for the existing refinery evaluated herein include releases of regulated substances and potential fires/explosions.

The proposed project would involve the transport of beef tallow, vegetable oil, and hydrogen to the PPR. Modification to the operations at the PPR would allow for processing the beef tallow and vegetable oil into renewable jet and diesel fuels. The operations processes are similar to existing processes at the refinery. The transportation risks that enter into accident statistics include distance traveled and type of vehicle or transportation system. Factors affecting automobiles and truck transportation accidents include the type of roadway; presence of road hazards; vehicle type; maintenance and physical condition; and driver training. A common reference frequently used in measuring risk of an accident is the number of accidents per million miles traveled. Complicating the assessment of risk is the fact that some accidents can cause significant damage without injury or fatality.

Beef tallow and vegetable oil are not hazardous materials, but hydrogen is considered to be a hazardous flammable material. The transport of hazardous substances poses a potential for fires, explosions, and hazardous materials releases. In general, the greater the vehicle miles traveled, the greater the potential for an accident. Statistical accident frequency varies, (especially for truck transport), and is related to the relative accident potential for the travel route since some freeways and streets are safer than others. The size of a potential release is related to the maximum volume of a hazardous substance that can be released in a single accident, should an accident occur, and the type of failure of the containment structure, e.g., rupture or leak. The potential consequences of the accident are related to the size of the release, the population density at the location of the accident, the specific release scenario, the physical and chemical properties of the hazardous material, and the local meteorological conditions.

Whenever hazardous materials are moved from the site of generation, there are opportunities for accidental (unintentional) releases. The Department of Transportation (U.S. DOT) conducted a study on the comparative risks of hazardous materials and non-hazardous materials truck shipment accidents and incidents. The Federal Motor Carrier Safety Administration (FMCSA) compared risks of hazardous materials truck shipment accidents and incidents to non-hazardous materials truck shipment accidents and incidents.[98] The estimated accident rate for trucks (shipping non-hazardous materials) was 0.73 per million miles traveled. The average accident rate for trucks transporting hazardous materials (all hazard classes) was estimated to be 0.32 per million miles traveled.

Not all accidents involving hazardous materials transport result in releases of hazardous materials.[99] The average accident rate for trucks carrying flammable materials involving a release (hazard class 2.1), such as liquid hydrogen, was estimated to be 0.06 per million miles traveled (47/805,000,000).[100]

[98] Federal Motor Carrier Safety Administration (FMCSA), 2001. Comparative Risks of Hazardous Materials and Non-Hazardous Materials Truck Shipment Accidents/Incidents. Prepared by Battelle, March 2001.

[99] Ibid., Table 10

[100] Ibid., Tables 10 and 24.

Though it is difficult to compare hazardous and non-hazardous transport risk, the differences appear to be significant enough to conclude that the magnitude of non-hazardous transport accidents dominates highway transport risk. The specific hazardous material trucking regulations and additional care provided by carriers and shippers of hazardous materials appear to be reducing the accident rate for hazardous material shipments.[101]

The actual occurrence of an accidental release of a hazardous material associated with a traffic accident cannot be predicted. The location of an accident or whether sensitive populations would be present in the immediate vicinity also cannot be identified. In general, the shortest and most direct route that takes the least amount of time would have the least risk of an accident. Hazardous material transporters do not routinely avoid populated areas along their routes, although they generally use approved truck routes that take population densities and residential areas into account.

The proposed project will include transport of up to four trucks per day of liquid hydrogen to the refinery. A number of hydrogen suppliers are located in the vicinity (within 5 miles) of the PPR. Liquid hydrogen (Hazard Class 2.1) is considered a flammable liquid whose transportation is regulated by the U.S. DOT. Using the maximum estimated truck trips of 4 per day, the potential for an accident involving a liquid hydrogen truck is 0.0000012 (4 trucks per day x 5 miles per truck/1 million miles x 0.06 accidents/million miles driven) or approximately one accident every 833,333 years. Therefore, the probability for an adverse impact from truck transport of liquid hydrogen is extremely low and the potential hazard impact related to truck transport from the PPR is less than significant.

The proposed project may alter the nature of the existing hazards at the PPR. Hazards at a facility can occur due to natural events, such as earthquakes, and non-natural events, such as mechanical failure or human error. A hazard analysis generally considers compounds or physical forces that can migrate off-site and result in acute health effects to individuals outside of the proposed project site. The risk associated with a facility is defined by the probability of an event and the consequence (or hazards) should the event occur. The hazards can be defined in terms of the distance that a release would travel or the number of individuals of the public potentially affected by a maximum single event defined as a "worst-case" scenario. The potential hazard impacts from the proposed project are compared to the existing potential hazards to determine if the proposed project will have significant impacts.

The major types of public safety risks at the PPR consist of risk from releases of regulated substances and from major fires and explosions. The discussion of the hazards associated with the existing PPR relies on data in the Risk of Upset Calculations provided in Appendix C.

Hazards can be defined in terms of the distance that a release may travel by maximum single events (defined as "worst-case" scenarios). "Worst-case" scenarios represent the maximum extent of potential hazards that could occur within the process area that was evaluated, based on "worst-case" (generally low wind speed) meteorological conditions and assuming a complete release of materials. The potential hazards associated with industrial activities are a function of the materials being processed, processing

[101] Federal Motor Carrier Safety Administration (FMCSA), 2001. Comparative Risks of Hazardous Materials and Non-Hazardous Materials Truck Shipment Accidents/Incidents. Prepared by Battelle, March 2001.

systems, and procedures used to operate and maintain the facility. The hazards that are likely to exist are identified by the physical and chemical properties of the materials being handled and their process conditions, including the following events.

- *Exposure to Toxic Gas Clouds*: Toxic gas clouds (gas or liquefied gas with hydrogen sulfide) could form and migrate off-site, thus, exposing individuals to toxic materials. "Worst-case" conditions tend to arise when very low wind speeds coincide with accidental release, which can allow the chemicals to accumulate rather than disperse.

- *Exposure to Flame Radiation:* Flame (thermal) radiation is the heat generated by a fire and the potential impacts associated with exposure to it. Exposure to thermal radiation would result in burns, the severity of which would depend on the intensity of the fire, the duration of exposure, and the distance of an individual to the fire. Thermal radiation can be caused by pool fire (tank fire, spill into diked areas), torch fire (rupture of line followed by ignition), BLEVE (boiling liquid-expanding vapor explosion of a pressurized storage vessel) and/or flash fires (ignition of slow-moving flammable vapors).

- *Exposure to Explosion Overpressure:* Several process vessels containing flammable explosive vapors and potential ignition sources are present at the refinery. Explosions may occur if the flammable/explosive vapors come into contact with an ignition source. The greatest threat could occur from a vapor cloud explosion (release, dispersion, and explosion of a flammable vapor cloud), or a confined explosion (ignition and explosion of flammable vapors within a building or confined area). An explosion could cause impacts to individuals and structures in the area due to overpressure.

A hazard analysis was conducted for the PPR, which evaluated 23 existing scenarios. Eight of the scenarios analyzed have potential impacts that remain within the PPR boundaries and 15 have the potential to impact offsite receptors. The details of the hazard analysis are included in Appendix A. Using the CANARY by Quest® hazard model, the maximum radius of influence from a potential hazard was determined for both existing operations and the proposed project. Table 3-8 lists the potential hazards (fires, explosion overpressure, or thermal radiation) from the proposed project and the results of the modeling for these hazards. For additional information about the CANNARY by Quest® model, see Appendix A.

Table 3-8
Maximum Hazard Distances for Maximum Credible Event for the Proposed Project

Modeling Scenario	Process Unit/Area	Status of Potential Hazard	Established Hazard Criteria (1)		
			Explosion Overpressure Significance Threshold (1 pound/sq. in.)	Pool/Torch Fire Thermal Radiation Significance Threshol (Btu/hr/ftz)	BLEVE Exposure (Btu/ft2)4/3« sec
			Maximum Distance (in feet) from Center of Unit to Meet Hazard Criteria (2)		
3	Tank 20005	Existing	--	125	--
		Modified	--	125	--
23	Existing Naphtha Storage Vessel	Existing	--	--	1,600
22	LPG Pressure Vessel Storing Naphtha	Modified	--	--	1,230
	Hydrogen in Process Units	Existing	414	--	--
20	Liquid Hydrogen Storage Area	New	414	--	--
4	Process Unit —Pretreatment Reactors	New	260	--	--
6	Process Unit —Hot Separator	New	260	--	--
8	Process Unit Products Separator	New	260	--	--
10	Process Unit Stripper Tower Fractionator	Existing	260	--	--
11					
13	Process Unit —Hot Separator	Existing	260	--	--
14	Process Unit —Cold Separator	Existing	260	--	--
15	Process Unit Cracking TowerFractionator	New	260	--	--
16					
17					
18	Process Unit Heavy Naphtha Stripper	New	260	--	--
19	Process Unit — Jet Stripper	New	260	- -	--

(1) The established endpoint hazard criteria correspond to a level below which no injuries would be expected. For each scenario, receptors at a distance greater than listed would not be expected to be affected by the hazard.

(2) Hazard impacts from the proposed project would be considered significant if they create new offsite hazards or increase the influence of an existing offsite hazard. For example, the existing radius for Scenario 23 is greater than the proposed project modification evaluated in Scenario 22, so no significant impact is expected.

The modeling analysis includes an evaluation of the impact of the release regardless of the cause (e.g., breakdown, human error, terrorism, etc.). Hazard impact results are shown for existing equipment in the vicinity of the proposed project and the new equipment. For each new potential release, the distance to the significance threshold level was determined. The proposed project changes some existing operations (e.g., contents of existing storage vessels) and, as in the case of hydrogen, which is already in use in the refinery, adds storage. However, the proposed project does not affect the size or the location of the largest potential release at the refinery.

Potential torch fire impacts from storage vessels from the proposed project are expected to be the same as the existing impacts. Potential boiling liquid expanding vapor explosion (BLEVE) impacts from storage vessels will be reduced for the tanks storing LPG (i.e., the existing potential impact distance of 1,600 feet will be reduced to 1,260 feet for the proposed project). The potential hazard associated with hydrogen is a release and subsequent vapor cloud explosion. This hazard is present at the refinery today and the addition of hydrogen storage would have the same potential impact distance. Process upsets for existing operations and proposed project operations were determined to be the same. In summary, the proposed project does not increase the existing magnitude of any release nor shift the location of the existing maximum potential impact from a release at the refinery. Therefore, the hazard impacts from the proposed project are expected to be less than significant. Natural gas, refinery fuel gas, hydrogen, dimethyl disulfide, sodium hydroxide (caustic), and aqueous ammonia are already onsite and in use at the PPR. The proposed project would not introduce new hazardous materials at the PPR. Therefore, the hazard impacts from the proposed project are expected to be less than significant.

The PPR has recognized the potential risks associated with such a use and has developed safety programs to ensure that hazardous incidents do not take place. In addition to the use of conservative analysis assumptions that *over-predict* the effects of a potential release, other characteristics of the facility and site serve to minimize the potential risks associated with a flammable hydrocarbon release. The facility employs alarms and interlocks to minimize any potential unsafe conditions. The facility also undergoes periodic preventive maintenance to reduce the likelihood of catastrophic failures.[102]

As part of the implementation of a comprehensive Risk Management Program (RMP), key Prevention Program elements were implemented by PPR to manage process safety issues associated with the covered processes. In addition, common industry standards, policies, and procedures are currently utilized to ensure safe practices are being performed. Management, by law and practice, is responsible for ensuring that employees are trained to safely perform their jobs. Management is also responsible for enforcing safety rules and programs and ensuring that employees are following all safety requirements. The Director of Safety and Process Safety Management has overall authority for the design and implementation of the various safety programs.[103]

[102] Paramount Petroleum, Risk Management Data. http://data.rtknet.org/rmp/rmp.php?facility.

[103] Ibid.

Review of the refinery's safety record indicates that there have been two reportable release incidents at the facility during the past ten years. The first reportable release occurred on August 9, 2005. A small intermittent fire was discovered approximately two hours after some equipment had been shutdown. Crude oil was allowed to continue circulating through heater coils while it cooled. The snuffing steam to the firebox was turned off in order to prepare the line for maintenance. Three to five minutes afterwards, a detonation and ensuing fire took place. The operator extinguished the flames and the emergency response team (ERT) was activated. No injuries occurred due to this incident. The second reportable release occurred on April 22, 2009. During this incident, a pilot and main burners were tripped due to high box pressure. The operators reset the burner gases without purging the heater box or measuring the lower explosive limit (LEL). Then they attempted to light the pilots which ignited and detonated. One operator was taken to the hospital but released later in the evening.[104]

The facility's Emergency Response Plan (ERP) provides guidelines for a coordinated emergency management system in the refinery to respond to emergency situations. The ERP includes: emergency alarm procedures, evacuation procedures, safety and health considerations, and notification procedures. The ERP is implemented through an Incident Command System (ICS) which has two levels of application. The first level applies to small emergencies that may be responded to the facility's Emergency Response Team (ERT) consisting of a Shift Incident Commander, Team Leader, and a team of members responsible for coordinating issues related to off-site releases, rescue, and hazardous materials spills. The Shift Incident Commander also coordinates with the Los Angeles County Fire Department via telephone.[105]

For larger emergencies, the Director of Safety and Process Safety Management serves as the Incident Commander. An Emergency Management Team (EMT) may also be activated to assist, which is led by the Vice President of Refining. Other members of the EMT are members of the refinery senior management. The ERT, which may have initially responded to the emergency, relinquishes incident management to the Director of Safety and Process Safety Management when the latter assumes command and then provides support to the EMT. The Director of Safety and Process Safety Management communicates with the Los Angeles County Fire Department and other outside agencies by telephone. Refinery personnel assigned to ERT or EMT responsibilities receive continued training.[106] To ensure that the proposed improvements do not result in any significant adverse impacts, the following measures are required:

- The facility's Emergency Response Plan must be updated and reviewed as necessary, to take into account the new equipment and the different operations.

- The new equipment installation, operational elements, and any modifications to the Emergency Response Plan must be reviewed and approved by the Los Angeles County Fire Department.

The aforementioned measures will mitigate potential impacts to levels that are less than significant.

[104] Paramount Petroleum, Risk Management Data. http://data.rtknet.org/rmp/rmp.php?facility.

[105] Ibid.

[106] Ibid.

B. Would the project create a significant hazard to the public or the environment, or result in reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? Less than Significant Impact with Mitigation.

The potential for hazardous and/or risk of upset impacts are discussed in the previous section (Section 3.8.2.A). Mitigation was identified as a means to reduce the impacts to levels that are considered to be less than significant.

C. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? No impact.

The PPR is located within one-quarter mile of a number of schools. The proposed project is not expected to impact school sites from the handling hazardous materials or wastes because, as discussed in a previous section (3.8.A), the potential hazards impacts are the same or less than the existing hazards present at the PPR. Hazardous emissions impacts on schools, as well as other sensitive receptors have been evaluated as part of the air quality analysis completed for this Initial Study.

D. Would the project be located on a site, which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5, and, as a result, would it create a significant hazard to the public or the environment? No Impact.

The project is not included on a hazardous sites list compiled pursuant to California Government Code Section 65962.5.[107] The project site is not included on the Cortese site listing, nor will it affect any so-designated site.[108] In fact, there are no designated Cortese sites located in the City of Paramount. The PPR is included on the list because it was issued a Cleanup and Abatement Order by the State Water Resources Control Board (Order No. 97-130). The proposed project is not expected to adversely affect the PPR's Cleanup and Abatement Order. The Order will remain in effect and continue to establish requirements for site monitoring and clean up of existing contamination. The proposed project's implementation will not affect the PPR's compliance with this order. As a result, no significant adverse impacts will occur with respect to locating the project on a site included on a hazardous list pursuant to the government code.

E. Would the project be located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area? No Impact.

The project site is not located within two miles of an operational public airport. The nearest airport is located in the City of Compton, approximately five miles to the west of the site. The Los Angeles International Airport (LAX) is located approximately 14 miles to the northwest.[109] The Federal Aviation

[107] California, State of, Department of Toxic Substances Control, *DTSC's Hazardous Waste and Substances Site List - Site Cleanup (Cortese List),* 2012.

[108] Green. Managing Water-Avoiding Crisis in California. University of California Press. 2007.

[109] United States Geological Survey. Paramount, California (The National Map) July 1, 1998.

Administration (FAA) is responsible for regulating new development that may affect flight operations at a local airport. The Code of Federal Regulations (CFR) Title 14 Part 77.9 states that any of the following construction or alterations must be submitted to the Administrator of the FAA for review:

- Any construction or alteration exceeding 200 feet above ground level;
- Any construction or alteration located within 20,000 feet of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with its longest runway more than 3,200 feet;
- Any construction or alteration within 10,000 feet of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 feet;
- Any construction or alteration located within 5,000 feet of a public use heliport which exceeds a 25:1 surface; or,
- Any construction or alteration located on a public use airport or heliport regardless of height or location.[110]

The proposed improvements do not meet any of the aforementioned FAA criteria. As a result, the proposed project will not present a safety hazard related to aircraft or airport operations at a public use airport to people residing or working in the project area.

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? No Impact.

The project site is not located within two miles of an operational private airport or airstrip. As a result, the proposed project will not present a safety hazard related to aircraft or airport operations of a private airstrip to people residing or working in the project area.

G. Would the project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan? No Impact.

At no time will any of the surrounding arterials be closed to traffic during the project's construction and subsequent operation. As a result, no significant adverse impacts are anticipated.

H. Would the project expose people or structures to a significant risk of loss, injury or death involving wild lands fire, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands? No Impact.

[110] United States Federal Aviation Administration. Obstruction Evaluation / Airport Airspace Analysis (OE/AAA). https:// oeaaa. faa.gov

The area surrounding the PPR is developed and there are no areas containing natural vegetation that could lead to a wildfire. As a result, there are no impacts associated with potential wildfires from off-site locations.

3.8.3 CUMULATIVE IMPACTS

The potential impacts related to hazardous materials are site specific. Furthermore, the analysis herein also determined that the implementation of the proposed project would not result in any significant adverse impacts related to hazards and/or hazardous materials. As a result, no significant adverse cumulative impacts related to hazards or hazardous materials will occur.

3.8.4 MITIGATION MEASURES

To ensure that the proposed improvements do not result in any significant adverse impacts, the following measures are required:

Mitigation Measure #3 (Hazardous Materials). The facility's Emergency Response Plan must be updated and reviewed as necessary to take into account the new equipment and the different operations.

Mitigation Measure #4 (Hazardous Materials). The new equipment installation, operational elements, and any modifications to the Emergency Response Plan must be reviewed and approved by the Los Angeles County Fire Department.

3.9 HYDROLOGY & WATER QUALITY

3.9.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project may be deemed to have a significant adverse environmental impact on water resources or water quality if it results in any of the following:

- A violation of any water quality standards or waste discharge requirements;
- A substantial depletion of groundwater supplies or interference with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;
- A substantial alteration of the existing drainage pattern of the site or area through the alteration of the course of a stream or river in a manner that would result in substantial erosion or siltation on- or off-site;
- A substantial alteration of the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in flooding on- or off-site;

- The creation or contribution of water runoff that would exceed the capacity of existing or planned storm water drainage systems or the generation of substantial additional sources of polluted runoff;

- The substantial degradation of water quality;

- The placement of housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary, Flood Insurance Rate Map, or other flood hazard delineation map;

- The placement of structures within 100-year flood hazard areas that would impede or redirect flood flows;

- The exposure of people or structures to a significant risk of flooding as a result of dam or levee failure; or,

- The exposure of a project to inundation by seiche, tsunami or mudflow.

3.9.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project violate any water quality standards or waste discharge requirements? No Impact.

The proposed project will not affect the quantity, direction or velocity of on-site storm water runoff due the paved character of the areas where new equipment will be installed. As a result, no impacts on water quality are anticipated to result from the proposed project's implementation.

B. Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge in such a way that would cause a net deficit in aquifer volume or a lowering of the local groundwater table level? No Impact.

The limited excavation required for the proposed improvement will not be deep enough to interfere with any local aquifer. Given the nature of the project, no significant net change in the availability of water will occur. As a result, no significant adverse impacts are anticipated.

C. Would the project substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner which would result in substantial erosion. No Impact.

No natural drainage or riparian areas remain within the project site due to past development (refer to Exhibit 3-10).[111] As a result, no significant adverse impacts are anticipated.

[111] United States Geological Survey. *Paramount 7½ Minute Quadrangle*. Release Date March 25, 1999.

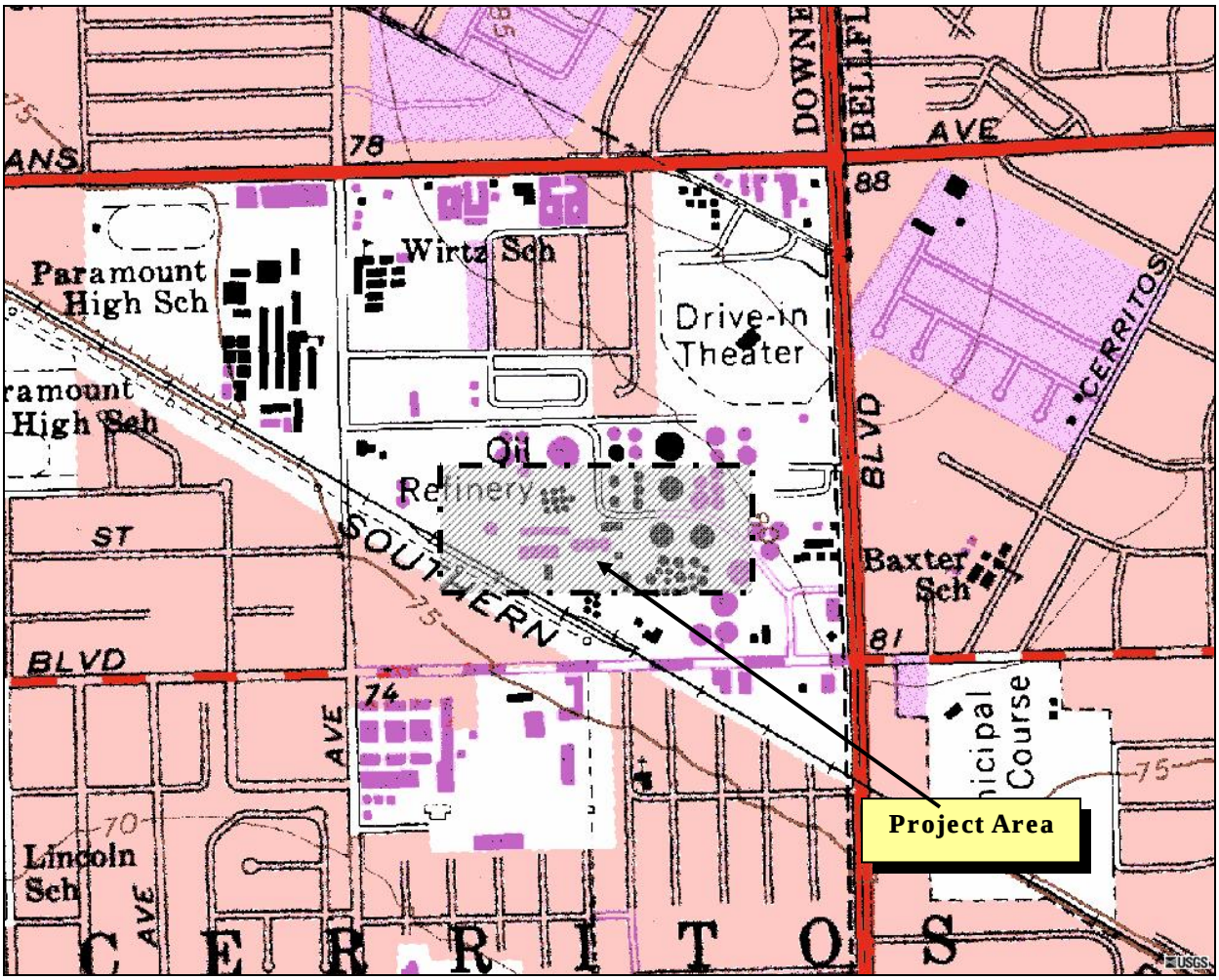


EXHIBIT 3-10
HYDROLOGY
SOURCE: UNITED STATES GEOLOGICAL SURVEY

D. Would the project substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner which would result in flooding on- or off-site? No Impact.

There are no natural lakes or streams within or adjacent to the project site (refer to Exhibit 3-10). The proposed project will not lead to any changes in the hydrologic characteristics of any nearby drainage. No additional impervious surfaces are proposed. As a result, no significant adverse impacts are anticipated.

E. Would the project create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff? No Impact.

No change in the amount of surface runoff volumes within the project site is anticipated since no additional impervious and/or paved surfaces are proposed. The areas where the new equipment will be installed are presently covered over in impervious and hardscape surfaces. As a result, no impacts are anticipated.

F. Would the project otherwise substantially degrade water quality? No Impact.

No change in the amount of surface runoff volumes within the project site is anticipated due to the impervious characteristics of the installation sites. As indicated previously, the areas where the equipment will be installed consist of impervious ground surfaces. Finally, the construction and operation of the new equipment will conform to all pertinent Clean Water Act (CWA) requirements. As a result, no significant adverse impacts are anticipated.

G. Would the project place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary, Flood Insurance Rate Map or other flood hazard delineation map? No Impact.

The proposed project will not impede or redirect the flows of potential floodwater, since the project area is not located within a flood hazard area, as defined by FEMA's Flood Insurance Rate Maps (FIRM).[112] The flood risk is indicated in Exhibit 3-11. Therefore, no impacts related to flood flows are anticipated.

H. Would the project place within a 100-year flood hazard area, structures that would impede or redirect flood flows? No Impact.

As indicated previously, the project site is not located within a designated 100-year flood hazard area as defined by FEMA.[113] As a result, the proposed project will not involve the placement of any structures that would impede or redirect potential floodwater flows.

[112] Federal Emergency Management Agency. Mapping Information Platform. 2011.

[113] Ibid.

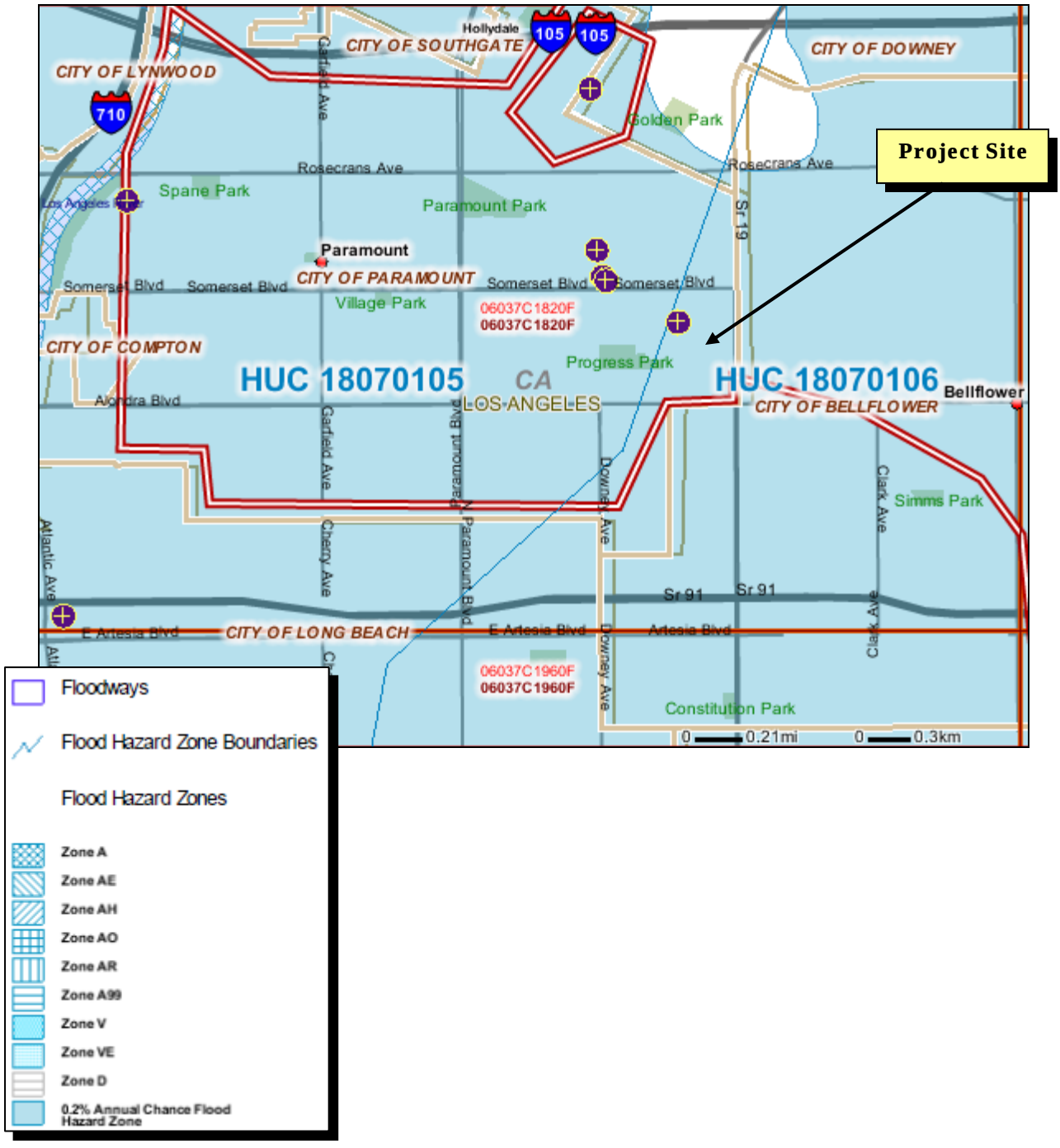


EXHIBIT 3-11
FLOOD RISK
SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY

I. Would the project expose people or structures to a significant risk of flooding as a result of dam or levee failure? No Impact.

The PPR and the majority of the City are located within an area that could be subject to flows due to failure or overflow at the Whittier Narrows Reservoir and Hansen Dams. The project site and the entire City is located within a dam inundation risk zone from a number of other dams located further north of the City. The proposed project will not involve the placement of housing or other critical facilities (housing, hospitals, etc.). As a result, no impacts are anticipated.[114]

J. Would the project result in inundation by seiche, tsunami or mudflow? No Impact.

The PPR is located approximately nine miles inland from the Pacific Ocean and would not be exposed to the effects of a tsunami. No volcanoes are located in Southern California that would result in potential volcanic hazards. In addition, there are no surface water bodies in the immediate area of the project site that would result in a potential seiche hazard.[115] As a result, no significant adverse impacts related to seiche, tsunami or mudflows will result from the implementation of the proposed project.

3.9.3 CUMULATIVE IMPACTS

The potential impacts related to hydrology and storm water runoff are typically site specific. Furthermore, the analysis determined that the implementation of the proposed project would not result in any significant adverse impacts. As a result, no cumulative impacts are anticipated.

3.9.4 MITIGATION MEASURES

As indicated previously, the site's hydrological characteristics will not change due to the extent of the existing hardscape surfaces within the project site. As a result, no mitigation is required.

3.10 LAND USE

3.10.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project may be deemed to have a significant impact on land use and development if it results in any of the following:

- The disruption or division of the physical arrangement of an established community;
- A conflict with an applicable land use plan, policy or regulation of the agency with jurisdiction over the project; or,
- A conflict with any applicable conservation plan or natural community conservation plan.

[114] City of Paramount. *Final Environmental Impact Report [for the] City of Paramount General Plan Update.* August 2007.

[115] United States Geological Survey. *Paramount 7 ½ Minute Quadrangle.* Release Date March 25, 1999.

3.10.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project physically divide or disrupt an established community or otherwise result in an incompatible land use? No Impact.

The City of Paramount is completely urbanized with the remaining undeveloped areas consisting of infill properties. As indicated previously, all of the proposed improvements will be located within the existing PPR facility. The existing improvements within the refinery are varied and include more than 80 above-ground storage tanks of various sizes, concrete and block buildings that house control rooms, maintenance shops, and warehouses. The main staging area and truck entrance is located on the east side of the refinery near Lakewood Boulevard. The main entrance to the office and administration area is provided by an entrance with Downey Avenue. Land uses and development found in the vicinity of the PPR include the following:

- The Wirtz (elementary) School is located north of the PPR at the corner of Contreras Avenue and Downey Avenue. This school is operated by the Paramount Unified School District.

- Paramount High School is located to the west of the PPR, on the west side of Downey Avenue. This school is also operated by the Paramount Unified School District.

- The Cinderella Mobile Home Community and single-family homes are located further east along Contreras Avenue.

- The two parcels located to the northeast of the PPR is occupied by a commercial retail center that include a supermarket and Walmart.

- The Los Angeles Department of Water and Power (LADWP) easement and the Union Pacific Railroad (UPPR) tracks extend diagonally across Somerset Boulevard and Downey Avenue and separate the PPR from the Somerset Village condominiums and a neighborhood that consists of single-family dwellings.

- The Somerset Village Condominiums are located to the south of the aforementioned LADWP easement and north of Somerset Boulevard.

- A public storage facility (A-1 Self Storage) is located to the south of the LADWP easement, on the east side of Downey Avenue.

- The east side of Lakewood Boulevard is developed with commercial uses, including several auto-related businesses, the Rainbow Trailer Park, the Fox Trailer Court, and the Super Inn Motel.

- The Albert Baxter (Elementary) School is located east of Lakewood Boulevard in the City of Bellflower approximately 415 feet west of the PPR. This school is operated by the Bellflower Unified School District.

- Further south, along the south side of Somerset Boulevard, there are single-family neighborhoods and commercial and industrial land uses. The opposite side of Downey Avenue contains a mix of single- and multiple-family developments and Paramount High School.[116]

The installation of the proposed improvements will not involve the permanent closure of any existing roadways or result in the division of an established residential neighborhood. As a result, no impacts will result from the proposed project's implementation with respect to the division of an established community.

B. Would the project conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? No Impact.

The City of Paramount General Plan and Zoning Ordinance define the permitted land uses and the corresponding development standards within the City. The PPR is included in the *Somerset Ranch Area Plan*. The General Plan designations for the project area are noted in Exhibit 3-12.[117]

No zone change or general plan amendment will be required to accommodate the proposed project use, though a Conditional Use Permit (CUP) and a Zone Variance (ZV) are required. The proposed project is not regionally significant according to definitions provided by the Southern California Association of Governments (SCAG) and the SCAQMD.[118] Finally, the project site is located inland from the Pacific Ocean (approximately 11 miles) and is not located within a designated Coastal Zone. As a result, no significant adverse impacts are anticipated.

C. Will the project conflict with any applicable habitat conservation plan or natural community conservation plan? No Impact.

No natural or native habitats are found within the PPR or within the adjacent parcels. In addition, there are no areas within the immediate vicinity that are subject to habitat conservation plans.[119] As a result, no significant adverse impacts are anticipated.

3.10.3 CUMULATIVE IMPACTS

The potential cumulative impacts with respect to land use are site specific. Furthermore, the analysis determined that the proposed project will not result in any significant adverse impacts. As a result, no significant adverse cumulative land use impacts will occur as part of the proposed project's implementation.

---

[116] Blodgett/Baylosis Associates. Site Visit, October 30, 2013; and Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description.* September 2013.

[117] City of Paramount. *Clearwater East Specific Plan*. Page 19.

[118] Regionally significant projects are defined in the SCAQMD's CEQA Air Quality Handbook.

[119] Blodgett/Baylosis Associates. Site Survey was completed on September through November, 2013.

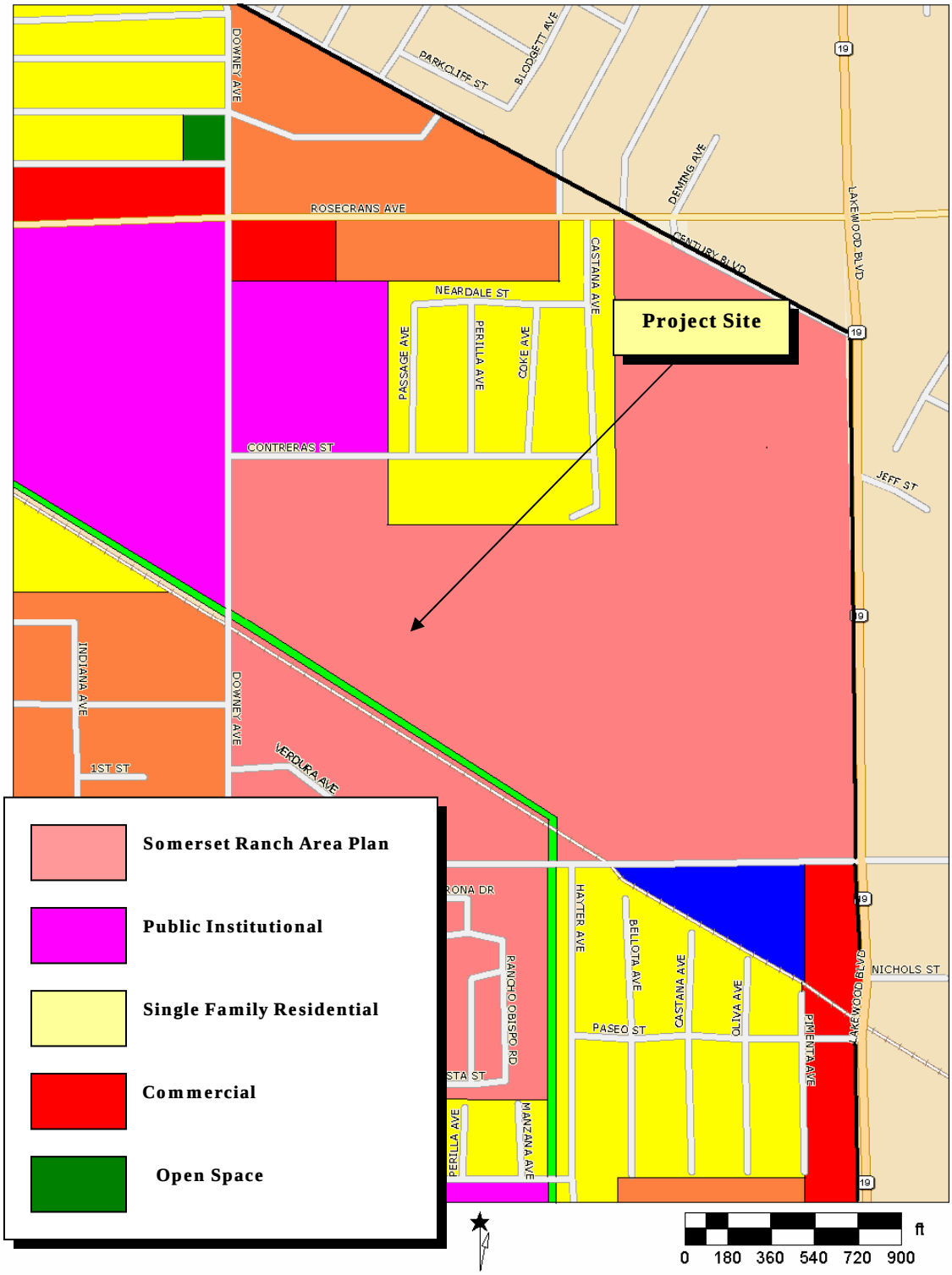


EXHIBIT 3-12
EXISTING GENERAL PLAN DESIGNATIONS
SOURCE: CITY OF PARAMOUNT

3.10.4 MITIGATION MEASURES

The analysis determined that no significant adverse impacts on land use and planning would result from the implementation of the proposed project. As a result, no mitigation measures are required.

3.11 MINERAL RESOURCES

3.11.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project may be deemed to have a significant adverse impact on energy and mineral resources if it results in any of the following:

- The loss of availability of a known mineral resource that would be of value to the region and the residents of the State; or

- 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.

3.11.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents or the State? No Impact.

The PPR does not contain sand, gravel, mineral or timber resources. In addition, there are no active oil wells or natural resource extraction activities within the PPR (refer to Exhibit 3-13).[120] Furthermore, the PPR is not located within a Significant Mineral Aggregate Resource Area (SMARA), nor is it located in an area with active mineral extraction activities. A review of California Division of Oil and Gas field records indicates that no abandoned wells are located in the refinery complex.[121] As a result, no significant adverse impacts on available mineral and energy resources are anticipated.

B. Would the project 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? No Impact.

There are no mineral, oil or energy extraction activities located within or near the proposed PPR (refer to Exhibit 3-13). Review of maps provided by the State Department of Conservation indicated that there are no oil wells located in the vicinity.[122] The resources and materials used during construction will not include any materials that are considered rare or unique. Thus, the proposed project will not result in any significant adverse effects on mineral resources in the region.

[120] Blodgett/Baylosis Associates. Site Survey was completed on September through November, 2013.

[121] California, State of. Department of Conservation. *Oil, Gas, and Geothermal – District 1 Maps*. 2011.

[122] Ibid.

EXHIBIT 3-13
OIL WELLS
SOURCE: CALIFORNIA STATE DEPARTMENT OF CONSERVATIONS

3.11.3 CUMULATIVE IMPACTS

The potential impacts on mineral resources are site specific. Furthermore, the analysis determined that the proposed project would not result in any impacts on mineral resources. As a result, no cumulative impacts will occur.

3.11.4 MITIGATION MEASURES

The analysis of potential impacts related to mineral resources indicated that no significant adverse impacts would result from the proposed project's approval and subsequent implementation. As a result, no mitigation measures are required.

3.12 NOISE

3.12.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project may be deemed to have a significant impact on the environment if it results in any of the following:

- The exposure of persons to, or the generation of, noise levels in excess of standards established in the local general plan, noise ordinance or applicable standards of other agencies;
- The exposure of persons to, or the generation of, excessive ground-borne noise levels;
- A substantial permanent increase in ambient noise levels in the vicinity of the project above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- Locating within an area governed by an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or private use airport, where the project would expose people to excessive noise levels; or,
- Locating within the vicinity of a private airstrip that would result in the exposure of people residing or working in the project area to excessive noise levels.

3.12.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project result in exposure of persons to, or the generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? Less than Significant Impact with Mitigation.

Noise levels may be described using a number of methods designed to evaluate the "loudness" of a particular noise. The most commonly used unit for measuring the level of sound is the decibel (dB). In general, an increase of between 3.0 dB and 5.0 dB in the ambient noise level is considered to represent the threshold for human sensitivity. [123] Noise levels that are associated with common, everyday activities are illustrated in Exhibit 3-14. The ambient noise environment within the project area is dominated by traffic noise emanating from the nearby arterial roadways and the railroad right-of-way. The nearest noise sensitive receptors include the homes located adjacent to the refinery on the north and south sides. In addition, Wirtz Elementary School is located to the north of the refinery and Paramount High School is located to the west (on the west side of Downey Avenue). Exhibit 3-15 indicates the location and extent of sensitive receptors in the vicinity of the refinery.

Noise levels are most commonly measured using a logarithmic decibel (dB) scale with the 0dB level based on the lowest detectable sound pressure level that people can perceive. Decibels cannot be added arithmetically, but rather are added on a logarithmic basis. A doubling of sound energy is equivalent to an increase of three dB. Because of the nature of the human ear, a sound must be about 10 dB greater than the reference sound to be judged twice as loud. In general, a three to five dB change in community noise levels starts to become noticeable, while one or two dB changes are generally not perceived.

The existing noise environment within the vicinity of the PPR is dominated by traffic emanating from nearby arterial roadways and railroad activities. Primary truck access to the refinery is provided by Andry Drive, which is accessible from Somerset and Lakewood Boulevards (the main entrance to the administrative offices at the refinery is at Downey Avenue). Refinery operations are also a source of noise within the area surrounding the PPR.

Once construction activities have been completed, the proposed project is not expected to contribute to any noise since most of the new equipment (vessels and piping) do not generate noise. The project includes several new pumps that would generate the same amount of noise as the existing pumps at ground level and are not major sources of discernible noise outside the site boundary, so that no increase in noise related to the pumps would be expected. Pumps already exist at the PPR, and the implementation of the proposed project would not generate noise beyond that which currently exists at the facility. Therefore, no discernable change to the existing noise setting during operation of the proposed project is expected. As a result, no significant adverse noise impacts from the proposed project are expected.

[123] Bugliarello, et. al., *The Impact of Noise Pollution,* Chapter 127, 1975.

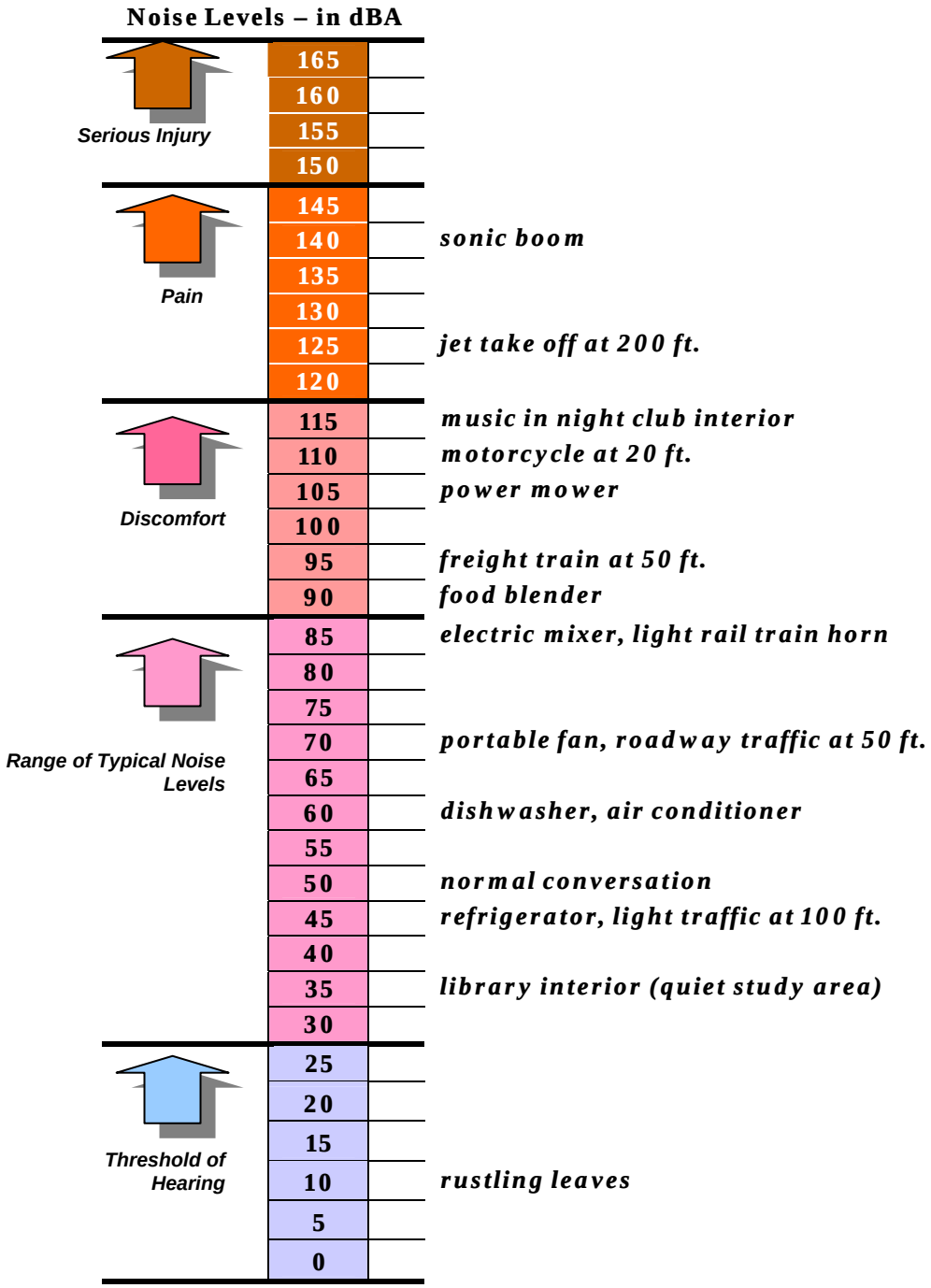


EXHIBIT 3-14
TYPICAL NOISE SOURCES AND LOUDNESS SCALE
Source: Blodgett/Baylosis Associates

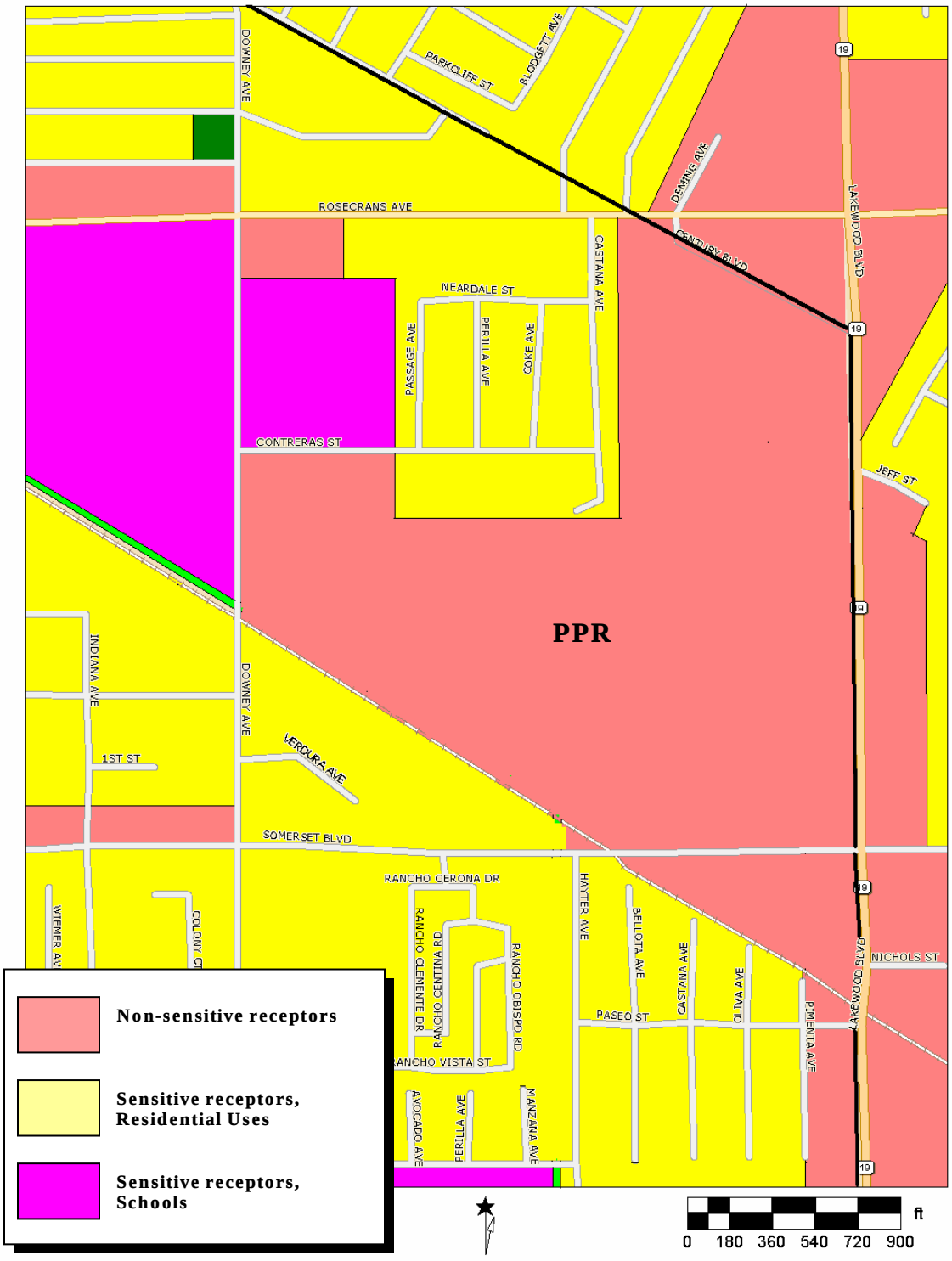


EXHIBIT 3-15
NOISE SENSITIVE RECEPTORS
Source: Blodgett/Baylosis Associates

Any noise impacts related to the facility's operation will also be attenuated by the walls and/or landscaping that extends around the facility. In addition, the major activity periods will be limited to the daytime periods. To further mitigate potential noise impacts associated with the operation of the new equipment, the following mitigation measures will be required:

- The facility's operation must conform to the City of Paramount Noise Control Ordinance.

- Rail car deliveries and pick-ups will be limited to the non-peak hour traffic periods, after 10:00 AM and before 6:00 PM. The refinery operators and management will continue to work with the railroad so that train traffic to and from the refinery does not coincide with the morning and evening commute times or when students are going to or leaving school.

The aforementioned mitigation measures will reduce the potential impacts to levels that are less than significant.

B. Would the project result in exposure of persons to, or the generation of, excessive ground-borne noise levels? Less than Significant Impact with Mitigation.

The potential ground borne noise impacts are discussed in Section 3.12.2.A. The mitigation identified in the previous section will also reduce the potential impacts to levels that are less than significant.

C. Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? Less than Significant Impact with Mitigation.

The potential ground borne noise impacts are discussed in Section 3.12.2.A. The mitigation identified in the previous section (Section 3.12.2.A) will reduce the potential impacts to levels that are less than significant.

D. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? Less than Significant Impact.

The City of Paramount Municipal Code, Sections 45-1 and 45-2, exempts construction noise sources between the hours of 7:00 am and 8:00 pm. The construction activities that would generate noise associated with the proposed project would be carried out during daytime hours, (e.g., 7:00 AM to 6:00 PM, Monday through Friday). Construction activities associated with the PPR would generate noise from construction equipment and construction-related traffic. The types of construction equipment that will be used include, but are not limited to, trucks, cranes, fork lifts, air compressors, compactors, generators, excavators, backhoes, welding machines, and trowels. Noise levels for various types of construction equipment at 50 feet are provided in Exhibit 3-16. Noise attenuation due to distance will reduce these values as discussed later in this section. The maximum noise levels during construction activities are expected to be about 85 dBA, 50 feet from the noise source.

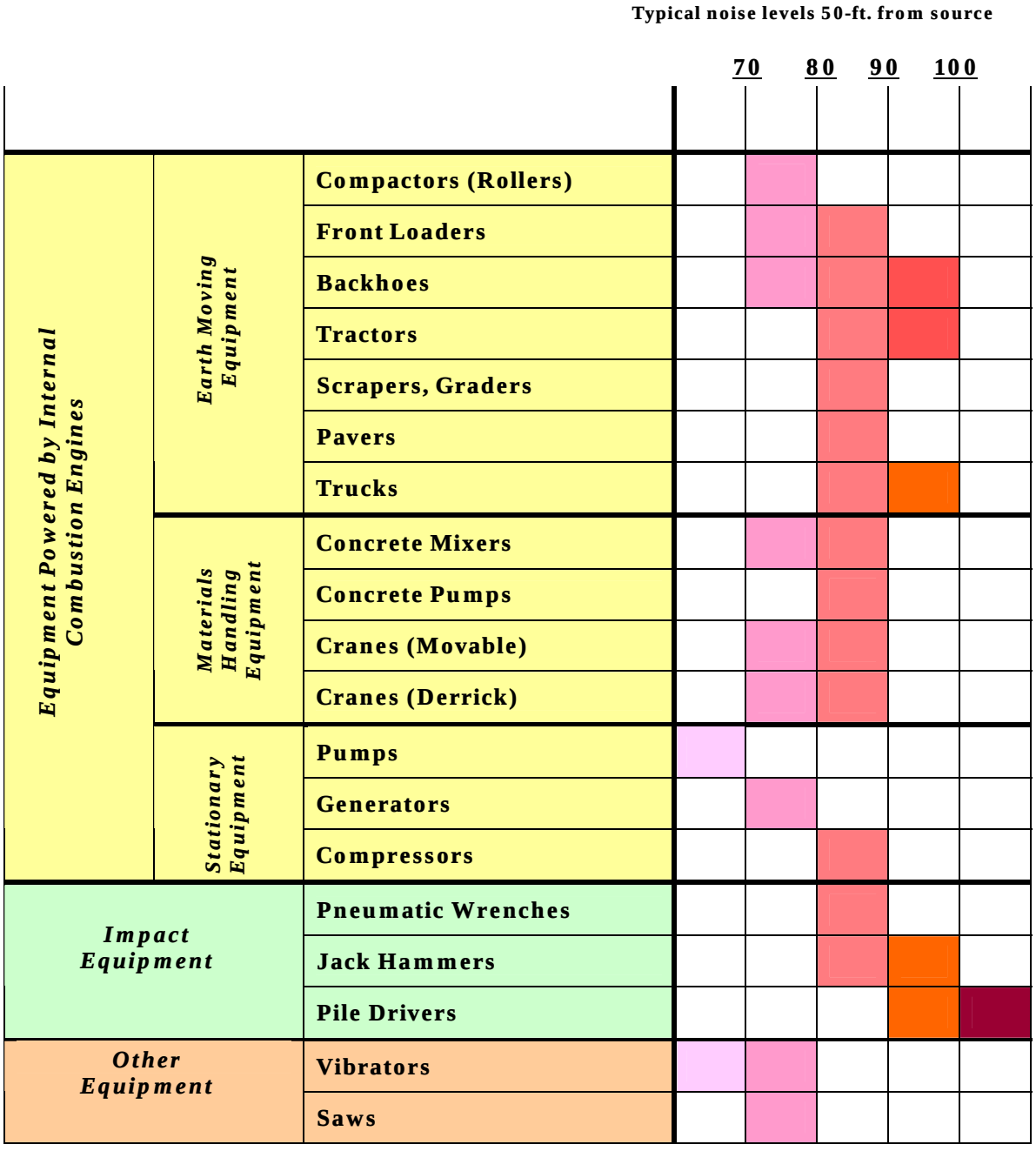


EXHIBIT 3-16
TYPICAL CONSTRUCTION NOISE LEVELS
Source: Blodgett/Baylosis Associates

Background noise levels in residential areas generally are in the range of 55 dBA to 65 dBA. Most of the construction activities related to the proposed project will be associated with the modifications to No. 5 HDS. The noise levels at the closest school buildings (about 600 feet) are expected to be about 44 dBA indoors. Therefore, the construction noise levels within school buildings are expected to be below background noise levels and would be less than significant.

Because of the nature of the construction activities, the types, number, operation time, and loudness of construction equipment would vary throughout the construction period. As a result, the sound level associated with construction would change as construction progresses. Construction noise sources would be temporary and would cease following construction activities. The on-site construction activities and the construction equipment's operation will also be required to conform to the City's noise control requirements. As a result, the impacts will be less than significant.

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? No Impact.

The project site is not located within two miles of an operational airport. The Compton-Woodley Airport, a general aviation airport, is located approximately five miles to the west.[124] As a result, no impact is expected with regard to excessive noise levels due to airfields.

F. Within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? No Impact.

The project site is not located within two miles of an operational private airport and the project site will not be exposed to aircraft noise from operations at any private airport in the area. As a result, no significant adverse impacts are anticipated.

3.12.3 CUMULATIVE IMPACTS

The analysis indicated the proposed project would not result in any significant adverse cumulative noise impacts. As a result, no significant adverse cumulative noise impacts will occur.

3.12.4 MITIGATION MEASURES

To mitigate potential noise impacts associated with the operation of the proposed project, the following mitigation measures will be required:

Mitigation Measure #5 (Noise). The facility's operation must conform to the City of Paramount Noise Control Ordinance.

[124] United States Geological Survey. Paramount, California (The National Map) July 1, 1998.

Mitigation Measure #6 (Noise). Rail car deliveries and pick-ups will be limited to the non-peak hour traffic periods, after 10:00 AM and before 6:00 PM. The refinery operators and management will continue to work with the railroad so that train traffic to and from the refinery does not coincide with the morning and evening commute times or when students are going to or leaving school.

3.13 POPULATION & HOUSING

3.13.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project may be deemed to have a significant impact on housing and population if it results in any of the following:

- A substantial growth in the population within an area, either directly or indirectly related to a project;
- The displacement of a substantial number of existing housing units, necessitating the construction of replacement housing; or,
- The displacement of substantial numbers of people, necessitating the construction of replacement housing.

3.13.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project induce substantial population growth in an area, either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)? No Impact.

Growth-inducing impacts are generally associated with the provision of urban services to an undeveloped or rural area, such as the extension of utilities, improved roadways, and expanded public services. The proposed project will not result in any change in the population, housing, or employment projections developed for the City. The proposed project will not result in any significant increases in employment that would exceed the adopted employment and population projections for the City.[125] In recent years, the refinery has experienced a reduction in the number of persons employed within the facility. The potential increased employment associated with the proposed project will be more than off-set by the number of jobs that were eliminated in recent years. As a result, no significant adverse impacts are anticipated.

B. Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? No Impact.

The project sites are all located within the PPR property. The refinery has operated for approximately 70 years. No housing units will be displaced as part of the proposed project's implementation. As a result, no significant adverse impacts related to housing displacement will result from the proposed project's implementation.

[125] The estimated 2010 employment in the City is 18,544 while the projected 2015 and 2020 employment is 18,722 and 18,917, respectively.

C. Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? No Impact.

The project area is currently developed and used as the PPR. No housing units will be affected by the proposed project and no displacement of residents will result. As a result, no significant adverse impacts related to population displacement will result from the proposed project's implementation.

3.13.3 CUMULATIVE IMPACTS

The analysis of potential population and housing impacts indicated that no significant adverse impacts would result from the proposed project's implementation. As a result, no significant adverse cumulative impacts related to population and housing will occur.

3.13.4 MITIGATION MEASURES

The analysis of potential population and housing impacts indicated that no significant adverse impacts would result from the proposed project's approval and subsequent implementation.

3.14 PUBLIC SERVICES

3.14.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project may be deemed to have a significant adverse impact on public services if it results in any of the following:

- A substantial adverse physical impact associated with the provision of new or physically altered governmental facilities, the construction of which would cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives relative to fire protection services;

- A substantial adverse physical impact associated with the provision of new or physically altered governmental facilities, the construction of which would cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives relative to police protection services;

- A substantial adverse physical impact associated with the provision of new or physically altered governmental facilities, the construction of which would cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives relative to school services; or,

- A substantial adverse physical impact associated with the provision of new or physically altered governmental facilities, the construction of which would cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives relative to other government services.

3.14.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which would cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives relative to fire protection services? Less than Significant Impact with Mitigation.

The City of Paramount is served by two fire stations: Station 31, located at 7521 East Somerset Boulevard and Station 57 located at 5720 Gardendale Street in South Gate. Station No 31 has two engines and one paramedic squad and Station 57 has one engine.[126] In addition, fire fighting equipment and trained personnel are located within the refinery itself. Incidents at the facility are rare based on a review of records for the facility with two reportable incidents at the refinery in the past five years.

The first reportable release occurred on August 9, 2005, at 5:30 PM. A small intermittent fire was discovered approximately two hours after H-805 had been shutdown. Crude oil was allowed to continue circulating through the heater coils while it cooled. At 5:25, the snuffing steam to the firebox was turned off in order to prepare the line for blinding by maintenance. Three to five minutes afterward, a detonation and ensuing fire took place within H-805. The operator extinguished the flames. No injuries occurred due to this incident. The second reportable release occurred on April 22, 2009, at 9:40 PM. H-101/102 tripped due to high box pressure and the pilot and main burners were tripped. The operators reset the burner gases without purging the heater box or measuring the lower explosive limit. Then they attempted to light the H-101 pilots which ignited and detonated. One operator was taken to the hospital but released later in the evening.[127]

The following mitigation will be required to ensure that the proposed project does not adversely impact Fire Department services:

- The proposed improvements will be subject to review and approval by the Los Angeles County Fire Department to ensure that fire safety and fire prevention measures are incorporated into the project. In addition, the Fire Department will be required to review and approve any evacuation plan as well as the on-site circulation to ensure that emergency vehicles can easily access the refinery's parking area.

- The Paramount Petroleum security personnel must ensure that all fire lanes remain open during the refinery's operation.

The aforementioned mitigation measures will reduce the potential impact to levels that are less than significant.

[126] United States Geological Survey. Paramount, California (The National Map) July 1, 1998.

[127] Paramount Petroleum, Risk Management Data. http://data.rtknet.org/rmp/rmp.php?facility

B. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which would cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives relative to police protection? No Impact.

Law enforcement services in Paramount are contracted through the Los Angeles County Sheriff's Department. The City is served by the Lakewood Station at 5130 Clark Avenue in Lakewood and by a substation located near the intersection of Paramount and Somerset Boulevards in Paramount. Emergency response times are approximately three minutes throughout the City. The proposed project will all be located within the refinery and no public access to this area is permitted. The refinery also maintains 24-hour security. As a result, no impacts on law enforcement services are anticipated.

C. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which would cause significant environmental impacts in order to maintain acceptable service ratios, or other performance objectives relative to school services? No Impact.

The proposed project will not involve any development and/or uses that could potentially affect school enrollments. Since no significant increase in employment is directly attributable to the proposed project, no change in school enrollments will occur. As a result, no significant adverse impacts on schools will result from the proposed project's implementation.

D. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which would cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives relative to other governmental services? No Impact.

No new governmental services will be necessary to serve the facility. As a result, no significant adverse impacts are anticipated.

3.14.3 CUMULATIVE IMPACTS

The future development contemplated as part of the proposed project's implementation will not result in an incremental increase in the demand for emergency services. As a result, no cumulative impacts are anticipated.

3.14.4 MITIGATION MEASURES

The analysis of public service impacts indicated that the following mitigation measures would be required to address the potential impacts on the local fire department:

Mitigation Measure #7 (Public Services). The proposed project will be subject to review and approval by the Los Angeles County Fire Department to ensure that fire safety and fire prevention measures are incorporated into the project. In addition, the Fire Department will be required to review and

approve any evacuation plan as well as the on-site circulation to ensure that emergency vehicles can easily access the refinery's parking area.

Mitigation Measure #8 (Public Services). The Paramount Petroleum personnel must ensure that all fire lanes remain open during the refinery's operation.

3.15 RECREATION IMPACTS

3.15.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project may be deemed to have a significant adverse impact on the environment if it results in any of the following:

- 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; or,

- The construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

3.15.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

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? No Impact.

The City of Paramount Parks and Recreation Services operate six public parks devoted to active recreation. No parks or related recreational facilities are located adjacent to the project site. In addition, the proposed project would not result in any development that would potentially increase the demand for public park facilities and services.[128] As a result, no significant adverse impacts are anticipated.

B. Would the project affect existing recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? No Impact.

The proposed project would not result in any development that would potentially increase the demand for public park facilities and services. As a result, no significant adverse impacts are anticipated.

3.15.3 CUMULATIVE IMPACTS

The analysis determined the proposed project would not result in any potential impact on recreational facilities and services. As a result, no cumulative impacts on recreational facilities would result from the proposed project's implementation.

[128] City of Paramount. *Final Environmental Impact Report [for the] City of Paramount General Plan Update.* August 2007.

3.15.4 MITIGATION MEASURES

The analysis of potential impacts related to parks and recreation indicated that no significant adverse impacts would result from the proposed project's approval and subsequent implementation. As a result, no mitigation measures are required.

3.16 TRANSPORTATION & CIRCULATION

3.16.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project will normally have a significant adverse impact on traffic and circulation if it results in any of the following:

- A conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;

- A conflict with an applicable Congestion Management Program, including but not limited to, level of service standards and travel demand measures, or other standards established by the County Congestion Management Agency for designated roads or highways;

- Results in a change in air traffic patterns, including either an increase in traffic levels or a change in the location that results in substantial safety risks;

- Substantially increases hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

- Results in inadequate emergency access; or,

- A conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

3.16.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

A. *Would the project cause a conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? Less than Significant Impact.*

The refinery's operations will be designed to receive feedstock from either existing rail or truck unloading racks, with rail expected to be the primary mode of transport. Delivery trucks would be utilized if a

reliable source of vegetable oil becomes available locally to supplement rail deliveries. The proposed project would generate an additional 3,500 barrels of feedstock deliveries per day which translate into seven rail cars per day or 23 delivery truck trips per day. The rail deliveries for the proposed project would replace existing rail car deliveries. Therefore, no additional rail traffic or emissions from locomotive engines are anticipated for the proposed project.

The increase in truck traffic would be minimal when considering the previous truck deliveries that were made when the PPR was in full operation. When considering the net increase in the number of deliveries from the present, 23 additional delivery trucks would travel to the site on a peak day. The process is expected to require four hydrogen delivery trucks and one caustic delivery truck on a peak day. As previously mentioned, a majority of the feedstock delivery is expected to arrive via rail. Table 3-9 indicates recent trends concerning rail and truck deliveries between 2009 and 2012.

Table 3-9
Trends in Truck and Rail Traffic to the PPR (2009 to 2012)

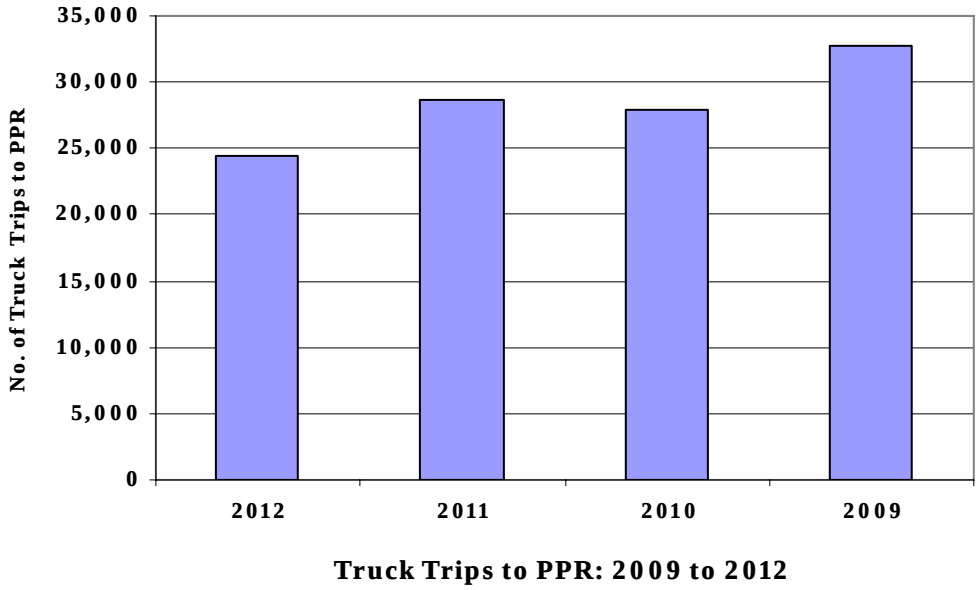
Description of Activity	2012	2011	2010	2009
Trucking Activity				
Metered Trucks Loading	594	1,783	7,180	9,423
Scale Trucks Loading	19,369	20,610	17,101	20,450
Scale Trucks Unloading	4,437	6,208	3,677	2,892
Total Trucks	**24,400**	**28,601**	**27,958**	**32,765**
Railcar Activity				
Railcars Loading	386	844	165	1,470
Gas/oil Railcar Loading	0	331	0	0
Railcars Unloading	503	181	115	0
Total Railcars	**889**	**1,356**	**280**	**1,470**

Source: Paramount Petroleum Corporation.

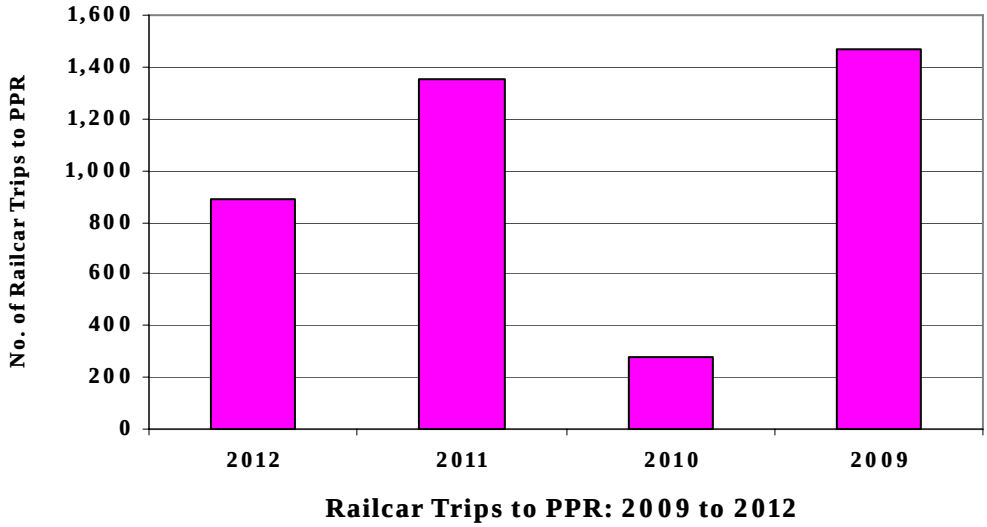
As indicated in Table 3-9, between 2009 and 2012, the total number of trucks going to and from the PPR annually declined by 8,368 trucks, a decline of 25.5 percent. The number of railcars making deliveries to the PPR annually during the same period declined by 581, a decline of 39.5 percent. The PPR receives most of its crude oil (approximately 96%) via underground pipelines. The remainder is generally received using truck transport, though crude oil is also be received by rail following the approval of CUP 751 and the issuance of the requisite SCAQMD permits. Most of its distilled products (gasoline, full range naphtha, military fuels, diesel products, and gas oil) are shipped out via underground pipelines or in trucks. The PPR ships all of its asphalt products in truck or using rail transport.[129] The trends in truck and railcar deliveries are graphically presented in Exhibit 3-17.

[129] Paramount Petroleum Corporation. *Paramount Petroleum Refinery Alt-Air Renewable Fuels Project Description*. September 2013.

.



Truck Trips to PPR: 2009 to 2012



Railcar Trips to PPR: 2009 to 2012

EXHIBIT 3-17
TRENDS IN TRUCK AND RAILCAR DELIVERIES: 2009-2012
Source: Paramount Petroleum Corporation

The additional truck transport projected for the proposed project (a maximum of 28 trucks per day) will be more than offset by the decline in such traffic since 2009. Employment will not significantly change and will actually be less than the levels experienced in 2009. In addition, trucks are not permitted to queue on public streets. As a result, the impacts will be less than significant.

B. *Would the project result in a conflict with an applicable congestion management program, including but not limited to, level of service standards and travel demand measures, or other standards established by the County Congestion Management Agency for designated roads or highways? No Impact.*

The nearest Los Angeles County *Congestion Management Program* (CMP) arterial roadway in the vicinity is Lakewood Boulevard (State Route 19 – SR 19) located along the east side of the PPR. The nearest CMP freeway facilities are Interstate 105 (I-105) and Interstate 710 (I-710), which are located 0.9 miles north, and 2.3 miles west of the project site, respectively. Per the *Guidelines for CMP Transportation Impact Analysis,* which is Appendix B of the CMP, a CMP-level traffic analysis shall address all CMP arterial monitoring intersections where the proposed project would add 50 or more trips during the weekday peak hour and any mainline freeway monitoring locations where the project would add 150 or more trips in either direction during the peak hour. Since the proposed project would generate less than 50 peak hour trips on a CMP roadway facility and, less than 150 trips to a CMP freeway facility, a CMP-level traffic analysis would not be required.

C. *Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in the location that results in substantial safety risks? No Impact.*

The proposed project would not result in any changes in air traffic patterns. As a result, no significant adverse impacts will result.

D. *Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? No Impact.*

The proposed project would not affect any public streets. All of the improvements will be located within the existing refinery complex. At no time will any local streets or parcels be closed to traffic. Potential rail crossing impacts are discussed in the next section. As a result, the proposed project's implementation will not result in any significant adverse impacts.

E. *Would the project result in inadequate emergency access? Less than Significant Impact with Mitigation.*

The existing rail-unloading rack will be modified to add an off-loading manifold, a pump, and piping to unload the new feedstocks (tallow and vegetable oil). The existing truck-unloading rack will also be modified to add an unloading pump and piping to unload trucked feedstocks. Approximately 50 rail cars per week of beef tallow and vegetable oils will be delivered to the refinery with seven rail cars of feedstock expected to be offloaded at the rail-unloading rack per day. Non-edible vegetable oils will also be delivered by truck and unloaded at the existing tank truck-unloading rack.

The PPR has a conditional use permit from the City of Paramount to operate the railcar-loading and unloading racks which limits the refinery to receive 25 railcars per delivery. The proposed project will not exceed this existing limitation.[130] A key consideration of rail use as part of the proposed project's operation is related to rail traffic impacts at the Downey Avenue rail crossing. Trains accessing the refinery via spurs tracks will temporarily obstruct traffic on Downey Avenue while the rail cars are being moved onto and out of the refinery's loading and unloading areas.

The following provides a brief discussion of the existing rail facilities at the refinery. Historically, rail traffic to and from the refinery was much greater than it is at the present time. The refinery's operations were significantly reduced in 2012 which translated into a corresponding decrease in rail traffic. At the refinery's peak, trains with an average capacity of 25 to 30 cars would travel to and from the refinery on a daily basis. Even at its peak, the number of trains and rail cars was highly variable: in certain instances several trains a day would travel to and from the refinery. Overall, the maximum number of cars a two-engine train could transport is 35 cars (because of the weight). The capacity of the rail spur within the refinery is 25 cars. As a result, trains carrying more than 25 rail cars would need to make multiple movements across Downey Avenue to maneuver the cars into the respective loading or unloading positions.[131]

According to refinery personnel, trains typically arrive at the refinery between 12:00 PM (noon) and 3:00 PM. The refinery schedules the rail deliveries and pick-ups for this period to avoid the peak traffic periods for Downey Avenue. In addition, no rail deliveries or pick-ups occur during the night-time and early morning periods due to noise restrictions. In addition, staff indicated that the maximum number of rail cars that would be anticipated on a typical day would be 20 to 30 cars per train.[132] To better understand the potential impacts of local rail deliveries on Downey Avenue traffic, a field survey was conducted to observe the delays on Downey Avenue related to the delivery and pick up of rail cars. The survey was conducted on Wednesday afternoon, June 5, 2013. The results of the survey are summarized below:

- The train that was subject to the survey was delivering 16 loaded tank cars to the refinery. In addition, two engines were attached to the train.

- The arrival time of the train was 2:00 PM which corresponded to the end of the class times for the neighboring Paramount High School. Vehicular traffic largely consisted of student pick-ups.

- The incoming train (2 engines and 16 cars) required closure of Downey Avenue for 5 minutes. Of this 5-minute period, approximately 1½ minutes was required to open a security gate that restricted rail access into the rail-loading area. This time requirement was related to the need for train personnel to disembark the train and to open the gate. The traffic conditions on Downey Avenue, with the crossing gates lowered, are shown in Exhibits 3-18 and 3-19.

[130] City of Paramount. Administrative Record for Conditional Use Permit (CUP) 571

[131] Personal communication with Paramount Petroleum Refinery staff. June 5, 2013.

[132] Ibid.

Traffic delays on Downey Avenue south of the rail crossing.

Traffic delays on Downey Avenue north of the rail crossing.

EXHIBIT 3-18
PHOTOGRAPHS OF TRAIN CROSSING AT DOWNEY AVE.
Source: Blodgett/Baylosis Associates

Pedestrian and vehicular traffic north of the rail crossing. Pedestrian and Vehicular traffic is related to classes ending at Paramount High School.

View of entry gate into the refinery.

EXHIBIT 3-19
PHOTOGRAPHS OF TRAIN CROSSING AT DOWNEY AVE.
Source: Blodgett/Baylosis Associates

- Over the 5-minute period of time when the incoming train blocked traffic, vehicles on Downey Avenue south of the railroad tracks were queuing back to Somerset Boulevard. The queuing of vehicles on that portion of Downey Avenue located to the north of the railroad tracks was exacerbated by vehicles picking up students from Paramount High School.

- Once all of the rail cars cleared Downey Avenue into the refinery (and the rail crossing gates), it required more than 2 minutes for traffic conditions to return to normal.

- The train engines then connected with the empty rail cars within the refinery's rail spurs (10 empty cars were connected to the 2 engines). The train exited the refinery once again crossing Downey Avenue. The traffic on Downey Avenue was halted for a total of 3 minutes while the train exited the refinery.

- Once all of the rail cars exiting the refinery cleared Downey Avenue (and the rail crossing gates), it required 2 minutes for traffic conditions to return to normal

During the course of the closure of Downey Avenue at the rail crossing, a large number of vehicles are observed queuing behind the crossing gates. In addition, large numbers of students were leaving Paramount High School at the end of the class day. The following mitigation measures were applied as part of the approval of a previous CUP and will continue to be applicable to the current proposed project as a means to minimize train and vehicle conflicts and delays at the Downey Avenue and Paramount Boulevard crossing:

- Rail car deliveries and pick-ups will be limited to the non-peak hour traffic periods, after 10:00 AM and before 6:00 PM. The refinery operators and management will continue to work with the railroad so that train traffic to and from the refinery does not coincide with the morning and evening commute times or when students are going to or leaving school. No deliveries during the evening, night, and early morning periods will be permitted unless prior notification to the City is provided.

- The length of an individual train will generally be limited to not more than 25 railcars. In the event more cars are required, the Community Development Department must be notified 24-hours in advance. The refinery operators will also be required to notify the Paramount Sheriff's station of the approximate delivery time.

- At no time may traffic on Downey Avenue be halted more than 5 minutes during any single delivery or pick-up. In the event of a longer train (a train consisting of more than 25 cars), multiple maneuvers by the train operators may be required to stay under the 5-minute limit.

- The refinery operators and the train personnel must coordinate delivery times so the gate to the rail-loading/unloading areas within the refinery are open prior to the arrival of the train. The means as to how the gate is to be opened (automated, manual, etc.) must be determined by the refinery management and the railroad.

The aforementioned mitigation reflects input from the railroad operators that operate the trains serving the refinery. No increase in rail traffic is anticipated from the current renewable fuels project. The aforementioned mitigation currently being implemented by the PPR will reduce the impacts to levels that are less than significant.

F. Would the project result in a conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? No Impact.

The City of Paramount provides transportation service in the City along with medical transportation for Paramount seniors (60 years and older) and those residents with disabilities. In addition, the local transit provider operates a Metrolink shuttle to and from the Norwalk/Paramount Transportation Center and businesses north of Imperial Highway. No existing bus stops will be impacted and the project would not result in any significant adverse impacts on alternative forms of transit.

3.16.3 CUMULATIVE IMPACTS

The future development contemplated as part of the proposed project's implementation will not result in any increased traffic generation in the area. As a result, no cumulative impacts are anticipated.

3.16.4 MITIGATION MEASURES

The analysis determined the following mitigation measures will be required as a means to minimize train and vehicle conflicts and delays at the Downey Avenue and Paramount Boulevard crossings:

Mitigation Measure #9 (Traffic and Circulation). No truck queuing or trailer drop off will be permitted on public streets.

Mitigation Measure #10 (Traffic and Circulation). The refinery operators and management must continue to work with the railroad to schedule rail-car delivery and pick-ups so that traffic on Paramount Boulevard and Downey Avenue is not adversely impacted.

Mitigation Measure #11 (Traffic and Circulation). Rail car deliveries and pick-ups will be limited to the non-peak hour traffic periods, after 10:00 AM and before 6:00 PM. The refinery operators and management will continue to work with the railroad so that train traffic to and from the refinery does not coincide with the morning and evening commute times or when students are going to or leaving school. No deliveries during the evening, night, and early morning periods will be permitted unless prior notification to the City is provided.

Mitigation Measure #12 (Traffic and Circulation). The length of an individual train will generally be limited to not more than 25 railcars. In the event more cars are required, the Community Development Department must be notified 24-hours in advance. The refinery operators will also be required to notify the Paramount Sheriff's station of the approximate delivery time.

Mitigation Measure #13 (Traffic and Circulation). At no time may traffic on Downey Avenue be halted more than 5 minutes during any single delivery or pick-up. In the event of a longer train (a train consisting of more than 25 cars), multiple maneuvers by the train operators may be required to stay under the 5-minute limit.

Mitigation Measure #14 (Traffic and Circulation). The refinery operators and the train personnel must coordinate delivery times so the gate to the rail-loading/unloading areas within the refinery are open prior to the arrival of the train. The means as to how the gate is to be opened (automated, manual, etc.) will be determined by the refinery management and the railroad.

3.17 UTILITIES

3.17.1 THRESHOLDS OF SIGNIFICANCE

According to the City of Paramount, acting as Lead Agency, a project may be deemed to have a significant adverse impact on utilities if it results in any of the following:

- An exceedance of the wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- The construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts;
- The construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- An overcapacity of the storm drain system causing area flooding;
- A determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand;
- The project will be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs;
- Non-compliance with Federal, State, and local statutes and regulations relative to solid waste;
- A need for new systems, or substantial alterations in power or natural gas facilities; or,
- A need for new systems, or substantial alterations in communications systems.

3.17.2 ANALYSIS OF ENVIRONMENTAL IMPACTS

A. Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? Less than Significant Impact.

The County Sanitation Districts of Los Angeles County (LACSD) treats wastewater generated in the City of Paramount.[133] Local sewer lines are maintained by the City of Paramount, while the District owns, operates, and maintains the large trunk sewers of the regional wastewater conveyance system. The wastewater generated in the project area is conveyed to the Los Coyotes Water Reclamation Plant (Los Coyotes WRP), which is operated by the LACSD. The Los Coyotes WRP, located at the northwest junction of the San Gabriel River and Artesia Freeway, provides primary, secondary, and tertiary treatment. The Los Coyotes WRP has a design capacity of 37.5 million gallons per day (mgd) and currently processes an average flow of 31.8 mgd. The Joint Water Pollution Control Plant (JWPCP) located in the City of Carson has a design capacity of 385 mgd and currently processes an average flow of 326.1 mgd. The Long Beach WRP has a design capacity of 25 mgd and currently processes an average flow of 20.2 mgd.

The wastewater discharged from the proposed project would be approximately 14 gallons per minute (gpm) or 15,840 gallons per day on average, with approximately 9 gpm from the first stage of the process and approximately 5 gpm from steam condensate. The peak day would be approximately 5.5 gpm or 36,720 gallons per day with approximately 9 gpm from the first stage of the process and approximately 16.5 gpm from steam condensate. The additional wastewater discharge is within the industrial discharge permit limit for the Refinery. The peak effluent generation will not be any greater than that of the existing generation. As a result, no new off-site facilities will be required to treat the projected flows and the impacts will be less than significant.

B. Would the project 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 impacts? No Impact.

As indicated in the previous sections, the water consumption rates and the peak effluent generation will not be any greater than that of the existing generation. No new off-site facilities will be required to treat the projected flows. As a result, no environmental impacts will occur.

C. Would the project 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? No Impact.

The City of Paramount is served by the Los Angeles County Flood Control District (LACFCD), which operates and maintains regional and municipal storm drainage facilities. The City works with the LACFCD in making local drainage plans and improvements. The projected storm water runoff is not anticipated to increase with the proposed project due to the fact that the location and extent of impervious surfaces will not change. The proposed project will not lead to any changes in the hydrologic

[133] Los Angeles County Sanitation Districts. www.lacsd.org/about/serviceareamap.asp

characteristics of any nearby drainage. No additional impervious surfaces are proposed as part of the proposed project. As a result, no significant impacts are anticipated.

D. Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? Less than Significant Impact.

Paramount owns and operates a domestic water system that includes two wells; two imported water connections; approximately 130 miles of water transmission and distribution mains; and appurtenant valves, hydrants, and equipment. To supplement groundwater production, the City also purchases treated, imported water from the Central Basin Municipal Water District (CBMWD), which is a member agency of the Metropolitan Water District of Southern California (MWD).[134] The City also purchases recycled water from CBMWD and has recycled water distribution piping, and appurtenant valves and equipment to serve recycled water to commercial/industrial water users. Paramount also has emergency mutual-aid domestic water connections with the City of Long Beach, the City of Downey, and the Golden State Water Company. The City currently does not have storage reservoirs, though the groundwater basin provides groundwater storage.[135]

The incremental increase in water demand to supply steam to the project is approximately 285 gallons per hour or 6,840 gallons per day on average with a peak day water demand of approximately 990 gallons per hour or 23,760 gallons per day. Water demand for steam increases during cooler weather. This demand is less than that when the PPR was in full operation. As a result, the impacts will be less than significant.

E. Would the project result in a determination by the provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments? Less than Significant Impact.

Refer to the discussion provided in the previous section. The existing water capacity will not be affected by the proposed project since no significant increase in water consumption is anticipated. As a result, the potential impacts are considered to be less than significant.

F. Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? Less than Significant Impact.

The proposed project will contribute to two existing waste streams at the PPR: spent caustic and spent catalyst. There is expected to be an incremental increase over current operations in spent caustic from the proposed project. The caustic scrubbing system is permitted as a backup for the refinery fuel gas treating system so the use by the project will not require an increase in capacity or generate more spent caustic than the refinery has in the past. Truck shipments anticipated to occur for the project are approximately once every two weeks for a total of 26 shipments per year. The maximum would be 26 shipments by truck per year for a total of 650 tons of spent caustic that is sent for recycling. The spent catalyst from the

[134] Tetra Tech. *City of Paramount 2007 Water Master Plan*. 2007.

[135] Ibid.

proposed project, approximately 35 tons, would be changed out once a year and also sent for recycling. As a result, the potential impacts would be less than significant.

G. Would the project comply with Federal, State, and local statutes and regulations related to solid waste? No Impact.

The proposed project's operation, like all other development in Paramount, will be required to adhere to City and County ordinances with respect to waste reduction and recycling. As a result, no significant adverse impacts related to State and local statutes governing solid waste are anticipated.

H. Would the project result in a need for new systems, or substantial alterations in power or natural gas facilities? No Impact.

The Southern California Edison Company ("SCE") and Sempra Energy provide service upon demand, and early coordination with these utility companies will ensure adequate and timely service to the project. Both utilities currently provide service in the area. Thus, no significant adverse impacts on power and natural gas services will result from the implementation of the proposed project.

I. Would the project result in a need for new systems, or substantial alterations in communications systems? No Impact.

The existing telephone lines in the surrounding area will be unaffected by the proposed project. Thus, no significant adverse impacts on communication systems are anticipated.

3.17.3 CUMULATIVE IMPACTS

The potential impacts related to water line and sewer line capacities are site specific. Furthermore, the analysis herein also determined that the proposed project would not result in any significant adverse impact on local utilities. The ability of the existing sewer and water lines to accommodate the projected demand from future related projects will require evaluation on a case-by-case basis. As a result, no cumulative impacts on utilities will occur.

3.17.4 MITIGATION MEASURES

The analysis of utilities impacts indicated that no significant adverse impacts would result from the proposed project's approval and subsequent implementation. As a result, no mitigation is required.

3.18 MANDATORY FINDINGS OF SIGNIFICANCE

The following findings can be made regarding the Mandatory Findings of Significance set forth in Section 15065 of the CEQA Guidelines based on the results of this environmental assessment:

- The approval and subsequent implementation of the proposed project *will not* have the potential to degrade the quality of the environment with the implementation of the mitigation measures included herein.

- The approval and subsequent implementation of the proposed project *will not* have the potential to achieve short-term goals to the disadvantage of long-term environmental goals, with the implementation of the mitigation measures referenced herein.

- The approval and subsequent implementation of the proposed project *will not* have impacts that are individually limited, but cumulatively considerable, when considering planned or proposed development in the immediate vicinity, with the implementation of the mitigation measures contained herein.

- The approval and subsequent implementation of the proposed project *will not* have environmental effects that will adversely affect humans, either directly or indirectly, with the implementation of the standard conditions contained herein.

- The Initial Study indicated there is no evidence that the proposed project will have an adverse effect on wildlife resources or the habitat upon which any wildlife depends.

SECTION 4 - CONCLUSIONS

4.1 FINDINGS

The Initial Study determined that the proposed project is not expected to have significant adverse environmental impacts, with the implementation of the mitigation measures. The following findings can be made regarding the Mandatory Findings of Significance set forth in Section 15065 of the CEQA Guidelines based on the results of this Initial Study:

- The proposed project *will not* have the potential to degrade the quality of the environment, with the implementation of the mitigation measures included herein.

- The proposed project *will not* have the potential to achieve short-term goals to the disadvantage of long-term environmental goals, with the implementation of the mitigation measures referenced herein.

- The proposed project *will not* have impacts that are individually limited, but cumulatively considerable, when considering planned or proposed development in the immediate vicinity, with the implementation of the mitigation measures contained herein.

- The proposed project *will not* have environmental effects that will adversely affect humans, either directly or indirectly, with the implementation of the mitigation measures contained herein.

In accordance with the requirements of Section 21081(a) and 21081.6 of the Public Resources Code, the City of Paramount can make the following additional findings:

- A Mitigation Reporting and Monitoring Program *will* be required; and,

- An accountable enforcement agency or monitoring agency *does* need to be identified for the Mitigation Measures adopted as part of the decision-maker's final determination.

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

SECTION 5 - REFERENCES

5.1 PREPARERS

Blodgett/Baylosis Environmental Planning
16388 Colima Road, Suite 206
Hacienda Heights, CA 91745
(626) 336-0033

Marc Blodgett, Project Manager
Rosalyn Perry, Project Planner

5.2 REFERENCES

Bugliarello, et. al., *The Impact of Noise Pollution,* Chapter 127, 1975.

California Administrative Code, *Title 24, Energy Conservation,* 1990.

California Department of Fish and Game, *Natural Diversity Database*, 2011.

California Division of Mines and Geology, *Seismic Hazards Mapping Program,* 2012.

California Department of Parks and Recreation, *California Historical Landmarks,* 2011.

California Department of Water Resources, *Progress Report on Groundwater Geology of the Coastal Plain of Orange County*, 1967.

California Environmental Protection Agency*, Hazardous Material Users/Generators in Orange County,* 2004.

California Office of Planning and Research, *California Environmental Quality Act and the CEQA Guidelines*, as amended 2009.

California, State of California Public Resources Code Division 13, *The California Environmental Quality Act. Chapter 2.5, Section 21067 and Section 21069.*1998.

Federal Emergency Management Agency, *Flood Insurance Rate Map,* 2010.

Los Angeles, City of. Zoning and Land Information Data (ZIMA) 2010

Rand McNally, *Street Finder,* 2009.

Paramount, City of. *Paramount General Plan*. 2007.

Paramount, City of. *Zoning Ordinance.* As amended 2012

Southern California Association of Governments, *Population, Housing and Employment Projections*, 2010.

South Coast Air Quality Management District, *CEQA Air Quality Handbook,* 2000.

South Coast Air Quality Management District, *Air Quality Management Plan*, 2007.

Thomas Brothers Maps, *The Thomas Guide for Los Angeles and Orange Counties,* 2000.

U.S. Bureau of the Census, *2000 U.S. Census,* 2010.

U.S. Geological Survey, *Evaluating Earthquake Hazards in the Los Angeles Region - An Earth Science Perspective, USGS Professional Paper 1360*, 1985.