# 2.0 PROJECT DESCRIPTION

## 2.1 Project Overview and Objectives

### 2.1.1 Project Objectives

Mobil is undertaking this project to comply with the requirements of the new CARB Phase 3 reformulated gasoline specifications and comply with the provisions of the Governor of California's March 29, 1999 Executive Order to remove MTBE from gasoline sold in the state. Table 2.1-1 compares the previous CARB Phase 2 gasoline specifications and the new CARB Phase 3 specifications. To meet these requirements, Mobil will reformulate its gasoline and add fuel ethanol as an oxygenate to comply with US Environmental Protection Agency oxygenate requirements. Mobil also will reduce gasoline sulfur and benzene content to comply with CARB Phase 3 requirements.

At the time this EIR is being prepared, the federal government is reviewing California's oxygenate waiver request, which would allow the sale of gasoline that does not contain an oxygenate such as MTBE or ethanol. However, the proposed project is being developed with the assumption that the oxygenate requirements will remain.

### 2.1.2 Project Overview

The proposed project involves the following modifications and additions at the Torrance Refinery: construction of one new process unit, modifications to existing process units, construction of new refinery equipment and facilities, and construction of railcar loading and unloading facilities. Modifications and additions also are required at several terminals. These include one marine terminal at which fuel ethanol will be received by marine tanker, stored and then transported to three distribution terminals by tanker truck. Fuel ethanol will be received, stored, and blended with base gasoline stock at the distribution terminals and trucked to retail gasoline stations.

Fuel ethanol is not produced commercially in southern California and must be imported by marine tanker or by rail displacing large amounts of MTBE that currently are imported by marine vessel from the Gulf Coast.

MTBE and fuel ethanol have different physical and chemical properties. One key difference is that fuel ethanol has a higher affinity for water than MTBE. Because of fuel ethanol's affinity for water, gasoline-fuel ethanol blending is conducted differently than gasoline-MTBE blending. MTBE currently is blended into gasoline at the Torrance Refinery and the blended gasoline is transported via pipeline to the distribution terminals. In contrast, the base gasoline stock and fuel ethanol must be transported separately to distribution terminals via dedicated pipelines (e.g., a pipeline "dedicated" to fuel ethanol service is one that is used only for ethanol), railcars, and/or trucks. The components are blended together at the terminals, and then shipped by truck to the

retail gasoline stations. This distribution and blending process minimizes the potential contact of ethanol and water that may occur during transport.

**Table 2.1-1**
**Existing CARB Phase 2 and New CARB Phase 3 Gasoline Specifications**

| Property | Flat Limits | | Averaging Limits | | Cap Limits | |
|---|---|---|---|---|---|---|
| | CARB 2 | CARB 3 | CARB 2 | CARB 3 | CARB 2 | CARB 3 |
| Reid vapor pressure (RVP), psi max | 7.0 | 7.0 | NA | No change | 7.0 | 6.4 – 7.2 |
| Benzene, vol. % max | 1.0 | 0.8 | 0.8 | 0.7 | 1.2 | 1.1 |
| Sulfur, ppmw, max | 40.0 | 20.0 | 30.0 | 15.0 | 80.0 | 60.0/30.0 |
| Aromatic HC, vol. %, max | 25.0 | No change | 22.0 | No change | 30.0 | 35.0 |
| Olefins, vol. %, max | 6.0 | No change | 4.0 | No change | 10.0 | No change |
| Oxygen, wt. % | 1.8 to 2.2 | No change | NA | No change | 1.8-3.5 winter areas | 1.8-3.7 winter areas |
| | | | | | 0 - 3.5 | 0-3.7 |
| T50 °F, max(1) | 210 | 213 | 200 | 203 | 220 | No change |
| T90 °F, max(2) | 300 | 305 | 290 | 295 | 330 | No Change |

RVP = Reid vapor pressure
psi = Pounds per square inch
ppmw = Parts per million weight
1 – Temperature at which 50 percent of the hydrocarbons will distill in a standard laboratory test.
2 – Temperature at which 90 percent of the hydrocarbons will distill in a standard laboratory test.

Mobil has three existing local (within the SCAQMD's jurisdiction) distribution terminals that will be involved in ethanol-gasoline blending and subsequent transport to retail gas stations. These terminals are located in Torrance (the Torrance distribution facility is located on the property of the Torrance Refinery and is referred to in this document as the Torrance Loading Rack), Vernon, and Anaheim (the Atwood Terminal). Mobil's Southwestern Terminal (SWT) in the Port of Los Angeles will be used for importing fuel ethanol via marine tanker into southern California, but no ethanol-gasoline blending will occur there. Mobil also supplies gasoline to third-party-owned and/or operated terminals.

Mobil currently is considering two options for importing fuel ethanol into southern California: marine tanker and rail. Both options may be used when the proposed project is operational. This

EIR evaluates the environmental impacts of using both approaches as part of the proposed project.

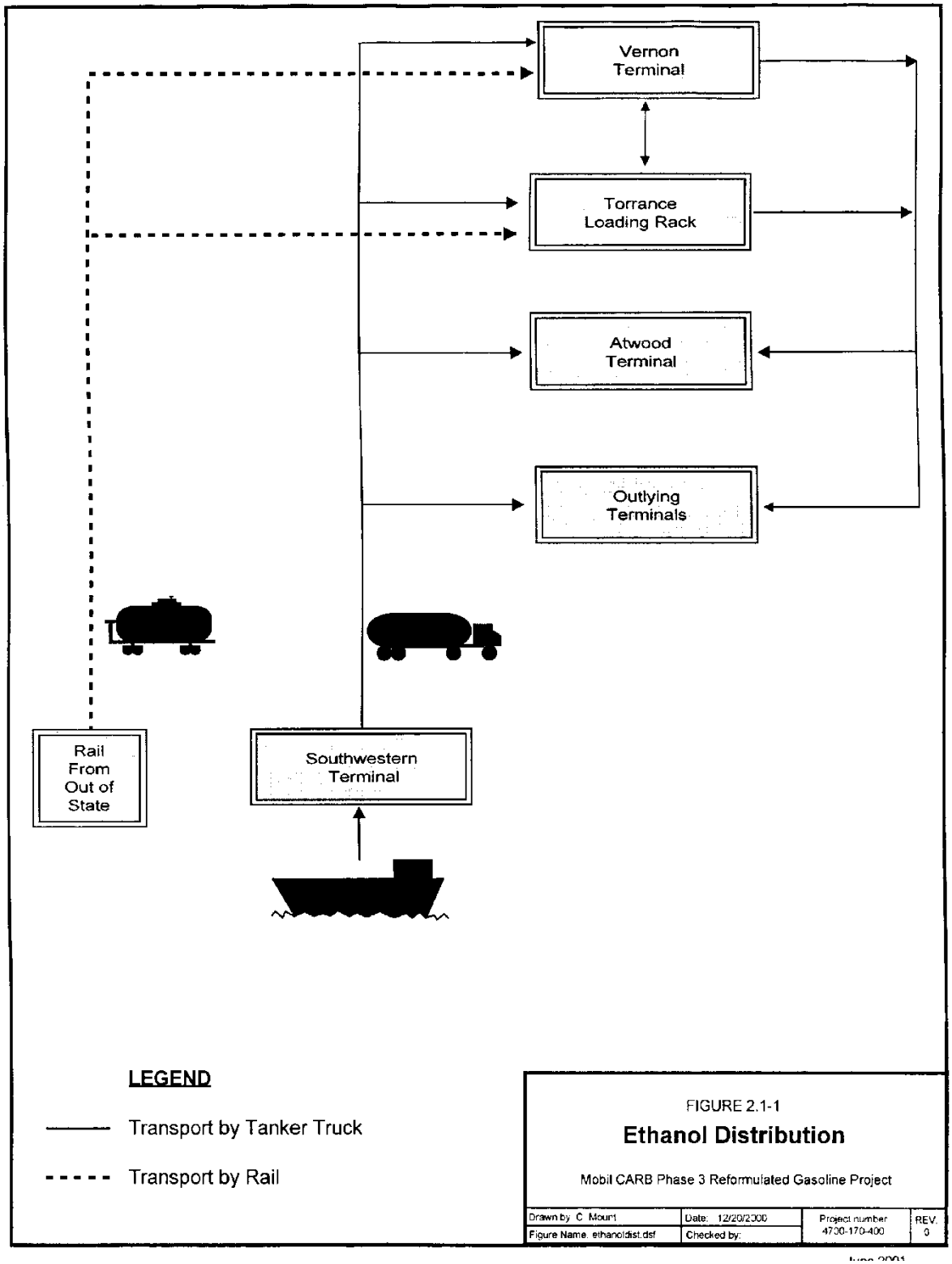
As stated above, fuel ethanol imported by marine tanker will be received and stored at Mobil's SWT in the Port of Los Angeles. From SWT, the fuel ethanol will be transported by truck to the various distribution terminals for blending with gasoline stock and subsequent delivery to retail gas stations. Fuel ethanol imported by rail will be received and stored at both the Vernon Terminal and the Torrance facilities. Some of the fuel ethanol received by rail will be blended at the Torrance and Vernon terminals and the blended product then will be trucked to retail outlets. The remainder of the fuel ethanol will be trucked to the Atwood Terminal or to outlying third-party distribution terminals where the fuel components will be blended and shipped to retail outlets.

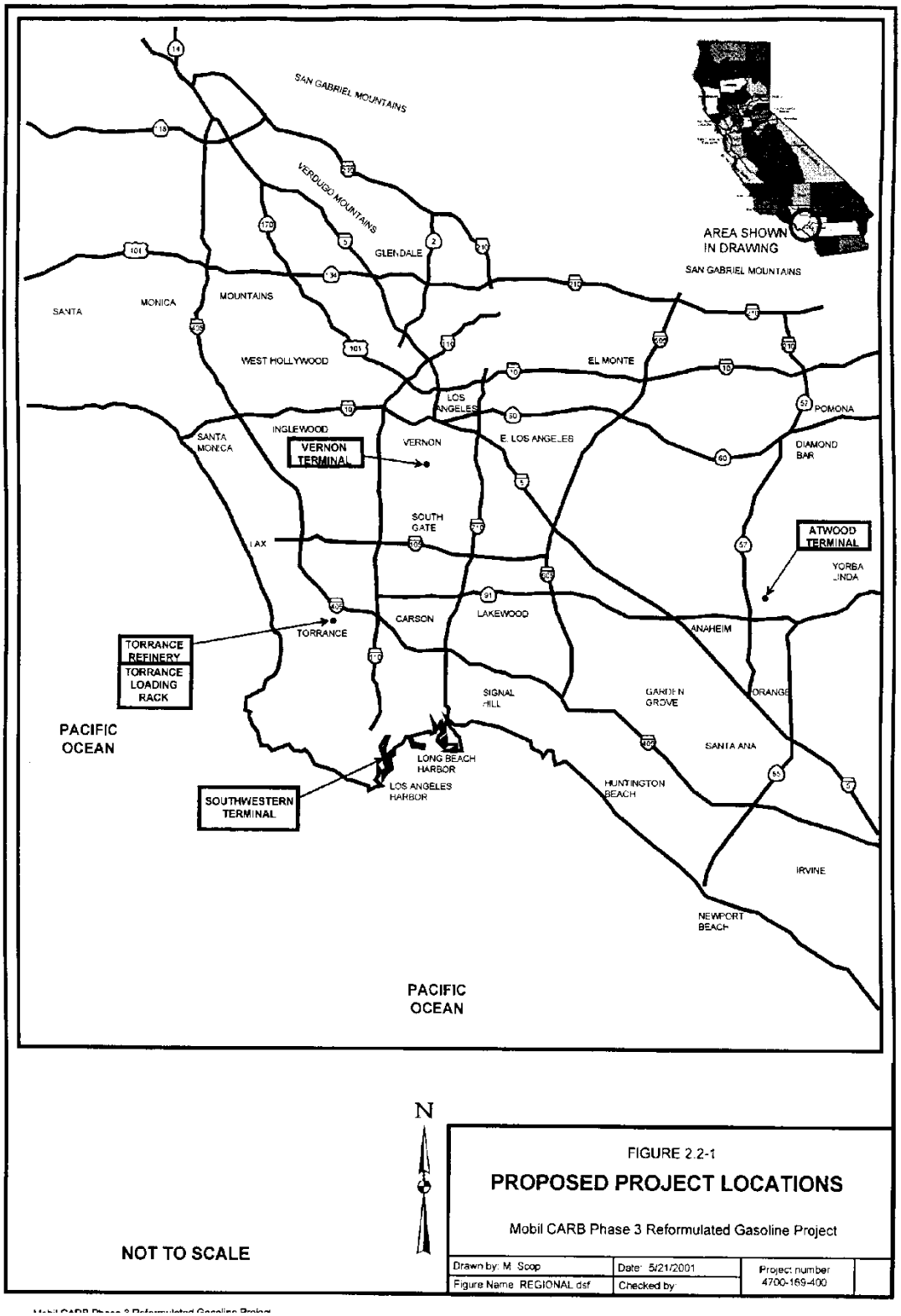
Once blended, the distribution of the CARB Phase 3 gasoline to the retail gas stations will remain the same as currently practiced. As such, the distribution of CARB Phase 3 gasoline will not be addressed in this EIR. Also, the third-party terminals are not owned and/or operated by Mobil. While the transport of fuel ethanol to these terminals is addressed in this EIR, the activities at the third-party terminals themselves are outside the scope of the EIR. Figure 2.1-1 illustrates Mobil's planned fuel ethanol import and distribution scheme.

Replacing MTBE with fuel ethanol in gasoline presents increased challenges to a refinery. When blended with gasoline, the RVP of the resulting blend increases by about one psi. To meet the summertime regulatory RVP limit of 7.0 psi, a refinery must produce a base gasoline stock with a RVP less than 6.0 psi. This requires butanes and pentanes to be removed from the base gasoline stock during the summer months. Consequently, a portion of this Mobil project is related to removing butanes and pentanes from the gasoline.

## 2.2 Locations

Figure 2.2-1 shows the general locations of the various Mobil facilities involved in the proposed project.


Vernon Terminal
Torrance Loading Rack
Atwood Terminal
Outlying Terminals
Rail From Out of State
Southwestern Terminal
LEGEND
Transport by Tanker Truck
Transport by Rail
FIGURE 2.1-1
Ethanol Distribution
Mobil CARB Phase 3 Reformulated Gasoline Project
Drawn by: C. Mount
Date: 12/20/2000
Project number 4700-170-400
REV. 0
Figure Name: ethanoldist.dsf
Checked by:


SAN GABRIEL MOUNTAINS
VERDUGO MOUNTAINS
AREA SHOWN IN DRAWING
SAN GABRIEL MOUNTAINS
GLENDALE
SANTA MONICA MOUNTAINS
WEST HOLLYWOOD
LOS ANGELES
EL MONTE
POMONA
INGLEWOOD
SANTA MONICA
VERNON TERMINAL
VERNON
E. LOS ANGELES
DIAMOND BAR
SOUTH GATE
LAX
ATWOOD TERMINAL
YORBA LINDA
CARSON
LAKEWOOD
ANAHEIM
TORRANCE
TORRANCE REFINERY
TORRANCE LOADING RACK
SIGNAL HILL
GARDEN GROVE
ORANGE
PACIFIC OCEAN
LONG BEACH HARBOR
LOS ANGELES HARBOR
SOUTHWESTERN TERMINAL
SANTA ANA
HUNTINGTON BEACH
IRVINE
NEWPORT BEACH
PACIFIC OCEAN
N
NOT TO SCALE
FIGURE 2.2-1
PROPOSED PROJECT LOCATIONS
Mobil CARB Phase 3 Reformulated Gasoline Project
Drawn by: M. Scop
Date: 5/21/2001
Project number 4700-169-400
Figure Name: REGIONAL.dsf
Checked by:

The Torrance Refinery is located at 3700 West 190th Street in the City of Torrance, California. As shown on Figure 2.2-2, the Torrance Refinery occupies an irregularly shaped parcel of land, between 190th Street on the north, Van Ness Avenue on the east, railroad tracks and Del Amo Boulevard to the south, and Prairie Avenue to the west. A small portion of the 660-acre Torrance Refinery property is located west of Prairie Avenue. Crenshaw Boulevard bisects the property in a north/south direction. All of the proposed additions and modifications to the facility as a result of the proposed project will occur within its current boundaries. The Torrance Loading Rack is located in the central western portion of the Torrance Refinery property and is operated by Mobil's Distribution Organization.

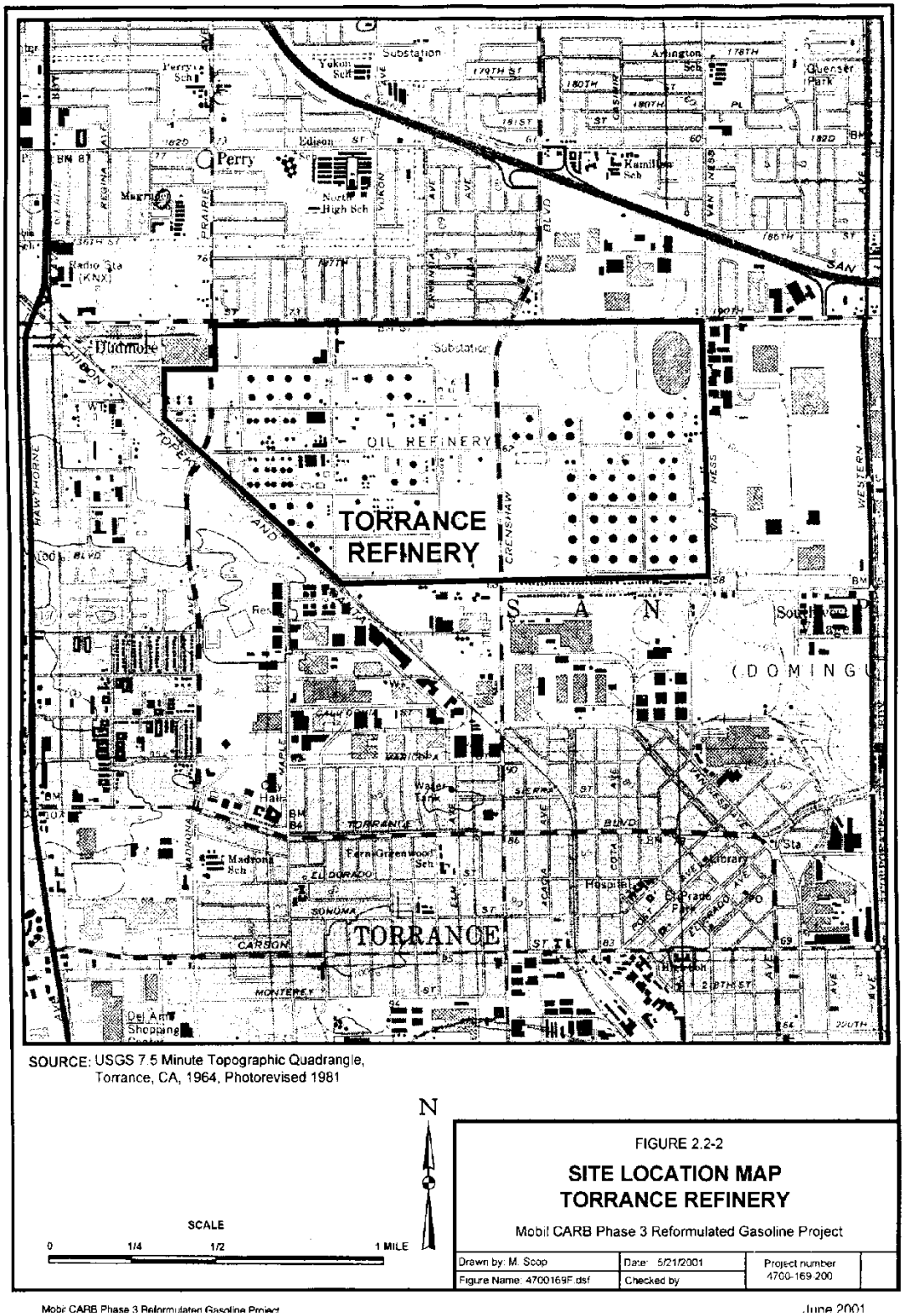
The Vernon Terminal is located at 2709 East 37th Street in the City of Vernon. Figure 2.2-3 shows the terminal's location within the City of Vernon. The facility comprises approximately 32 acres of land. It consists of two parcels of land, which are separated by Jewel Avenue. The two parcels are bordered by East 37th Street, Soto Street, and the Los Angeles River. Land adjoining the Vernon Terminal is used for industrial and commercial purposes.

The Atwood Terminal is located on approximately eight acres of land at 1477 Jefferson Street in the City of Anaheim. Figure 2.2-4 shows the terminal's location within the Anaheim area. The Atwood terminal is an irregularly shaped parcel of land located to the southwest of the intersection of East Orangethorpe Avenue and Jefferson Street. The Atwood Channel borders the terminal to the north. Land uses adjoining the Atwood Channel are commercial and light industrial.

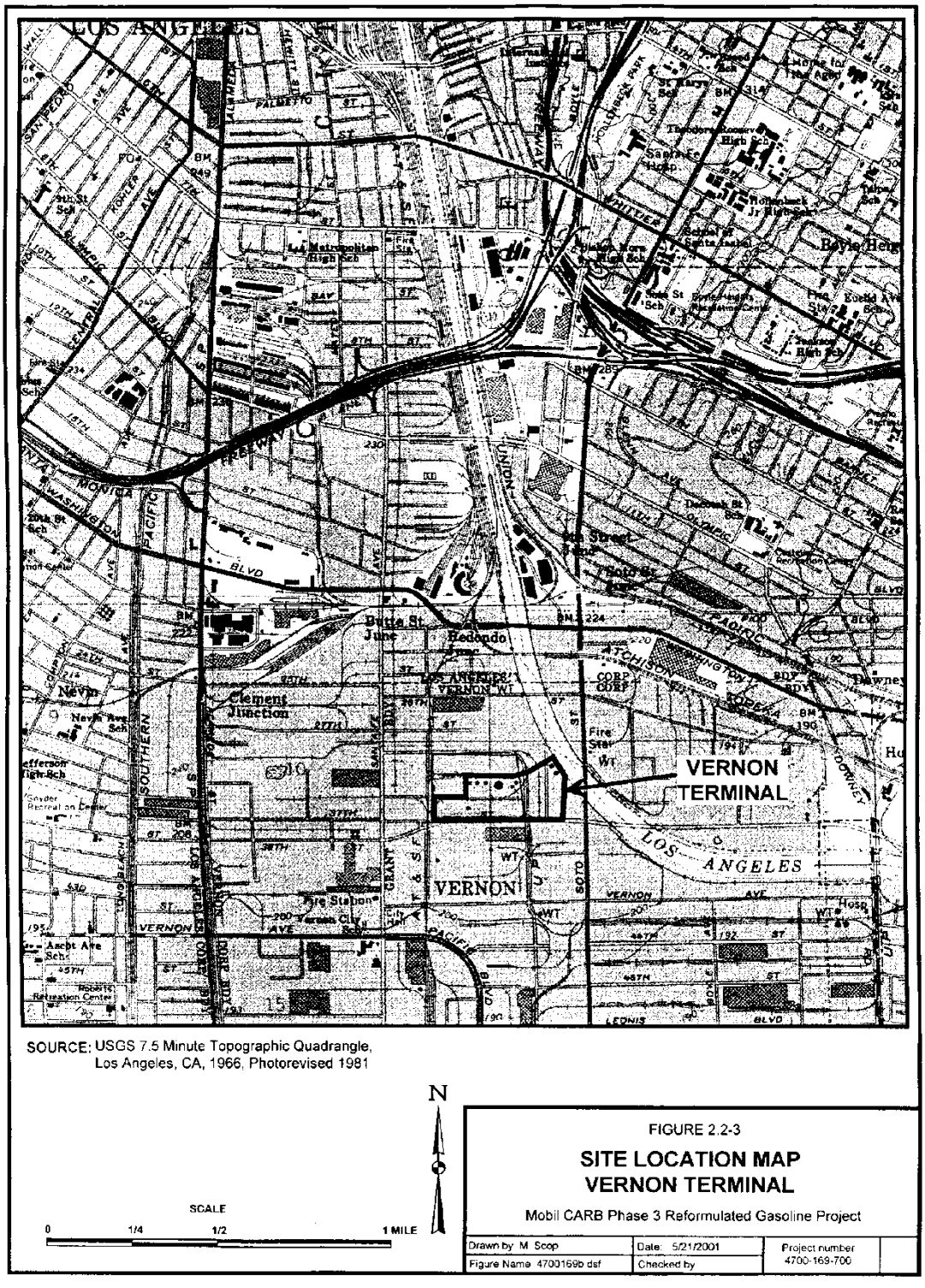
SWT is located at 799 South Seaside Avenue on Terminal Island in the Port of Los Angeles. Figure 2.2-5 shows the terminal and the surrounding area. The facility consists of approximately 14 acres of land and includes four berths (238, 239, 240B and 240C). This site is a triangular-shaped property bounded by the Los Angeles Channel on two sides; a container terminal is located to the north.

## 2.3 Overview of Current Operations

This section presents a brief overview of petroleum refining in general, current operations at Mobil's Torrance Refinery, and a discussion of how the proposed project relates to these operations. In addition, Table 2.3-1 defines some key technical terms that are used throughout the project description section and the rest of the EIR. Where appropriate, the table explains how the terms apply to the proposed project.




Mobil CARB Phase 3 Reformulated Gasoline Project June 2001



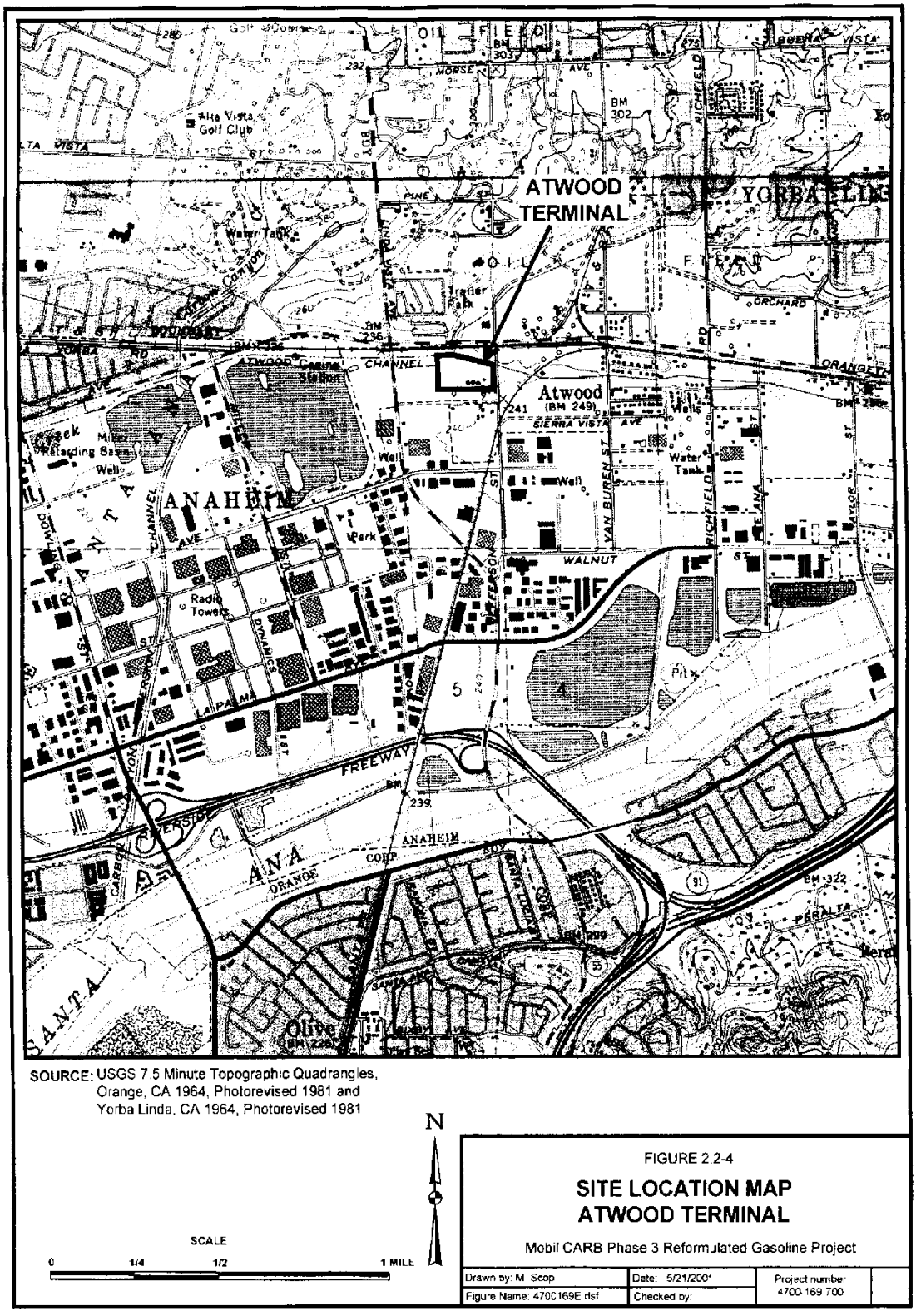

SOURCE: USGS 7.5 Minute Topographic Quadrangle, Los Angeles, CA, 1966, Photorevised 1981

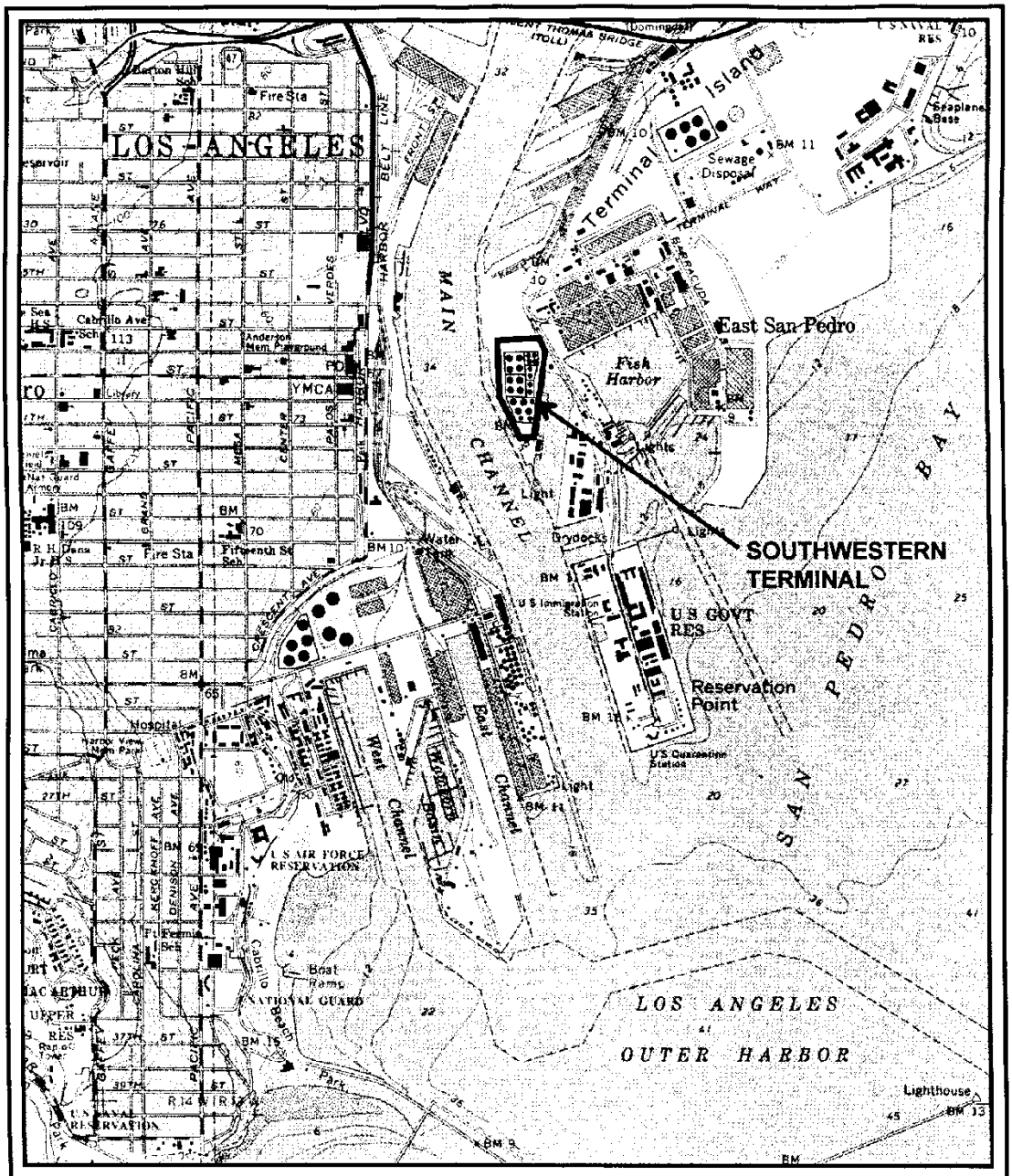
FIGURE 2.2-3

**SITE LOCATION MAP**
**VERNON TERMINAL**

Mobil CARB Phase 3 Reformulated Gasoline Project

| | | |
|---|---|---|
| Drawn by M Scop | Date: 5/21/2001 | Project number 4700-169-700 |
| Figure Name 4700169b.dsf | Checked by | |


ATWOOD TERMINAL
Atwood (BM 249)
ANAHEIM
YORBA LINDA
Alta Vista Golf Club
Water Tank
Frontier Park
Radio Towers
Olive (BM 229)
FREEWAY
WALNUT
ORCHARD
SIERRA VISTA AVE
ANAHEIM CORP
SOURCE: USGS 7.5 Minute Topographic Quadrangles, Orange, CA 1964, Photorevised 1981 and Yorba Linda, CA 1964, Photorevised 1981
N
SCALE
0 1/4 1/2 1 MILE
FIGURE 2.2-4
SITE LOCATION MAP
ATWOOD TERMINAL
Mobil CARB Phase 3 Reformulated Gasoline Project
Drawn by: M. Scop
Date: 5/21/2001
Project number 4700 169 700
Figure Name: 4700169E.dsf
Checked by:




SOURCE: USGS 7.5 Minute Topographic Quadrangle, San Pedro, CA 1964, Photorevised 1981

N

SCALE
0 1/4 1/2 1 MILE

FIGURE 2.2-5

**SITE LOCATION MAP**
**SOUTHWESTERN TERMINAL**

Mobil CARB Phase 3 Reformulated Gasoline Project

| | | |
|---|---|---|
| Drawn by: M. Scop | Date: 5/21/2001 | Project number 4700-169-400 |
| Figure Name: 4700169d.dsf | Checked by | |

Crude oil comes from the well as a mixture of hydrocarbon compounds and relatively small amounts of other materials, such as oxygen, nitrogen, sulfur, salt, and water. Petroleum refining is a coordinated arrangement of manufacturing processes designed to produce physical and chemical changes in the crude oil to remove most of the non-hydrocarbon substances, break the crude oil into its various components, and blend them into various useful products. The overall refining process uses four kinds of techniques: 1) separation (e.g., distilling hydrocarbon liquids into gases, gasoline, diesel fuel, fuel oil, and heavier residual materials); 2) cracking (breaking large hydrocarbon molecules into smaller ones by thermal or catalytic processes); 3) reforming (using heat and catalysts to rearrange the chemical structure of a particular oil stream to improve its quality); and 4) combining (chemically combining two or more hydrocarbons to produce high-grade gasoline).

**Table 2.3-1**
**Descriptions of Key Terms**

| Term | Definition |
|---|---|
| *Alkylation* | A polymerization process uniting olefins and isoparaffins; particularly the reaction of butylene and isobutane using modified hydrofluoric acid as a catalyst to produce a high-octane, low-sensitivity blending agent for gasoline. |
| *Aromatics* | Hydrocarbons that contain one or more benzene rings. Their presence in gasoline has been connected with the formation of VOCs, toxics (i.e., benzene), $NO_x$ and carbon monoxide (CO) in exhaust emissions. |
| *Benzene* | A type of aromatic hydrocarbon containing six carbon and six hydrogen atoms; benzene is identified as a carcinogen and is present in gasoline; benzene reduction in gasoline is part of the new reformulated gasoline specifications. |
| *Blending* | One of the final operations in refining, in which two or more different components are mixed together to obtain the desired range of properties in the finished product. Fuel ethanol will be blended into gasoline as part of this project. |
| *Bottoms* | In general, the higher-boiling residues that are removed from the bottom of a fractionating column. |
| *Butane* | Either of two saturated hydrocarbons, or alkanes, containing four carbon and 10 hydrogen atoms; butane is the most volatile portion of gasoline and occurs in natural gas, petroleum, and refinery gases. Mobil will remove butanes from the gasoline in order to meet the summer RVP requirements. |

**Table 2.3-1 (Continued)**
**Descriptions of Key Terms**

| Term | Definition |
|---|---|
| *Cracking* | The process of breaking down higher molecular weight hydrocarbons to components with smaller molecular weights by the application of heat; cracking in the presence of a suitable catalyst produces an improvement in product yield and quality over simple thermal cracking. |
| *Cx* | The petroleum industry uses a shorthand method of listing hydrocarbon compounds that denotes the number of carbon atoms in the molecule (i.e., Cx); for example, butane is a compound that is comprised of four molecules of carbon and is denoted as C4; generally, the lower the carbon atom number, the lower the boiling point of the product; during the refinery process, the lighter products (which have the lower boiling points) are collected at the higher points or overheads of distillation towers, while the heavy ends are collected at the bottoms of these units. |
| *C5/Light Straight Run* | A refinery stream that could be a mixture of pentanes or hydrocarbons in the C4 to C6 range, with the largest constituent being C5. |
| *DEA* | Diethanol amine, a solvent used to remove hydrogen sulfide ($H_2S$) from refinery streams. |
| *Dimerization* | Process of combining two molecules of the same chemical composition into a larger molecule. |
| *Distribution terminal* | Terminal used to receive products from the refinery (such as gasoline), and distribute them, generally by truck, to retail gasoline stations and other terminals. |
| *Fuel ethanol* | Consists of 95 percent neat (pure) ethanol and five percent denaturant (typically natural gasoline). Mobil will blend fuel ethanol into the base gasoline stock at the distribution terminals. |
| *Fractionation* | Process of separating or isolating components of a mixture. |
| *Heat exchanger* | Refinery equipment used to transfer heat from one medium to another. |
| *Hydrogenation* | Any reaction of hydrogen with an organic compound. |
| *Hydrotreating* | The process of stabilizing petroleum products and/or removing objectionable elements from products or feedstocks by using hydrogen in the presence of catalyst. |

**Table 2.3-1 (Concluded)**
**Descriptions of Key Terms**

| Term | Definition |
|---|---|
| *MTBE* | Methyl tertiary butyl ether; used in gasoline blending to meet the CARB Phase 2 reformulated gasoline specifications for oxygen content; MTBE also raises the octane number of gasoline. |
| *Olefins* | A group of hydrocarbons that contain at least two carbons joined by double bonds; olefins generally do not naturally occur in crude oils, but are formed during processing. Olefins have high ozone reactivity potential and contribute to the reactivity of evaporative emissions. |
| *Oxygen content* | Refers to one of the reformulated gasoline specifications that increases the oxygen content of gasoline to promote more complete gasoline combustion and fewer emissions of CO. |
| *Pentane* | A saturated hydrocarbon, or alkane, containing five carbon and 12 hydrogen atoms; pentanes will be removed from the Mobil gasoline in order to meet the summer RVP requirements. |
| *Reactor* | Refinery vessel in which desired chemical and/or physical changes take place. |
| *Reid vapor pressure* | The vapor pressure of a product determined in a volume of air four times greater than the liquid volume at 100°F. Evaporative emissions of VOCs from gasoline have been reduced substantially by limiting the RVP of motor gasoline during the summer ozone season. |
| *Sidestripper* | A separate distillation tower, usually located alongside the main distillation tower, that is used to remove (or strip out) a specific component (in this case $H_2S$). |
| *Sulfur* | Refinery product generated by conversion of $H_2S$ to elemental sulfur; normally sold for sulfuric acid production or as a fertilizer component. Studies have demonstrated that sulfur, even in small amounts, causes deactivation of motor vehicle catalysts, resulting in increases in emissions of CO, VOCs, and $NO_x$. |
| *T50 distillation* | Temperature at which 50 percent of the hydrocarbons will distill in a standard laboratory test. |
| *T90 distillation* | Temperature at which 90 percent of the hydrocarbons will distill in a standard laboratory test. |

Figure 2.3-1 is a simplified block flow diagram of the existing Torrance Refinery operations. As stated above, the Torrance Refinery produces a variety of products, including gasoline, jet fuel, diesel fuel, petroleum gases, petroleum coke, residual fuel, sulfur and various unfinished intermediate feedstocks. Figure 2.3-1 also lists chemicals/materials and utilities needed to process the crude oil into the petroleum products and some of the key processing units/operations at the facility.

## 2.4 Proposed Project

To meet the CARB Phase 3 specifications, Mobil has developed an overall strategy that consists of a series of modifications at Mobil's Torrance Refinery and distribution terminals. The strategy and proposed modifications at the facilities are discussed in this section. The proposed project is evolving as the engineering and design process proceeds. This project description provides a detailed description of the project components as known at the time of this writing. Any changes to the project not covered in the EIR will undergo additional CEQA analysis.

In order to avoid conflicts that potentially could have environmental consequences, the CARB Phase 3 project will be planned, organized, scheduled, and managed to avoid conflicts between the CARB Phase 3 construction effort and ongoing Torrance Refinery and terminals' operations.

### 2.4.1 Strategy

To meet the CARB Phase 3 specifications, Mobil will replace MTBE with fuel ethanol and implement a number of related modifications at the Torrance Refinery. Mobil will:

- Discontinue importing, storing, and blending MTBE with gasoline and instead, import and store fuel ethanol at the Torrance Refinery. (Fuel ethanol also will be imported directly to the Vernon and Southwestern Terminals);
- Blend fuel ethanol into the gasoline at the distribution terminals (Torrance Loading Rack, Vernon, and Atwood);
- Reduce the RVP of the base gasoline pool by removing additional normal butane and a portion of its C5/LSR content; Mobil's current plans are to ship the removed C5/LSR out of state for storage, and return a portion of it in the winter months when it can be blended into the gasoline;
- Reduce the sulfur content of gasoline and other fuel products by improving the operating efficiency of existing equipment, by segregating streams, and by adding new sulfur treatment capacity; and

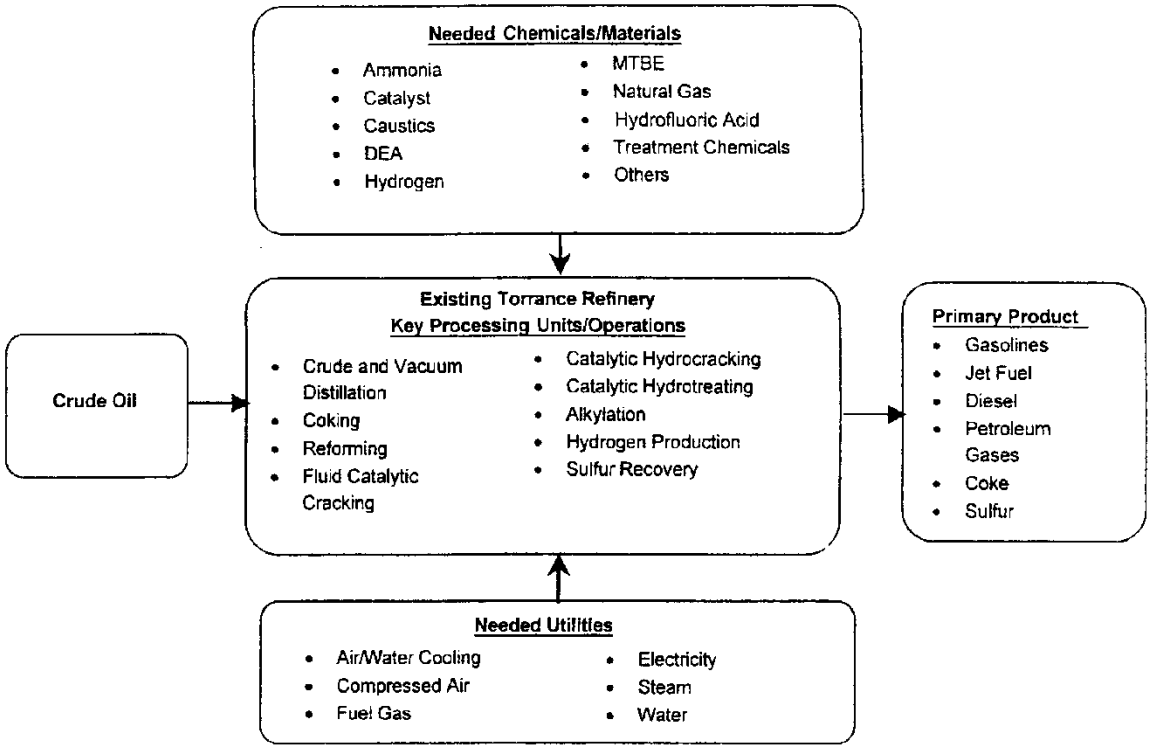



**Figure 2.3-1 Simplified Block Diagram – Mobil Torrance Refinery**

- Reduce the benzene content of gasoline by modifying blending procedures to reduce the amount of benzene-containing materials blended into the gasoline. No physical changes are needed to Torrance Refinery facilities or equipment to meet this objective.

As a result of the CARB Phase 3 project, Mobil will produce additional (i.e., quantities greater than are currently produced) gasoline product and base stock that do not meet CARB Phase 3 specifications. Since this gasoline product/base stock cannot be sold in California, Mobil plans to export it to locations outside California. The additional gasoline product/base stock will be sent by existing pipeline to SWT, where it will be loaded aboard marine vessels for export. Two marine tankers per month are expected to handle this gasoline export; no modifications of facilities would be required for this activity.

### 2.4.2 Torrance Refinery Modifications

The proposed project at the Torrance Refinery consists of new equipment and modifications to existing processing units. Table 2.4-1 identifies the equipment and facilities that either will be installed or altered. Figure 2.4-1 shows the locations of the new and modified facilities and equipment. The changes at the Torrance Refinery can be categorized into the following three areas, each of which is discussed in the following subsections:

- Elimination of MTBE blending, and instead importing and storing fuel ethanol for blending
- Gasoline vapor pressure reduction/light ends management
- Gasoline sulfur reduction

#### 2.4.2.1 Discontinue MTBE Blending/Begin Importing and Storing Fuel Ethanol

MTBE currently is used to blend oxygen into gasoline. It is imported into southern California by marine tanker, and then shipped to the Torrance Refinery by pipeline. MTBE blending will cease and be replaced by fuel ethanol blending at the distribution terminals. The project elements required to accomplish this change are discussed in the following paragraphs.

**Table 2.4-1**
**Proposed Refinery Modifications and New Equipment**

| Primary Driving Force | Equipment/Process | Nature of Change |
|---|---|---|
| 1. Discontinue MTBE Blending/Begin Importing and Storing Fuel Ethanol | Fuel Ethanol Storage and Railcar Unloading Facilities | |
| | • Upgrades to two existing storage tanks | Modifications |
| | • Fuel ethanol storage tank, rail spur, pumps | New Equipment |
| | Light Ends Component Segregation | |
| | • Piping | New Equipment |
| 2. Gasoline Vapor Pressure Reduction/Light Ends Management | Butane/Pentane (C4/C5) Splitter | |
| | • Debutanizer – Trays, pumps | Modifications |
| | • C4/C5 Splitter | New Equipment |
| | • Bender Catalyst Towers, Bender Preheater, Other support equipment | Demolition |
| | Deisobutanizer Upgrades | |
| | • Tray replacement | Modifications |
| | • Reboiler, overhead condenser, heat exchanger, pumps, Alumina Tower | New Equipment |
| | C5/LSR Storage | |
| | • Spheroid tanks, pumps, blanket gas system, vapor recovery line | New Equipment |
| | Rail Loading and Unloading Facilities | |
| | • Existing LPG rack | Modifications |
| | • Rail spur, piping, spill containment | New Equipment |
| 3. Gasoline Sulfur Reduction | Saturated Gas Plant Feed Recovery Compressor Upgrades | |
| | • Compressors, absorber internals | Modifications |
| | • Electric substation | New Equipment |
| | Unsaturated Gas Plant Side Stripper | |
| | • Reboiler, heat exchanger, pumps, air cooler | New Equipment |
| | Merox System Upgrades | |
| | • Merichem Unit, 2nd Stage Naphtha Wash | New Equipment |

Fuel Ethanol Storage and Railcar Unloading Facilities

New railcar unloading facilities and new or refurbished storage tanks will be installed. In addition, the Torrance Loading Rack will be expanded to load fuel ethanol into trucks for transport to other distribution terminals (see Section 2.4.3.4, which describes proposed project activities at the Torrance Loading Rack).

Two existing 20,000-barrel (bbl) cone roof tanks that are currently out of service will be upgraded to store fuel ethanol at the Torrance Refinery. The upgrades include installation of double tank bottoms with leak detection, internal pontoon floating roofs, firewater/foam injection, new tank gauging, and new tank nozzles to match the new piping configuration. One new 40,000-bbl capacity tank of similar design will be constructed west of the existing tanks (see Figure 2.4-1). The new tank will be fitted with a geodesic dome, while the existing tanks may reuse their existing cone roofs or be retrofitted with geodesic dome roofs (a geodesic dome is a dome constructed mostly of light, straight elements, mostly in tension).

Unloading fuel ethanol from railcars will require the construction of a new rail spur within the refinery and a new six-spot unloading facility. Railcars will be bottom-unloaded into a main header located at or below grade that will discharge via two new 370-gallons per minute (gpm) railcar unloading pumps. These unloading pumps will discharge to fuel ethanol storage.

The new railcar unloading facilities will be located west of Prairie Avenue, as shown on Figure 2.4-1. Two new 140-gpm pumps for truck blending and two new 600-gpm pumps for truck loading also will be installed at the Torrance Loading Rack. All of these new systems will be equipped with spill containment.

Light Ends Component Segregation

Lightened hydrocarbons (butane and pentane) must be removed from the base gasoline stack to meet CARB Phase 3 vapor pressure requirements. To segregate these removed light ends, Mobil will install a new six-inch pipeline extending to the Torrance Refinery's tank farm where these materials will be stored. The segregated product will be stored in one of the two tanks currently used to store MTBE.

#### 2.4.2.2 Gasoline Vapor Pressure Reduction

The following proposed project components are related to gasoline vapor pressure reduction.

Butane/Pentane (C4/C5) Splitter

This project component consists of several actions to reduce the RVP of the base gasoline pool, as well as maintain the quality of butane available for sale.

A new C4/C5 splitter will be installed to separate pentane from the input streams coming from other process units (see Figure 2.4-1). The pentane removed by the new splitter will be pumped to new storage facilities. The overhead liquids (ethane, propane, and butane) will be pumped to the inlet of the Debutanizer.

The Debutanizer will be modified by removing all blanking strips from the internal trays in order to handle the increased flow. (A blanking strip is a metal strip used to cover an opening in a distillation tray in order to regulate the internal vapor and liquid flow rates.) Two pumps will be retrofitted with new impellers to increase the flow of overhead liquids to the existing Merox™ Unit. Idle Bender Catalyst Towers, Bender Preheater, and other support equipment currently exist at the site of the proposed new splitter, and will be demolished.

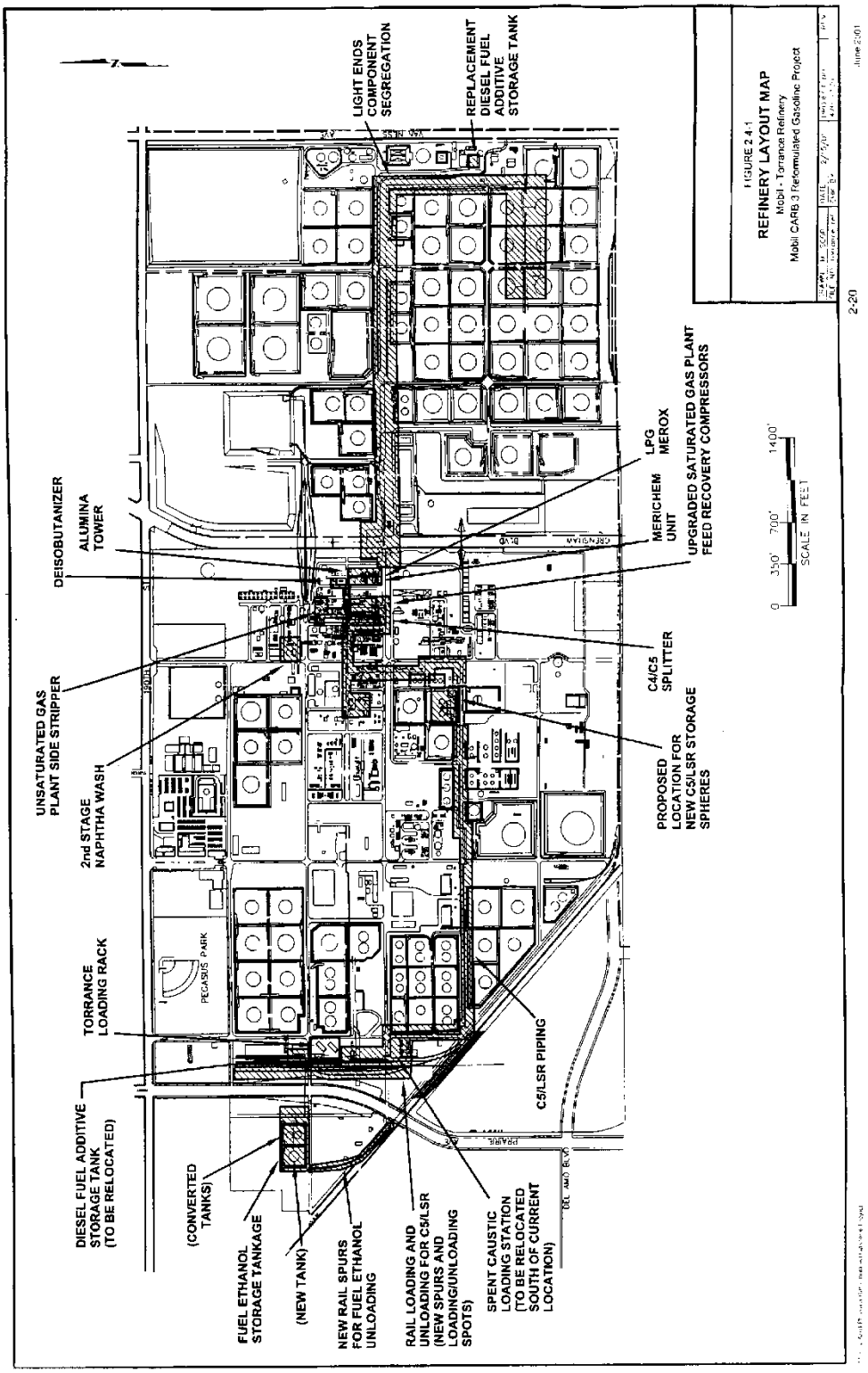
Deisobutanizer Upgrades

The existing Deisobutanizer Tower will be upgraded by replacing bottom valve trays with high performance trays. A new reboiler, overhead condenser, and bottoms cooler will be installed in parallel to the existing equipment. New overhead reflux pumps will also be added. The purpose of these modifications is to maintain the quality of butane sent to storage.

The final modifications and additions that will be made to maintain butane quality are to install a new Alumina Tower in series to the existing tower, and to install two new booster pumps. Alumina is used to remove most of the fluorides present in the butane discharged from the Alkylation Unit. By installing an additional unit, alumina treatment can continue while the spent alumina bed is replaced.

C5/LSR Storage

Reducing the RVP of the base gasoline pool is expected to generate 3,000 to 4,000 barrels per day of C5/LSR. The handling of C5/LSR will require new spheroid tank storage and expansion of the existing LPG railcar facilities for both C5/LSR loading and unloading. Current plans are to ship the removed C5/LSR to an existing facility outside California in the summer, and to bring it back to the Torrance Refinery in the winter when it can be used for blending.


LIGHT ENDS COMPONENT SEGREGATION
REPLACEMENT DIESEL FUEL ADDITIVE STORAGE TANK
DEISOBUTANIZER ALUMINA TOWER
LPG MEROX
MERICHEM UNIT
UPGRADED SATURATED GAS PLANT FEED RECOVERY COMPRESSORS
UNSATURATED GAS PLANT SIDE STRIPPER
2nd STAGE NAPHTHA WASH
C4/C5 SPLITTER
PROPOSED LOCATION FOR NEW C5/LSR STORAGE SPHERES
TORRANCE LOADING RACK
C5/LSR PIPING
DIESEL FUEL ADDITIVE STORAGE TANK (TO BE RELOCATED)
(CONVERTED TANKS)
FUEL ETHANOL STORAGE TANKAGE
(NEW TANK)
NEW RAIL SPURS FOR FUEL ETHANOL UNLOADING
RAIL LOADING AND UNLOADING FOR C5/LSR (NEW SPURS AND LOADING/UNLOADING SPOTS)
SPENT CAUSTIC LOADING STATION (TO BE RELOCATED SOUTH OF CURRENT LOCATION)
PEGASUS PARK
0 350' 700' 1400'
SCALE IN FEET
FIGURE 2.4-1
REFINERY LAYOUT MAP
Mobil - Torrance Refinery
Mobil CARB 3 Reformulated Gasoline Project
2-20

Two new 10,000-bbl (working capacity) spheroid tanks will be constructed at the Torrance Refinery to provide the necessary storage capacity for C5/LSR (see Figure 2.4-1). Construction of the new spheroid tanks is proposed at the site of an out-of-service tank that can no longer be used. Tank removal will require cleaning, demolition, and the possible excavation of subsurface soil. Two new transfer pumps will be installed, as well as 2,400 feet of four-inch supply line and 3,600 feet of six-inch transfer line to the new loading/unloading rack. In addition, approximately 3,000 feet of new transfer line will be added between the Torrance Refinery's LPG storage area and blending facilities to support the C5/LSR blending activities in the winter.

In addition to these proposed piping and storage additions, the existing six-inch pipeline line that serves the large "pumpkin" spheroid and blending pad located east of Crenshaw Boulevard will be dedicated to C5/LSR service. The 51,000-bbl spheroid is currently designed to hold butane. In converting to storage of less volatile C5/LSR, the tank's existing liquid refrigeration system is not required to control emissions of C5/LSR. Emissions will be controlled by adding a blanket gas system to the spheroid and by venting all releases to flare or to the existing vapor recovery system.

Rail Loading and Unloading Facilities

For the loading and unloading of C5/LSR onto railcars, four new spots will be added to the existing LPG rack. Each loading/unloading spot will be equipped with a pressurizing line, relief line, and vapor recovery line. The C5/LSR loading area will include spill containment. Propane vapor from the existing system will be used to pressurize the railcars during unloading. The existing vapor recovery system will be used to depressurize the railcars after unloading and to control C5/LSR emissions during loading. A new vapor recovery line will be installed in parallel with the existing line to increase vapor recovery capacity. Two new transfer pumps will be installed at the rack for pumping C5/LSR from the railcars to the new tank spheroids.

The upgraded railcar loading/unloading facilities will require relocating a small spent caustic loading station, and a 1,500-bbl tank used for storage of a diesel fuel additive (octylnitrate). The spent caustic loading station will be relocated slightly south of its existing location and will use the existing tanks and pumps. The diesel fuel additive tank will be demolished and a single 300-bbl replacement tank installed on a new 20- by 40-foot pad (with containment) at a location in the eastern portion of the Torrance site.

#### 2.4.2.3 Gasoline Sulfur Reduction

The following proposed project components relate to gasoline sulfur reduction.

Compressor Upgrades

This project component increases the capacity to feed crude tower overhead gas to the Saturated Gas Plant and reduces the discharge of overhead gas to the Unsaturated Gas Plant. The benefit of this modification is that the Saturated Gas Plant has additional sulfur removal capacity available to reduce the sulfur content of this stream and thus reduce sulfur content of the gasoline.

To obtain this capacity increase, two compressors will be modified. Anticipated changes for one of these (a positive displacement compressor) include a larger motor, increased compressor cylinder size and upgraded cylinder valving, and the addition of more interstage cooler surface area. Anticipated changes for the other compressor (a centrifugal compressor) include a larger motor and internal modifications, such as a rebuilt rotor, new balance pistons, new set of shaft sleeves, new inlet and interstage diaphragms, and new seals. The larger compressor motors will necessitate a new electric substation (consisting of two 2,500 kilovolt per ampere transformers), with a new primary feeder from the nearby Southern California Edison yard.

Given the increase in overhead gas to the Saturated Gas Plant, tower internals (i.e., new high performance trays) of the existing Isobutane Absorber will be modified in order to maintain the existing level of performance.

Unsaturated Gas Plant Sidestripper

The new sidestripper for the Unsaturated Gas Plant Rerun Tower (see Figure 2.4-1) will help remove residual $H_2S$ to less than one ppm from a mid-cut cracked naphtha. In addition to the sidestripper, the project will require the installation of a new reboiler, bottoms cooler, two pumps, and an air cooler. The stripped naphtha will be sent to an existing storage tank for subsequent sale or use.

Merox™ (2nd Stage Merox Naphtha Wash and New Merichem™ Unit)

To reduce the amount of sulfur entering the Alkylation Unit, a second-stage naphtha wash will be added to the existing unsaturated LPG Merox™ Unit. The Merox™ Unit treats the unsaturated propane and butane derived from the Unsaturated Gas Plant. In addition, a new Merichem™ Unit will be installed to treat purchased isobutane. The combined effect of these changes is to reduce the level of mercaptan sulfur contained in the alkylation feed to less than 5.0 ppm by weight.

The unsaturated stream is currently treated in a Merox™ Unit for $H_2S$ and mercaptan removal. Liquid-liquid amine contacting is used for bulk $H_2S$ removal, followed by a caustic wash for further $H_2S$ removal. A circulating caustic stream is then used to extract mercaptan from the unsaturated stream. The mercaptan-rich caustic is sent to the regeneration section where the mercaptans are removed. The caustic is returned to the Merox™ Unit's extraction tower for reuse. To improve

sulfur removal, a second-stage naphtha wash will be installed, consisting of a new caustic/naphtha separator and two new circulating pumps.

A new Merichem™ Unit also will be installed to remove $H_2S$ and mercaptans from the purchased isobutane stream. This unit will operate similarly to the existing Merox™ Unit, except that all $H_2S$ removal will be performed via caustic washing as opposed to liquid amine. A circulating caustic stream is used to extract mercaptans. The mercaptan-rich caustic is regenerated in the Merox™ Unit via air oxidation and two-stage naphtha wash.

### 2.4.3 Terminal Modifications

As mentioned in Section 2.1, fuel ethanol's affinity for water requires that blending activities be conducted at the distribution terminals. Because fuel ethanol is not produced commercially in southern California, it will be transported to the Los Angeles area by marine tanker and/or rail.

Under the marine transport mode, fuel ethanol will arrive via marine vessel at SWT and be stored there. From SWT, fuel ethanol will be transported via tanker truck to the Torrance facilities, Vernon and Atwood Terminals, and outlying third-party terminals, such as those in Colton and San Diego.

Under the rail transport scenario, fuel ethanol will be imported by rail to new facilities constructed at the Torrance Refinery (see Section 2.4.2) and the Vernon Terminal.

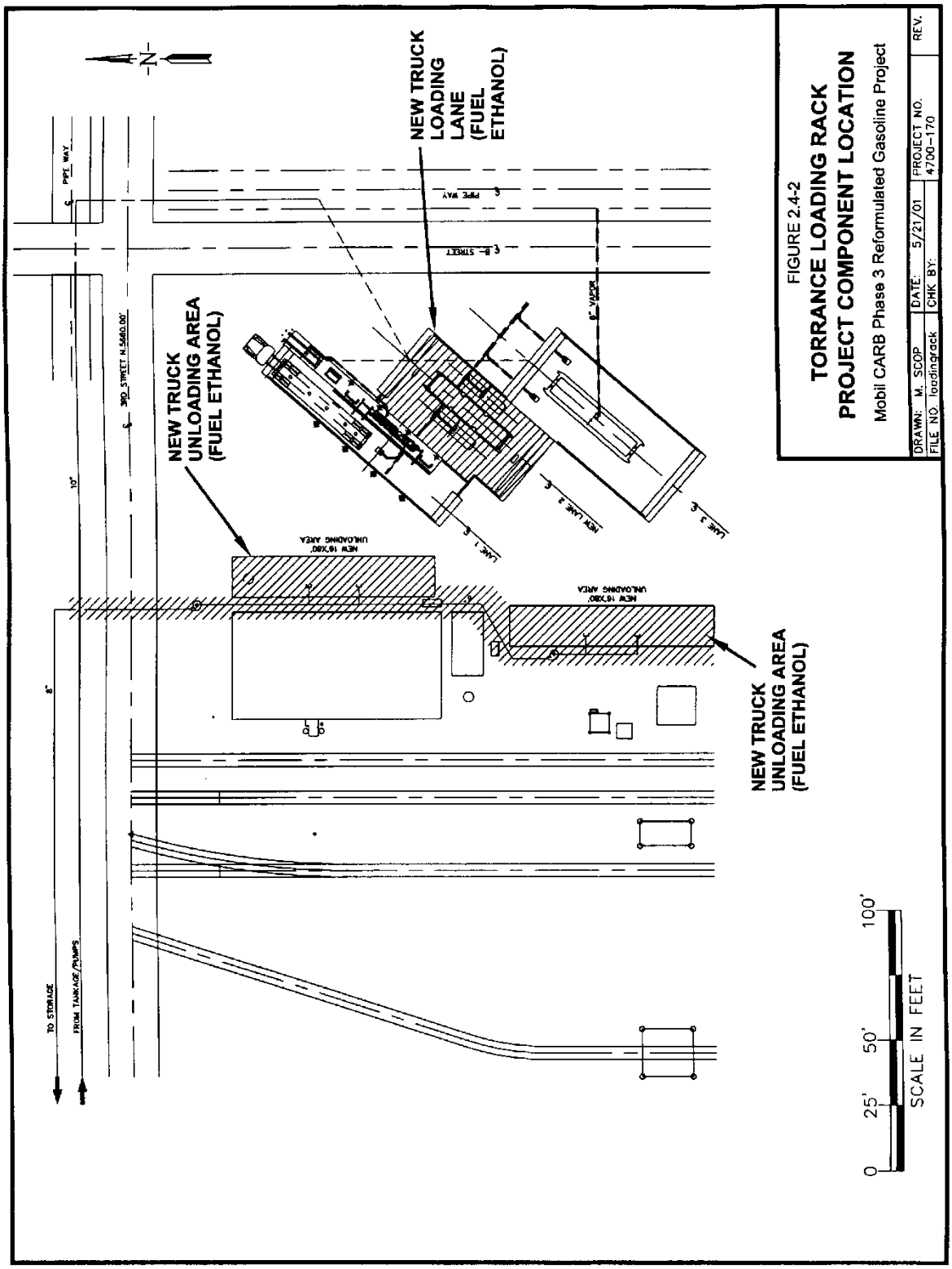
Table 2.4-2 presents an overview of the various changes that are required at the Mobil terminals to meet the project objectives of producing and distributing gasoline that contains ethanol and meets CARB Phase 3 specifications.

**Table 2.4-2**
**Proposed Terminal Changes**

| Terminal | Proposed Change and/or Addition |
|---|---|
| Torrance Loading Rack | • Construction of a new fuel ethanol loading lane at an existing truck loading rack<br>• Construction of a new tanker truck unloading rack for fuel ethanol<br>• Modifications to two existing truck loading racks for fuel ethanol blending<br>• Construction of a new vapor destruction unit |
| Vernon Terminal | • Conversion of two existing gasoline storage tanks (20,000 and 60,000-bbl) to store fuel ethanol<br>• Installation of new 50,000-bbl tank to store gasoline<br>• Modification of a rail spur to include a new fuel ethanol unloading rack<br>• Construction of a new fuel ethanol tanker truck loading lane at an existing loading rack<br>• Construction of a new fuel ethanol tanker truck unloading rack<br>• Modifications to an existing tanker truck loading rack for fuel ethanol blending |
| Atwood Terminal | • Construction of a new 15,000-bbl fuel ethanol storage tank<br>• Construction of a new truck unloading rack for fuel ethanol<br>• Modifications to an existing two-lane truck loading rack for fuel ethanol blending |
| Southwestern Terminal | • Conversion of two existing tanks from MTBE to fuel ethanol storage and four existing gasoline storage tanks to also store fuel ethanol<br>• Construction of a new two-lane tanker truck loading rack for fuel ethanol<br>• Construction of a new vapor destruction unit |

#### 2.4.3.1 Torrance Loading Rack

Up to six railcar loads or 10 tanker truckloads of fuel ethanol will be brought to the Torrance facilities each day by railcar and/or tanker truck. Figure 2.4-2 shows the locations of the proposed modifications and additions at the Torrance Loading Rack. A new truck unloading rack will be constructed, which will allow for two trucks to unload simultaneously. Piping will be installed between the unloading rack and the fuel ethanol storage tanks. The unloading area will be built with a canopy and containment pad. The new railcar unloading facilities that will be constructed at the Torrance facilities are discussed in Section 2.4.2.


NEW TRUCK LOADING LANE (FUEL ETHANOL)
NEW TRUCK UNLOADING AREA (FUEL ETHANOL)
NEW TRUCK UNLOADING AREA (FUEL ETHANOL)
PIPE WAY
B- STREET
360' STREET N.5660.00'
NEW 16'X80' UNLOADING AREA
NEW 16'X80' UNLOADING AREA
TO STORAGE
FROM TANKAGE/PUMPS
N
0
25'
50'
100'
SCALE IN FEET
FIGURE 2.4-2
TORRANCE LOADING RACK
PROJECT COMPONENT LOCATION
Mobil CARB Phase 3 Reformulated Gasoline Project
DRAWN: M. SCOP
DATE: 5/21/01
PROJECT NO. 4700-170
FILE NO: loadingrack
CHK BY:
REV.

A new fuel ethanol truck-loading lane equipped with six-fuel ethanol loading arms will be added between two existing gasoline-loading lanes at an existing rack. Two new pumps and the following associated equipment will also be installed: a canopy, a concrete spill containment area, and new piping and metering equipment. A new vapor destruction unit will be constructed to control fuel ethanol loading emissions at the new loading lane.

Two existing tanker truck-loading racks will be modified as part of the proposed project. The modifications will include new meters and controls for the fuel ethanol blending process. Piping will be installed between the fuel ethanol storage tanks and the loading racks. New lighting will be provided to illuminate the tanker truck loading and unloading areas.

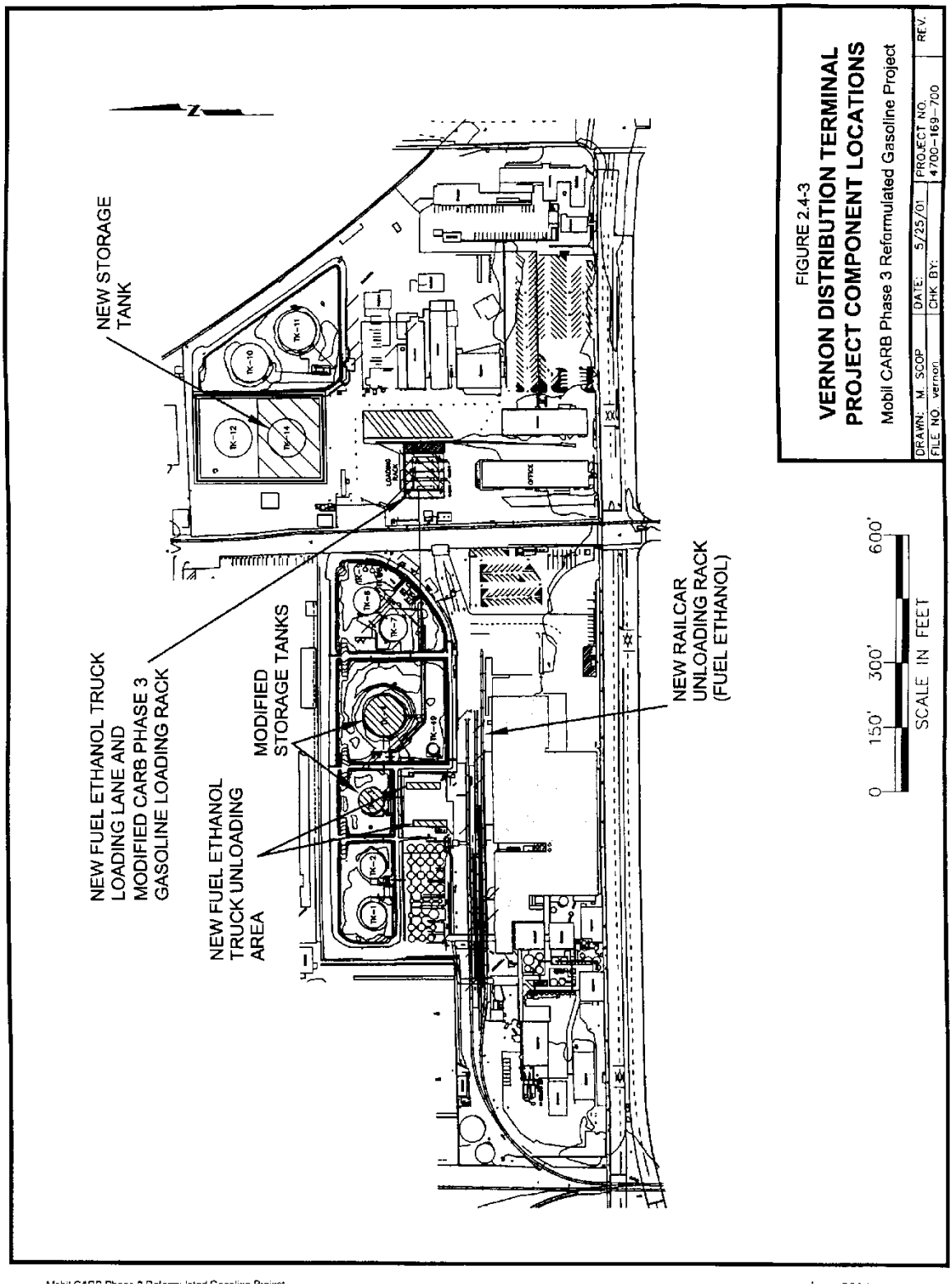
#### 2.4.3.2 Vernon Terminal

Fuel ethanol will be brought to the Vernon Terminal by railcar and tanker truck. Up to 15 railcars or 19 tanker truckloads will bring fuel ethanol to the Vernon Terminal on a daily basis. Figure 2.4-3 shows the locations of proposed additions and modifications at the Vernon Terminal. A new tanker truck unloading rack and a new railcar unloading rack will be installed. The fuel ethanol will be loaded into two existing floating roof tanks (Tank 3 - 20,000 bbl and Tank 4 - 60,000 bbl), which will be converted from gasoline storage to fuel ethanol storage. To offset the loss of gasoline storage capacity from Tanks 3 and 4, a new 50,000-bbl floating roof tank (Tank 14) will be constructed.

The new 50,000-bbl tank installation will include two 1,900-gpm pumps, new receipt piping, and piping from the tank pumps to the existing tank truck loading rack. A new 150-square-foot containment pad will be constructed for the two pumps. In addition, the gasoline receipt line will be modified and the fire protection system extended to the new tank.

The new railcar unloading rack will include two new pumps (each with an unloading rate of 2,000 gpm), piping, and fittings. The piping will connect the loading rack to Tanks 3 and 4. New railcar track pans will be installed in association with the loading rack, which will be located in an existing paved area.

A new fuel ethanol truck loading rack will be constructed. Each position will have a pump with an unloading rate of 650 gpm. Additional piping and metering equipment also will be installed.


NEW STORAGE TANK
NEW FUEL ETHANOL TRUCK LOADING LANE AND MODIFIED CARB PHASE 3 GASOLINE LOADING RACK
NEW FUEL ETHANOL TRUCK UNLOADING AREA
MODIFIED STORAGE TANKS
NEW RAILCAR UNLOADING RACK (FUEL ETHANOL)
0 150' 300' 600'
SCALE IN FEET
FIGURE 2.4-3
VERNON DISTRIBUTION TERMINAL
PROJECT COMPONENT LOCATIONS
Mobil CARB Phase 3 Reformulated Gasoline Project
DRAWN: M. SCOP
FILE NO. vernon
DATE: 5/25/01
CHK BY:
PROJECT NO. 4700-169-700
REV.

A new fuel ethanol truck-loading lane will be installed at an existing loading rack. The new truck-loading lane will consist of a loading bay with six arms, two pumps rated at 1,000 gpm, and a canopy. An existing vapor recovery unit and combustor will be used to control fuel ethanol emissions. Additional piping, metering equipment, and loading control devices will be installed. An existing four-position truck-loading rack will blend fuel ethanol as the tanker trucks are loaded. New piping, metering equipment, and loading control devices will be installed to allow for the proper blending of ethanol and gasoline directly into the tanker trucks.

Up to 17 truckloads per day of fuel ethanol will be shipped from Vernon to other distribution terminals for blending at these facilities.

Lighting will be installed for the tanker truck loading and unloading areas, the new tank, and the railcar unloading rack.

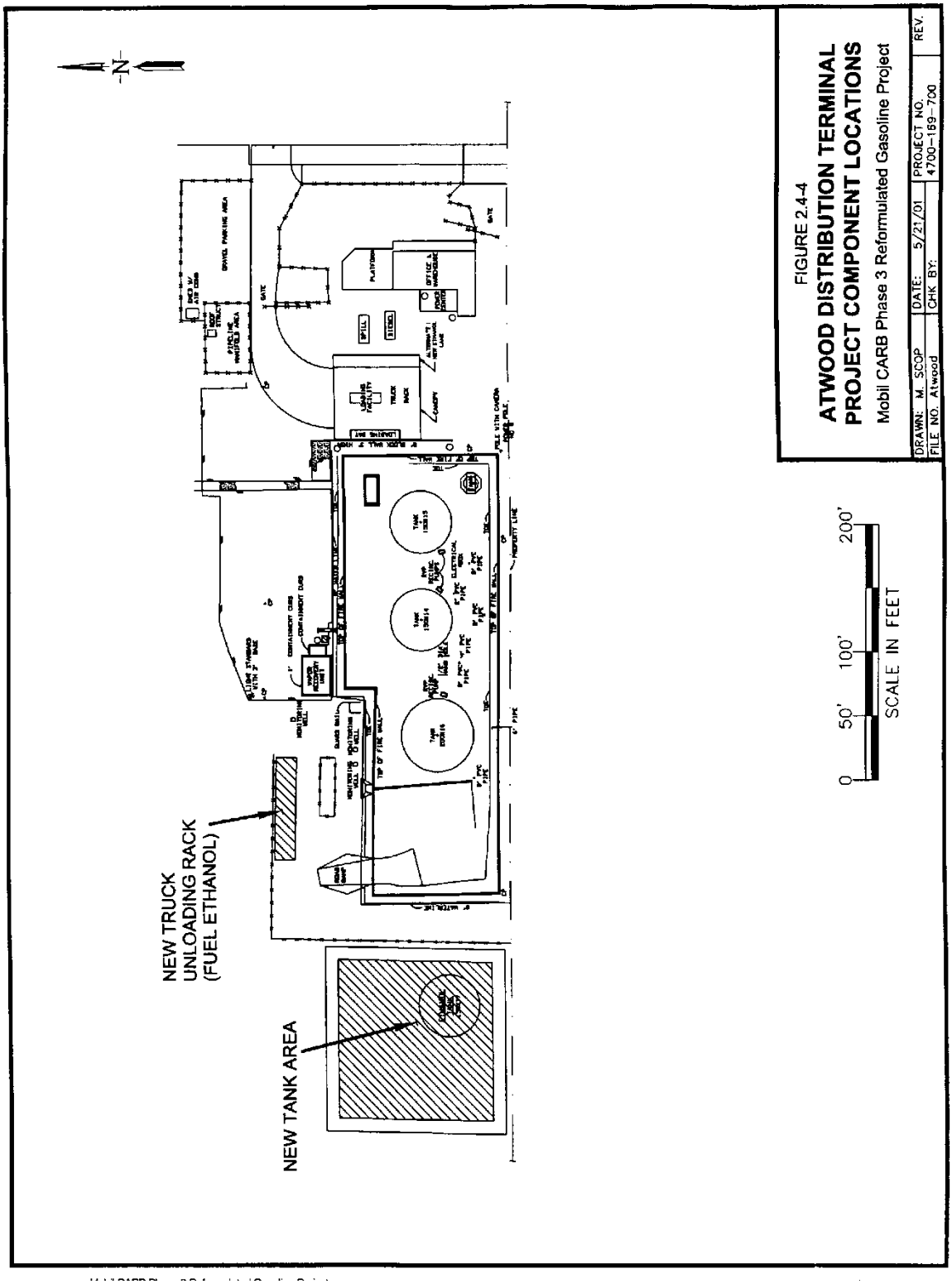
#### 2.4.3.3 Atwood Terminal

Fuel ethanol will be transported by tanker truck to the Atwood Terminal from the SWT or the Vernon Terminal. Approximately eight trucks per day of fuel ethanol will be received at the Atwood Terminal. Figure 2.4-4 shows the locations of the proposed additions and modifications at Atwood. The fuel ethanol will be unloaded, using a new unloading rack, into a new 15,000-bbl internal floating roof tank, which will be surrounded by a new containment dike. An existing two-lane loading rack will be modified to blend fuel ethanol into the gasoline. The gasoline containing fuel ethanol will be transported via tanker truck to retail gasoline stations.

A new tank and associated containment dike will be constructed. Other new equipment includes a new 850-gpm gasoline-loading rack pump, receipt piping from the tanker truck unloading area, and piping to the existing tanker truck loading rack.

A new two-lane tank truck unloading rack will be constructed and equipped with two new pumps rated for 400 gpm. Associated meters, strainers, and piping will also be installed. A new concrete foundation, approximately 5,000 square feet in size, will be constructed at the unloading station for containment and storage.

The existing tank truck loading rack will be modified to allow for fuel ethanol blending. Modifying the existing tank truck loading rack will include installing new piping, pumps, metering equipment, and electronic control devices.


N
NEW TRUCK
UNLOADING RACK
(FUEL ETHANOL)
NEW TANK AREA
0
50'
100'
200'
SCALE IN FEET
FIGURE 2.4-4
ATWOOD DISTRIBUTION TERMINAL
PROJECT COMPONENT LOCATIONS
Mobil CARB Phase 3 Reformulated Gasoline Project
DRAWN: M. SCOP
DATE: 5/21/01
PROJECT NO. 4700-169-700
FILE NO. Atwood
CHK BY:
REV.

New area lighting and a drainage system will be installed at the truck off-loading area and the new aboveground storage tank area.

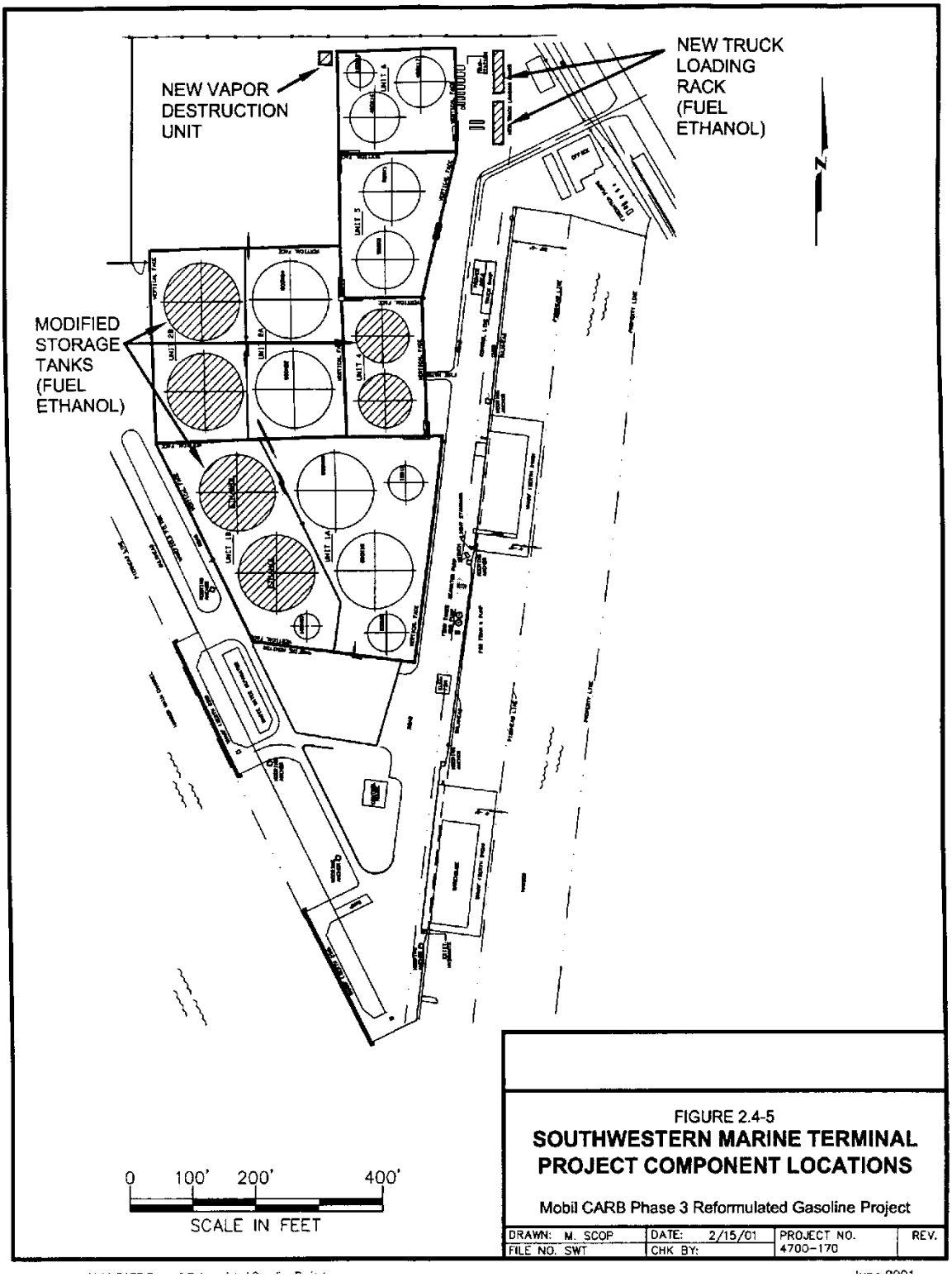
#### 2.4.3.4 Southwestern Terminal

Thirty-four marine tanker trips per year (up to three marine tankers per month) will transport fuel ethanol to SWT. Currently, Mobil imports 30 marine tanker loads per year (two to three tankers per month) of MTBE through SWT; these MTBE shipments will be discontinued. Mobil also plans to export an estimated 24 tanker loads per year (two tankers per month) of non-CARB gasoline through the facility. In total, including fuel ethanol imports, discontinuing MTBE imports, and exporting non-CARB Phase 3 gasoline, there will be 28 additional tanker calls per year at SWT, an average of slightly more than two additional tanker calls per month. The gasoline export will require no facility modifications.

Figure 2.4-5 depicts the locations of proposed facility and equipment modifications at SWT. The fuel ethanol will be unloaded into two existing 80,000-bbl floating roof storage tanks, which will be converted from MTBE service to ethanol service. In addition, Mobil will convert four existing gasoline storage tanks (two 80,000-bbl tanks and two 40,000-bbl tanks) to also store fuel ethanol. Tanks that are modified to also store fuel ethanol will have the associated piping modified and the needed pumps added for transfer operations.

A new two-lane tanker truck loading rack will be constructed to load fuel ethanol for shipment to the Vernon Terminal, Atwood Terminal, Torrance Loading Rack, and outlying third-party terminals. The loading rack will be located within an existing asphalt parking lot. New 1,200-gpm loading pumps, meters, controls and canopies will be installed in association with the loading racks. A new vapor combustor and associated concrete pad/containment area will be installed to control fuel ethanol emissions. New piping will be installed from the new truck loading racks to the vapor combustor and from the loading racks to the storage tanks.

A maximum of 46 truckloads per day of fuel ethanol will be shipped from SWT to the various distribution terminals.


NEW VAPOR DESTRUCTION UNIT
NEW TRUCK LOADING RACK (FUEL ETHANOL)
MODIFIED STORAGE TANKS (FUEL ETHANOL)
N
0 100' 200' 400'
SCALE IN FEET
FIGURE 2.4-5
SOUTHWESTERN MARINE TERMINAL
PROJECT COMPONENT LOCATIONS
Mobil CARB Phase 3 Reformulated Gasoline Project
DRAWN: M. SCOP
DATE: 2/15/01
PROJECT NO. 4700-170
REV.
FILE NO. SWT
CHK BY:

## 2.5 Construction

The following section discusses construction activities for the proposed project.

### 2.5.1 Schedule

Figure 2.5-1 presents the overall project construction schedule. As shown, construction of the proposed project at the Torrance Refinery is scheduled to begin in September 2001 and be completed in December 2003. As shown on Figure 2.5-1, the refinery construction will occur in two overlapping phases. The facility will be able to produce CARB Phase 3 gasoline at the end of the first phase, which will be completed in February 2003.

This first phase includes the bulk of proposed project activities (light ends component segregation, debutanizer modifications, deisobutanizer upgrades, C5/LSR splitter and storage, rail loading and unloading facilities, and ethanol storage with truck unloading).

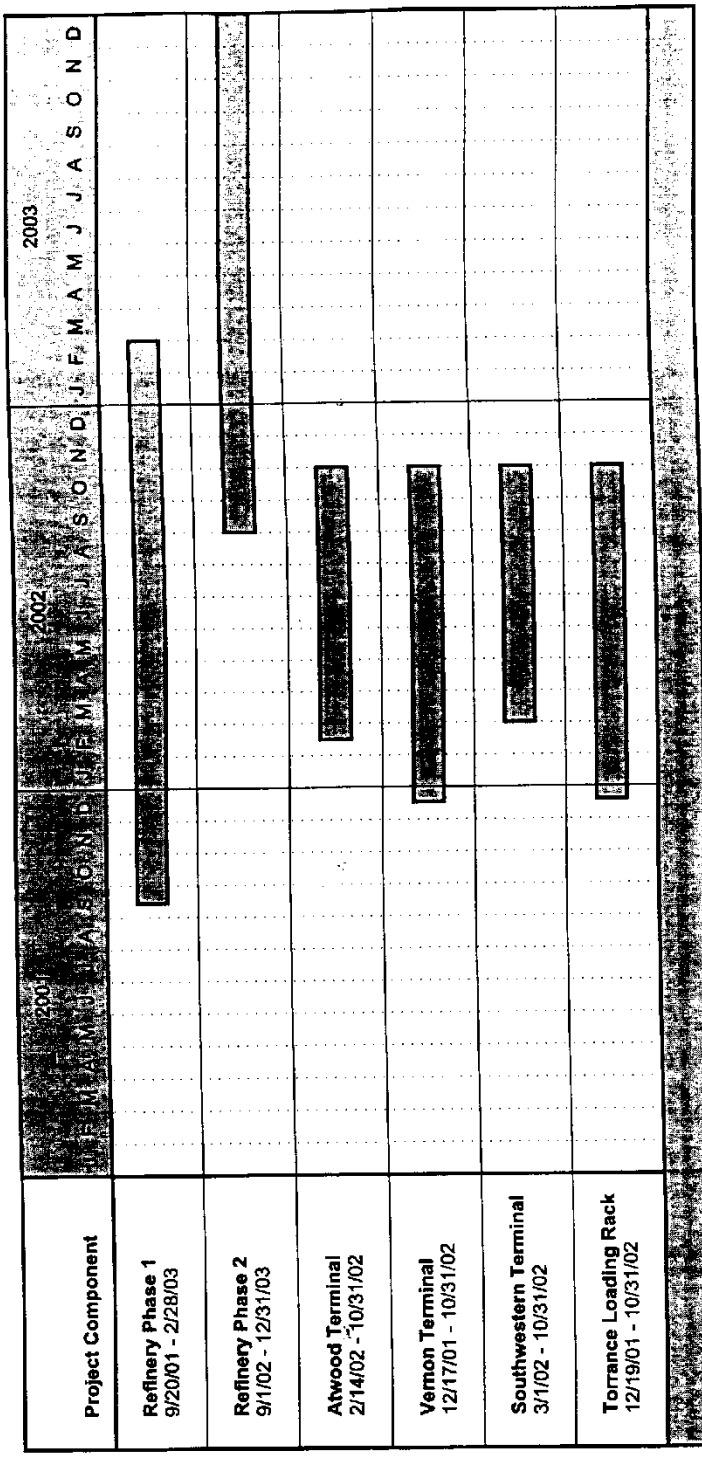
The second phase (primarily the new sidestripper for the Unsaturated Gas Plant Rerun Tower, the Merox™ modifications, and compressor upgrades) can be viewed as potential optimization of the overall process of producing CARB Phase 3 gasoline. Mobil believes that these changes at the Torrance Refinery will help reduce the cost of producing CARB Phase 3 gasoline. However, Mobil believes that they must have operational experience with the practical constraints of blending the new gasoline before they implement these second-phase refinery changes.

Construction activities at the terminals are scheduled to begin in December 2001**,** and are expected to last for 8 to 10 months at each site. Construction activities at the refinery and terminal sites will occur during one eight-hour shift per day, Monday through Friday, from 7:15 a.m. to 3:45 p.m.

### 2.5.2 Labor Force

Construction activities at the Torrance Refinery will require an average of approximately 100 workers for the length of the project, with a peak workforce of approximately 125 workers. The construction activities at each terminal will require an average of between 10 and 25 workers at each terminal over an eight- to 10-month period, with a maximum workforce of 50 workers at any one time.

**Figure 2.5-1 Project Construction Schedule**




Mobil CARB Phase 3 Reformulated Gasoline Project June 2001

### 2.5.3 Construction Plan

Prior to initiating construction, a construction plan will be developed to identify necessary resources, and to define the construction supervisory and technical field organization and staffing levels required for the project. The methods and procedures for sequencing and implementing construction operations will be detailed in the construction plan. A quality control plan and procedures will be developed simultaneously with project requirements, and a project safety program will be developed consistent with federal and state requirements. Fencing, signage, and security will be provided, as appropriate, to reduce the potential for injury or vandalism.

The construction planning documents will encompass issues such as emergency contacts, health and safety protocols, materials safety data sheets, procedures for assessment and disposal of hazardous wastes if encountered during construction, appropriate handling and disposal of hazardous materials, site/equipment security, permits/mitigation and associated compliance, traffic control measures, etc.

Initial construction activities will include mobilization of construction work forces and determining the locations of necessary support facilities (materials laydown areas, equipment storage locations, temporary construction contractor office locations, etc.) required within the boundaries of the project sites. Construction laydown and personnel parking at the various sites will be staged from contractor service areas located within the respective facility boundaries. Construction equipment will include earthmovers, backhoes, light and heavy cranes, portable welding equipment, air compressors, trucks, and pumps.

Cut-and-fill activities will take place at the Torrance Refinery to provide stable foundations for the new pentane storage spheroid, the pentane export railcar loading facility, and the additional gasoline storage. In addition, cut-and-fill activities will be required at the terminals to provide stable foundations for new storage tanks, pipe supports, loading and unloading racks, and vapor combustion units.

Foundation depths will range from six to nine feet below the existing grade. These will be backfilled to the surrounding grade elevation. The installation of underground piping and electrical systems will be sequenced with the excavation and placement of the foundations as appropriate. In addition, it is anticipated that some minor ground preparation will be required at the Torrance Refinery and the terminal sites at the locations of new facilities and equipment. Two pumps at the Atwood Terminal will be installed to a depth of 18 feet below ground surface.

### 2.5.4 Materials and Services

Construction materials furnished in bulk quantities, such as concrete and steel, will be procured locally when possible. Consumable materials, such as construction equipment and fuel, will be procured locally and stored in the designated contractor service areas at the Torrance Refinery and terminal sites. Appropriate measures will be taken when storing, dispensing, and using fuels and other flammable materials to prevent fires and accidental releases.

## 2.6 Operation of Project

The following section discusses operational issues for the proposed project.

### 2.6.1 Labor Force

As a result of the proposed project, Mobil expects to add one new employee at the Torrance Refinery and one new employee at the Vernon Terminal. Employment at the other terminals will be unchanged.

## 2.7 Project Termination and Decommissioning

The estimated lifetime of the proposed project additions and modifications to the Torrance Refinery and terminals is 30 years or more. The appropriate equipment may then be shut down and/or decommissioned, modified, and/or expanded in accordance with the applicable regulations and market conditions prevailing at the time of termination. The form of decommissioning would likely involve a combination of salvage or disposal at an approved landfill, as well as site restoration.

## 2.8 Permits and Approvals

The proposed project will require a number of permits and approvals before construction and operation can commence. Table 2.8-1 outlines the federal, state, and local agencies with approval authority over the project, and the various permits and approvals specific to each agency. The table also lists the primary regulations and requirements that must be met during construction and/or operation.

**Table 2.8-1**
**List of Federal, State, and Local Agency Permits, Approvals, and Other Requirements**

| Agency Permit or Approval | Requirement | Applicability to Project |
|---|---|---|
| **Federal** | | |
| Federal Aviation Administration | *Notice of Proposed Construction or Alteration* (FAA Form 7460-1) to comply with FAA Advisory Circular 70/7460-2l, Proposed Construction or Alteration of Objects that May Affect Navigable Airspace (14 CFR Part 77) | Construction or alteration of a structure more than 200 feet above the ground level at its site or higher than an imaginary surface extending outward and upward at slope of 50:1 for a horizontal distance of 10,000 feet from the nearest runway at Los Angeles International Airport. Construction equipment, such as cranes, are subject to this requirement. |
| Environmental Protection Agency (EPA) | New Source Performance Standards (NSPS) 40 CFR Part 60 General Provisions (Subpart A) | Requires facilities subject to an NSPS to provide notification, maintain and submit records, and in some cases undertake performance tests |
| | NSPS for VOC equipment leaks in Synthetic Organic Chemicals Manufacturing Industry, 40 CFR Part 60 Subpart GGG/VV | Contains performance standards for equipment leaks from fugitive components |
| | Accidental Release Prevention Risk Management Program, 40 CFR 68 (and California Accidental Release Program, Title 19, Div. 2, Chapter 4.5) | Offsite consequence analysis required for pentane, ethanol, and butane |
| | Benzene Waste National Emission Standards for Hazardous Air Pollutants (NESHAPS) 40 CFR, Subpart FF 61 | Reporting and recordkeeping |
| | Reasonably Achievable Control Technologies (RACT) 40 CFR 63 Subpart CC | Requires a startup, shutdown, and malfunction plan for process vents and onsite gas loading |
| | Maximum Achievable Control Technologies (MACT) 40 CFR 63 Subpart RR | Gasoline Distribution |
| | Superfund Amendment and Reauthorization Act (SARA) Title III | Requires reporting offsite releases of hazardous materials |
| | Emergency Planning and Community Right-to-Know (EPCRA), Section 302 | Requires disclosure of hazardous substances being used |

**Table 2.8-1 (Continued)**
**List of Federal, State, and Local Agency Permits, Approvals, and Other Requirements**

| Agency Permit or Approval | Requirement | Applicability to Project |
|---|---|---|
| EPA (Continued) | 40 CFR 414 | Standards for wastewater discharges |
| | Resource Conservation and Recovery Act (RCRA) | Requires proper handling of hazardous waste material |
| | National Pollutant Discharge Elimination System (NPDES) | Requires compliance with Clean Water Act standards for discharges to surface waters |
| | Toxic Substances Control Act | Requires pre-manufacturing notification (if applicable) |
| Department of Transportation (DOT) | Compliance with DOT regulations regarding transportation of hazardous substances (as defined in 49 CFR, Part 172) | Project-related transportation of hazardous substances such as sodium hydroxide and sulfuric acid, as well as hydrocarbons such as pentanes. |
| Occupational Safety and Health Administration (OSHA) | Process Safety Management<br>OSHA 29 CFR 1910 | Worker process safety standards |
| **State of California** | | |
| California Department of Transportation (Caltrans) | Transportation permit | Application to transport overweight, oversize, and wide loads on state highways |
| Health and Safety Code Chapter 6.95 | California Business Plans | Modify/updated plan to reflect changes to quantities/types of hazardous materials |
| Cal-OSHA | Construction-related permits | Excavation, construction, demolition, and tower and crane erection permit |
| Office of Environmental Health Hazard Assessment | Proposition 65 warnings for known exposures to listed chemicals | Required if significant risk identified exceeds regulatory limit |
| Regional Water Quality Control Board (RWQCB) | NPDES permit for stormwater runoff and point source associated with construction activities in addition to new stormwater outfalls | Required for stormwater runoff from construction activities involving 5 acres or more |
| | Remedial action plan | Required if contaminated soil is found and remediated |
| **Local** | | |
| South Coast Air Quality Management District (SCAQMD) | AQMD Rule 403: Fugitive Dust | Contains prohibitions for operations or activities that cause or allow emission of fugitive dust |
| | AQMD Rule 442: Use of Solvents | Limits use of solvents based on photochemical reactivity unless emissions reduced by 85 percent |
| | AQMD Rule 462: Organic Liquid Loading | Requires vapor recovery systems for loading of organic liquids |
| | AQMD Rule 463: Storage of Organic Liquids | Provides design requirements for tanks storing organic liquids |

**Table 2.8-1 (Continued)**
**List of Federal, State, and Local Agency Permits, Approvals, and Other Requirements**

| Agency Permit or Approval | Requirement | Applicability to Project |
|---|---|---|
| SCAQMD (continued) | AQMD Rule 1113: Architectural Coatings | Specifies allowable VOC content of coatings for structures |
| | AQMD Rule 1123: Refinery Process Turnarounds | An approved VOC control plan must be implemented during refinery process turnarounds |
| | AQMD Rule 1166: Excavation of VOC Contaminated Soils | Required if soils to be excavated are impacted by hydrocarbons |
| | AQMD Rule 1173: Fugitive Emissions of VOC | Contains requirements for inspection and maintenance of fugitive VOC emitting components |
| | AQMD Rule 1176: Sumps and Wastewater Separators | A compliance plan is required for VOC control from wastewater systems |
| | AQMD Rule 1158: Storage, Handling, and Transport of Coke, Coal, and Sulfur | Places requirements on handling of solid sulfur to control dust |
| | AQMD Rule 1142: Marine Tank Vessel Operations – Requires emissions controls, limits emissions | Gasoline loading to ships |
| | AQMD Rule 1149: Storage Tank Cleaning and Degassing | Requires certain methods be used for degassing tanks. Tanks converted for other uses will require cleaning |
| | AQMD Rule 1401: New source review of Toxic Air Contaminants | New or modified permit units must apply Best Available Control Technologies – Toxics (T- BACT) if over maximum allowed risk levels |
| | CEQA Review/EIR | AQMD is the lead agency for certification of the proposed project EIR |
| | AB2588: Air Toxics Hot Spots Information and Assessment Act reporting | Periodic updating of air toxic emissions inventories and health risk assessment |
| | AQMD Rule 201: Permit to Construct | Applications are required to construct or modify stationary emissions sources |
| | AQMD Rule 203: Permit to Operate | Applications are required to operate stationary emissions sources |
| | AQMD Rule 212: Standards for Approving Permits | Requires public notification for a "significant project" |
| | AQMD Rule 401: Visible Emissions | Provides limitations to visible emissions from single emission sources |
| | AQMD Rule 402: Nuisance | Discharges which cause a nuisance to the public are prohibited |
| | AQMD Regulation XIII: New Source Review | New source review requirements for non-RECLAIM (Regional Clean Air Incentives market) sources, including BACT, emission offsets, and modeling |

**Table 2.8-1 (Concluded)**
**List of Federal, State, and Local Agency Permits, Approvals, and Other Requirements**

| Agency Permit or Approval | Requirement | Applicability to Project |
|---|---|---|
| SCAQMD (continued) | AQMD Rule 2005: New Source Review for Regional Clean Air Incentives Market (RECLAIM) | New source review requirements for RECLAIM sources. |
| | AQMD Regulation XXX: Title V Operating Permits | Title V air pollution control permit system implemented to comply with the federal Clean Air Act as amended in 1990 |
| Los Angeles County Sanitation Districts | Industrial wastewater discharge permit | Required when discharging into county sewer |
| Los Angeles County Dept. of Public Works | Industrial wastewater discharge approval | Required when discharging into sewer |
| Orange County Sanitation District | Industrial wastewater discharge permit | Required when discharging into county sewer |
| Cities of Torrance, Vernon, Anaheim, and Los Angeles | Harbor Permit | Modification of existing harbor permit issued by Port of Los Angeles |
| | Conditional Use Permits (CUPS) | Modifications of existing CUPs |
| | Sewer connection permit | Required if new connections needed |
| | Building permit | Required for foundations, buildings, etc. |
| | Grading permit | Required prior to grading land |
| | Plumbing permit | General construction permit |
| | Electrical permit | General construction permit |
| | Right-of-Way permit | Required if construction extends into public rights-of-way |
| | Fire department approvals | Modifications/additions of new facilities and equipment |

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