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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
79 SO. NIMITZ HWY., HONOLULU, HAWAII 96813-4898

IN REPLY REFER TO:

HAR-PM
4401.07

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May 23, 2007

OFC. OF ENVIRONMENTAL QUALITY CONTROL

TO: GENEVIEVE SALMONSON, DIRECTOR
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
DEPARTMENT OF HEALTH

FROM: GLENN M. OKIMOTO
HARBORS ADMINISTRATOR

SUBJECT: FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR
GLP ASPHALT LLC KALAELOA ASPHALT TERMINAL
TAX MAP KEY NO.: 1ST DIVISION, 9-1-14: PORTION OF 24
KALAELOA BARBERS POINT HARBOR, HONOULIULI, EWA,
OAHU, HAWAII

The State of Hawaii, Department of Transportation, Harbors Division, has reviewed the comments received during the 30-day public comment period that began on February 23, 2007. The agency has determined that this project will not have significant environmental impacts and has issued a FONSI. Please publish this notice in the next available OEQC Environmental Notice.

We have enclosed a completed OEQC Bulletin Publication Form and FEA-FONSI Notice, and four copies of the Final Environmental Assessment.

Should you or your staff have questions with regard to this matter, please call Mr. Glenn Abe, Supervising Property Manager, at 587-1944.

Encs.

c: Mr. Howard B. West, Ph.D., Vice President, Environ mental Science International

Final
ENVIRONMENTAL ASSESSMENT

GLP Asphalt LLC
Kalaeloa Asphalt Terminal
Kalaeloa Barber's Point Harbor
Kapolei, Hawaii

TMK No. (1) 9-1-014:024

Environmental Science International
56 Oneawa Street, Suite 103
Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

Final
ENVIRONMENTAL ASSESSMENT

GLP Asphalt LLC
Kalaeloa Asphalt Terminal
Kalaeloa Barber's Point Harbor
Kapolei, Hawaii

TMK No. (1) 9-1-014:024

Prepared for:

GLP Asphalt LLC
P.O. Box 78
Honolulu, Hawaii 96810

Prepared by:

Environmental Science International
56 Oneawa Street, Suite 103
Kailua, Hawaii 96734

Project No. 106065

April 27, 2007

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LIST OF ACRONYMS AND ABBREVIATIONS

API	American Petroleum Institute
AST	Above-Ground Storage Tank
bbl	barrels
bgs	below ground surface
BMP	Best Management Practice
BPHAC	Barber's Point Harbor Advisory Council
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
BWS	Board of Water Supply
C&C	City and County of Honolulu
CAB	Clean Air Branch
CAS	Chemical Abstracts Service
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CGP	C&C General Plan
CIP	Campbell Industrial Park
CSR	Corporate Spill Response
CWB	Clean Water Branch
dBA	decibel
DBEDT	Department of Business, Economic Development & Tourism, State of Hawaii
DDC	Department of Design and Construction, City and County of Honolulu
DFM	Department of Facility Maintenance, City and County of Honolulu
DLNR	Department of Land and Natural Resources, State of Hawaii
DOH	Department of Health, State of Hawaii
DOI	Declaration of Inspection
DOT	Department of Transportation, State of Hawaii
DPP	Department of Planning and Permitting, City and County of Honolulu
DPR	Department of Parks and Recreation, City and County of Honolulu
EA	Environmental Assessment
EDP	Ewa Development Plan
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ERL	Hawaii Environmental Response Law
ESI	Environmental Science International, Inc.
°F	degrees Fahrenheit
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
GLP Asphalt	GLP Asphalt LLC
HAP	Hazardous Air Pollutant
HAR	Hawaii Administrative Rules
HECO	Hawaiian Electric Company
HEER	Hazard Evaluation and Emergency Response

HEPCRA	Hawaii Emergency Planning and Community Right-to-Know Act
HFD	Honolulu Fire Department
HMA	Hot Mix Asphalt
HRS	Hawaii Revised Statutes
IWS	Individual Wastewater System
kilovolt	kv
µg/m³	micrograms per cubic meter
MCC	Motor Control Center
MS	Medium-Setting
MSDS	Material Safety Data Sheet
NAPA	National Asphalt Pavement Association
NAQS	National Air Quality Standards
NEPA	National Environmental Policy Act
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
OEQC	Office of Environmental Quality Control, State of Hawaii
OHA	Office of Hawaiian Affairs
OSHA	Occupational Safety and Health Administration
PAH	Polycyclic Aromatic Hydrocarbon
PBQD	Parsons Brinckerhoff Quade & Douglas, Inc.
PENCO	Pacific Environmental Corporation, Inc.
PM_{10}	Particulate Matter <10 microns in diameter
$PM_{2.5}$	Particulate Matter <2.5 microns in diameter
PMA	Polymer-Modified Asphalt
PVC	Polyvinyl Chloride
ROH	Revised Ordinances of Honolulu
RS	Rapid-Setting
SAAQS	State Ambient Air Quality Standards
SBS	styrene-butadiene-styrene
SCP	State Contingency Plan
SHPD	State Historic Preservation Division
SMA	Special Management Area
SO_x	Sulfur Oxides
SPCC	Spill Prevention Control and Countermeasure
SS	Slow-Setting
SWPC	Storm Water Pollution Control
TMK	Tax Map Key
TPH-d	Total Petroleum Hydrocarbons as Diesel Fuel
UIC	Underground Injection Control
USCG	United States Coast Guard
USDA	United State Department of Agriculture
USGS	United States Geological Survey
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

This EA was prepared on behalf of GLP Asphalt for the proposed construction of the GLP Asphalt Kalaeloa Asphalt Terminal. The Terminal will be located at Kalaeloa Barber's Point Harbor, on land owned by the State of Hawaii and identified as TMK No. (1) 9-1-014:024. This assessment was undertaken to determine if potential environmental impacts associated with the development and operation of the Terminal are significant enough to warrant an EIS. The assessment was conducted in accordance with the requirements of the Hawaii EIS Law (HRS 343 and in HAR 11-200).

The applicant for construction of the Terminal is GLP Asphalt. GLP Asphalt was formed by Grace Pacific Corporation and Jas. W. Glover Holding Co., Ltd., for the purposes of constructing and operating the Terminal. The agency most directly involved in the proposed activity is the DOT Harbors Division, who also is the land owner. Therefore, DOT will be the approving agency. There are two recent investigations that are pertinent to, substantially similar to, and relevant to the proposed Terminal project. These are the EIS for the Kalaeloa Barber's Point Harbor basin expansion and the EA for construction of the Hawaiian Cement Terminal. Since the two studies were conducted, no significant changes have occurred at the Terminal site or in the surrounding area, and future development plans for the area are unchanged. Thus, based on the results of the two studies, it is anticipated that the EA prepared for the Terminal will result in a FONSI and that an EIS will not be required.

General Description

The Terminal will occupy approximately 4.36 acres of land, approximately 800 feet southeast of Pier 7. Part of the Terminal will lie within the SMA. The Terminal's primary function will be to store and distribute asphalt cement. The asphalt cement will be shipped to Kalaeloa Barber's Point Harbor by vessel and will be transferred to the Terminal via a heated cargo line that will run from a remote fill port located between Piers 6 and 7 to the Terminal. The asphalt cement will be stored inside the Terminal in two heated ASTs.

The Terminal will consist of (1) the tank yard, (2) the fuel storage area, (3) the heating plant area, (4) the transportation area, and (5) the cargo line area. The tank yard will occupy the southwest side of the Terminal. The transportation area will occupy the northeast side of the Terminal. The fuel storage area and the heating plant area will be located in the east-southeast portion of the tank yard. The cargo line extends from the west corner of the tank yard to a remote fill port located southeast of the junction between Pier 6 and Pier 7 at Kalaeloa Barber's Point Harbor.

The *tank yard* will be surrounded by an asphalt containment berm on the north, west, and south sides and by a concrete wall on the east side. The floor of the tank yard will consist of primarily of asphalt pavement, with a gravel area to allow for infiltration of storm water. The walls of the berm and the paved floor will act as secondary containment for the tank yard. The main tank area includes two 148,000-bbl capacity ASTs that will be used to store asphalt cement brought in by vessel and transported to the tanks via the cargo line. The day tank area includes two 5,000-bbl ASTs that will be used to store asphalt cement for loading into tanker trucks at the

asphalt cement loading rack. The four tanks will be insulated and heated. The distribution manifold area includes the heat exchanger, the asphalt cement pumps, the insulated asphalt cement and heating oil piping, and the distribution manifold. The interior cargo line consists of heated, insulated piping that supplies the main asphalt cement ASTs. An access road that surrounds three sides of the interior of the tank yard will connect the tank yard to the transportation area. The drainage basin consists of an unlined pit that will be filled with coarse gravel and designed to accept storm water runoff from the tank yard and transportation areas. The fuel and heating oil loading area includes pumps and aboveground piping used to pump the product from tanker trucks to the ASTs in the fuel storage area. The fuel loading area will be provided with secondary containment.

The *fuel storage area* includes two steel, single-wall, 8,000-gallon capacity ASTs used to store low-sulfur diesel fuel for powering the hot oil heaters in the heating plant and a steel, single-wall, 5,000-gallon capacity AST used to store extracted heavy bottoms. The area will be provided with secondary containment that consists of concrete walls and a concrete floor.

The *heating plant* includes two diesel fuel-powered hot oil heaters; two electric-powered pumps; a steel, single-wall, 5,000-gallon capacity AST used to store heating oil (an expansion tank); and associated piping. The area will be provided with secondary containment that consists of concrete walls and a concrete floor. The hot oil heaters will be used to heat the heating oil. The pumps will be used to transfer the heating oil from the heating oil storage tank to the heaters and from the heaters throughout the Terminal through the heating oil lines. The hot oil heaters will be operated on an alternating schedule, with only one heater in operation at any given time.

The *transportation area* will be surrounded by an 8-foot high fence on the north, east, and south sides and by a concrete wall on the west side. It contains the roadway, which includes an asphalt-paved loop road. The office building area includes the office building, the maintenance building, and a parking area. The asphalt cement loading area consists of the loading rack and heated, insulated, aboveground piping used to transfer asphalt cement from the day tanks to the loading rack. The loading rack will be provided with secondary containment. The MCC will consist of a building that contains the motor starters and current circuit breakers for the motors at the Terminal.

The *cargo line* will consist of an insulated 12-inch diameter steel pipe that will be used to transport asphalt cement from a remote fill port located between Piers 6 and 7 to the main asphalt cement ASTs in the tank yard. Two heating oil lines, a supply line and a return line, will be attached to the asphalt cement line and run parallel to it. The cargo line will be supported approximately two feet above the ground surface with steel or concrete supports. Secondary containment at the remote fill port will consist of concrete walls and a concrete floor.

Operational Procedures, Training, and Inspections

Depending on the source of the asphalt cement, there could be three or four asphalt deliveries per year (if large transport vessels are used) or up to eight or nine asphalt deliveries per year (if smaller transport vessels are used). The vessels will be inspected by the USDA and a DOI will be completed, in accordance with USCG. Temporary piping will be used to transport asphalt

cement from the vessel to the cargo line. Discharge containments will be placed beneath each hose connection during coupling, uncoupling, and transfer. Loading and transfer operations will be closely supervised by trained Terminal personnel and will follow DOT and USCG requirements. In addition, the main asphalt tanks will be equipped with audible, high-level alarms to prevent overfilling.

During asphalt loading operations at the Terminal, asphalt cement will be pumped from the day tanks to the loading rack, which is designed to load two trucks simultaneously. Loading rack operations will be supervised closely by trained Terminal personnel and will follow DOT requirements. It is anticipated that eight to sixteen trucks will be loaded daily.

Diesel fuel and heating oil will be delivered to the Terminal by tanker truck. The diesel fuel and heating oil will be pumped from tanker trucks to the ASTs in the fuel storage area via aboveground piping. Loading operations will be supervised closely by trained Terminal personnel and will follow DOT requirements.

Storm water controls will be engineered at each principal area within the Terminal to prevent discharges of storm water runoff. The asphalt berm surrounding the west half of the Terminal (the tank yard) and the raised grade of the east half of the terminal (the transportation area) are designed to prevent storm water from entering or leaving the Terminal. The tank yard and transportation area will be designed so that storm water runoff will flow towards the drainage basin in the tank yard, which will be designed to accommodate storm water generated by a 50-year storm. Although storm water discharges are not anticipated, there will be procedures for responding to potential discharges. Should such a discharge occur, storm water sampling will be conducted in accordance with DOH regulations.

Terminal personnel will be trained in the proper use, operation, and maintenance of equipment and materials used at the Terminal. These personnel also will be trained to prevent and respond to spills of asphalt cement and other materials used and stored at the Terminal.

The ASTs, piping, valves, vehicles, machinery, and heavy equipment at the Terminal will be inspected on a regular basis to ensure proper functioning. The Terminal will have an SPCC Plan, in accordance with EPA regulations, and SPCC requirements include inspections. General site inspections will be performed monthly and will be documented. Formal AST and valve leak testing will be performed as required.

Petroleum Products Stored at the Terminal

The principal petroleum products that will be stored at the Terminal are asphalt cement, diesel fuel, heating oil, and extracted heavy bottoms. None of these materials will pose a human health or ecological risk to populations outside the Terminal. The most significant human health and safety concern is direct skin contact for Terminal personnel working with hot asphalt cement, heating oil, and extracted heavy bottoms. These heated materials will be contained in tanks, piping, and equipment. Therefore, the possibility of direct contact is limited essentially to transfer operations, which will be supervised closely by properly equipped, trained personnel. Procedures for handling these materials will be implemented to reduce the potential for risks.

It is possible that, in the future, additional operations involving additional petroleum products could be implemented at the Terminal. Potential future operations at the Terminal include the construction and operation of an asphalt emulsion plant, the use of asphalt modifiers, and the use of alternative fuels. Additional petroleum products associated with these potential future operations include asphalt emulsion, polymers, waxes, biodiesel, and ecodiesel.

Property Information

The Terminal site consists of vacant, undeveloped land. It is approximately 0.3 miles northeast of and above the UIC line, at a surface elevation of approximately 20 to 25 feet amsl. Topographic relief across the site is low. The ground surface consists of coralline sand, coralline gravel, and hard coralline limestone. Vegetation is sparse. There is no residential housing in the immediate vicinity and the majority of the land in the area remains undeveloped.

The Terminal site is not under any environmental enforcement actions. There is no evidence that the site has been used for the storage or handling of hazardous materials or solid waste, including hazardous waste. Also, there is no record of the site ever having any permanent structures, including any that could pose a threat to its environmental integrity.

The nearest surface water body is Kalaeloa Barber's Point Harbor, which is used for handling general cargo, dry bulk cargo, and liquid bulk cargo. The harbor was constructed in 1961 and later expanded so that it could function as a deep-draft port. Kalaeloa Barber's Point Harbor includes several piers, industrial facilities, storage yards, and stockpiles of material dredged from the Kalaeloa Barber's Point Harbor basin.

Environmental Policies, Plans, Permits, and Controls

The construction and operation of the Terminal will be in compliance with required government and community plans, permits, and policies. These include the following.

- Environmental Review Policy - The Hawaii EIS Law (HRS 343 and HAR 11-200).
- Special Management Area - Shoreline development (HRS 205A and Chapter 25, Revised Ordinances of Honolulu [ROH]).
- Oil Pollution Prevention - EPA SPCC requirements (40 CFR 112).
- Facilities Transferring Oil or Hazardous Materials in Bulk - USCG requirements (33 CFR 154 and 156).
- Water Pollution Control - NPDES requirements (HAR 11-54 and HAR 11-55).
- Wastewater System - DOH Wastewater Branch requirements (HAR 11-62).
- Hawaii Emergency Planning and Community Right-to-Know Act - Chemical storage requirements (HRS 128E).
- Hawaii Environmental Response Law - Releases of hazardous substances (HRS 128D and HAR 11-451).
- Air Quality Standards Air - Emissions requirements (HAR 11-59 and HAR 11-60.1).
- Transportation – DOT requirements (49 CFR 130 and 49 CFR 172).

Social and Economic Policies, Plans, and Controls

The construction and operation of the Terminal will be in compliance with government social and economic policies, plans, and controls. These include the following.

- Oahu Commercial Harbors 2020 Master Plan.
- Hawaii State Land Use Controls.
- Oahu General Plan.
- Ewa Development Plan.

Permits and Security

Prior to construction of the Terminal, the required building, excavation, and grading permits will be obtained from the C&C. Fire permits for the ASTs at the Terminal will be obtained from the Honolulu Fire Department prior to the Terminal being put into operation. An 8-foot high chain link fence will surround the perimeter of the Terminal, and barbed wire will line the top of the fence. The steel sliding entrance gate will be locked when the Terminal is not in operation. The Terminal will meet federal and state security requirements, including implementation of a security plan and security procedures.

Potential Land Impacts

Geological impacts are those that affect the surface and subsurface geology, such as surface and subsurface soil, surface sediment, and rock. Agricultural impacts are those that affect the land surface and shallow subsurface in those areas where agricultural activities are conducted. There is no agriculture in the immediate area of Kalaeloa Barber's Point Harbor because the principal lithologic unit in the area, *coral outcrop*, is unsuitable for such use.

Construction of the Terminal is not expected to pose a significant environmental risk to the Terminal site or the surrounding area. The construction will require limited excavation, grading, grubbing, and compaction. It is estimated that the final grade in the transportation area will be approximately 1 to 1.5 feet above the surrounding area outside the Terminal, and the final grade in the tank yard will be approximately 9 feet below the transportation area. Activities conducted once operations commence have the potential to pose a significant environmental risk to the Terminal site and the surrounding area. The potential for adverse environmental impacts exists in the event that there is a release of oil at the Terminal or from the cargo line. Controls that will be implemented to greatly reduce or eliminate the potential for such releases include the following.

- NPDES Storm Water Discharge Permits.
- SPCC Plan.
- Operations Manual and General Response Plan.
- Corporate Spill Response Plan.

Potential Water Impacts

Waters of potential concern in the area of the Terminal include shallow groundwater, coastal waters, and drinking water in the deep, basal aquifer. In the absence of engineered controls and BMPs, shallow groundwater at the Terminal could be impacted should substantial releases of oil

occur. Even the coastal waters at Kalaeloa Barber's Point Harbor could be impacted should releases of oil occur in sufficient quantity. Engineered controls (e.g., secondary containments, diversionary structures) and BMPs (e.g., spill response plans, training) will be implemented to contain possible releases within the Terminal and prevent releases from reaching coastal waters.

Based on the direction and distance to the nearest drinking water well, the thickness of the caprock, and the depth to the basal (drinking water) aquifer, it is highly unlikely that releases of oil or other hazardous substances at or in the vicinity of the Terminal could impact drinking water sources.

Potential Biological Impacts

The biological communities of potential concern in the area of the Terminal are floral, faunal, and marine. In 1991 and 1992, faunal and botanical surveys, respectively, were conducted as part of the EIS for the Kalaeloa Barber's Point Harbor basin expansion. In 1994, a marine environmental assessment was conducted as part of the EIS for the Kalaeloa Barber's Point Harbor basin expansion. Information from those surveys also was used in the EA for the Hawaiian Cement Terminal.

According to the floral, faunal, and marine assessments, there are no threatened, endangered, or endemic floral or faunal species in the area of the Terminal. The floral and faunal communities observed indicate that the Kalaeloa Barber's Point Harbor area is a degraded environment. Biological conditions in the Kalaeloa Barber's Point Harbor area are not considered to have improved since the studies were conducted. Construction activities associated with the development of the Kalaeloa Barber's Point Harbor area have further added to the degradation of the environment through vegetation and habitat removal.

Based on these results, the Terminal will not have a significant impact on the already significantly modified biological conditions in the area. In addition, the vessels transporting asphalt cement to Kalaeloa Barber's Point Harbor will be unballasted, thus eliminating the possibility of non-native species entering Kalaeloa Barber's Point Harbor waters.

Potential Air Quality Impacts

To determine if emissions generated at the Terminal would adversely affect air quality conditions, potential air quality impacts were evaluated. Construction of the Terminal has the potential to generate short-term air emissions in the form of dust. BMPs will be implemented during construction to ensure that dust emissions are minimized during construction. The long-term air quality concerns will be those potential impacts associated with normal operation of the Terminal.

The principal source of emissions will be the two hot oil heaters. The heaters will be operated on an alternating schedule, with only one in operation at any given time. It is anticipated that they will be powered with low-sulfur diesel fuel. However, alternative fuel sources, such as biodiesel and ecodiesel, also are being considered. The anticipated emissions are those associated with the combustion of diesel fuel. The principal concerns are carbon monoxide,

NO_x, SO_x, particulate matter, lead, and VOCs. A secondary source of emissions will be the heated asphalt cement tanks. The emissions associated with asphalt cement will be negligible relative to those from the hot oil heaters. The anticipated emissions are those associated with fumes from the heated asphalt. The principal concerns are VOCs, in particular those that are HAPs.

In August 2006, as part of the new non-covered source air permit application for the Terminal, emissions testing and modeling were conducted to assess the air pollutants that are anticipated to be generated. The results confirm that the hot oil heaters will be the main sources of air pollution at the Terminal. The total HAPs emissions will be below federally regulated levels.

Potential Noise Impacts

To determine if noise generated at the Terminal would adversely affect noise quality in the area, potential noise impacts were evaluated. The six closest areas to Kalaeloa Barber's Point Harbor considered to be sensitive to noise (i.e., residences, parks, and resorts) are West Beach Marina, Ko Olina Lagoons, the future Ko Olina residences, Ko Olina Fairway Townhouses, Honokai Hale/Nanakuli Gardens, and the Kapolei West Expansion area.

Construction of the Terminal has the potential to generate short-term noise impacts. BMPs will be implemented during construction to ensure that noise is minimized during construction. It is anticipated that noise generated during construction of the Terminal will not exceed the maximum permissible sound level.

It is anticipated that noise generated during normal operation of the Terminal will not exceed the maximum permissible sound level. The major noise sources during normal operation of the Terminal will be the hot oil heaters and the pumps used to transfer heating oil and asphalt cement throughout the Terminal. The calculated noise levels at the property boundaries are significantly below the maximum permissible sound level and are unlikely to be recognizable at the property boundary. The actual sound levels measured at the property boundary of the Terminal will be significantly lower due to the presence of attenuating barriers, principally the berm walls.

It is not anticipated that this noise will exceed maximum permissible sound levels at the six nearest noise-sensitive areas, which are 0.43 to 1.3 miles away. The noise levels at these sensitive areas resulting from Terminal operations were calculated using very conservative assumptions. Based on the calculations, the noise levels will be between 18 and 27 dBA. Considering that 40 dBA is typical of a quiet room, the noise generated at the Terminal should not be apparent.

Land Use

The Terminal will not have a significant impact on existing land use in the area. The Terminal site and surrounding land to the north, west, and south are zoned as *I-3 Waterfront Industrial*. The property east of the Terminal is zoned as *Ag-2 General Agriculture*, but there are plans to change the zoning designation to *Industrial*. The area of the Terminal is zoned for industrial use and is consistent with surrounding businesses and facilities. The Terminal will aid in the EDP,

the goal of which is to see continued growth of Kalaeloa Barber's Point Harbor as one of the state's most important industrial areas.

Social and Economic Issues

The Terminal will have a significant positive impact on social and economic growth across the state. It will be one of two bulk asphalt cement storage facilities on Oahu and the largest supplier of asphalt cement in Hawaii. The location, design, and storage capacity of the Terminal will allow asphalt cement to be shipped to the state at a cost that is significantly less than shipping asphalt cement in by inter-modal containers. It will also allow for easy shipment of asphalt cement in inter-modal containers to neighbor islands.

The storage capacity of the Terminal should be sufficient to keep pace with Hawaii's growing infrastructure and construction needs. This, in turn, will allow government and private contractors to keep pace with current and future construction in the state. In addition, it will prevent private contractors from laying off employees due to asphalt shortages caused by refinery issues.

It is not anticipated that employment at the Terminal will have a significant impact on social or economic conditions in the immediate area. The Terminal will employ approximately three people.

Archeological and Historical Sites

The construction and operation of the Terminal will not impact any archeological or historical sites. Based on information developed during previous archeological surveys conducted at Kalaeloa Barber's Point Harbor and the extent of construction and industrial activity in the area, it has been concluded that there are no significant archeological or historical sites at the Terminal site or in the immediate area. While significant archeological and historical sites once existed in the area, they have since been destroyed by previous construction and other activities.

Visual and Aesthetic Appeal

The Terminal will not have a significant impact on the visual and aesthetic appeal of Kalaeloa Barber's Point Harbor. Kalaeloa Barber's Point Harbor already has a heavy industrial appearance and the tallest structures at the Terminal are lower than other structures in the immediate vicinity (i.e., the Hawaiian Cement ASTs). The outsides of the tanks will be covered with approximately 4-inch thick insulation contained within an aluminum outer shell. The external aluminum shell will give the tanks an aesthetic, finished appearance.

Recreational Activities and Areas

The construction and operation of the Terminal will not have an adverse impact on current or future recreational activities in the area. There are no nearby recreational activities or areas and there are no plans for such areas to be constructed in the future. As contained in the EDP, the Kalaeloa Barber's Point Harbor area and the area surrounding the Terminal have been designated for future industrial development.

Transportation

Traffic associated with the Terminal will not adversely affect traffic conditions in the area. Daily vehicle traffic to and from the Terminal will consist of an average of 12 trucks and the commuter traffic generated by the three anticipated Terminal employees. The amount of vehicular traffic associated with the Terminal will be similar to that associated with the nearby former Grace Pacific Sand Plant. Thus, there should be no net increase in Kalaeloa Barber's Point Harbor traffic. Also, the traffic associated with the former Sand Plant passed through the access routes from the H-1 Freeway and Farrington Highway. Thus, there should be no net increase in traffic along the main access routes to CIP and Kalaeloa Barber's Point Harbor. In addition, the access roads to the Terminal are designed for heavy trucks.

Utilities

The Terminal will not significantly impact utility use in the area. Water use will be minimal and primarily for housekeeping purposes. The power requirements for the Terminal are not large. GLP Asphalt has met with HECO and has determined that HECO will be able to provide the Terminal with the required utility needs. Water utilities in the area include a four-inch water line and a twelve-inch water line, both of which are located east of the Terminal, along John Wayne Avenue. Because there is no municipal sewer system that services Kalaeloa Barber's Point Harbor, the Terminal will utilize a septic tank or aerobic unit with absorption bed or seepage pit as disposal to handle wastewater, similar to other facilities at the harbor. The seepage pit and leach field will be designed in accordance with HAR 11-62. It is anticipated that wastewater generated at the Terminal will be minimal.

Consultation Activities

In preparing the EA, consultation meetings were held with federal and state agencies. In addition, neighboring facilities and community groups also were contacted. The following parties were contacted or attempts were made to contact them.

- State of Hawaii Department of Transportation, Harbors Division.
- City and County of Honolulu Department of Planning and Permitting.
- State of Hawaii Department of Health Clean Water Branch.
- Environmental Protection Agency.
- United States Coast Guard.
- PENCO.
- Hawaiian Cement.
- Hawaiian Electric Company.
- The Honolulu Fire Department.
- Barber's Point Harbor Advisory Council.
- The Office of Hawaiian Affairs.
- The SHPD of the DLNR.
- The Center for Hawaiian Studies, University of Hawaii.
- The Department of Anthropology, University of Hawaii.
- The Historic Preservation Program, University of Hawaii.
- The Department of Geology and Geophysics, University of Hawaii.
- The Bishop Museum.

- The Historic Hawaii Foundation.
- A kumu hula.
- Archaeological Consultants of the Pacific, Inc.
- International Archaeological Research Institute, Inc.
- Culturally knowledgeable individuals recommended by OHA.

Comments Received on Draft EA and Responses to Comments

The Draft EA was submitted for review to the following fourteen agencies, which includes all of those specified as mandatory and as recommended in the OEQC guidelines.

- State of Hawaii Office of Environmental Quality Control
- State of Hawaii Department of Transportation - Harbors Division
- State of Hawaii Department of Business, Economic Development & Tourism
- State of Hawaii Department of Health
- State of Hawaii Department of Land and Natural Resources
- State Historic Preservation Division
- State of Hawaii Office of Hawaiian Affairs
- C&C Board of Water Supply
- C&C Department of Design and Construction
- C&C Department of Planning and Permitting
- C&C Department of Parks and Recreation
- C&C Department of Facility Maintenance
- Ewa Beach Public & School Library
- U.S. Army Corps of Engineers

Comment letters to the Draft EA were received from nine agencies. Five agencies declined to respond. Of the nine agencies that responded, four did not have comments. Response letters have been prepared and sent to the nine agencies from which comment letters were received. Detailed responses to each agency comment are included in the response letters. Where appropriate, changes to the text of the Draft EA report were made and incorporated into the Final EA report. All of the comments received concerning the Draft EA have been addressed, and it is concluded that there are no outstanding issues that would preclude construction of the Terminal.

Findings and Conclusions

The results of the EA were compared with the *significance criteria* established by the state under HRS 343 (HAR 11-200-12). It is concluded that the proposed construction of the Terminal meets all thirteen criteria. By meeting these criteria, it is appropriate that the proposed Terminal be issued a FONSI and that an EIS not be required.

SECTION 1 - GENERAL DESCRIPTION

This report describes the Environmental Assessment [EA] performed by Environmental Science International, Inc. [ESI], on behalf of GLP Asphalt LLC [GLP Asphalt] for the proposed GLP Asphalt Kalaeloa Asphalt Terminal, which will be located at Kalaeloa Barber's Point Harbor (formerly Barber's Point Harbor) in Kapolei, Hawaii, hereinafter referred to as the "Terminal" (Figures 1 and 2). The Terminal will be located on land zoned as industrial, owned by the State of Hawaii, and identified by the City and County of Honolulu [C&C] Property Assessment Division as Tax Map Key [TMK] No. (1) 9-1-014:024 (Figures 3 and 4).

1.1 PURPOSE

This assessment was undertaken to determine if potential environmental impacts associated with the development and operation of the Terminal are significant enough to warrant an Environmental Impact Statement [EIS]. The assessment was conducted in accordance with the requirements of the Hawaii EIS Law, which are contained in Hawaii Revised Statutes [HRS] Chapter 343 (HRS 343; State of Hawaii Department of Health [DOH], 1974) and in Hawaii Administrative Rules [HAR] Title 11, Chapter 200 (HAR 11-200; DOH, 1996a).

1.2 GENERAL INFORMATION

The applicant for construction and operation of the Terminal is GLP Asphalt. GLP Asphalt was formed by Grace Pacific Corporation and Jas. W. Glover Holding Co., Ltd., for the purposes of constructing and operating the Terminal. The agency most directly involved in the proposed activity is the State of Hawaii Department of Transportation [DOT] Harbors Division, who also is the land owner. Therefore, DOT will be the approving agency. A copy of the lease application letter is included in Appendix B. This information is summarized in Table 1.1.

TABLE 1.1
General Information and Anticipated Finding
GLP Asphalt Kalaeloa Asphalt Terminal
Final Environmental Assessment

Applicant:	GLP Asphalt LLC P.O. Box 78 Honolulu, Hawaii 96810
Approving Agency:	State of Hawaii Department of Transportation Harbors Division 79 South Nimitz Highway Honolulu, Hawaii 96813
Anticipated Determination:	FONSI

Under specified conditions, HRS 343 allows a previously accepted EIS to be used in conjunction with an EA in evaluating a proposed project to determine whether an EIS is required

(DOH, 1996a). The previously accepted EIS must be pertinent to the decision at hand and must have logical relevancy and bearing to the action being considered. Furthermore, the previously accepted EIS must be substantially similar to and relevant to the action being considered.

There are two recent investigations that are pertinent to, substantially similar to, and relevant to the proposed Terminal project. These are the EIS for the Kalaeloa Barber's Point Harbor basin expansion (Parsons Brinckerhoff Quade & Douglas, Inc. [PBQD], 1995) and the EA for construction of the Hawaiian Cement Terminal (PBQD, 1999). Since the two studies were conducted, no significant changes have occurred at the Terminal site or in the surrounding area, and future development plans for the area are unchanged. Thus, based on the results of the two studies, it is anticipated that the EA prepared for the Terminal will result in a Finding of No Significant Impact [FONSI] and that an EIS will not be required.

1.2.1 EIS for the Kalaeloa Barber's Point Harbor Basin Expansion

An EIS was completed in 1995 for the Kalaeloa Barber's Point Harbor basin expansion, tug pier construction, and pier and storage yard improvements (PBQD, 1995). As part of the EIS, numerous comprehensive studies were conducted of the Kalaeloa Barber's Point Harbor area, including those related to potential impacts to the physical environment, social environment, and public services. The EIS was accepted by the State of Hawaii and the harbor expansion was undertaken. The Kalaeloa Barber's Point Harbor expansion presented far greater potential environmental risks than does construction of the Terminal.

1.2.2 EA for Construction of the Hawaiian Cement Terminal

An EA was completed in 1999 for construction of the Hawaiian Cement Terminal (PBQD, 1999). The Hawaiian Cement Terminal is located northwest of and directly across John Wayne Avenue from the proposed Terminal location (Figure 5). Potential impacts to the physical environment, social environment, and public services were assessed and it was determined that the Hawaiian Cement Terminal would not affect the physical or social environment or the site or surrounding area. Accordingly, that EA resulted in a FONSI. The scope of the Terminal construction is very similar to that of Hawaiian Cement Terminal construction.

1.3 TERMINAL DESCRIPTION

The Terminal will occupy approximately 4.36 acres of land at Kalaeloa Barber's Point Harbor, approximately 800 feet east of Pier 7 (Figure 5). Part of the Terminal will lie within the Special Management Area [SMA] (Figure 6). The Terminal's primary function will be to store and distribute asphalt cement. The asphalt cement will be shipped to Kalaeloa Barber's Point Harbor by vessel and will be transferred to the Terminal via a heated cargo line that will run from a remote fill port located between Piers 6 and 7 to the Terminal. The asphalt cement will be stored inside the Terminal in two heated, above-ground storage tanks [ASTs]. A site map depicting the layout of the Terminal is provided in Figure 7.

The Terminal will consist of the following five principal areas: (1) the tank yard, (2) the fuel storage area, (3) the heating plant area, (4) the transportation area, and (5) the cargo line area. The tank yard will occupy the southwest side of the Terminal. The transportation area will occupy the northeast side of the Terminal. The fuel storage area and the heating plant area will be located inside the tank yard. The cargo line will extend from the west corner of the tank yard to a remote fill port located southeast of the junction between Pier 6 and Pier 7 at Kalaeloa Barber's Point Harbor. The principal areas and their locations are summarized in Figures 8 and 9 and in Table 1.2.

1.3.1 Tank Yard

The *tank yard* occupies the southwest side of the Terminal and will be approximately 280 feet wide and 358 feet long (Figure 8). It will be approximately nine feet lower in elevation than the adjacent transportation area and the area outside the Terminal. An asphalt containment berm (on the north, west, and south sides) and a concrete wall (on the east side), ranging in height from approximately 9 feet to 11 feet, will surround the tank yard. The floor of the tank yard will consist of primarily of asphalt pavement, with a gravel area to allow for infiltration of storm water. The walls of the berm and the paved floor will act as secondary containment for the tank yard. The tank yard is divided into the following seven general areas: (1) the main tank area, (2) the day tank area, (3) the distribution manifold area, (4) the access road area, (5) the drainage basin area, (6) the interior cargo line area, and (7) the fuel and heating oil loading area.

1.3.1.1 Main Tank Area

The *main tank area* covers the southwest side of the tank yard and its principal features are two steel, single-wall ASTs (Tanks 3 and 4) that will be used to store asphalt cement brought in by vessel and transported to the Terminal via the cargo line. Details of the tanks and their locations are summarized in Table 1.3 and Figure 7.

Each tank will be 140 feet in diameter and 56 feet high and will have a storage capacity of approximately 148,000 barrels [bbl] (equivalent to 4.62 million gallons). The outsides of the tanks will be covered with approximately 4-inch thick insulation. The insides of the tanks will contain heating coils and the working tank typically will be heated to approximately 280 degrees Fahrenheit [°F]. The other tank will be maintained at 160°F to 180°F. They will have a maximum operating temperature of 400°F. The tops of each tank will be equipped with two blast reliefs and a vent. The tanks will not be pressurized and will be maintained at atmospheric pressure. The tanks will be constructed in accordance with American Petroleum Institute [API] Standard 650.

1.3.1.2 Day Tank Area

The *day tank area* occupies the northwest corner of the tank yard and its principal features are two steel, single-wall ASTs (Tanks 1 and 2) that will be used to store asphalt cement for loading into tanker trucks at the asphalt cement loading rack. Details of the tanks and their locations are summarized in Table 1.3 and Figure 7.

TABLE 1.2
Principal Areas at the Terminal
GLP Asphalt Kalaeloa Asphalt Terminal
Final Environmental Assessment

Area	Principal Area	General Areas	Principal Function	Features
1	Tank Yard	Main Storage Tanks	asphalt cement storage	asphalt cement ASTs (Tanks 3 and 4)
		Day Tanks	temporary asphalt cement storage	asphalt cement ASTs (Tanks 1 and 2)
		Distribution Manifold	transfer asphalt cement and heating oil to asphalt cement ASTs and loading rack	piping
				heat exchanger
				distribution manifold
				asphalt cement pumps
		Access Road	maintenance vehicle access	paved access road
		Drainage Basin	storm water infiltration	gravel area
		Interior Cargo Line	transfer asphalt cement from exterior cargo line to main storage tanks	asphalt cement line
				heating oil line
		Fuel and Heating Oil Loading	transfer diesel fuel and heating oil from tanker trucks to ASTs	fuel and heating oil transfer piping
2	Fuel Storage	Fuel Storage	diesel fuel storage	diesel fuel ASTs (Tanks 5 and 6)
				secondary containment and piping
		Extract Storage	store extracted heavy bottoms	extract tank (Tank 8)
				secondary containment and piping
3	Heating Plant	Heating Plant	heat heating oil	two hot oil heaters
				two hot oil pumps and piping
				secondary containment
		Heating Oil Storage	heating oil storage	heating oil expansion tank (Tank 7)
				secondary containment and piping
4	Transportation	Roadway	vehicle access and vehicle weighing	access road
				truck scale
		Office Building	central oversight of loading operations	office building and employee parking
				equipment storage building
		Asphalt Cement Loading	transfer asphalt cement from day tanks to tanker trucks	loading rack and piping
		Motor Control Center	motor control equipment	motor control center building
5	Cargo Line	Remote Fill Port	receive asphalt cement from transport vessel at Pier 6 or 7	remote fill port and secondary containment
		Exterior Cargo Line	transfer asphalt cement from remote fill port to tank yard	asphalt cement line
				heating oil line

TABLE 1.3
Summary of ASTs at the Terminal
GLP Asphalt Kalaeloa Asphalt Terminal
Final Environmental Assessment

Principal Area	General Area	Tank Number	Capacity	Contents
Tank Yard	Day Tank Area	1	5,000 barrels	asphalt cement
		2	5,000 barrels	asphalt cement
Tank Yard	Main Tank Area	3	148,000 barrels	asphalt cement
		4	148,000 barrels	asphalt cement
Fuel Storage	Fuel Storage Area	5	8,000 gallons	diesel fuel
		6	8,000 gallons	diesel fuel
		8	5,000 gallons	extracted heavy bottoms
Heating Plant	Heating Oil Storage	7	5,000 gallons	heating oil

Each tank will be 28 feet in diameter and 46 feet high and will have a storage capacity of approximately 5,000 bbl (equivalent to 210,000 gallons). The outsides of the tanks will be covered with approximately 4-inch thick insulation. The inside of the tanks will contain heating coils and typically will be heated to approximately 325°F. They will have a maximum operating temperature of 400°F. The tops of each tank will be equipped with two blast reliefs and a vent. The tanks will not be pressurized and will be maintained at atmospheric pressure. The tanks will be constructed in accordance with API Standard 650.

1.3.1.3 Distribution Manifold Area

The *distribution manifold area* will occupy the north, interior portion of the tank yard, between the day tanks and the heating plant (Figure 7). The principal features of the area are the heat exchanger, the asphalt cement pumps, the asphalt cement and heating oil piping, and the distribution manifold. The manifold will consist of several interchanging pipes and valves, and it directs the flow of asphalt cement throughout the tank yard (e.g., from the main tanks to the day tanks, from the day tanks to the loading rack). The heating oil lines will be attached to the outer surface of the asphalt cement lines to ensure that the asphalt cement is at a sufficiently high temperature that it is capable of flowing. Together, the asphalt cement and heating oil lines will be wrapped with approximately 2-inch thick insulation.

1.3.1.4 Access Road Area

The *access road area* will occupy the north, west, and south sides of the tank yard, between the main tanks and the containment berm (Figure 7). The paved access road will descend from both ends of the transportation area, forming an open-ended loop within the tank yard. The road will be the principal means for trucks and service vehicles to access the area.

1.3.1.5 Drainage Basin Area

The *drainage basin area* is located at the west side of the tank yard, between the fuel loading area and asphalt-paved area between the two main tanks (Figure 7). It will consist of an unlined pit, approximately four feet deep, that will be filled with coarse gravel. The tank yard area will be designed so that storm water runoff will flow towards the pit. The subsurface beneath the west access road will be filled with coarse gravel that will be connected to the gravel at the pit and will act as additional drainage for storm water infiltration.

1.3.1.6 Interior Cargo Line Area

The exterior cargo line enters the Terminal near the west corner of the tank yard. From there, the *interior cargo line* runs along the southwest side of the tank yard, next to the containment berm, then between the main asphalt cement tanks to the main asphalt lines (Figure 7). Heating oil lines will be attached to the outer surface of the cargo line to ensure that the asphalt cement is at a sufficiently high temperature that it is capable of flowing. Together, the cargo line and heating oil lines will be wrapped with approximately 2-inch thick insulation.

1.3.1.7 Fuel and Heating Oil Loading Area

The *fuel and heating oil loading area* is located along the west side of the main tank area (Figure 7). The area will be provided with secondary containment that consists of a six-inch high concrete curb and a concrete floor. The containment will have a capacity sufficient to contain potential spills during hose disconnects. The principal features of the area are an electric-powered pump and aboveground piping. The diesel fuel and heating oil will be pumped from tanker trucks to the ASTs in the fuel storage area.

1.3.2 Fuel Storage Area

The *fuel storage area* will be located in the east-southeast interior of the tank yard, next to the heating plant area (Figure 8). The area will be provided with secondary containment that consists of concrete walls and a concrete floor. The containment will have a capacity sufficient to contain the contents of the largest tank and an additional 10% or greater capacity for accommodating rainfall. The area will be used to store low-sulfur diesel fuel and extracted heavy bottoms. Details of the storage tanks and their locations are summarized in Table 1.3 and Figure 7.

1.3.2.1 Diesel Fuel Storage

The diesel fuel will be stored in two steel, single-wall, 8,000-gallon capacity ASTs (Tanks 5 and 6) and used to power the hot oil heaters in the heating plant. The diesel fuel will be pumped to the hot oil heaters through above-ground steel piping.

1.3.2.3 Extracted Heavy Bottoms (Extracts) Storage

The extracted heavy bottoms, sometimes referred to as *extracts*, will be stored in a steel, single-wall, 5,000-gallon capacity AST (Tank 8). The extracted heavy bottoms will be pumped to the day tanks through above-ground steel piping and blended with the asphalt cement.

1.3.3 Heating Plant Area

The *heating plant area* will be located in the east-southeast side of the tank yard, next to the fuel storage area (Figure 8). The principal features of the heating plant will be two diesel fuel-powered hot oil heaters (at present, it is anticipated that Heatec HCI-400 heaters will be installed), two electric-powered pumps, one heating oil storage tank, and associated piping. The hot oil heaters will be covered and provided with secondary containment that consists of concrete walls and a concrete floor. The containment will have a capacity sufficient to contain the contents of the heaters.

The hot oil heaters will be used to heat the heating oil. The pumps will be used to transfer the heating oil from the heating oil storage tank (Tank 7) to the heaters and from the heaters throughout the Terminal through the heating oil lines. The hot oil heaters will be operated on an alternating schedule, with only one heater in operation at any given time. The presence of two heaters will allow the Terminal to continue to operate if one of the heaters requires maintenance or repair.

1.3.3.1 Heating Oil Storage

The heating oil will be stored in a steel, single-wall, 5,000-gallon capacity AST (Tank 7), also referred to as an *expansion tank*. The oil will be pumped to the hot oil heaters through insulated above-ground steel piping. From there, the heated oil will be pumped to the distribution manifold area in the tank yard. Within and downstream of the distribution manifold area, the heating oil lines will be attached to the outer surface of the asphalt cement lines. The combined lines will be covered by insulation. The heated oil lines will act to keep the asphalt cement sufficiently hot that it is capable of flowing through the pipelines easily.

The area will be provided with secondary containment that consists of concrete walls and a concrete floor. The containment will have a capacity sufficient to contain the contents of the heating oil tank and an additional 10% or greater capacity for accommodating rainfall. Details of the heating oil tank are summarized in Table 1.3.

1.3.4 Transportation Area

The *transportation area* occupies the northeast side of the Terminal (Figure 8). An 8-foot high fence will surround the exterior (i.e., the north, east, and south sides) of the transportation area, with the exception of the entrance and exit. The transportation area is divided into the following four general areas: (1) the roadway area, (2) the office building area, (3) the asphalt cement loading area, and (4) the motor control center [MCC] area.

1.3.4.1 Roadway Area

The *roadway area* includes the Terminal entrance, the Terminal exit, and the area bounded by the fuel and heating oil loading area, the office building area, and the exterior wall (Figure 7). It will be used as the route for trucks entering and exiting the Terminal. The principal features of the area are an asphalt-paved roadway and access to the two ramps leading into the tank yard.

1.3.4.2 Office Building Area

The *office building area* occupies the north-northwest corner of the transportation area (Figure 7). The principal features of the area are the office building, the maintenance building, and a parking area. The day-to-day general operations of the Terminal will be managed from the office building. Terminal equipment will be maintained and repaired in the maintenance building. The parking area will be for Terminal personnel and visitors.

1.3.4.3 Asphalt Cement Loading Area

The *asphalt cement loading area* is located on the west side of the transportation area (Figure 7). The area will be provided with secondary containment that consists of a six-inch high asphalt curb and an asphalt-paved floor. The loading rack will be covered by a roof to prevent rainwater and storm water from entering the area.

This area will be used to load asphalt cement into tanker trucks and inter-modal containers. The asphalt cement will be pumped from the day tanks in the tank yard to the loading rack through heated, insulated, aboveground piping. The piping will consist of asphalt cement lines with attached heating oil lines. Both the asphalt cement line and the heating oil lines will be wrapped with approximately 2-inch thick insulation.

1.3.4.4 Motor Control Center Area

The *MCC area* is located on the west side of the office building area (Figure 7). The MCC will consist of a 20-foot by 40-foot building that contains the motor starters and current circuit breakers for the motors at the Terminal.

1.3.5 Cargo Line Area

The *cargo line area* will extend from a remote fill port located between Piers 6 and 7 to the main asphalt cement ASTs (Tanks 3 and 4) at the Terminal (Figure 9). The cargo line will be used to transport asphalt cement from vessels at Kalaeloa Barber's Point Harbor to the Terminal. The pipeline will be supported with steel or concrete supports, approximately two feet above the ground surface. The line will pass beneath John Wayne Avenue inside of a concrete culvert.

The cargo line will consist of 12-inch diameter steel pipe that will be used to transport the asphalt cement. Two heating oil lines, a supply line and a return line, will be attached to the

asphalt cement line and run parallel to it. Together, the lines will be wrapped with approximately 4-inch thick insulation. Secondary containment at the remote fill port will consist of concrete walls and a concrete floor. The fill port will be covered to prevent storm water runoff or rainwater from entering it.

1.4 OPERATIONAL PROCEDURES, TRAINING, AND INSPECTIONS

1.4.1 Transfer of Asphalt Cement From Vessels to the Terminal

It is anticipated that asphalt cement will be shipped in by vessel from the United States, Korea, Venezuela, and other sources, such as the Far East. Vessels from Texas would have a transit time of approximately 25 days. Vessels from Venezuela would have a transit time of approximately 27 days. Vessels from the Far East would have a transit time of approximately 24 days. Depending on the source of the asphalt cement, there could be three or four asphalt deliveries per year (if large transport vessels are used; e.g., ships from the United States) or up to eight or nine asphalt deliveries per year (if smaller transport vessels are used; e.g., ships from the Far East). During transit, the vessels will keep the asphalt cement at approximately 275°F.

The delivery vessels will dock at either Pier 6 or 7 at Kalaeloa Barber's Point Harbor. Each vessel will be inspected by the United States Department of Agriculture [USDA] and a declaration of inspection [DOI] will be completed and signed. The inspections and certifications will be made in accordance with United States Coast Guard [USCG] regulations, as codified in the Code of Federal Regulations [CFR] (33 CFR 126.150; USCG, 2005c).

Temporary piping that meets or exceeds federal requirements will be used to transport asphalt cement from the vessel to the heated cargo line (33 CFR 154.5; USCG, 2005a). Discharge containments will be placed beneath each hose connection during coupling, uncoupling, and transfer. It will take approximately 36 hours to complete the transfer of the asphalt cement from a large (e.g., approximately 28,000-ton capacity) vessel to the Terminal. Transfer operations involving smaller vessels will take less time.

The asphalt cement will be transferred from the vessel to the Terminal using the vessel's pump. To prevent overfilling and spills, loading and transfer operations will be closely supervised by trained Terminal personnel. The loading and transferring procedures will follow the requirements set forth by the DOT (49 CFR 130 and 49 CFR 172; DOT, 2005a, 2005b) and the USCG (33 CFR 154; USCG, 2005a). In addition, the main asphalt tanks will be equipped with audible, high-level alarms. The cargo line, including the attached heating oil lines, will not be evacuated after transfer operations.

1.4.2 Storage and Transfer of Asphalt Cement Within the Terminal

Asphalt cement at the Terminal is stored in four ASTs, including two main tanks (Tank 3 and Tank 4) and two day tanks (Tanks 1 and 2). One of the main tanks will be maintained at 160°F to 180°F and will be heated to working temperature when necessary. The other main tank will

be kept at approximately 280°F. The piping used to transport the asphalt cement from the main tanks to the day tanks will be heated and insulated. The day tanks will be kept at approximately 325°F.

Asphalt cement is transferred within the Terminal through heated, insulated, aboveground piping. During loading operations, asphalt cement is pumped from the day tanks to the loading rack. The loading rack is designed to load two trucks simultaneously. Loading rack operations will be supervised closely by trained Terminal personnel in order to minimize the chance for human error that could lead to spills and unanticipated releases. Loading and unloading procedures will follow DOT requirements (DOT, 2005b).

The largest tanker truck is estimated to have a capacity of 5,875 gallons. It is anticipated that eight to sixteen trucks will be loaded each day at the Terminal.

1.4.3 Diesel Fuel and Heating Oil Loading

Diesel fuel used to power the hot oil heaters and heating oil used to heat the tanks and piping will be delivered to the Terminal by tanker truck. During loading operations, the diesel fuel or heating oil will be pumped from the tanker truck to the ASTs in the fuel storage area via aboveground piping. Fuel and heating oil loading operations will be supervised closely by trained Terminal personnel in order to minimize the chance for human error that could lead to spills and unanticipated releases. Loading and unloading procedures will follow DOT requirements (DOT, 2005b).

1.4.4 Storm Water Controls

Due to the Terminal's proximity to Kalaeloa Barber's Point Harbor basin and its upgradient location, it is important to prevent potentially contaminated storm water from discharging from the Terminal and entering Kalaeloa Barber's Point Harbor basin. Storm water controls will be engineered at each principal area within the Terminal. The purpose of the controls is to prevent a discharge of storm water runoff from the Terminal. The controls are described below.

1.4.4.1 Storm Water Control in the Tank Yard

The asphalt berm surrounding the Terminal is designed, in part, to prevent storm water runoff from leaving the tank yard. The tank yard's lower elevation and the containment wall along the east side of the tank yard will prevent storm water from discharging into the transportation area. The tank yard will be designed so that storm water runoff will flow towards drainage basin.

In the event of a hurricane or similar catastrophic storm event, it is possible that sufficient rainfall would be generated that, under certain conditions, could cause the main asphalt cement tanks to float. To prevent such a calamity, an emergency drain valve will be installed near the northwest corner of the tank yard to allow the excess water to discharge.

Storm water that collects in the tank yard drainage basin consists of storm water runoff generated within the Terminal and direct precipitation within the tank yard. Water released from the emergency valve would be excess water over that contained in the drainage basin. Should an emergency situation necessitate opening the emergency valve, the volume of water released would be equivalent to that of normal storm water runoff if the Terminal did not exist. Therefore, it is not expected that water released from the emergency valve would cause damage to downstream facilities beyond the risk that exists in the absence of the Terminal.

1.4.4.2 Storm Water Control in the Fuel Storage Area

The fuel storage area will be provided with secondary containment that consists of concrete walls and a concrete floor. The containment will have a capacity sufficient to contain the contents of the largest AST and an additional 10% or greater capacity for accommodating rainfall. A manual valve will be installed in the wall of the secondary containment wall to allow collected rainwater to be discharged into the tank yard. Normally, the valve will be maintained in the closed position. Should draining of the containment become necessary, the valve will be opened by trained Terminal personnel. Due to the low amount of rainfall in the area, it is anticipated that few discharge events will be necessary.

1.4.4.3 Storm Water Control in the Heating Plant Area

The hot oil heaters will be covered with a roof and provided with secondary containment that consists of concrete walls and a concrete floor. These controls will ensure that there will be no storm water accumulation or discharge at the hot oil heaters.

The heating oil storage tank will be provided with secondary containment that consists of concrete walls and a concrete floor. The containment will have a capacity sufficient to contain the contents of the heating oil tank and an additional 10% or greater capacity for accommodating rainfall. A manual valve will be installed in the wall of the secondary containment wall to allow collected rainwater to be discharged into the tank yard. Normally, the valve will be maintained in the closed position. Should draining of the containment become necessary, the valve will be opened by trained Terminal personnel. Due to the low amount of rainfall in the area, it is anticipated that few discharge events will be necessary.

1.4.4.4 Storm Water Control in the Transportation Area

The east half of the Terminal will be designed to prevent storm water from entering the transportation area. The grade on the three exterior sides of the transportation area will be sufficiently higher than that of the surrounding area, including Hanua Access Road, that storm water is not expected to discharge from or into the Terminal. The transportation area will be designed so that storm water runoff will flow towards the two ramps of the access road and into the tank yard. Inside the tank yard, storm water will be directed into the drainage basin.

The asphalt cement loading rack will be provided with secondary containment that consists of a six-inch high asphalt curb and an asphalt-paved floor. The loading rack will be covered by a roof to prevent rainwater and storm water from entering the area.

The engineering controls anticipated to be implemented at the transportation area will ensure that there will be no storm water discharge. Although storm water discharges are not anticipated, there will be procedures for responding to potential discharges. These are described in Section 1.4.4.5 and Section 3.1.5 of this report.

1.4.4.5 Storm Water Discharge and Sampling

It is not anticipated that there will be storm water discharges from the Terminal. However, should such a discharge occur, storm water sampling will be conducted in accordance with DOH regulations. Information concerning potential storm water sampling is described in Section 3.1.5 of this report.

An operations manual that describes the discharge procedures will be created and be readily available at the Terminal. In addition, the Terminal Operator will be the responsible party overseeing discharges. The drainage basin will be designed to accommodate storm water generated by a 50-year storm.

1.4.5 Training

Terminal personnel will be trained in the proper use, operation, and maintenance of equipment and materials used at the Terminal. These personnel also will be trained to prevent and respond to spills of asphalt cement and other materials used and stored at the Terminal. Terminal personnel will be familiarized with applicable pollution control laws and regulations.

GLP Asphalt will provide annual spill prevention and response training to all Terminal personnel for all areas of the Terminal in which they work. The training will incorporate all the requirements set forth in the plans described in Section 3 of this report. The training programs are designed to increase awareness of the health and environmental risks associated with the release of petroleum-based products and hazardous substances.

Spill prevention briefings will be conducted at the Terminal at regular intervals. The purpose of these briefings is to make Terminal personnel and management aware of changes or modifications to existing operations that could influence the potential for spills. Such changes include, but are not limited to, the installation of new equipment, the modification of existing equipment, the use of new petroleum-based products or hazardous substances, and changes in general operating procedures.

1.4.6 Inspections

All ASTs, piping, valves, vehicles, machinery, and heavy equipment at the Terminal will be inspected on a regular basis to ensure proper functioning. Any sign of deterioration or leakage

that could lead to a spill or unanticipated release of petroleum-based products or hazardous substances will be reported immediately to the Plant Operator.

Under Environmental Protection Agency [EPA] regulations, it is necessary for the Terminal to have a Spill Prevention Control and Countermeasure [SPCC] Plan. SPCC requirements include inspections. General site inspections will be performed monthly and documented on an SPCC Plan inspection report form. These forms will be retained at the Terminal. Formal storage tank and valve leak testing will be performed as required.

1.5 PETROLEUM PRODUCTS STORED AT THE TERMINAL

The nature of the Terminal and its operations require that petroleum products be stored and used at the Terminal. The following four principal types of petroleum product will be stored at the Terminal: (1) asphalt cement, (2) diesel fuel, (3) heating oil, and (4) extracted heavy bottoms (Table 1.4). These materials and the potential hazards posed by them are summarized in the sections below. The Material Safety Data Sheets [MSDS] are provided in Appendix A.

TABLE 1.4
Summary of Petroleum Products Stored at the Terminal
GLP Asphalt Kalaeloa Asphalt Terminal
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Petroleum Product	CAS No.	Flash Point (^oF)	Boiling Point (^oF)	Melting Point (^oF)	Specific Gravity	Significant Hazards
Asphalt Cement[1]	8052-42-4	450	650-1,000	100-135	1.00-1.04	heat, fumes
Diesel Fuel[2]	68476-34-6	135	300-700	n/a	0.78-0.955	explosion
Heating Oil[3]	64742-54-7	400	600	n/a	0.86	none
Extracted Heavy Bottoms[4]	n/a	> 450	> 900	*	*	heat

CAS Chemical Abstracts Service.
^oF degrees Fahrenheit.
1 Chevron Asphalt Cement.
2 Tesoro Low-Sulfur Diesel Fuel No. 2.
3 Chevron Turbine Oil TR ISO 32.
4 Properties are estimated.
n/a not applicable.
* Information uncertain or unavailable. Product is a complex mixture of compounds.

Procedures for handling the petroleum products that will be stored and used at the Terminal will be implemented to reduce the potential for risks to human health and the environment. The potential for environmental impacts is not anticipated to be significant. The potential for human health impacts will be mitigated by best management practices [BMPs] and training. Descriptions of these mitigative measures are included in the sections below.

1.5.1 Asphalt Cement

1.5.1.1 General Description of Asphalt Cement

Asphalt cement is a petroleum refinery product produced during the distillation of crude oils. It is a residual product composed of the non-volatile fractions of crude oils. As such, asphalt is a complex mix of high-molecular weight, petroleum hydrocarbons. These hydrocarbons include paraffinic and aromatic hydrocarbons and heterocyclic compounds containing sulfur, nitrogen, and oxygen.

At ambient temperatures, asphalt cement is a dark-brown to black, cementitious, highly viscous material that is solid or semi-solid in consistency. It is a dark-colored, viscous liquid when heated and unmixed. It has excellent adhesive and waterproofing characteristics, and it is highly resistant to most acids, bases, and salts.

1.5.1.2 Use of Asphalt Cement

The asphalt cement at the Terminal will be sold to GLP Asphalt customers and loaded into tanker trucks at the loading rack. The principal use of asphalt cement is in the manufacturing of hot mix asphalt [HMA] (also referred to as *asphalt concrete*) for road and parking lot surfaces. HMA is a mixture of asphalt cement (typically, 4 to 6 percent) and aggregate (i.e., rock; typically, 94 to 96 percent). When cool, HMA creates a very strong paving material that can sustain substantial traffic loading through bending and flexing (National Asphalt Pavement Association [NAPA], 1996). For this reason, asphalt pavements account for approximately 98 percent of Hawaii roads (Federal Highway Administration [FHWA], 2000). Asphalt cement also can be used to make products other than HMA, such as coatings and sealants.

1.5.1.3 Potential Hazards of Asphalt Cement

Unheated asphalt cement does not pose a significant human health risk. However, skin contact with heated asphalt cement will cause severe burns, and hot asphalt fumes can cause severe irritation or burns to eyes and mucous membranes. Hydrogen sulfide gas released from the asphalt is poisonous and can cause respiratory irritation and asphyxiation; at high concentrations, exposure can be fatal. Chronic skin exposure to asphalt could cause dermatitis. Asphalt may contain carcinogenic components, such as benzo[a]pyrene. Prolonged thermal degradation of asphalt cement can release trace amounts of polycyclic aromatic hydrocarbons [PAHs], including benzo[a]pyrene, as airborne or residual particles.

1.5.1.4 Mitigation of Hazards of Asphalt Cement

Asphalt cement stored at the Terminal does not pose a human health or ecological risk to populations outside the Terminal. The two most significant human health and safety concerns for Terminal personnel working with asphalt cement are direct skin contact with the heated material and inhalation of vapors released by the heated asphalt.

The asphalt cement within the Terminal is contained in tanks and insulated piping. Therefore, the possibility of direct contact with the material essentially is limited to transfer operations, principally the loading of tanker trucks at the loading rack. Personnel directly involved in the transfer and storage of heated asphalt cement will be trained to handle the material and will be provided with the appropriate personal protective equipment.

1.5.2 Diesel Fuel

1.5.2.1 General Description of Diesel Fuel

Diesel fuel is a petroleum refinery product produced during the distillation of crude oils. It is a distillate fuel that is a complex mix of low- and middle-molecular weight, petroleum hydrocarbons. These hydrocarbons consist of paraffins and aromatic hydrocarbons (primarily PAHs). Diesel fuel contains a small fraction of volatile aromatics, such as benzene, toluene, ethylbenzene, and xylenes [BTEX]. The type of diesel fuel stored at the Terminal will be low-sulfur diesel fuel No. 2.

1.5.2.2 Use of Diesel Fuel

The diesel fuel at the Terminal will be used to power the hot oil heaters at the Heating Plant. Diesel fuel is used to power many types of industrial machinery and equipment, including trucks, excavators, loaders, bulldozers, and generators.

1.5.2.3 Potential Hazards of Diesel Fuel

Diesel fuel is combustible, and vapors can catch fire and burn with explosive violence. Diesel fuel may cause eye and skin irritation. Prolonged or repeated contact with skin can be harmful. It is not an immediate inhalation hazard, but combustion can produce carbon monoxide. When heated, diesel fuel may form hydrogen sulfide gas, and dangerous fumes can collect in confined spaces. Diesel fuel can be fatal if swallowed.

1.5.2.4 Mitigation of Hazards of Diesel Fuel

Diesel fuel stored at the Terminal does not pose a human health or ecological risk to populations outside the Terminal. The two most significant human health and safety concerns for Terminal personnel working with diesel fuel are fire and inhalation of vapors.

The diesel fuel within the Terminal is contained in tanks, piping, and the hot oil heaters. Therefore, the possibility of direct contact with the material is limited essentially to transfer operations, principally the loading of diesel fuel from tanker trucks at the Fuel Loading Area into the tanks at the Fuel Storage Area. Personnel directly involved in the transfer and storage of diesel fuel and operation of the hot oil heaters will be trained to handle the material and will be provided with the appropriate personal protective equipment.

1.5.3 Heating Oil

1.5.3.1 General Description of Heating Oil

The type of heating oil that will be used at the Terminal likely will be a turbine oil. Turbine oil is a petroleum refinery product produced during the distillation of crude oils. It is a hydrotreated heavy paraffinic distillate that is used primarily as a lubricating oil. Lubricating oils have high boiling points and high viscosities, and they likely consist primarily of paraffins and PAHs. The thermal properties of turbine oil make it a suitable choice for use as a heating oil because it is unlikely to break down or degrade under prolonged heating. The type of heating oil used at the Terminal could be Chevron Turbine Oil TR ISO 32 or an equivalent oil.

1.5.3.2 Use of Heating Oil

The turbine oil at the Terminal will be used to heat the asphalt cement lines and asphalt cement ASTs. The heating oil will be pumped from the heating oil storage tank to the hot oil heaters and from the heaters throughout the Terminal through the heating oil lines.

1.5.3.3 Potential Hazards of Heating Oil

Unheated heating oil does not pose a significant human health risk. However, skin contact with the heated oil will cause burns. Combustion products could include carbon monoxide, carbon dioxide, and organic vapors.

1.5.3.4 Mitigation of Hazards of Heating Oil

Heating oil stored at the Terminal does not pose a human health or ecological risk to populations outside the Terminal. The most significant human health and safety concern for Terminal personnel working with heating oil is direct skin contact with the heated material.

The heating oil within the Terminal is contained in a single AST and within insulated piping. Therefore, the possibility of direct contact with the material essentially is limited to transfer operations, principally the loading of heating oil from tanker trucks at the Fuel Loading Area into the heating oil tank at the heating plant. Personnel directly involved in the transfer and storage of heating oil will be trained to handle the material and will be provided with the appropriate personal protective equipment.

1.5.4 Extracted Heavy Bottoms (Extracts)

1.5.4.1 General Description of Extracted Heavy Bottoms

Extracted heavy bottoms typically are a petroleum refinery product produced during the distillation of crude oils. They are a complex mix of very high-molecular weight, petroleum hydrocarbons. Like asphalt, it is a residual product composed of the non-volatile fractions of crude oils. However, it is possible that the heavy bottoms contain a significantly smaller liquid

fraction than does asphalt. At ambient temperatures, the extracted heavy bottoms are likely to be a black, highly viscous, solid or semi-solid material. The extracted heavy bottoms will be obtained from the Unitek facility, where they are generated during the refining of waste motor oil into diesel fuel.

1.5.4.2 Use of Extracted Heavy Bottoms

The extracted heavy bottoms will be blended with the asphalt cement stored in the day tanks at the Terminal. It is anticipated that the blend will consist of ten to twenty percent extracted heavy bottoms.

1.5.4.3 Potential Hazards of Extracted Heavy Bottoms

The potential hazards associated with the extracted heavy bottoms are similar to (but probably less than) those posed by asphalt cement. Unheated extracted heavy bottoms do not pose a significant human health risk. However, skin contact with the heated material cement will cause severe burns, and the fumes can cause severe irritation or burns to eyes and mucous membranes.

1.5.4.4 Mitigation of Hazards of Extracted Heavy Bottoms

Extracted heavy bottoms stored at the Terminal do not pose a human health or ecological risk to populations outside the Terminal. The two most significant human health and safety concerns for Terminal personnel working with the extracted heavy bottoms are direct skin contact with the heated material and inhalation of released vapors.

The extracted heavy bottoms within the Terminal are contained in tanks and insulated piping. Therefore, the possibility of direct contact with the material essentially is limited to transfer operations, principally the loading of extracted heavy bottoms from tanker trucks at the Fuel Loading Area into the extract tank at the Fuel Storage Area. Personnel directly involved in the transfer and storage of extracted heavy bottoms will be trained to handle the material and will be provided with the appropriate personal protective equipment.

1.6 POTENTIAL FUTURE OPERATIONS AT THE TERMINAL

It is possible that, in the future, operations in addition to those described in Sections 1.3 to 1.5 of this report could be implemented at the Terminal. Any such potential additional future operations would be implemented only after the Terminal had become fully operational, in accordance with Sections 1.1 to 1.5 of this report. At this time, there are no definite plans to implement any additional future operations at the Terminal. Potential future operations at the Terminal include the following.

- Construction and operation of an asphalt emulsion plant.
- The use of asphalt modifiers.
- The use of alternative fuels.

These potential future operations are described in the following sections.

1.6.1 Potential Future Asphalt Emulsion Plant

GLP Asphalt may consider constructing an asphalt emulsion plant at the Terminal. A possible location has not been identified. The asphalt emulsion plant would consist of ASTs, a colloid mill, pumps, piping, a blend control system, a control panel, and associated equipment. The asphalt cement loading rack could be used to dispense the asphalt emulsion or a separate loading rack could be constructed for that purpose. The plant could be operated using regular Terminal employees. Additional employees would not be necessary. Currently in Hawaii, asphalt emulsion is a refinery product that is manufactured at the Chevron refinery in Campbell Industrial Park [CIP].

1.6.1.1 General Description of Asphalt Emulsion

Asphalt emulsion is a dark to tan liquid that is a mixture of asphalt cement (approximately 50 to 75 percent), water (approximately 23 to 48 percent), and an emulsifying agent (i.e., a surfactant; typically, less than or equal to 3 percent). It is a colloid that consists of very small, spherical droplets of asphalt cement suspended in water and kept from adhering to one another by the emulsifying agent. Other potential additives include, but are not limited to, ethanol, calcium chloride, hydrochloric acid, and sodium hydroxide. Example MSDSs for anionic asphalt emulsion, surfactant, and potential additives are included in Appendix A.

Asphalt emulsion is produced by mixing asphalt cement and treated water (i.e., water that contains a surfactant and possibly other additives) in the colloid mill. The three basic types of asphalt emulsion are (1) anionic, (2) cationic, and (3) non-ionic. Anionic and cationic emulsions are the most common. It is anticipated that the principal type of emulsion produced at the Terminal will be anionic. The three principal grades of asphalt emulsion are (1) rapid-setting [RS], (2) medium-setting [MS], and (3) slow-setting [SS]. It is anticipated that the principal grade of emulsion produced at the Terminal will be anionic slow-setting (e.g., SS-1).

The asphalt cement most likely would be obtained from the day tanks. The water and asphalt emulsion would be stored in ASTs in the emulsion plant. The surfactant and other additives probably would be stored in 55-gallon drums.

1.6.1.2 Use of Asphalt Emulsion

In paving, asphalt emulsions typically are used as surface treatments, such as prime coat, tack coat, and seal coat. As prime coat, asphalt emulsion is applied to untreated base course primarily to plug voids, harden the surface, and provide adhesion for the overlying asphalt course. Tack coat is diluted asphalt emulsion that is used to ensure bonding between a paving surface and the overlying asphalt course. Seal coat consists of diluted asphalt emulsion that is used to renew and improve existing (usually old) asphalt surfaces by sealing cracks and surface voids.

1.6.1.3 Potential Hazards of Asphalt Emulsion

The threats to human health posed by asphalt emulsion are similar to those posed by asphalt cement. Unheated asphalt emulsion does not pose a significant human health risk. Because the emulsion is less viscous and does not require high temperatures to liquefy, the risk of burns is lower than that posed by heated asphalt cement. However, skin contact with heated asphalt emulsion will cause severe burns, and hot asphalt emulsion fumes can cause irritation or burns to eyes and mucous membranes. Hydrogen sulfide gas released from the asphalt emulsion is poisonous and can cause respiratory irritation; at high concentrations, exposure can be fatal. Chronic skin exposure to asphalt could cause dermatitis. Asphalt may contain carcinogenic components, such as benzo[a]pyrene. Prolonged thermal degradation of asphalt emulsion can release trace amounts of polycyclic aromatic hydrocarbons [PAHs], including benzo[a]pyrene, as airborne or residual particles.

Some of the possible additives used in the manufacturing of asphalt emulsion can pose a potential threat to human health. Direct contact with hydrochloric acid can cause permanent eye and skin injury. Swallowing hydrochloric acid may cause burns and can destroy tissue in the mouth, throat, and digestive tract. Breathing hydrochloric acid vapors can cause lung irritation and burns in the nose, throat, and respiratory tract, and it can be fatal.

Inhalation of calcium chloride in the form of dust can cause lung irritation. Brief dermal contact with solid calcium chloride is unlikely to cause significant skin irritation, but prolonged dermal contact with calcium chloride dust or solution can cause blistering, ulceration, necrosis, scarring, or dermatitis. Ingestion of calcium chloride can cause spasms, nausea, gastrointestinal tract irritation, or cardiovascular problems, and it can be fatal at doses around 30 grams.

Some surfactants pose a potential threat to human health. Bentonite is a naturally occurring clay that is used as a surfactant and does not pose a significant threat. Redicote is a chemical surfactant and poses a greater risk. Inhalation of Redicote can cause respiratory tract irritation and, at higher concentrations, stupor, dizziness, nausea, and vomiting. Contact with skin or eyes can cause irritations and chemical burns. It is harmful when swallowed, potentially causing irritation of mucous membranes in the mouth, throat, stomach, and intestinal canal.

1.6.1.4 Mitigation of Hazards of Asphalt Emulsion

Asphalt emulsion stored at the Terminal does not pose a human health or ecological risk to populations outside the Terminal. The two most significant human health and safety concerns for Terminal personnel working with the asphalt emulsion are direct skin contact with the heated material and inhalation of released vapors. Also of potential concern are direct skin contact with possible additives (e.g., surfactant, hydrochloric acid, calcium chloride) and inhalation of vapors from those additives.

The asphalt emulsion within the Terminal will be contained in tanks and insulated piping. Therefore, the possibility of direct contact with the material will be essentially limited to transfer operations, principally the loading of asphalt emulsion into tanker trucks and containers at the

loading rack. Personnel directly involved in the transfer and storage of asphalt emulsion will be trained to handle the material and will be provided with the appropriate personal protective equipment.

The asphalt emulsion additives likely will be contained in 55-gallon drums, 330-gallon tote containers, or similar storage containers. Therefore, the possibility of direct contact with the additives will be essentially limited to water treatment operations. Personnel directly involved in water treatment will be trained to handle the additives and will be provided with the appropriate personal protective equipment.

1.6.2 Potential Future Use of Asphalt Modifiers

GLP Asphalt may consider using asphalt modifiers at the Terminal. A possible location for the storage and use of potential modifiers has not been identified. The principal equipment required for use of asphalt modifiers consist of a storage system (e.g., ASTs), a mixing system, a transfer system (e.g., pumps, piping, conveyors), and associated equipment. A possible configuration would involve one or more mixing tanks in which asphalt cement is mixed with the asphalt modifier at a predetermined ratio. From the mixing tank, the modified asphalt cement would be pumped to a day tank and mixed further. The final mixture would be pumped from the day tank to the loading rack.

1.6.2.1 General Description of Asphalt Modifiers

The three most likely asphalt modifiers for future consideration are polymers, waxes, and ground rubber. These materials are described briefly below. Example MSDSs for asphalt additives are included in Appendix A.

Polymers. Polymers are solid materials composed of large molecular chains of non-crystalline hydrocarbons. Polymers are added to asphalt cement to modify its properties, forming polymer-modified asphalt [PMA]. Polymers can be divided into (1) plastomers and (2) elastomers. The most likely possible polymer for future use at the Terminal is styrene-butadiene copolymer (also called styrene-butadiene-styrene [SBS]), which is a thermoplastic elastomer. Other possible polymers include polyethylene, polypropylene, and polyvinyl chloride [PVC], which are thermoplastic plastomers.

Waxes. The potential waxes used in paving applications consist of microcrystalline solid saturated hydrocarbons and are referred to as *paraffin waxes* or *polymethylene waxes*. Like polymers, waxes are added to asphalt cement to modify its properties. The most likely possible wax for future use at the Terminal is *Sasobit*, which is a polymethylene wax.

Ground Rubber. Ground rubber is made from reclaimed rubber and recycled (i.e., scrap) tires. For incorporating scrap tire rubber into asphalt paving materials, ground rubber also is referred to as *crumb rubber* and *asphalt-rubber*. In general, crumb rubber is any rubber composed of porous particles that can be dissolved without milling, cutting, or pelletizing. The resulting asphalt pavement from the addition of ground rubber is termed *rubber-modified asphalt*.

1.6.2.2 Use of Asphalt Modifiers

Asphalt modifiers are used to change the physical properties of pavements. Examples of pavement performance improvements include improving resistance to deformation, mitigating thermal cracking, reducing fatigue cracking, reducing moisture damage, and increasing stiffness.

Polymers. The effect of the addition of polymers to asphalt cement depends on the type of polymer and its form. Elastomers are used to increase the elasticity of asphalt without significantly affecting the viscosity, resulting in more flexible and resilient pavements. Plastomers are used to increase the viscosity of asphalt without significantly increasing the elasticity, resulting in stiffer pavements.

Waxes. The addition of waxes, such as Sasobit, to asphalt cement lowers the mixing and compaction temperatures of HMA. Waxes can be used to increase high-temperature stiffness in paving applications and to upgrade softer grades of asphalt to harder grades. Waxes dissolve readily in asphalt cement and reduce the asphalt viscosity at working temperatures, thus making the asphalt easier to process, reducing fume emissions, saving energy, and reducing production times. A potential additional effect of wax addition to HMA is a reduction in thermal and fatigue cracking.

Ground Rubber. The addition of ground rubber to asphalt cement increases the high-temperature stiffness of HMA and increases HMA elasticity. These affects make the resulting HMA more resistant to fatigue cracking at intermediate temperatures and thermal cracking at low temperatures. HMA constructed with rubber-modified asphalt cement is quieter than pavements constructed of traditional materials.

1.6.2.3 Potential Hazards of Asphalt Modifiers

There are no significant potential hazards associated with the asphalt modifiers considered for potential future use at the Terminal. These materials are solid, inert substances that are generally non-toxic and non-hazardous. The main potential health hazard associated with the asphalt modifiers is dust inhalation. The inhalation of polymer, wax, or rubber dust could cause respiratory tract irritation. Once the asphalt modifiers have been mixed with heated asphalt cement, the resulting modified asphalt poses a human health risk via direct skin contact with the hot material.

1.6.2.4 Mitigation of Hazards of Asphalt Modifiers

Asphalt modifiers stored at the Terminal do not pose a human health or ecological risk to populations outside the Terminal. The two most significant human health and safety concerns for Terminal personnel working with the asphalt modifiers are inhalation of dust and direct skin contact with heated modified asphalt.

The asphalt modifiers within the Terminal will be contained in tanks, 55-gallon drums, bags, or other containers. Therefore, the possibility of direct contact with the material will be essentially limited to transfer operations, principally the loading of asphalt modifiers into mixing tanks. Personnel directly involved in the transfer and storage of asphalt modifiers will be trained to handle the material and will be provided with the appropriate personal protective equipment.

1.6.3 Potential Future Use of Alternative Fuels

GLP Asphalt may consider using alternative fuels at the Terminal. The most likely location for the storage of potential alternative fuels is one or more of the 8,000-gallon capacity ASTs in the Fuel Storage Area (Tanks 5 and 6).

1.6.3.1 General Description of Alternative Fuels

The most likely alternative fuels for future consideration are biodiesel and ecodiesel. Both could be used as alternatives to standard diesel fuel (e.g., Low-Sulfur Diesel Fuel No. 2). These materials are described briefly below. Example MSDSs for biodiesel and ecodiesel are included in Appendix A.

Biodiesel. Biodiesel is a dark brown, oily liquid that is manufactured from re-processed natural fats and oils, including vegetable oil, animal tallow, and recycled cooking oil. It consists primarily of triglycerides, which are naturally-occurring esters of fatty acids and glycerol (i.e., methyl esters). Biodiesel is biodegradable and requires virtually no engine modifications or changes in infrastructure.

Ecodiesel. Ecodiesel is manufactured through the distillation of waste motor oil. Thus, it is a petroleum hydrocarbon distillate, essentially identical to the diesel fuel obtained through the distillation of crude oil at typical refineries (see Section 1.5.2 of this report).

1.6.3.2 Use of Alternative Fuels

Should potential alternative fuels be employed at the Terminal, they will be used for the same purpose that the planned diesel fuel will be used for - to power the hot oil heaters at the Heating Plant.

1.6.3.3 Potential Hazards of Alternative Fuels

Biodiesel. There are no significant potential hazards associated with biodiesel. Biodiesel is non-toxic and non-hazardous. Although it is a combustible liquid, its flashpoint is higher than that of asphalt cement.

Ecodiesel. Like diesel fuel, ecodiesel is combustible, and vapors can catch fire and burn with explosive violence. Ecodiesel may cause eye and skin irritation. Prolonged or repeated contact with skin can be harmful. It is not an immediate inhalation hazard, but combustion can produce

carbon monoxide. When heated, diesel fuel may form hydrogen sulfide gas, and dangerous fumes can collect in confined spaces. Ecodiesel can be fatal if swallowed.

1.6.3.4 Mitigation of Hazards of Alternative Fuels

Alternative fuels stored at the Terminal do not pose a human health or ecological risk to populations outside the Terminal. The two most significant human health and safety concerns for Terminal personnel working with ecodiesel are fire and inhalation of vapors. There are no significant human health and safety concerns associated with biodiesel.

The alternative fuels within the Terminal will be contained in tanks, piping, and the hot oil heaters. Therefore, the possibility of direct contact with these materials is limited essentially to transfer operations, principally the loading of the fuels from tanker trucks at the Fuel Loading Area into the tanks at the Fuel Storage Area. Personnel directly involved in the transfer and storage of alternative fuels and operation of the hot oil heaters will be trained to handle the material and will be provided with the appropriate personal protective equipment.

SECTION 2 – PROPERTY INFORMATION

The Terminal site is located within an industrial area in the Ewa District of Honolulu. There is no residential housing in the immediate vicinity and the majority of the land in the area remains undeveloped.

2.1 PROPERTY LOCATION AND SETTING

The Terminal will be located at Kalaeloa Barber's Point Harbor, approximately 800 feet southeast of Pier 7. It will occupy 4.36 acres of a 241.67 acre parcel owned by the State of Hawaii. The Terminal is bounded on the north by Hanua Street Access Road, on the east by vacant land, on the south by a large stockpile of dredged material, and on the west by John Wayne Avenue (Figure 5). Part of the Terminal will lie within the SMA at Kalaeloa Barber's Point Harbor (Figure 6).

The Terminal is approximately 0.3 miles northeast of and above the underground injection control [UIC] line, on the southern coastal plain of Oahu, at a surface elevation of approximately 20 to 25 feet above mean sea level [amsl] (Figures 2 and 11). The nearest surface water body is Kalaeloa Barber's Point Harbor. Locally, the topographic surface gradient is southwest, towards the ocean (Figure 2).

2.2 PROPERTY DESCRIPTION

Currently, the Terminal site consists of vacant, undeveloped land. Topographic relief across the site is low; the land slopes generally to the west at a topographic gradient of approximately 0.00912 feet per foot. The ground surface consists of coralline sand, coralline gravel, and hard coralline limestone (i.e., *coral outcrop*; see Section 4.2.1 of this report). Vegetation is sparse.

The Terminal site is not under any environmental enforcement actions. Based on information collected as part of this EA, there is no evidence that the site has been used for the storage or handling of hazardous materials or solid waste, including hazardous waste. Also, there is no record of the site ever having any permanent structures, including those that could pose a threat to its environmental integrity (e.g., underground storage tanks, ASTs, maintenance facilities).

2.3 KALAELOA BARBER'S POINT HARBOR

Kalaeloa Barber's Point Harbor is used for handling general cargo (e.g., containers, lumber, machinery, and automobiles), dry bulk cargo (e.g., coal, cement, aggregate, grain, feed, building materials, and scrap metal), and liquid bulk cargo (e.g., gasoline, diesel fuel, and fuel oil). The harbor was constructed in 1961 and initially included the harbor itself, a channel to enter the harbor, and a maritime facility. In 1979, Congress authorized improvements to Kalaeloa Barber's Point Harbor so that it could function as a deep-draft port. In 1986, dredging of Kalaeloa Barber's Point Harbor was complete and construction of additional piers and storage yards began. In 1990, construction of Kalaeloa Barber's Point Harbor was complete and the harbor became fully operational.

In 1991, it was determined that future requirements of Kalaeloa Barber's Point Harbor would include the capacity to handle 697 vessel days at berth (six working days for car carriers, 187 working days for dry bulk ships, 97 working days for bulk barges, 326 working days for liquid bulk tankers, and 81 days for liquid bulk barges). To meet these requirements, it was decided that additional piers be constructed to provide adequate space to accommodate the projected berthing requirements (PBQD, 1995). Between 1995 and 2002, the northeast section of the harbor was expanded and three new piers (Piers 7, 8, and 9) and storage yards were constructed.

Currently, the main harbor basin is 2,300 feet long, 1,800 feet wide, and 38 feet deep. The expansion basin is 1,100 feet long, 600 feet wide, and 38 feet deep. Kalaeloa Barber's Point Harbor is bounded on the north by Pier 8 and on the east by Piers 5, 6, and 7. On the south, it is bounded by the General Purpose and Petroleum Products Pier and the entrance channel. On the west, it is bounded by Ko Olina Marina and Pier 9. Behind the piers are industrial facilities, storage yards used for materials and supplies off-loaded from transport vessels, and stockpiles of material dredged from the Kalaeloa Barber's Point Harbor basin (Figures 5 and 6).

SECTION 3 – PLANS, PERMITS, POLICIES, AND CONTROLS

The construction and operation of the Terminal will be in compliance with required government and community plans, permits, and policies. These are described below.

3.1 ENVIRONMENTAL POLICIES, PLANS, PERMITS, AND CONTROLS

3.1.1 Environmental Review Policy

The requirements for performing an EA are contained within the Hawaii EIS Law, which is set forth in HRS 343 (DOH, 1974) and HAR 11-200 (DOH, 1996a). According to HRS 343, the purpose of the Hawaii EIS Law is to establish a system of environmental review to ensure that environmental concerns are considered in decisions made by the State of Hawaii. The intent of the law was to implement the requirements under the federal National Environmental Policy Act [NEPA].

The Hawaii EIS Law is administered and regulated by the State of Hawaii Office of Environmental Quality Control [OEQC]. The OEQC oversees the implementation of these regulations in order to assess the environmental, social, and economic consequences of a proposed development project prior to allowing construction to begin. The Hawaii EIS Law ensures the public the right to participate in planning projects that may affect their communities. The OEQC has issued guidelines for the environmental review process (OEQC, 2004).

Nine types of actions trigger the environmental review process under the Hawaii EIS Law. One of the triggers is projects that propose the use of State of Hawaii or C&C lands. The Terminal will be constructed and operated on land that is owned by the State of Hawaii. Therefore, the Terminal is subject to the requirements of the Hawaii EIS Law. In accordance with the Hawaii EIS Law, if an EA does not result in a FONSI, an EIS is required.

3.1.2 Special Management Area

The adoption of SMAs is mandated by the State of Hawaii, and the designation of specific SMAs is established by the City Council by ordinance. Within the C&C, the SMA permit is administered and regulated by the C&C Department of Planning and Permitting [DPP], with major permits granted by the City Council.

The requirements and regulations pertaining to SMAs can be found in HRS 205A and Chapter 25, ROH. The purpose of these requirements is to regulate development along shorelines in order to avoid permanent losses of valuable resources and ensure that access to publicly owned and publicly used beaches, recreational areas, and natural reserves is provided.

After meetings with the DPP and a review of county maps, it was determined that part of the Terminal was located in the SMA (Figure 6). To satisfy the requirements set forth in HRS 205A and Chapter 25, ROH, an SMA use permit (major permit) will be obtained. A copy of the SMA

permit application form is included in Appendix C. Projects within the SMA must undergo the procedural steps set forth in HRS 343 prior to application for an SMA permit.

3.1.3 Oil Pollution Prevention

Oil pollution prevention requirements and regulations are administered and regulated by the EPA. The requirements and regulations can be found in 40 CFR 112 (EPA, 2005). The purpose of these regulations is to prevent the discharge of oil from non-transportation-related onshore and off-shore facilities into or upon the navigable waters of the United States or adjoining shorelines. The Terminal is subject to the rules and regulations set forth in 40 CFR 112 because of the following reasons.

- The Terminal is a non-transportation-related onshore facility [40 CFR 112, Appendix A(1)(F)] engaged in storing, using, distributing, and consuming oil and oil products. The appurtenant equipment used to transfer asphalt cement from vessels to the Terminal is considered to be transportation-related (40 CFR 112, Appendix A(2)(B)).

- Due to its proximity to Kalaeloa Barber's Point Harbor, the Terminal (in the absence of sufficient engineered controls) has a reasonable potential to discharge oil in harmful quantities to navigable waters or adjoining shorelines.

- The Terminal will store oil in aboveground storage containers whose aggregate storage capacity is greater than 1,320 gallons.

Facilities that fall under these regulations are required to prepare and implement an SPCC Plan. The purpose of the plan is to form a comprehensive spill prevention program that minimizes the potential for discharges. An SPCC Plan for the Terminal will be prepared and implemented, as required. A description of the Terminal design and operational procedures that meet these requirements is included in Sections 1.3 and 1.5, respectively.

3.1.4 Facilities Transferring Oil or Hazardous Materials in Bulk

The requirements and regulations governing facilities transferring oil or hazardous materials in bulk are administered and regulated by the USCG (33 CFR 154 and 156; USCG, 2005a, 2005b). The purpose of these regulations is to prevent the discharge of oil or other hazardous materials from transferring operations into or upon the navigable waters of the United States or adjoining shorelines. The Terminal is subject to these regulations because it has the capability of transferring oil or other hazardous materials, in bulk, to or from a vessel that has a total capacity of 250 bbl.

The Terminal will have an operations manual and response plan, as required under USCG regulations. The Terminal and cargo line will be designed and constructed in accordance with requirements set forth in 33 CFR 154 and 156. A description of the Terminal design and operational procedures that meet these requirements is included in Sections 1.3 and 1.5, respectively.

3.1.5 Water Pollution Control

Construction and operation of the terminal will comply with Hawaii Revised Statutes, Subsection 342D-50(a), which states that "no person, including any public body, shall discharge any water pollutants into state waters, or cause or allow any water pollutant to enter state waters except in compliance with this chapter, rules adopted pursuant to this Chapter, or a permit or variance issued by the director."

Water pollution control requirements and regulations governing the Terminal are administered and regulated by the DOH Clean Water Branch [CWB]. The requirements and regulations can be found in HAR 11-54 and HAR 11-55 (DOH, 2004a, 2005b). The purpose of these regulations is to prevent the discharge of contaminated storm water into the navigable waters of the United States or adjoining shorelines.

It is not anticipated that storm water will be discharged from the Terminal. Instead, engineered controls will be implemented to retain storm water within the Terminal. Excess storm water runoff will drain into the drainage basin located in the tank yard. The drainage basin is designed to accommodate a 50-year rain.

Although it is not anticipated that there will be discharges of storm water from the Terminal, GLP Asphalt has concluded, in consideration of the Terminal's proximity to navigable waters, that it is in their best interest and the public's best interest to meet the requirements set forth in HAR 11-54 and 11-55. Accordingly, a National Pollutant Discharge Elimination System [NPDES] Permit will be obtained in the event there is an unanticipated discharge of storm water. A description of the Terminal design and operational procedures that meet these requirements are included in Sections 1.3 and 1.4, respectively.

3.1.6 Wastewater System

Wastewater system requirements and regulations are administered and regulated by the DOH Wastewater Branch. The requirements and regulations can be found in HAR Title 11, Chapter 62 (HAR 11-62; DOH, 2004b). The purpose of these regulations is to ensure that the use and disposal of wastewater and wastewater sludge do not contaminate or pollute valuable water resources, do not give rise to public nuisance, and do not become a hazard or potential hazard to public health, safety, and welfare.

There is no municipal sewer system that services Kalaeloa Barber's Point Harbor. Facilities currently at Kalaeloa Barber's Point Harbor utilize septic tanks and seepage pits to handle wastewater. To handle wastewater at the terminal, an individual wastewater system [IWS] will be constructed. The IWS will consist of a septic tank or aerobic unit with absorption bed or seepage pit as disposal. The IWS will be designed in accordance with HAR 11-62. It is anticipated that wastewater generated at the Terminal will be minimal.

3.1.7 Hawaii Emergency Planning and Community Right-to-Know Act

Facilities that store certain chemicals, including petroleum products, in significant quantities have reporting requirements on both the state government and C&C levels. The requirements for these facilities are contained within the Hawaii Emergency Planning and Community Right-to-Know Act [HEPCRA], which is set forth in HRS 128E (DOH, 1993). The purpose of HEPCRA was to set up a framework for preparing for responses to releases of hazardous materials. The intent of the law was to implement the requirements under the federal Emergency Planning and Community Right-to-Know Act [EPCRA].

The reporting requirements under HEPCRA include the annual submittal of a Chemical Inventory Form to the DOH. The purpose of the Chemical Inventory Form is to provide the DOH with information concerning the specific chemicals stored at a facility that fall under HEPCRA and their quantities. The Terminal will have the capacity to store petroleum products in quantities that will require reporting under HEPCRA. Therefore, a completed Chemical Inventory Form will be submitted to the DOH on an annual basis.

3.1.8 Hawaii Environmental Response Law

To establish the legal requirements for responding to releases of hazardous substances, the Hawaii Environmental Response Law [ERL] was enacted. The requirements of the ERL are set forth in HRS 128D (DOH, 1988). The ERL is administered and regulated by the State of Hawaii Hazard Evaluation and Emergency Response [HEER] Office. The rules for implementing the ERL can be found in HAR Title 11, Chapter 451 (HAR 11-451; DOH, 1995), also called the State Contingency Plan [SCP]. Part of the intent of the law was to create a Hawaii version of the federal Comprehensive Environmental Response, Compensation and Liability Act [CERCLA] (aka *Superfund*).

The procedures for responding to releases at the Terminal will be contained within several operating plans. These plans include the SPCC Plan (see Sections 3.1.3 and 4.2.2.2 of this report), the General Response Plan (see Section 4.2.2.3 of this report), and the Corporate Spill Response Plan (see Section 4.2.2.4 of this report). The release response and reporting requirements under the SCP will be followed strictly.

3.1.9 Air Quality Standards

Air quality standards are administered and regulated by the DOH Clean Air Branch [CAB]. The requirements and rules can be found in HAR Title 11, Chapters 59 (HAR 11-59; DOH, 2001) and 60.1 (HAR 11-60.1; DOH, 2003a). The purpose of these standards is to protect public health and welfare and to prevent significant deterioration of air quality.

The most significant potential source of air pollution associated with the Terminal is fugitive dust generated during construction activities. As described in Section 4.5.2.1 of this report, BMPs will be implemented during construction to ensure that dust emissions are minimized. The control of

dust will be in accordance with the fugitive dust requirements found in HAR 11-60.1-33 (DOH, 2003a).

It is not anticipated that operation of the Terminal will be a significant source of air pollution. The main sources of air pollution at the Terminal will be the two hot oil heaters. Prior to construction of the Terminal, a non-covered source permit for air emissions will be obtained from the DOH CAB for the operation of the heaters, in compliance with HAR 11-60.1 (DOH, 2003a). A description of the anticipated air emissions generated from the hot oil heaters is included in Section 4.5 of this report.

3.1.10 Transportation of Hazardous Materials

The transportation of hazardous materials, including petroleum products, is regulated by the DOT. The requirements and rules can be found in 49 CFR 130 and 49 CFR 172 (DOT, 2005a, 2005b). The purpose of these regulations is to protect public health and welfare and to prevent releases at transportation-related facilities and from vehicles transporting hazardous materials.

GLP Asphalt is required to provide and implement a Spill Response Plan (see Section 4.2.2.5 of this report) in accordance with the DOT regulations set forth in 49 CFR 130.31 (DOT, 2005a). The DOT Spill Response Plan serves as both a written response plan for the transportation of non-hazardous materials (e.g., asphalt cement) and an emergency response plan for the transportation of hazardous materials (e.g., diesel fuel).

3.2 SOCIAL AND ECONOMIC POLICIES, PLANS, AND CONTROLS

3.2.1 Oahu Commercial Harbors 2020 Master Plan

The Oahu Commercial Harbors 2020 Master Plan (DOT, 1995) is a guide to develop, maintain and enhance Oahu's commercial harbor system to ensure its efficient, safe, accessible and economical operations. The Terminal is consistent with the objectives of the plan and will support the continued development of Kalaeloa Barber’s Point Harbor. The objectives, as stated in the plan, are as follows.

- To plan the necessary port and harbor facilities to meet the future operational requirements of Oahu's commercial harbor users. Facilities will be planned to preserve or enhance current harbor capacity and to ensure a high level of safety, a reliable security system and preservation of the environment.

- To promote Hawaii's economy through a focus on facilities for cargo, tourism, and commercial fishing operations in a manner that best relates to and serves the commerce of Hawaii.

- To optimize the maritime commercial utilization of port and adjacent resources in creating an efficient, productive, accessible, and 'user friendly' harbor environment.

- To actively pursue solutions to commercial harbor problems through the identification, acquisition and development of additional harbors facilities, including but not limited to Keehi Lagoon, Pearl Harbor and Kaneohe Bay.

3.2.2 Hawaii State Land Use Controls

Land in the State of Hawaii is divided into the following four classifications: (1) urban, (2) agriculture, (3) rural, and (4) conservation. Kalaeloa Barber's Point Harbor is designated as an urban district that operates commercial harbor activities. The Terminal and its planned activities are consistent with the prescribed land use classification for the area.

3.2.3 Oahu General Plan

The C&C General Plan [CGP] (C&C, 1977) is a comprehensive statement of objectives and policies that outline the long-range aspirations of Oahu's residents, as wells as the strategies and actions to achieve them. It is the center of a comprehensive planning process that addresses physical, social, economic, and environmental concerns affecting the C&C. The plan was adopted in 1977 and has since been amended on numerous occasions.

The plan encourages the continued development of Kalaeloa Barber's Point Harbor as a major industrial center and aims to maintain sufficient land in appropriately located commercial and industrial areas to help ensure a favorable business climate in Oahu. The Terminal is consistent with the CGP and it will support the policy of developing Kalaeloa Barber's Point Harbor, which in turn will help alleviate the stress on Honolulu Harbor as the State of Hawaii's largest and most important deep water harbor.

3.2.4 Ewa Development Plan

In 1997, the Honolulu City Council approved a new general plan designating Ewa as the location for a second urban center for Oahu and for that center to be in the Kapolei area. In August 1997, the C&C created the Ewa Development Plan [EDP] (C&C, 1997), which was revised in May 2000. The EDP provides vision statements, policies, and principles for land use, public facilities, infrastructure, design guidelines, and conceptual mapping tools for future development of the area.

The EDP recognizes Kalaeloa Barber's Point Harbor as one of the most important industrial harbors and fuel transfer points in Hawaii, and it encourages Kalaeloa Barber's Point Harbor to grow as one of Hawaii's most important industrial areas. The EDP also envisions CIP and Kalaeloa Barber's Point Harbor to provide for over 7,000 jobs and for both areas to expand and continue to be an integral part in the growth of Kapolei. The Terminal is consistent with the EDP, in supporting the policies, principles, and vision for the City of Kapolei. In addition, the Terminal has been designed in accordance with the design guidelines for future development of the area.

3.3 BUILDING, GRADING, AND FIRE PERMITS

Prior to construction of the Terminal, the required building, excavation, and grading permits will be obtained from the C&C. Fire permits for the ASTs at the Terminal will be obtained from the Honolulu Fire Department prior to the Terminal being put into operation.

3.4 SECURITY

Facilities that are subject to the regulations set forth in 33 CFR 154 are also subject to USCG security requirements (33 CFR 105; USCG, 2006). In addition, because the Terminal is subject to 40 CFR 112, it also must comply with the EPA security requirements (EPA, 2005). To satisfy these requirements, an 8-foot high chain link fence will surround the perimeter of the Terminal. Barbed wire will line the top of the fence. Steel sliding gates will be located at the entrance and exit of the Terminal. The gates will be locked when the Terminal is not in operation. In addition, the Terminal will meet federal and state security requirements. A Facility Security Plan has been prepared (Amergent Techs, 2006) and the appropriate security procedures will be implemented.

SECTION 4 – PHYSICAL ENVIRONMENT

The construction and operation of industrial facilities potentially can have negative impacts on the physical environment in which they are constructed and operated and on the surrounding area. One of the principle objectives of an EA is to assess whether such impacts could be significant. The five areas of potential concern that have been identified regarding the construction and operation of the Terminal are (1) land impacts, (2) water impacts, (3) biological impacts, (4) air quality impacts, and (5) noise impacts.

4.1 CLIMATOLOGICAL CONDITIONS

Climatological conditions in the area of the Terminal consist of warm to moderate temperatures and low to moderate rainfall. The Terminal is leeward of the prevailing northeasterly trade winds. The average annual precipitation is approximately 20 inches, occurring mainly between November and April (State of Hawaii Department of Land and Natural Resources [DLNR], 1986). The adjusted annual pan evaporation rate is approximately 90 inches (DLNR, 1985). Average temperatures range from the low 60's to high 80's (degrees Fahrenheit) (Atlas of Hawaii, 1983).

4.2 POTENTIAL LAND IMPACTS

For the purposes of the EA, potential land impacts have been divided into geological and agricultural impacts. Geological impacts are those that affect the surface and subsurface geology, such as surface and subsurface soil, surface sediment, and rock. Agricultural impacts are those that affect the land surface and shallow subsurface in those areas where agricultural activities are conducted.

4.2.1 Existing Geological and Agricultural Conditions

4.2.1.1 Existing Geological Conditions

Oahu consists of the eroded remnants of two large shield volcanoes, Waianae and Koolau. The Terminal is on the southern, flat coastal plain of the Waianae shield. The plain, termed the *Ewa Plain*, is an emerged coral reef that formed during the 25-foot (Waimanalo) stand of the sea (Macdonald et al., 1983). The basalt shield-building lavas of the Waianae range are termed the *Waianae Volcanic Series* (Stearns and Vaksvik, 1938).

Information obtained from borings drilled in the Ewa Plain indicate that the immediate subsurface is a thick (greater than 150 feet) bed of coral (Stearns and Vaksvik, 1938). Underlying the coral are alternating layers of coral and clay down to greater than 700 feet below ground surface [bgs]. One boring encountered coralline limestone 786 feet bgs (Macdonald et al., 1983). Underlying these deposits are lavas of the Waianae Volcanic Series.

The soil in the area of the Terminal is classified as *Coral Outcrop*, which typically is formed by coral in the shallow ocean water when the sea level was higher (Foote, et al., 1972). As the sea

level dropped, the coral was exposed on the Ewa Plain. The material is highly permeable due to primary and secondary cavities. Vegetation is sparse on this type of land, and it is used typically for military reservations, quarries, and urban development.

In August 2006, a geotechnical investigation was conducted at the Terminal site to assess the engineering properties (e.g., load bearing, percolation rate) of subsurface rock (H&A, 2006). During the investigation, ten borings were drilled, ranging in depth from 8 to 27 feet bgs. The surface consisted of tan, silty, coralline sand down to 1.0 to 2.5 feet bgs. Underlying the sand was tan, hard coralline limestone (i.e., coral outcrop). Based on the results of the investigation, the allowable bearing pressure of the hard coralline limestone (5,000 pounds per square foot) is sufficient to support the nominal pressure at the bottom of the largest tanks (3,500 pounds per square foot).

4.2.1.2 Existing Agricultural Conditions

There is no agriculture in the immediate area of Kalaeloa Barber's Point Harbor. The reason for the absence of agriculture is that coral outcrop, the principal lithologic unit in the area, is unsuitable for such use.

4.2.2 Potential Environmental Impacts and Mitigation

Terminal Construction. Construction of the Terminal is not expected to pose a significant environmental risk to the Terminal site or the surrounding area. The construction will require limited excavation, grading, grubbing, and compaction. It is estimated that the final grade in the transportation area will be approximately 1 to 1.5 feet above the surrounding area outside the Terminal, and the final grade in the tank yard will be approximately 9 feet below the transportation area. The excavated coralline sand and coralline limestone will be added to the stockpile of dredged material on the south side of the Terminal.

Terminal Operations. Activities conducted at the Terminal once operations commence have the potential to pose a significant environmental risk to the Terminal site and the surrounding area. The potential for adverse environmental impacts exists in the event that there is a release of oil at the Terminal or from the cargo line. Controls will be implemented to greatly reduce or eliminate the potential for such releases. These controls are described in the following sections (Sections 4.2.2.1 to 4.2.2.4).

4.2.2.1 NPDES Discharge Permits

Prior to construction of the Terminal, an NPDES permit will be obtained for discharges of storm water associated with construction activities (HAR 11-55, Appendix C). In accordance with NPDES requirements, engineered controls and BMPs will be implemented to control storm water discharges. A BMP plan will be prepared and implemented, in accordance with NPDES requirements.

It is not anticipated that an NPDES discharge permit will be required for discharges associated with construction activity dewatering (HAR 11-55, Appendix G). Construction dewatering is unlikely to become necessary because excavation will be limited to four to five feet bgs and groundwater is approximately 23 feet bgs.

Following construction of the Terminal, an NPDES permit will be obtained for discharges of storm water associated with industrial activities (HAR 11-55, Appendix B), although it is not anticipated that there will be such discharges from the Terminal (see discussion in Section 3.1.5 of this report). In accordance with NPDES requirements, engineered controls and BMPs will be implemented to prevent storm water discharges.

Should storm water be discharged from the Terminal, samples of the storm water will be collected and analyzed for the chemical constituents specified under conditions of the NPDES permit. In addition to the general water quality parameters, these chemical constituents likely will include total petroleum hydrocarbons as diesel fuel [TPH-d], PAHs, and BTEX because they are associated with petroleum products stored at the Terminal.

A storm water pollution control [SWPC] plan will be prepared and implemented, in accordance with NPDES requirements. The SWPC plan identifies potential sources, sites, and causes of pollution; outlines procedures, methods, equipment, and BMPs to prevent a discharge of oil; and outlines response measures for dealing with releases of oil or other hazardous substances.

Following construction of the Terminal, an NPDES permit will be obtained for discharges of hydrotesting water associated with integrity testing of ASTs (HAR 11-55, Appendix F), although it is not anticipated that there will be such discharges from the Terminal. It is anticipated that, following sampling and analysis to confirm the absence of pollutants, the hydrotesting water will be released from the tank and allowed to infiltrate on-site. In accordance with NPDES requirements, engineered controls and BMPs will be implemented to prevent discharges from the Terminal.

4.2.2.2 SPCC Plan

As described in Section 3.1.3 of this report, an SPCC Plan will be prepared and implemented for the Terminal, in accordance with federal requirements (EPA, 2005). The SPCC plan identifies potential sources, sites, and causes of pollution; outlines procedures, methods, equipment, and BMPs to prevent a discharge of oil; and outlines response measures for dealing with releases of oil or other hazardous substances.

Secondary containments and/or divisionary structures will be constructed at the Terminal, in accordance with EPA (EPA, 2005) and USCG (USCG, 2005a, 2005b) regulations. In the event of a release of oil, the secondary containment will contain the release and prevent it from discharging from the Terminal and from reaching the underlying rock (i.e., the hard, coralline limestone).

4.2.2.3 Operations Manual and General Response Plan

An operations manual and general response plan will be prepared and implemented for the Terminal, in accordance with USCG regulations (USCG, 2005a, 2005b). These plans address transporting oil from a vessel to the Terminal via the cargo line. The operations manual identifies potential sources, sites, and causes of pollution and outlines the procedures, methods, equipment, and BMPs to prevent a discharge of oil. In addition, the operations manual will detail the daily activities at the Terminal. The general response plan outlines the response measures for dealing with releases of oil from the cargo line.

4.2.2.4 Corporate Spill Response Plan

GLP Asphalt follows the Corporate Spill Response [CSR] Plan implemented by Grace Pacific Corporation (Grace Pacific Corporation, 2006) as part of their Environmental Management System [EMS]. The CSR Plan contains spill response procedures for all Grace Pacific Corporation facilities. The plan identifies potential sources, sites, and causes of pollution; outlines procedures, methods, equipment, and BMPs to prevent a discharge of oil or other hazardous substances; and outlines the response measures for dealing with releases of oil or other hazardous substances. The CSR Plan will be revised to include the Terminal and to include USCG provisions that are not already included in the plan.

An important component of the CSR Plan is training. GLP Asphalt personnel will be trained in spill prevention and spill response procedures. Additional training includes the proper handling and management of petroleum products and other hazardous substances. This training meets EPA (EPA, 2005) and state (DOH, 2004a, DOH, 2005b) requirements. The training program will be modified to include compliance with USCG requirements (USCG, 2005a, 2005b). Terminal personnel training will include drills simulating a release of oil or hazardous substance. The drills will be conducted in accordance with USCG requirements (USCG, 2005a).

4.2.2.5 DOT Spill Response Plan

As described in Section 3.1.10 of this report, a DOT Spill Response Plan will be prepared and implemented for the Terminal, in accordance with federal requirements (DOT, 2005a). The intent of the plan is to provide response information for on-site and off-site releases or spills and to act as a practical easy-to-use guide. The plan will include the following information.

- For transporting oil, the DOT Spill Response Plan includes a written plan that contains the procedures and safety practices for responding to discharges that occur during transportation, the maximum potential discharge, the individuals responsible for responding to discharges, and the appropriate persons and agencies to be contacted in the event of a discharge.

- For transporting hazardous materials, the Spill Response Plan serves as an *emergency response guidance document* (49 CFR 172.602) that includes the appropriate response for each hazardous material being transported.

The DOT Spill Response Plan stresses BMPs aimed at minimizing harmful health and environmental effects associated with the release of petroleum-based products and hazardous materials. It includes the procedures for unanticipated releases, the procedures for personnel training, a listing of the minimum necessary emergency response equipment, and outside resources.

4.3 POTENTIAL WATER IMPACTS

Waters of potential concern in the area of the Terminal include (1) shallow groundwater, (2) coastal waters, and (3) deep, basal, drinking water. Of these, shallow groundwater and the coastal waters at Kalaeloa Barber's Point Harbor are the principal concerns.

4.3.1 Existing Hydrogeological Conditions

Groundwater in Hawaii exists in two principal types of aquifers. The first and most important type, in terms of drinking water resources, is the basal aquifer. The basal aquifer exists as a lens of fresh water floating on and displacing seawater within the pore spaces, fractures, and voids of the basalt that forms the underlying bulk of each Hawaiian island. In parts of Oahu, including the area of the Terminal, groundwater in the basal aquifer is confined by the overlying caprock and is under pressure. Waters that flow freely to the surface from wells that tap the basal aquifer are referred to as *artesian*.

The second type of aquifer is the caprock aquifer, which consists of various kinds of unconfined and semi-confined groundwater. In the area of the Terminal, the caprock is a relatively thick (probably greater than 700 feet) sequence of permeable to semi-permeable limestone interbedded with nearly impermeable clay layers. This thick sequence of limestone and clays separates the caprock aquifer from the basal aquifer. These caprock materials and the artesian nature of the basal aquifer severely restrict the downward migration of groundwater from the upper caprock aquifer.

Shallow groundwater in the area of the Terminal, which is part of the *Ewa Aquifer System* of the *Pearl Harbor Aquifer Sector* (Mink and Lau, 1990), is an upper caprock aquifer that is neither a drinking water source nor considered ecologically important. It has moderate salinity and is highly vulnerable to contamination. The water table beneath the Terminal is approximately 23 feet bgs (H&A, 2006). The direction of groundwater flow in the shallow aquifer was not determined during this assessment, but probably it is west, towards the ocean. It is assumed that the shallow water table at the Terminal is tidally influenced because of its proximity to the coast.

The basal (drinking water) aquifer resides in Waianae Volcanic Series lavas. The nearest drinking water supply well is approximately 2.7 miles northeast and upgradient of the Terminal, and there are no drinking water wells downgradient.

4.3.2 Potential Hydrogeological Impacts and Mitigation

4.3.2.1 Shallow Groundwater

In the absence of engineered controls and BMPs, shallow groundwater could be impacted at the Terminal should releases of oil occur. As described in Sections 1.3 and 4.2.2 of this report, engineered controls (e.g., secondary containments) and BMPs (e.g., spill response plans, training) will be implemented at the Terminal to contain possible releases within the Terminal.

4.3.2.2 Coastal Waters

In the absence of engineered controls, the coastal waters at Kalaeloa Barber's Point Harbor could be impacted should releases of oil at the Terminal occur in sufficient quantity. As described in Sections 1.3 and 4.2.2 of this report, engineered controls (e.g., secondary containments, diversionary structures) and BMPs (e.g., spill response plans, training) will be implemented at the Terminal to contain possible releases within the Terminal and prevent releases from reaching coastal waters.

4.3.2.1 Basal, Drinking Water Aquifer

Based on the direction and distance to the nearest drinking water well, the thickness of the caprock, and the depth to the basal (drinking water) aquifer, it is highly unlikely that releases of oil or other hazardous substances at or in the vicinity of the Terminal could impact drinking water sources.

4.4 POTENTIAL BIOLOGICAL IMPACTS

There are numerous recognized ecosystems in Hawaii. Because so many Hawaiian species are highly specialized, populations are small and many of Hawaii's plants and animals are listed as threatened or endangered species by the United States Fish and Wildlife Service. For the purposes of the EA, the following three biological communities of potential concern in the area of the Terminal have been identified: (1) floral, (2) faunal, and (3) marine.

4.4.1 Existing Biological Conditions

4.4.1.1 Floral (Plant Communities)

In 1992, a botanical survey (Char, 1992) was conducted as part of the EIS for the Kalaeloa Barber's Point Harbor basin expansion (PBQD, 1995). Information from the Char (1992) survey also was used in the EA for the Hawaiian Cement Terminal (PBQD, 1999). No threatened, endangered, or endemic floral species were identified in the area of the Terminal.

In the botanical survey, it was noted that the majority of the area (approximately 90%) has been greatly disturbed. The vegetation in the area was minimal to sparse. In areas of relatively low disturbance, small patches of kiawe (*Prosopis pallida*), a non-native tree from South America,

could be found. These trees ranged from 18 to 25 feet in height. Reddish-brown soil with patches of Guinea grass (*Panicum maximum*), bristly foxtail (*Setaria verticillata*), and basil (*Ocimum gratissum*) also were observed in these areas. In the areas of abundant coral outcropping, the flora consisted mainly of Chinese violet (*Asystasia gangetica*). In the areas of high disturbance, tree tobacco (*Nicotiana glauca*), saltbush (*Atriplex suberecta*), buffel grass (*Cenchus ciliaris*), swollen finger grass (*Chloris barbata*), and radiate finger grass (*Chloris radiate*) were observed.

4.4.1.2 Faunal (Animal Communities)

In 1991, a faunal survey (Bruner, 1991) was conducted as part of the EIS for the Kalaeloa Barber's Point Harbor basin expansion (PBQD, 1995). Information from the Bruner (1991) survey also was used in the EA for the Hawaiian Cement Terminal (PBQD, 1999). No threatened, endangered, or endemic faunal species were identified in the area of the Terminal. Birds are the dominant fauna of concern in the area of the Terminal. The only mammals that possibly inhabit the area are feral Indian mongooses (*Herpestes auropunctatus*), mice, rats, cats, and dogs.

TABLE 4.1
Summary of Birds Sighted (November 1991)
GLP Asphalt Kalaeloa Asphalt Terminal
Final Environmental Assessment

Common Name	Scientific Name	Relative Abundance*
Cattle Egret	*Bubulcus ibis*	R = 3
Spotted Dove	*Streptopelia chinensis*	C = 6
Zebra Dove	*Geopelia striata*	C = 8
Common Myna	*Acridotheres tristis*	U = 4
Red-vented Bulbul	*Pycnonotus cafer*	C = 8
Northern Mockingbird	*Mimus polyglottos*	R = 1
Northern Cardinal	*Cardinalis cardinalis*	U = 2
Red-crested Cardinal	*Paroaria coronata*	U = 4
Japanese White-Eye	*Zosterops japonicus*	C = 7
Eurasian Skylark	*Alauda arvensis*	R = 4
House Sparrow	*Passer domesticus*	C = 6
House Finch	*Carpodacus mexicanus*	C = 8
Java Sparrow	*Padda oryzivora*	R = 1
Common Waxbill	*Estrilda astrild*	C = 9
Nutmeg Mannikin	*Lonchura punctulata*	R = 9

Source: Bruner (1991).

* Relative Abundance = number of individuals observed during walking survey or frequency on 8-minute counts in appropriate habitat.

C Common (5 to 10 individuals) on 8-minute counts.

R Recorded but not on 8-minute counts (number that follows is the total recorded over the course of the entire survey).

U Uncommon (less than 5 individuals) on 8-minute counts.

The pacific golden plover (*Pluvialis fulva*), the only native species observed in the area, frequents open fields and shorelines. Several non-native species of birds, including the barn owl (*Tyto alba*), Japanese bush-warbler (*Cettia diphone*), ruddy turnstone (*Arenaria interpres*), white-rumped shama (*Copsychus malabaricus*), red avadavat (*Amandava amandava*), and chestnut mannikin (*Lonchura malacca*), are known to frequent the area, but were not observed during the survey. Non-native birds observed in the area during the faunal survey are summarized in Table 4.1.

4.4.1.3 Marine (Ocean Floral and Faunal Communities)

In 1994, a marine environmental assessment (OI, 1994) was conducted as part of the EIS for the Kalaeloa Barber's Point Harbor basin expansion (PBQD, 1995). The habitat area surveyed in the OI (1994) assessment is comparable to the habitat within the expanded harbor area of Kalaeloa Barber's Point Harbor. The assessment revealed three areas having distinct physical and biological characteristics. These included (1) a shallow inshore limestone bench, (2) a limestone plate with extensive beds of living and dead coral at 6 to 10 meters depth, and (3) a deep limestone plate covered with a thin algal-sand layer greater than 15 meters depth outside the Kalaeloa Barber's Point Harbor entrance.

Shallow (less than 6 meters) Inshore Limestone Bench. The shallow limestone bench contained less than 6 percent live coral, with an abundant population of *Porites lobata*. *Echinometra mathaei*, a common rock-boring sea urchin, was the dominant invertebrate observed in this area. Fish species observed included the saddleback wrasse (*Thalassoma duperrey*), lavender tang (*Acanthurus nigrofuscus*), convict tang (*Acanthurus triostegus*), blackfin chromis (*Chromis vanderbilti*), and bright-eye damselfish (*Abudefduf imparipennis*). Also observed were filamentous red macroalgae.

Intermediate Depth (6 to 10 meters) Limestone Plate. The limestone plate with extensive beds of live and dead coral was surveyed at 7 to 8 meters depth. Live coral covered approximately 25 percent of this area and consisted mainly of *Porites lobata*. The fish in the area were the same species inhabiting the shallow limestone bench. Invertebrates were rare. Macroalgae were common.

Deep (greater than 10 meters) Limestone Plate. The deep limestone plate (bottom) was covered with a thin algal-sand mat. Coral covered approximately six percent of this area and consisted mainly of *Pocillopora meandrina* and *Porites lobata*. Schools of bluestripe snapper (*Lutjanus kasmira*), manybar goatfish (*Parupeneus multifasciatus*), milletseed butterflyfish (*Chaetodon miliaris*), and orangeband surgeonfish (*Acanthurus olivaceous*) were observed in the area. Tubeworms and red filamentous algae also were observed at or near the bottom of Kalaeloa Barber's Point Harbor.

4.4.2 Potential Biological Impacts and Mitigation

According to floral and faunal assessments conducted as part of the BHP basin expansion EIS (PBQD, 1995) and the Hawaiian Cement Terminal EA (PBQD, 1999), there are no threatened,

endangered, or endemic floral or faunal species in the area of the Terminal. The floral and faunal communities observed in the assessments indicate that the Kalaeloa Barber's Point Harbor area is a degraded environment. Biological conditions in the Kalaeloa Barber's Point Harbor area are not considered to have improved since the studies were conducted. Construction activities associated with the development of the Kalaeloa Barber's Point Harbor area have further added to the degradation of the environment through vegetation and habitat removal.

Based on these results, the Terminal will not have a significant impact on the already significantly modified biological conditions in the area. In addition, the vessels transporting asphalt cement to Kalaeloa Barber's Point Harbor will be unballasted, thus eliminating the possibility of non-native species entering Kalaeloa Barber's Point Harbor waters.

4.5 POTENTIAL AIR QUALITY IMPACTS

Air pollution is caused by many different man-made and natural sources. To determine if emissions generated at the Terminal would adversely affect air quality conditions, potential air quality impacts were evaluated in accordance with national and state air quality standards.

4.5.1 Existing Air Quality Conditions

The DOH CAB has identified the following four potential sources of air pollution: (1) industrial sources, such as power plants and refineries, (2) mobile sources, such as motor vehicles, (3) agricultural sources, such as cane burning, and (4) natural sources, such as wind-generated dust and volcanic activity (DOH, 2003b, 2004c, 2005a). Air pollution at Kalaeloa Barber's Point Harbor consists primarily of vessel exhaust, vehicle and heavy equipment exhaust, emissions from cargo, and dust generated from unpaved ground and unpaved roadways. At nearby CIP, there are other industrial sources of air pollution, such as power plants and refineries. Prevailing east-northeast winds in the area tend to result in air pollutants migrating to the coastline.

Ambient air in Hawaii is monitored for gaseous and particulate air pollutants by the DOH CAB. The EPA has set National Air Quality Standards [NAQS] for air pollutants, including carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, ozone, and particulate matter. The most recent air quality data from the Kapolei monitoring station indicates that the federal NAQS and the State Ambient Air Quality Standards [SAAQS] are being met in the vicinity of the Terminal site, with annual trends remaining stable since 2000. Air quality data collected from 2003 to 2005 at the Kapolei monitoring station are summarized in Table 4.2.

4.5.2 Potential Air Quality Impacts and Mitigation

Potential negative air quality impacts at the Terminal can be divided into two principal concerns. The initial concern will be those potential impacts associated with construction of the Terminal. The long-term concern will be those potential impacts associated with normal operation of the Terminal.

TABLE 4.2
Air Quality Data for the Kapolei Area (2003 to 2005)
GLP Asphalt Kalaeloa Asphalt Terminal
Final Environmental Assessment

Air Pollutant	2003	2004	2005	SAAQS	NAQS
Carbon Monoxide					
Number of Measurements (1-hour occurrences)	8,760	8,784	8,760		
Valid Measurements (1-hour occurrences)	8,559	8,507	8,556		
Highest Value Recorded (µg/m³)	2,166	2,394	1,710	10,000	40,000
Annual mean (µg/m³)	413	413	401	10,000	40,000
Number of Times SAAQS Exceeded	0	0	0		
Number of Times NAQS Exceeded	0	0	0		
Nitrogen Dioxide					
Number of Measurements (annual occurrences)	8,760	8,784	8,760		
Valid Measurements (annual occurrences)	8,120	7,880	8,660		
Highest Value Recorded (µg/m³)	-	-	70	n/a	n/a
Annual mean (µg/m³)	9	9	9	70	100
Number of Times SAAQS Exceeded	-	-	-		
Number of Times NAQS Exceeded	-	-	-		
PM_{10}					
Number of Measurements (24-hour occurrences)	365	366	365		
Valid Measurements (24-hour occurrences)	343	339	352		
Highest Value Recorded (µg/m³)	72	54	53	150	150
Annual mean (µg/m³)	14	13	15	50	50
Number of Times SAAQS Exceeded	0	0	0		
Number of Times NAQS Exceeded	0	0	0		
$PM_{2.5}$					
Number of Measurements (24-hour occurrences)	121	121	122		
Valid Measurements (24-hour occurrences)	113	99	108		
Highest Value Recorded (µg/m³)	11	7	55	n/a	65
Annual mean (µg/m³)	4	3	4	n/a	n/a
Number of Times SAAQS Exceeded	0	0	0		
Number of Times NAQS Exceeded	0	0	0		
Sulfur Dioxide					
Number of Measurements (3-hour occurrences)	2,920	2,928	2,920		
Valid Measurements (3-hour occurrences)	2,461	2,504	2,396		
Highest Value Recorded (µg/m³)	26	17	64	1,300	1,300
Annual mean (µg/m³)	1	1	2	80	80
Number of Times SAAQS Exceeded	0	0	0		
Number of Times NAQS Exceeded	0	0	0		

Sources: DOH, 2003b, 2004, 2005a.

PM_{10}	Particulate Matter less than 10 microns in diameter.
$PM_{2.5}$	Particulate Matter less than 2.5 microns in diameter.
SAAQS	State Ambient Air Quality Standard.
NAQS	National Air Quality Standard.
µg/m³	micrograms per cubic meter.
-	Value not recorded.
n/a	not applicable – no standard.

4.5.2.1 Air Quality Impacts and Mitigation During Construction

Construction of the Terminal has the potential to generate short-term air quality emissions in the form of dust. BMPs will be implemented during construction to ensure that dust emissions are minimized.

4.5.2.2 Air Quality Impacts and Mitigation During Normal Terminal Operation

Hot Oil Heaters. Normal operation of the Terminal will generate air emissions. The principal source of emissions will be the two hot oil heaters. The heaters will be operated on an alternating schedule, with only one in operation at any given time. They are designed to have a heat input of approximately 5 mmBtu/hr and a heat output of 4 mmBtu/hr. It is anticipated that the heaters will be powered with low-sulfur diesel fuel. The anticipated emissions are those associated with the combustion of diesel fuel. The principal concerns are carbon monoxide, nitrogen oxides [NO_x], sulfur oxides [SO_x], particulate matter [PM] (PM_{10} and $PM_{2.5}$; less than 10 microns in diameter and less than 2.5 microns in diameter, respectively), lead, and volatile organic compounds [VOCs].

Asphalt Cement Tanks. A source of emissions will be the heated asphalt cement tanks. These emissions will be negligible relative to those from the hot oil heaters. The anticipated emissions are those associated with fumes from the heated asphalt. The principal concerns are VOCs, in particular those that are hazardous air pollutants [HAPs].

TABLE 4.3
Calculated Emission Rates for Anticipated Air Pollutants (August 2006)
GLP Asphalt Kalaeloa Asphalt Terminal
Final Environmental Assessment

Air Pollutant	Hot Oil Heaters	Asphalt Cement Day Tanks	Asphalt Cement Main Tanks
	Heatec HCI-400	Tanks 1 & 2	Tanks 3 & 4
Carbon Monoxide	0.79	n/a	n/a
Lead	0.00024	n/a	n/a
NO_x	3.15	n/a	n/a
SO_x	1.12	n/a	n/a
PM_{10}	0.16	n/a	n/a
$PM_{2.5}$	0.04	n/a	n/a
VOCs	0.05	0.00175	0.0347
Volatile HAPs	n/a	0.000084	0.000958

Source: Parametrix (2006). Emission rates are in tons per year.

NO_x	Nitrogen Oxides (x = number of oxygen atoms).
SO_x	Sulfur Oxides (x = number of sulfur atoms).
PM_{10}	Particulate Matter <10 microns in diameter.
$PM_{2.5}$	Particulate Matter <2.5 microns in diameter.
VOCs	Volatile Organic Compounds.
HAPs	Hazardous Air Pollutants.
n/a	not applicable.

Emissions Testing and Modeling. In August 2006, as part of the new non-covered source air permit application for the Terminal (Parametrix, 2006), emissions testing and modeling were conducted to assess the air pollutants that are anticipated to be generated. The results confirm that the hot oil heaters (Heatec HCI-400 Heating Units) will be the main sources of air pollution at the Terminal. The total HAPs emissions will be below federally regulated levels (Parametrix, 2006). The results of the testing and modeling are summarized in Table 4.3.

4.6 POTENTIAL NOISE IMPACTS

Noise pollution can result from industrial operations. To determine if noise generated at the Terminal would adversely affect noise quality in the area, potential noise impacts were evaluated in accordance with state noise control standards (DOH, 1996b).

The maximum permissible sound level for areas zoned as industrial is 70 decibels [dBA]. This means that sound levels generated at a facility within that zoning district should not exceed 70 dBA at or beyond the property line (DOH, 1996b). The maximum permissible sound level can be exceeded for short periods but not for more than ten percent of the time within any twenty minute period. The maximum permissible sound level for impulsive noise is 10 dBA above the maximum permissible sound level. Backup alarm devices on vehicles are exempt from the maximum permissible sound levels, where such devices are required by the Occupational Safety and Health Administration [OSHA], (DOH, 1996b).

4.6.1 Existing Noise Conditions

In 1999, a noise study was conducted as part of the Hawaiian Cement Terminal EA (PBQD, 1999). Ambient noise levels were measured at five areas that were identified as the closest areas to Kalaeloa Barber's Point Harbor considered to be sensitive to noise (i.e., residences, parks, and resorts). The five areas were (1) West Beach Marina, (2) Ko Olina Lagoons, (3) the future Ko Olina residences, (4) Ko Olina Fairway Townhouses, and (5) Honokai Hale/Nanakuli Gardens. These areas remain the closest noise-sensitive areas to Kalaeloa Barber's Point Harbor. The locations of the areas are shown in Figure 12. The measured ambient noise levels are summarized in Table 4.4.

4.6.2 Potential Noise Impacts and Mitigation

Potential negative noise impacts at the Terminal can be divided into two principal concerns. The initial concern will be those potential impacts associated with construction of the Terminal. The long-term concern will be those potential impacts associated with normal operation of the Terminal.

4.6.2.1 Noise Impacts and Mitigation During Construction

Construction of the Terminal has the potential to generate short-term noise impacts. BMPs will be implemented during construction to ensure that noise is minimized during construction. It is

anticipated that noise generated during construction of the Terminal will not exceed the maximum permissible sound level.

TABLE 4.4
Summary of Ambient Noise Levels at Sensitive Receptors
GLP Asphalt Kalaeloa Asphalt Terminal
Final Environmental Assessment

Area	Description	Median Sound Levels (dBA)
1	West Beach Marina	52
2	Ko Olina Lagoons	50
3	Future Ko Olina Residences	45
4	Ko Olina Fairway Townhouses	58
5	Honokai Hale/Nanakai Gardens	56

Data from PBQD (1999).
dBA decibel

4.6.2.2 Noise Impacts and Mitigation During Normal Terminal Operation

It is not anticipated that noise generated during normal operation of the Terminal will exceed the maximum permissible sound level. The major noise sources during normal operation of the Terminal will be the hot oil heaters and the pumps used to transfer heating oil and asphalt cement throughout the Terminal. To assess the potential noise contribution to the area surrounding the Terminal, on October 24, 2006, noise measurements were made at the hot oil heaters and the pumps in operation at the Grace Pacific Corporation Makakilo asphalt plant. The Makakilo equipment is roughly equivalent to the equipment that will be installed at the Terminal. The noise levels at these pieces of operating equipment ranged from 83 to 92 dBA (Table 4.5).

TABLE 4.5
Major Noise Sources at the Terminal
GLP Asphalt Kalaeloa Asphalt Terminal
Final Environmental Assessment

Source	Measured Sound Level at Source* (dBA)	Calculated Sound Level at Property Boundary (dBA)	Maximum Permissible Sound Level (dBA)
Hot Oil Heater	92	53	70
Heating Oil Pump	83	44	70
Asphalt Cement Pump	88	47	70

***** The measurements were made on October 24, 2006.
dBA decibel.

Noise Levels at the Property Boundary. Calculations were made to determine the noise levels at the property boundary resulting from operation of the hot oil heaters and the pumps.

The calculated noise levels were made using very conservative assumptions, which are listed below.

- The noise levels at the sources range from 83 to 92 dBA.
- The noise is attenuated only by distance. Thus, there is no noise attenuation by barriers inside the Terminal, such as interior walls, the secondary containment berm, and other structures.
- The calculations were made assuming hemispherical propagation of the sound waves, which is preferred over spherical propagation (i.e., the sound waves propagate equally in all directions) because the downward propagation of sound waves is severely attenuated by the ground surface.

The calculated noise levels at the property boundaries, which are 110 to 140 feet from the sources, range from 44 to 53 dBA (Table 4.5). These levels are significantly below the maximum permissible sound level of 70 dBA. Considering that 40 dBA is typical of a quiet room and 60 dBA typical of a conversation at three feet, the noise generated at the Terminal is unlikely to be recognizable at the property boundary.

Noise Levels at the Nearest Sensitive Receptors. Calculations were made to determine the noise levels at the five nearest noise-sensitive areas that were identified in the Hawaiian Cement Terminal EA (PBQD, 1999). Calculations also were made for the Kapolei West Expansion area, a nearby potential future development. These six noise-sensitive areas are 0.43 to 1.3 miles away. In addition to the assumptions listed above, calculated noise levels were made using the conservative assumptions listed below.

- There is no attenuation of noise by surrounding man-made structures, vegetation, or terrain.
- There is no attenuation of noise by atmospheric conditions.
- The sources of the noise directly face each of the sensitive areas.

The calculated noise levels at the six nearest noise-sensitive areas range from 18 to 27 dBA (Table 4.6). These levels are substantially below the maximum permissible sound levels, which range from 55 to 60 dBA. As previously discussed, 40 dBA is typical of a quiet room; therefore, the noise generated at the Terminal should not be apparent at these noise-sensitive areas.

TABLE 4.6
Calculated Sound Levels at the Nearest Sensitive Receptors
GLP Asphalt Kalaeloa Asphalt Terminal
Final Environmental Assessment

Area	Description	Distance (miles)	Calculated Sound Level (dBA)	Ambient Median Sound Level (dBA)*	Maximum Permissible Sound Level (dBA)
1	West Beach Marina	0.72	23	52	60
2	Ko Olina Lagoons	0.80	22	50	60
3	Future Ko Olina Residences	0.78	22	45	55
4	Ko Olina Fairway Townhouses	0.91	21	58	55
5	Honokai Hale/Nanakai Gardens	1.30	18	56	55
6	Kapolei West Expansion Area	0.43	27	-	55

***** Data from PBQD (1999).
dBA decibel.
- not measured.

SECTION 5 – SOCIAL ENVIRONMENT

5.1 LAND USE

To determine if the Terminal would adversely affect land use in the area, current land use in the vicinity of the Terminal was evaluated and compared with the use of the Terminal and its operations.

5.1.1 Existing Land Use

The Terminal site and surrounding land to the north, west, and south are zoned as *I-3 Waterfront Industrial* (Figure 4). The property east of the Terminal is zoned as *Ag-2 General Agriculture*, but there are plans to change the zoning designation to *Industrial*. The purpose of the planned change is to develop the proposed Kapolei Harborside Center, which will be an industrial park similar to CIP (Group 70, 2006). That property currently consists of undeveloped land that is owned by Kapolei Property Development, LLC.

The State of Hawaii owns the land north, south, and west of the Terminal. Grace Pacific Corporation currently leases the property across Hanua Street Access Road and uses it to store aggregate. The property south of the Terminal is used to stockpile material that was dredged from Kalaeloa Barber's Point Harbor. An elevated coal conveyor is located on an easement between the stockpile of dredged material and the Terminal. The coal conveyor is used to transport coal from vessels at Pier 6 and 7 to the electrical power plant in CIP.

Hawaiian Cement leases the property across John Wayne Avenue from the Terminal and uses it as a concrete import and transshipment terminal. The main features at the Hawaiian Cement Terminal are two 30,000-ton capacity concrete storage domes that are each approximately 77 feet tall and 144 feet in diameter.

The EDP (C&C, 1997) calls for the development of the Kapolei Business-Industrial Park, which is adjacent to the east side of the Kalaeloa Barber's Point Harbor area. The plan includes expanding the park to 800 acres and continuing the development of waterfront industrial, intensive industrial, and commercial businesses.

The nearest residential community to Kalaeloa Barber's Point Harbor is the Ko Olina Resort and Marina, which is described as a master-planned, active-family community (Ko Olina, 2005). It encompasses 642 acres on the northwest side of Kalaeloa Barber's Point Harbor. It includes the Ko Olina Marina, JW Marriott Ihilani Resort and Spa, Ted Robinson's championship golf course, four man-made lagoons, single-family homes, and townhouses. The marina is adjacent to the northwest side of BHP, and it shares the same vessel entrance to the open ocean as Kalaeloa Barber's Point Harbor.

5.1.2 Potential Land Use Issues

The Terminal will not have a significant impact on existing land use in the area (Kalaeloa Barber's Point Harbor, CIP, and Ko Olina Resort and Marina). The area of the Terminal is zoned for industrial use and is consistent with surrounding businesses and facilities. The Terminal also will aid in the EDP, the goal of which is to see continued growth of Kalaeloa Barber's Point Harbor as one of the state's most important industrial areas.

5.2 SOCIAL AND ECONOMIC ISSUES

To determine if the Terminal would adversely affect social and economic conditions in the surrounding area and across the state, current conditions were examined and compared with projected future conditions.

5.2.1 Existing Social and Economic Conditions

Kalaeloa Barber's Point Harbor is the second busiest harbor in Hawaii, and it is one of the state's most important heavy industrial harbors and fuel transfer points. It is the sole access port for CIP, Hawaii's most important heavy industrial area (C&C, 1997). A number of Oahu's primary industrial facilities, including the Tesoro and Chevron refineries, use Kalaeloa Barber's Point Harbor to transfer oil from vessels to their refineries.

The EDP describes the likely social and economic changes, along with infrastructure and public facility needs, that probably would need to occur for the Kapolei area to be recognized as a second urban center. The City of Kapolei is projected to experience significant growth, with an estimated population of 125,000 people provided for by 64,000 jobs in 2020. This could see Ewa realize a 3.6 percent average annual growth, which is significantly higher than the Oahu-wide expected population increase of 1.6 percent. This growth will ensure that Kapolei continues to develop towards its aim of being Oahu's second largest city.

In addition to the projected growth of the City of Kapolei, the EDP provides general policies, planning principles, and guidance for the development of industrial areas in Ewa. These industrial areas include, but are not limited to, CIP and Kalaeloa Barber's Point Harbor. The plan encourages both areas to grow as two of Hawaii's most important industrial areas (C&C, 1997). In support of the EDP, the Kapolei Harborside Center, a proposed 332-acre industrial park, is currently being planned (Group 70, 2006).

In 2005, Chevron stopped the production and distribution of asphalt cement in Hawaii. Currently, Tesoro (located in CIP) is the only operational bulk asphalt cement storage and distribution facility in Hawaii. The current asphalt cement storage capacity of Tesoro is 100,000 bbl. Tesoro estimates about 45,000 bbl of asphalt cement are used in Hawaii monthly (Honolulu Advertiser, 2006).

In the past three years, Tesoro has run out of asphalt cement three times. The most recent event occurred in May 2006. Because Tesoro is the only bulk asphalt cement storage and

distribution facility, the state experienced a severe asphalt shortage. This, in turn, resulted in the state, C&C, and private contractors having to halt or delay many construction projects. It also resulted in many contractors having to lay off as many as 165 workers (Honolulu Advertiser, 2006). It is uncertain how long the Tesoro refinery will continue to manufacture asphalt cement.

5.2.2 Potential Social and Economic Impacts

It is not anticipated that employment at the Terminal will have a significant impact on social or economic conditions in the immediate area. The Terminal will employ approximately three people.

The Terminal will have a significant positive impact on social and economic growth across the state. It will be one of two bulk asphalt cement storage facilities on Oahu and the largest supplier of asphalt cement in Hawaii. The location, design, and storage capacity of the Terminal will allow asphalt cement to be shipped to the state at a cost that is significantly less than shipping asphalt cement in by inter-modal containers. It will also allow for easy shipment of asphalt cement in inter-modal containers to neighbor islands.

It is estimated that the storage capacity of the Terminal (over 200,000 bbl) will be sufficient to keep pace with Hawaii's growing infrastructure and construction needs. This, in turn, will allow government and private contractors to keep pace with current and future construction in the state. In addition, it will prevent private contractors (e.g., paving companies, seal coat companies) from laying off employees due to the lack of asphalt cement.

5.3 SITE HISTORY AND CULTURAL BACKGROUND

The Terminal property is located in the *ahupuaa* (a strip of land stretching from the mountains to the sea) of Honouliuli, which lies within the *moku* (now, District) of Ewa. Honouliuli, which encompasses approximately 43,000 acres, is the largest ahupuaa on Oahu, and it occupies almost the entire Ewa Plain. It is bounded on the east by Pearl Harbor, on the south and the west by the Pacific Ocean, and on the north by the moku (district) of Waianae.

Puuloa occupies the eastern side of Honouliuli and is described in many sources as the most fertile part of Honouliuli due to the presence of Honouliuli Gulch, the only permanent source of surface water drainage (Tuggle and Tomonari-Tuggle, 1997), which allowed for irrigation and agriculture, and of Pearl Harbor, which provided plentiful seafood, including pearl oysters (pipi), shrimp, bivalves, and fish (e.g., nehu pala, nehu maoli). According to Hawaiian legend, Puuloa is where breadfruit (ulu) was first planted in Hawaii (Sterling and Summers, 1978; Kamakau, 1991). The most prominent of these legends holds that Kahaiahookamalii, Moikeha's grandson, sailed from Kalaeloa to Kahiki and returned with the first breadfruit, which he planted in Puuloa in (Kamakau, 1991).

The western side of Honouliuli, where the Terminal property is located, has been described as a sparsely settled and harsh region. It is likely that the area was never inhabited by Hawaiians on a permanent basis and that dwellings were occupied on a seasonal basis for the purpose of

fishing (Hammatt and Folk, 1981; McDermott et al., 1999). There are scattered archaeological sites along the southwest coast of Honouliuli (Sinoto, 1976). Although there were a few small villages in the area, including Kalaeloa, Koolina, and Kualakai (Tuggle, 1997; Tuggle and Tomonari-Tuggle, 1997), the region was sparsely populated (Moore and Kennedy, 2002). Vancouver reported in the 1790's that the area was a barren, rocky waste nearly destitute of cultivation or inhabitants and that there were no villages between Puuloa and Waianae, only a few fisherman's huts (Handy, 1940).

According to Hawaiian legend, it is an area inhabited mostly by wandering souls. The souls of people who have no claim to an aumakua are said to wander the plain at Puu Kapolei, where they feast only on spiders and moths (Kamakau, 1964). The ocean waters off Kalaeloa are known as a place inhabited by turtles, large sharks, and the kupua fish, Uhumakaikai (Sterling and Summers, 1978).

Probably, the most prominent feature in the western part of Honouliuli is Puu Kapolei (also called Puu o Kapolei), a cinder cone known as a landmark between Ewa and Pearl Harbor (Sterling and Summers, 1978). Puu Kapolei is mentioned in many accounts because it lies along one of the principal ancient trails that connected Ewa and Waianae (Ii, 1959; Sterling and Summers, 1978). According to Hawaiian legend, the hill was at one time occupied by Kamapuaa and his grandmother, Kamaunuaniho.

Puu Kapolei was the site of a heiau that had been destroyed by 1930, the stones having been used in a rock crusher (McAllister, 1933). Puu Kapolei was known as a spiritual center for astronomers (Kamakau, 1976; Tuggle, 1997). The results of a detailed analysis of the astronomical significance of Puu Kapolei suggest that it was a heiau dedicated to Kapo, a deity interpreted as the female element of the sun, whose name occurs in hulas and chants celebrating the rising sun. Puu Kapolei also may have been a jumping-off place for souls, possibly linked to the dead people roaming on the Plain of Kaupea (Tuggle and Tomonari-Tuggle, 1997).

In 1786, Kalaeloa was given the name *Point Banks* by Captain Nathaniel Portlock in honor of Sir Joseph Banks, a naturalist on Captain Cook's first voyage to Hawaii (Tuggle and Tomonari-Tuggle, 1997). In October 1796, Captain Henry Barber ran his ship, Arthur, aground at Kalaeloa (Kamakau, 1961). Sometime later, Kalaeloa came to be referred to as *Barber's Point*.

Since 1790's, the introduction of domesticated animals and exotic plant species altered the landscape of the Ewa coast significantly. Native plants and what little cultivation existed were largely destroyed by grazing and logging.

By ancient custom, lands in the Hawaiian Islands were controlled by conquering chiefs, who in turn made assignments to lesser chiefs, and so on down to commoners. After Kamehameha I conquered the islands near the end of the eighteenth century, he controlled almost all the land in the kingdom. By the time of his death in 1819, problems were beginning to arise concerning ownership of land. Newcomers who wanted ownership in fee of the lands where they resided brought much of this pressure. Little was done about land during the reign of Kamehameha II,

but during that of Kamehameha III a revolution occurred. The *Great Mahele*, or division of 1848, divided lands between the King, the government, and the people. In 1850, the Kuleana Act was enacted, which enabled foreigners to own land.

Following the conquering of Oahu by Kamehameha I, he awarded Honouliuli to Kalanimoku, as part of his panalaau aina, who later gave it to his sister, Wahinepio (Kameeleihiwa, 1992). During the Great Mahele, Honouliuli was awarded to Wahinepio's daughter, Kekauonohi. When Kekauonohi died in 1851, ownership of Honouliuli went to her husband, Levi Haalelea. In 1864, following Haalelea's death, his second wife gave Honouliuli to her sister's husband, John Coney. In 1877, all of Honouliuli, with the exception of Puuloa, was sold to James Campbell, who turned it into a cattle ranch.

In 1889, Campbell leased Honouliuli to Dillingham, who then subleased most of the land to Ewa Plantation Company for sugar cane cultivation in 1890 (Tuggle and Tomonari-Tuggle, 1997). Honouliuli also was used by the Dillingham-owned Oahu Railway and Land Company, which transported cattle and sugar cane, and there were two limestone quarries, one of which was at Kalaeloa. Later, the area southeast of Puu Kapolei was used to cultivate sisal.

Sugar cane cultivation and ranching, principally by Honouliuli Ranch and Ewa Plantation, were the major land-use activities in Honouliuli until the 1930's, when the land began to be developed for U.S. Military purposes. The largest military development was Barber's Point Naval Air Station. Camp Malakole was constructed near the proposed Terminal site, and it housed the 251st Coast Artillery Anti-Aircraft Regiment.

5.4 Historical Sites and Cultural Impact Assessment

5.4.1 Findings

The most important historical sites in Honouliuli are the heiaus (McAllister, 1933; Sterling and Summers, 1978; Tuggle and Tomonari-Tuggle, 1997). The closest heiau to the Terminal site and the heiau of greatest cultural importance in Honouliuli was Puu Kapolei (Site 138; McAllister, 1933), which is two miles northeast. Most of the heiaus were located in northern Honouliuli, such as the Puu Kuua heiau (Site 137; McAllister, 1933), which was located on the ridge overlooking Nanakuli, and the Puu Kuina heiau, which was located at the foot of Mauna Kapu (Site 134; McAllister, 1933). A possible heiau was located at the foot of Puu Kanehoa (Site 133; McAllister, 1933). By 1930, all of these heiaus had been destroyed.

Early maps (see Appendix A in Tuggle and Tomonari-Tuggle, 1997) and archaeological studies do not cite any important historical sites in the area of the Terminal. The 1930 archaeological survey conducted by McAllister (1933) and the cultural compilation of Sterling and Summers (1978) did not cite any important cultural findings on the far west side of Honouliuli. Most of the culturally important sites in Honouliuli, including the Ewa taro fields, were close to the east side of Honouliuli, next to Pearl Harbor.

With increasing industrial development of the Barber's Point area in the late 1970's, the State Historic Preservation Division of the DLNR established the Barber's Point Archaeological District. The Terminal is located within this district (Figure 14). Archaeological surveys conducted in the general area of the Terminal in 1970 (Lewis, 1970) and 1975 (Barrera, 1975) discovered many house sites and other structures. Archaeological sites in the general area of the Terminal range from simple stone mounds and modified sinkholes to cairns, well-constructed enclosures, and dense clusters of small structures (Tuggle and Tomonari-Tuggle, 1997).

In July 1976, 68 new sites were discovered, increasing the number of sites in the area to 92 (Sinoto, 1976). In the 1976 survey, 481 artifacts from nine of twenty-eight discovered sites were recovered, including fishhooks made from bone and pearl, pearl shells, basalt cores, and adze. The fishhooks and fish scales discovered in large numbers support earlier suggestions that the area was dominated by a marine-based economy. Within the context of the Ewa Plain settlement model, the area just inland of the coastline was the site of permanent settlements that were focused around sinkhole clusters, which provided water and allowed for cultivation (Tuggle and Tomonari-Tuggle, 1997).

Bird species found in the archaeological surveys include the endangered Hawaiian Crow (alala; thought to be extinct on Oahu), the extinct Hawaiian Eagle, and the Hawaiian Owl (pueo). The presence of extinct bird species in an area of early Hawaiian settlements has generated some debate on whether the settlements contributed to these extinctions (e.g., Tuggle and Tomonari-Tuggle, 1997).

The nearest archaeological sites to the Terminal that were discovered in the 1970's surveys (Sinoto, 1976) are to the north (Survey Area D in Figure 14) and south (Survey Area A in Figure 14). Archaeological surveys conducted in the 1980's and 1990's during the Kalaeloa Barber's Point Harbor expansion project examined two areas, one covering 84 acres (Figures 14 and 15) and the other covering 56.5 acres (PBQD, 1999; Figure 15). The Terminal site lies within the 84-acre area. The 56.5-acre area is adjacent to the northeast side of the 84-acre area.

Maps contained in past reports are in disagreement as to the precise location of the 84-acre area boundary, even within a single report. However, by considering the texts of those reports along with the maps, it is possible to determine the location of the 84-acre area boundary with respect to current structures in the harbor area, including the proposed future Terminal location.

Two different depictions of the 84-acre area boundary, as reported in the EIS for the Kalaeloa Barber's Point Harbor basin expansion (PBQD, 1995), are shown in Figure 15. The makai boundary of the larger-sized 84-acre area coincides with the TMK parcel boundary and with the coal conveyor (Figure 15). It is therefore the more reliable boundary. These findings are in agreement with Hawaiian Cement Terminal EA, in which it is stated that the neighboring Hawaiian Cement Terminal, which lies along the westward extension of the southern boundary of the Terminal (Figure 15), is within the 84-acre area but is crossed by the SMA boundary (PBQD, 1999).

Although archaeologically significant sites were discovered in the 84-acre area, they no longer exist. Some sites likely were destroyed during excavation at the former limestone quarry (Sinoto, 1976). Other sites no longer exist because of "archaeological data recovery activities" that took place prior to the Kalaeloa Barber's Point Harbor expansion (PBQD, 1999). The area around the Terminal has been described as "surveyed, no sites found; area disturbed by sugarcane, bulldozing, or development" (Tuggle and Tomonari-Tuggle, 1997). It was concluded in a re-survey of the 84-acre area conducted in 1994 that no archaeological sites or deposits remain (PBQD, 1995).

The 56.5-acre area does not directly impact the project area. The data recovery studies of McDermott et al. (1999) and Hammatt and Shideler (1995) have shown that there are archaeological sites (e.g., mounds, stone walls, enclosures, sinkholes) consistent with temporary habitation and agricultural use on the 56.5-acre area. Two human burial sites were discovered in sinkholes in that area, along with non-extinct and extinct bird bones, rat bones, fish bones, and marine shells. Based on the results of the investigations, no further archaeological work is required in the 56.5-acre area.

Based on a review of archaeological surveys conducted in the area, the EA for the Hawaiian Cement Terminal concluded that the Hawaiian Cement property, which lies within the 84-acre area, did not contain any archaeological or historic sites (PBQD, 1999). The State of Hawaii Office of Hawaiian Affairs [OHA] had no objections to construction of the Hawaiian Cement Terminal (PBQD, 1999). The OR&L Railroad is a significant historic site, and it is listed on the Register of Historic Places. The Terminal site is south of the railroad, and construction and operation of the Terminal does not pose a threat to the railway.

5.4.2 Conclusions

Based on an assessment of the site history, cultural background, and existing historical sites in the area, the following conclusions are made.

- There are no significant historical or cultural sites at or in the immediate vicinity of the Terminal.

- The proposed project (i.e., construction and operation of the Terminal) will not threaten or impact any significant historical or cultural sites.

5.4.3 Research and Consultations

The EIS for the Kalaeloa Barber's Point Harbor basin expansion and the EA for construction of the Hawaiian Cement Terminal (PBQD, 1995, 1999) included information obtained from consultations with Hawaiian cultural organizations, government agencies, and individuals who might have knowledge or concern about potential impacts to the cultural environment resulting from the proposed construction projects. In addition to those studies, research conducted as part of the EA for the Terminal includes the following information sources.

- Additional archival research reports for the Ewa district prepared by archaeological consultants.
- Informational searches on the world wide web.
- Archival primary record research at Hamilton Library, University of Hawaii.
- Archival primary record research at the Bishop Museum.
- Archival primary record research at the Kapolei office of the State Historic Preservation Division [SHPD] of the DLNR.
- Office of Hawaiian Affairs.
- The SHPD of the DLNR.

Attempts were made to gather further information through interviews and requests for information from the following sources. However, the requests for interviews and information were not granted.

- Researchers at the Center for Hawaiian Studies.
- Researchers at the Bishop Museum.
- Personnel from the Historic Preservation Program, University of Hawaii.
- Department of Anthropology, University of Hawaii.
- Department of Geology and Geophysics, University of Hawaii.
- Personnel from the Historic Hawaii Foundation.
- A kumu hula.

The people contacted and their biographical information are included in section 7.2. of this report.

5.5 VISUAL AND AESTHETIC APPEAL

To determine if the Terminal would adversely affect the visual and aesthetic appeal of Kalaeloa Barber's Point Harbor, visual and aesthetic conditions at Kalaeloa Barber's Point Harbor were examined and compared with the design of the Terminal.

5.5.1 Existing Visual and Aesthetic Appeal

Kalaeloa Barber's Point Harbor has a heavy industrial appearance consisting of large paved and unpaved aggregate storage areas, dry docks, piers, fuel pipelines, large storage facilities with large ASTs (e.g., the 77-foot tall Hawaiian Cement storage domes), and heavy equipment and machinery used to load and unload vessels (e.g., the raised coal conveyor, the Hawaiian Cement unloader).

Kalaeloa Barber's Point Harbor can be seen from several locations along the H-1 Freeway, Farrington Highway, and Kalaeloa Boulevard. It can also be seen from certain locations in the Ko Olina Resort and Marina and in the residential areas north of Kalaeloa Barber's Point Harbor.

5.5.2 Potential Impacts to the Visual and Aesthetic Appeal

The tallest structures at the Terminal will be the two 56-foot high, 148,000-bbl asphalt cement storage tanks. The current height limitation for areas zoned as *I-3 Waterfront Industrial* is 60 feet (C&C, 2006). Taller vertical structures are acceptable when required as part of an industrial operation, but a viewplane study would then be necessary to minimize visibility (C&C, 2006).

The Terminal will not have a significant impact on the visual and aesthetic appeal of Kalaeloa Barber's Point Harbor. Kalaeloa Barber's Point Harbor already has a heavy industrial appearance and the tallest structures at the Terminal are lower than other structures in the immediate vicinity (i.e., the Hawaiian Cement ASTs). The outsides of the tanks will be covered with approximately 4-inch thick insulation contained within an aluminum outer shell. The external aluminum shell will give the tanks an aesthetic, finished appearance.

5.6 RECREATIONAL ACTIVITIES AND AREAS

5.6.1 Existing Recreational Activities and Areas

Kalaeloa Barber's Point Harbor is an active commercial harbor. There are no recreational activities or areas in Kalaeloa Barber's Point Harbor or in the area of the Terminal. The nearest recreational area is the Ko Olina Resort and Marina which is adjacent to the west side of Kalaeloa Barber's Point Harbor.

5.6.2 Potential Impacts to Recreational Activities and Areas

The construction and operation of the Terminal will not have an adverse impact on current or future recreational activities in the area. There are no nearby recreational activities or areas and there are no plans for such areas to be constructed in the future. As contained in the EDP (C&C, 1997), the Kalaeloa Barber's Point Harbor area and the area surrounding the Terminal have been designated for future industrial development.

SECTION 6 – PUBLIC SERVICES

The Terminal has the potential to impact the following two public services: (1) transportation and (2) utilities. Owing to the location of the Terminal and the nature of its operations, it is not expected that other public services will be affected.

6.1 TRANSPORTATION

It is anticipated that the Terminal will employ approximately three people and that it will handle an average of 12 trucks per day. Daily vehicle traffic to and from the Terminal will consist of the 12 trucks and the commuter traffic generated by Terminal employees.

6.1.1 Existing and Future Transportation Infrastructure

Primary vehicle access to the Terminal is via John Wayne Avenue and the Hanua Street Access Road (Figure 5). John Wayne Avenue is a paved, one lane road that originates near the northwest end of Malakole Street. The Hanua Street Access Road is an unpaved road that originates on Malakole Street, directly across from the north entrance to Hanua Street. Both roads are designed for truck hauling and both are used exclusively for access to Kalaeloa Barber's Point Harbor and surrounding facilities. Neither road is heavily used.

Malakole Street is the northernmost road within CIP (Figure 13). Access to Malakole Street and CIP is via Kalaeloa Boulevard. Kalaeloa Boulevard is a major thoroughfare and the only road that connects CIP to the H-1 Freeway, Farrington Highway, and Kapolei Parkway (Figures 2 and 13). The H-1 Freeway is the main access route to CIP and Kalaeloa Barber's Point Harbor from the rest of Oahu.

In 1992, a Traffic Impact Assessment was conducted as part of the EIS for the BHP basin expansion (PBQD, 1995). It showed that the weekday commuter peak period occurred between 6:00 and 8:00 a.m. and between 3:00 and 5:00 p.m. Noted in the assessment were the following traffic problems.

- On the H-1 Freeway Waianae-bound off-ramp to Kalaeloa Boulevard, a queue of vehicles extended onto the freeway for a 10 to 15 minute period of the morning peak hour.

- Large trucks traveling south-bound on Kalaeloa Boulevard and turning right onto Malakole Street were observed making wide turns and occasionally using the adjacent through lane.

- During the afternoon peak hours, queues of 10 to 15 vehicles formed along Malakole Street (west-bound).

- Trucks exiting Malakole Street onto or across Kalaeloa Boulevard sometimes blocked the intersection, causing traffic to slow considerably while the trucks cleared the intersection.

A new access road that connects Kalaeloa Barber's Point Harbor to Kalaeloa Boulevard is planned, and it is scheduled to be completed by 2020. The access road will be the extension of Lauwiliwili Street and will extend from Kalaeloa Boulevard (near the south side of Kapolei Business Park) to Kalaeloa Barber's Point Harbor, near Pier 7. In the immediate vicinity of the harbor, it will border the northeast side of the Terminal, replacing Hanua Access Road. The purpose of the road is to provide a more direct access route to the proposed Kapolei Harborside Center and to Kalaeloa Barber's Point Harbor, thus diverting Kalaeloa Barber's Point Harbor traffic out of CIP. The access road also will alleviate traffic congestion at the intersection of Kalaeloa Boulevard and Malakole Street.

6.1.2 Potential Impacts to Transportation Infrastructure and Mitigation

The traffic from the Terminal will be minimal, averaging less than 15 vehicles per day. The amount of vehicle traffic from the Terminal will be consistent with the amount of traffic associated with the former Grace Pacific Corporation Sand Plant, which was located east of the Terminal, across Hanua Street Access Road. The Sand Plant began operations in the mid-1980's and was in operation at the time the 1992 Traffic Impact Assessment was conducted. The plant shut down in 2002. In the EIS for the BHP basin expansion (PBQD, 1995), it was noted that the Hanua Access Road was used primarily by Hawaiian Cement and Grace Pacific Corporation for their operations.

Traffic associated with the Terminal will not adversely affect traffic conditions in the area for the following reasons. First, the amount of vehicular traffic associated with the Terminal will be similar to that associated with the former nearby Sand Plant. Thus, there should be no net increase in Kalaeloa Barber's Point Harbor traffic. Second, the traffic associated with the former Sand Plant passed through the access routes from the H-1 Freeway and Farrington Highway. Thus, there should be no net increase in traffic along the main access routes to CIP and Kalaeloa Barber's Point Harbor. Third, the access roads to the Terminal are designed for heavy trucks, which is the intended use for vehicular traffic associated with the Terminal.

6.2 UTILITIES

It is anticipated that the Terminal will use water and electrical power. The water will be used for general housekeeping purposes. The electrical power will be used to run some of the equipment and machinery at the Terminal.

6.2.1 Existing Utilities in the Area

6.2.1.1 Electrical Supply

Electrical service to the Terminal is available in the utility easement where the cargo line will be located. To determine whether potential impacts exist for utilities in the area, GLP Asphalt met with the Hawaiian Electric Company [HECO].

6.2.1.2 Water Supply

Water utilities in the area include a four-inch water line and a twelve-inch water line, both of which are located east of the Terminal, along John Wayne Avenue. The C&C Board of Water Supply [BWS] services the Harbor through a meter under the DOT. The water supply to the Terminal will be through a sub-meter to the DOT.

6.2.1.3 Wastewater

As discussed in Section 3.1.6 of this report, there is no municipal sewer system that services Kalaeloa Barber's Point Harbor. Facilities currently at Kalaeloa Barber's Point Harbor utilize septic tanks and seepage pits to handle wastewater. To handle wastewater at the terminal, an IWS will be constructed. The IWS will consist of a septic tank or aerobic unit with absorption bed or seepage pit as disposal. The IWS will be designed in accordance with HAR 11-62. It is anticipated that wastewater generated at the Terminal will be minimal.

6.2.2 Potential Impacts to Utilities in the Area

The Terminal will not significantly impact utility use in the area. Water use will be minimal and primarily for housekeeping purposes. The power requirements for the Terminal are not large. GLP Asphalt has met with HECO and has determined that HECO will be able to provide the Terminal with the required power needs.

SECTION 7 – CONSULTATION ACTIVITIES

7.1 MEETINGS

In preparing the EA, consultation meetings were held with federal and state agencies. In addition, neighboring facilities and community groups also were contacted.

7.1.1 State of Hawaii Department of Transportation, Harbors Division

On July 9, 2006, a meeting was held with the DOT. The purpose of the meeting was to present the Terminal to the DOT, to explain why the Terminal site was chosen, and to discuss a long-term lease for the Terminal. A copy of the lease application letter is included in Appendix B.

On August 11, 2006, a second meeting was held with the DOT. The purpose of the meeting was to discuss in more detail the design of the Terminal, utility requirements, easements, dock usage, future roadways, storm water controls, and the long-term lease agreement. It was agreed that Grace Pacific Corporation would give up the lease they currently have for their former Sand Plant facility in order for GLP Asphalt to obtain a long-term lease for the Terminal site.

On April 3, 2007, GLP Asphalt representatives (Mr. Bill Anonsen and Mr. Howard West) met with DOT Harbors Division personnel (Mr. Fredrick Nunes, Mr. Glenn Abe, and Mr. Randal Leong) to discuss DOH Wastewater Branch concerns over the current disposition of three IWSs on property owned by DOT Harbors Division at Kalaeloa Barber's Point Harbor. A discussion of DOH concerns and the results of that meeting are described in the response letter to DOH comments, which is included in Appendix G and summarized in Section 7.6.4.1.

7.1.2 City and County of Honolulu Department of Planning and Permitting

On August 1, 2006, a meeting was held with the DPP. The purpose of the meeting was to discuss issues pertaining to the SMA and EA requirements. It was agreed that while the Terminal is on state-owned land, it is in the SMA, which is regulated by the DPP. Therefore, the DPP representative stated that the DPP would be the lead agency for the EA. It was also agreed that it is anticipated that the Terminal would be issued a FONSI.

On August 16, 2006, a second meeting was held with the DPP. It was determined that, because the Terminal is on land owned by the DOT, the DOT would be lead agency for the EA, not the DPP.

7.1.3 State of Hawaii Department of Health Clean Water Branch

On August 14, 2006, a meeting was held with the DOH CWB. The purpose of the meeting was to discuss storm water issues, specifically storm water that collects in the tank yard. Several options for meeting the requirements of 40 CFR 112 were discussed, including the installation of a manual drain valve and scheduled discharges of storm water from the tank yard secondary

containment. It was also relayed to the DOH CWB that it was anticipated that all storm water would be contained on-site. The DOH agreed that a NPDES permit would not be required if the Terminal does not discharge storm water.

7.1.4 Environmental Protection Agency

On August 15, 2006, a meeting was held with the EPA. The purpose of the meeting was to discuss issues pertaining to SPCC requirements, specifically storm water and rainwater that will collect in the tank yard. Several options for meeting the requirements of 40 CFR 112 were discussed, including the installation of a manual drain valve and scheduled discharges of storm water and rainwater from the tank yard secondary containment.

7.1.5 United States Coast Guard

On July 19, 2006, a meeting was held with the USCG. The purpose of the meeting was to discuss issues pertaining to USCG requirements for transfer operations from a vessel to an on-shore facility (33 CFR 154 and 156) and maritime security (33 CFR 105).

On October 4, 2006, a meeting was held between USCG personnel (Commander Kathy Moore), an Amergent Techs consultant serving as GLP Asphalt's contact with the USCG (Mr. Frank Whipple), and a maritime consultant working on behalf of GLP Asphalt (Mr. William Anonsen). The purpose of the meeting was to inform the USCG of GLP Asphalt's intention to utilize Kalaeloa Barber's Point Harbor for importing asphalt and to introduce GLP Asphalt's representatives to the commander in charge of prevention programs.

Commander Moore was provided with a copy of the proposed Terminal site plan, and the security measures necessary for complying with USCG regulations were discussed. Commander Moore provided GLP Asphalt's representatives with the correct point-of-contact with the USCG, and Commander Moore was provided with GLP Asphalt's contact information. Commander Moore was assured that GLP Asphalt was very familiar with USCG regulatory requirements, including those involving the Facility Response Plan.

On October 5, 2006, a meeting was held at the Grace Pacific Corporation Kapolei office to begin the process of obtaining USCG approval for unloading operations at Piers 6 and 7 at Kalaeloa Barber's Point Harbor. Attending the meeting were representatives from Pacific Environmental Corporation, Inc. [PENCO] (Mr. Teal Cross and Mr. Rusty Nall), Mr. Frank Whipple, Mr. William Anonsen, and representatives of GLP Asphalt (Mr. Richard Levins, Mr. Chris Steele, and Mr. John Romanowski). The purpose of the meeting was to assign duties to the various involved parties to gather plans and drawings for the proposed unloading operations as preparation for an upcoming meeting.

7.1.6 Pacific Environmental

On October 5, 2006, representatives of GLP Asphalt (Mr. Richard Levins and Mr. Chris Steele) met with PENCO personnel (Mr. Teal Cross and Mr. Rusty Nall) to discuss emergency

response actions in the event that there is a significant release of asphalt cement during transfer operations from the vessel to the Terminal. It was determined that PENCO would be the primary responder in the event that there is a significant release during transfer operations from the vessel to the Terminal.

7.1.7 Hawaiian Cement

On September 28, October 6, and October 20, 2006, meetings were held with Hawaiian Cement. The purpose of the meetings was to discuss items of mutual interest at Kalaeloa Barber's Point Harbor. The attendees at these meetings included Hawaiian Cement personnel (Mr. John Delong, President, Mr. Jack Almanza, Sales Manager, and Mr. Jeff Ching, Manager of Cement Operations) and representatives of GLP Asphalt (Mr. Richard Levins, Mr. Gordon Yee, and Mr. Bob Creps). Items discussed included the use of harbor property for importing asphalt, cement, and aggregate; the frequency of ship arrivals for delivering these materials; and the coordination of deliveries in an attempt to avoid delays. Further points of discussion included joint uses of harbor property for storing the materials and joint purchase agreements with foreign vendors. To avoid material shortages resulting from the booming construction industry, the need to efficiently import construction materials was discussed.

7.1.8 Hawaiian Electric Company

On October 3, 2006, a representative of GLP Asphalt (Mr. Richard Levins) had a discussion with HECO personnel (Mr. Dustin Nakamoto and Mr. Phil Hauret) to discuss the existing 46 kilovolt [kv] electrical line that crosses the proposed Terminal site and to initiate discussions regarding GLP Asphalt's formal request for electrical service to the Terminal.

It was determined that HECO personnel (Mr. Phil Hauret) will begin to research land and easement issues related to the 46 kv line and that GLP Asphalt will submit a formal request for electrical service for the Terminal. After research is complete and the formal request for electrical service has been submitted, HECO will contact GLP Asphalt and schedule a formal meeting to discuss whether the 46 kv line will remain in its present location or be relocated, and to discuss issues pertaining to the electrical service for the Terminal.

7.1.9 Honolulu Fire Department

On September 27, 2006, a meeting was held with Honolulu Fire Department [HFD] personnel (Captain Stephen Kishida, Mr. K. Thompson, and Mr. M. Ogoso). The purpose of the meeting was to discuss fire hydrant requirements for the Terminal. It was determined that one fire hydrant will need to be located outside of the Terminal, along John Wayne Avenue, and one fire hydrant will need to be located inside the Terminal, along the east side of the roadway in the transportation area.

7.1.10 Barber's Point Harbor Advisory Council

On December 27, 2006, a meeting of the Barber's Point Harbor Advisory Council [BPHAC] was held at the Campbell Estate conference room to hear a presentation by representatives of GLP Asphalt (Mr. William Anonsen, Mr. John Romanowski, Mr. Dick Levins, Mr. Bob Creps). The BPHAC is an *ad hoc* group of Kalaeloa Barber's Point Harbor users who meet to discuss items of mutual interest and to relay their interests and concerns to the DOT. Attendees at the meeting included representatives from Hawaiian Cement, AES Hawaii, Marisco, Chevron Texaco, Tesoro, Waldron Norton Lilly, Hawaii Metal Recycling, Campbell Estate, and the U.S. Army Corps of Engineers. GLP Asphalt representatives presented information regarding plans for the Terminal, including the types and frequency of vessels that will enter the harbor to supply the Terminal, the duration of vessel unloading, and which piers will be used for unloading.

7.1.11 Nearby Residential Communities

As discussed in Section 7.3.1, Aina Nui Corporation was contacted in order to inform the developers of Kapolei West and the Kapolei Harborside Center about the Terminal. The Manager of Aina Nui Corporation stated that Kapolei West is not being started before 2009 and that the Kapolei Harborside Center Project includes turning the land adjacent to the harbor into an industrial business park. His main concern was coordinating the planned construction of the extension of Lauwiliwili Street with the construction of the Terminal. It was agreed that future contact will be maintained via electronic mail.

Ms. Marjorie Collier, the resident property manager at Ko Olina Fairways, was contacted on April 24, 2007. She was informed about the Terminal and given an overview of the types of activities associated with its construction and operation. Ms. Collier did not have any comments, but requested a copy of the Draft EA report, which was provided to her. She stated that she would send a copy of the report to Ralph Harris, president of the Ko Olina Community Board.

Mr. Russell Doane, the harbormaster at Ko Olina Marina, was contacted on April 24, 2007. He was informed about the Terminal and given an overview of the types of activities associated with construction and operation of the terminal. He did not foresee any significant impacts to marina tenants due to air emissions or noise. Mr. Doane indicated that the frequency of the ship traffic into Kalaeloa Barber's Point Harbor is not high enough to warrant concern. He requested a copy of the Draft EA report, which was provided to him.

7.1.12 Neighborhood Board

On February 28, 2007, GLP Asphalt representatives (Mr. Richard Levins, Mr. Bob Creps, Mr. Robert Chong, and Mr. Howard West) met with DPP personnel (Mr. Art Challacomb and Ms. Carrie McCabe) following their review of the Draft EA report. Mr. Challambom and Ms. McCabe stated that they did not believe a meeting with the local neighborhood board was necessary because a public hearing will be conducted as part of the SMA permit process. They further stated that the public hearing will provide ample opportunity for public comment.

On April 4, 2007, Ms. Lori Lum (from the Law Offices of Watanabe Ing & Komeiji), acting on behalf of GLP Asphalt, contacted Ms. Maeda Timson, the Chairperson for the Makakilo/Kapolei/Honokai Hale Neighborhood Board. Ms. Timson was informed about the Terminal and notified that, as part of the SMA permit process, there will be a public hearing. Ms. Timson said that she did not believe that GLP Asphalt needed to meet with the neighborhood board because there will be a public hearing. She also confirmed that their current board does not have an environmental or zoning committee.

7.2 INTERVIEWS AND REQUESTS FOR INFORMATION

7.2.1 Office of Hawaiian Affairs

A written request for information was faxed to OHA (see Appendix D). OHA sent a response letter (see Appendix D) recommending that we provide Mr. Adam Johnson, Assistant at the SHPD with TMK information to determine if the Terminal site lies within ceded lands and to obtain additional information about the site. Mr. Johnson recommended that we search the SHPD library ourselves for information. Based on the information search, the Terminal does not lie within ceded lands. Additional information obtained from the search is included in Section 5.4.1 of this report. OHA also recommended that we consult with Nettie Tiffany and Shad Kane, two people knowledgeable about Hawaiian culture and history.

7.2.2 Summary of Interviews and Requests for Information

The persons or organizations contacted during the research of historical records performed as part of the cultural impact assessment for the EA are summarized in Table 7.1. Many of these people or organizations either were unavailable or could not provide any additional information about the cultural background of the Ewa Plain, specifically the area of the Terminal.

7.3 INITIAL DRAFT EA COMMENTS

Comments on the initial Draft EA have been made by one party, the approving agency. It is anticipated that other agencies receiving the final Draft EA also will provide comments. Those comments will be included in the Final EA.

7.3.1 Comments by State of Hawaii Department of Transportation, Harbors Division

The DOT Harbors Division provided comments and recommendations for the initial Draft EA (see Appendix D). Those comments are listed below in bold italics and our responses follow. Where appropriate, changes have been made in the corresponding sections within this report.

1. The official name of the harbor is "Kalaeloa Barbers Point Harbor."

The name “Kalaeloa Harbor” has been changed to “Kalaeloa Barber’s Point Harbor” throughout this report.

TABLE 7.1
Interviews and Requests for Information for Cultural Impact Assessment
GLP Asphalt Kalaeloa Asphalt Terminal
Final Environmental Assessment

Contact	Organization/Affiliation	Biographical / Additional Information	Contacted
office	Office of Hawaiian Affairs	Recommended contacting archaeologist at SHPD & culturally knowledgeable persons	☑
Piilani Chang	Main Office of the SHPD, DLNR	Cultural Historian	☑
librarian	Kapolei Office of the SHPD, DLNR	Keeper of historic maps & archaeological library	☑
Adam Johnson	Kapolei Office of the SHPD, DLNR	Assistant Archaeologist	☑
Lilikala Kameeleihiwa	Center for Hawaiian Studies, University of Hawaii	Professor & Director of Center for Hawaiian Studies	☐
Michael Graves	Department of Anthropology, University of Hawaii	Professor specializing in archaeology & prehistory of Polynesia; Cooperating Faculty of the Historic Preservation Program, University of Hawaii	☐
William Chapman	Historic Preservation Program, Department of American Studies, University of Hawaii	Professor & Director of the Historic Preservation Program of the University of Hawaii	☐
Scott K. Rowland	Department of Geology and Geophysics, University of Hawaii	Teacher of Hawaiian geology & the connection between Hawaiian geology & Hawaiian culture	☑
Jiao Tianlong	Hawaiian and Pacific Studies, Bishop Museum	Researcher in Hawaiian & Pacific studies	☑
office	Historic Hawaii Foundation	Foundation to help preserve historic sites related to the history of Hawaii	☑
Allison Kailihiwa Vaughn	Kumu Hula and Miss Aloha Hula 1995	Familiar with native Hawaiian practices & culture	☑
Joseph Kennedy	Archaeological Consultants of the Pacific, Inc.	Archaeologist who conducted work on Honouliuli	☑
Dave Tuggle	International Archaeological Research Institute, Inc.	Archaeologist who conducted work on Honouliuli	☑
Shad Kane	Recommended by OHA as culturally knowledgeable	Member of Ahahui Siwila Hawaii o Kapolei Hawaiian Civic Club & member of the Nature Conservancy; involved with Honouliuli Preserve programs	☐
Nettie Tiffany	Recommended by OHA as culturally knowledgeable	Kahu & SHPD member	☐

☑ The person was contacted and could not provide any additional information.
☐ An attempt was made to contact the person, but that person was unavailable or no one was available.

2. ***Construction plans bearing the stamp of a professional engineer registered in Hawaii should be submitted to the Harbors Division for approval.***

   Construction plans bearing the stamp of a professional engineer who is registered in Hawaii will be submitted to DOT Harbors once those plans are finalized. The Terminal layout as shown in the figures in this report are accurate but the final construction plans are in preparation.

3. ***Page 1-11, Section 1.4.4.1: The design and location of the emergency drainage system should take into consideration the downstream facilities as the tenant would be liable for any damage caused by the discharge of water in the event of an emergency.***

   Storm water that collects in the tank yard drainage basin consists of storm water runoff generated within the Terminal and direct precipitation within the tank yard. Water released from the emergency valve would be excess water over that contained in the drainage basin. Should an emergency situation necessitate opening the emergency valve, the volume of water released would be equivalent to that of normal storm water runoff if the Terminal did not exist. Therefore, it is not expected that water released from the emergency valve would cause damage to downstream facilities beyond the risk that exists in the absence of the Terminal.

   This information has been added to Section 1.4.4.1 of this report.

4. ***Page 3-3, Section 3.1.5, Paragraph 3: Section cited should be Section 1.4 rather than Section 1.5.***

   The Section 1.5 citation has been changed to Section 1.4.

5. ***Page 3-3, Section 3.1.6: It is likely that more than just a seepage pit is required by HAR 11-62 for the disposal of wastewater.***

   A seepage pit and leach field will be used to dispose of wastewater. The seepage pit and leach field will be designed in strict accordance with HAR 11-62.

6. ***Section 5.4: While not directly impacting the project area, a recent archaeological data recovery report was completed in 1997 by Hal Hammatt that addressed the features in the 56.5-acre harbor expansion parcel. The State Historic Preservation Office approved the findings and should have copies of the report. No further archeological work is required in the 56.5-acre parcel.***

   When contacted, the SHPD Office in Kapolei explained that they did not have a copy of a 1997 data recovery report by Hallert Hammatt but that they had a copy of the *Data Recovery Plan for Archaeological Sites in the Proposed Barber's Point Expansion Area* that was prepared by Hallert Hammatt and David Shideler in 1995 (Hammatt and Shideler,

1995). SHPD explained that they were in the process of attempting to get a copy from Cultural Surveys Hawaii.

Cultural Surveys Hawaii was contacted directly. According to them, there was no 1997 data recovery report by Hallert Hammatt for the 56.5-acre area. They suggested that what we were requesting most likely was the 1999 data recovery report that was co-authored by Hallert Hammatt (McDermott et al., 1999). The findings of the Hammatt and Shideler (1995) and McDermott et al. (1999) reports are included in Section 5.4.1 of this report. The following paragraph has been added to Section 5.4.1.

> "The 56.5-acre area does not directly impact the project area. The data recovery studies of McDermott et al. (1999) and Hammatt and Shideler (1995) have shown that there are archaeological sites (e.g., mounds, stone walls, enclosures, sinkholes) consistent with temporary habitation and agricultural use on the 56.5-acre area. Two human burial sites were discovered in sinkholes in that area, along with non-extinct and extinct bird-bones, rat bones, fish bones, and marine shells. Based on the results of the investigations, no further archaeological work is required in the 56.5-acre area."

7. Page 5-6, Section 5.4.1, Paragraph 3: While most of the proposed terminal parcel is within the 84-acre parcel, the makai portion of the terminal within the SMA boundary area (See Figure 6) is not.

To determine whether the Terminal lies within the SMA and within the 84-acre area, numerous maps and figures depicting the boundaries of these two areas were compared and overlaid with the current configuration of the harbor and the surrounding area. Based on this comparison, it was determined that the makai portion of the Terminal lies within the SMA. As shown in Figure 15, the mauka boundary of the SMA does not coincide with the makai boundary of the 84-acre area but is, instead, slightly mauka. Thus, the Terminal lies entirely within the 84-acre area.

This same issue was addressed during preparation of the EA for the Hawaiian Cement Terminal, whose makai property boundary is an extension of the Terminal's makai property boundary, in that both properties border the mauka side of the coal conveyor. As stated in the Hawaiian Cement EA, the Hawaiian Cement Terminal lies within the boundaries of the 84-acre area, but the SMA-boundary crosses the facility (PBQD, 1999). Because the Terminal is mauka of the coal conveyor and the Hawaiian Cement Terminal was defined as being in the 84-acre area, we conclude that the Terminal is entirely within the 84-acre area.

The following text has been added to Section 5.4.1.

> "The nearest archaeological sites to the Terminal that were discovered in the 1970's surveys (Sinoto, 1976) are to the north (Survey Area D in Figure 14) and south (Survey Area A in Figure 14). Archaeological surveys conducted in the 1980's and 1990's during the Kalaeloa Barber's Point Harbor expansion project

examined two areas, one covering 84 acres (Figures 14 and 15) and the other covering 56.5 acres (PBQD, 1999; Figure 15). The Terminal site lies within the 84-acre area. The 56.5-acre area is adjacent to the northeast side of the 84-acre area.

Maps contained in past reports are in disagreement as to the precise location of the 84-acre area boundary, even within a single report. However, by considering the texts of those reports along with the maps, it is possible to determine the location of the 84-acre area boundary with respect to current structures in the harbor area, including the proposed future Terminal location.

Two different depictions of the 84-acre area boundary, as reported in the EIS for the Kalaeloa Barber's Point Harbor basin expansion (PBQD, 1995), are shown in Figure 15. The makai boundary of the larger-sized 84-acre area coincides with the TMK parcel boundary and with the coal conveyor (Figure 15). It is therefore the more reliable boundary. These findings are in agreement with Hawaiian Cement Terminal EA, in which it is stated that the neighboring Hawaiian Cement Terminal, which lies along the westward extension of the southern boundary of the Terminal (Figure 15), is within the 84-acre area but is crossed by the SMA boundary (PBQD, 1999)."

8. ***Page 6-2, Section 6.1.1, Figures 7, 8 and 10: It is unclear if the proposed road shown mauka of the Terminal parcel on these figures is based on the proposed alignment of the future Lauwiliwili Street which will serve as the main access road to the Harbor. If it is not, the terminal parcel needs to be configured in such a way that the Lauwiliwili Street extension can be transitioned into the Harbor internal roadway system.***

   The proposed road in Figures 7, 8, and 10 will tie directly into the extension of Lauwiliwili Street. The current configuration of Hanua Access Road on the mauka side of the Terminal will match the future configuration of the extension of Lauwiliwili Street. Planners for the Kapolei Harborside Center Project Master Plan were contacted and they stated that the extension of Lauwiliwili Street in the area of the Terminal will be realigned as necessary (see email correspondence in Appendix D). As planned, the Terminal is configured such that the Lauwiliwili Street extension will transition into the internal roadway system of the harbor.

9. ***Page 7-1, Section 7.1.2: This subsection heading is wrong as it should be: "City and County of Honolulu Department of Planning and Permitting" and not "State of Hawaii Department of Planning and Permitting".***

   The section heading has been changed accordingly.

10. ***A residential development called Kapolei West is being planned to the mauka of Kalaeloa Barber's Point Harbor. In the Kapolei West EIS, we commented that Kalaeloa Harbor is an industrial facility and that the harbor and surrounding areas***

may experience high noise levels during cargo off-loading and loading operations, dredging work and other miscellaneous activities. In addition, high intensity lighting may accompany the aforementioned activities during the evening hours. In the Kalaeloa Asphalt Terminal EA on page ES-9, we note that a number of public agencies, neighboring facilities and community groups were consulted. In addition to those listed, we recommend that the developer of Kapolei West be included in the consultation process to keep them updated of the increasing levels of industrial activities that will occur. The developers are Aina Nui Corporation and The Estate of James Campbell.

Steve Kelly, the Manager of Aina Nui Corporation, was contacted on January 16, 2007. The purpose was to inform the developers of Kapolei West and the Kapolei Harborside Center about the plan to build the Terminal. In that conversation, Mr. Kelly was informed that the traffic flow and associated noise level is anticipated to be comparable to those of the former Grace Pacific Sand Plant, which is across Hanua Access Road from the Terminal. Aina Nui Corporation will be informed about ongoing activities associated with construction of the Terminal and about industrial activities anticipated at the Terminal.

Mr. Kelly responded that Kapolei West is not being started before 2009 and that the Kapolei Harborside Center Project includes turning the land adjacent to the harbor into an industrial business park that will utilize Lauwiliwili Street. His main concern was coordinating the access to Lauwiliwili Street and its construction with GLP Asphalt. It was agreed that future contact will be maintained via electronic mail. Mr. Kelly requested a copy of the draft EA for the Terminal.

11. We note that the report indicates that noise generated during normal operation of the asphalt terminal at five nearest noise-sensitive areas will not exceed the maximum permissible sound levels. We recommend that the consultant be advised of a new residential development mauka of Kalaeloa Barber's Point Harbor and that a sixth survey point be considered that would be representative of the new development.

Noise information relevant to the new residential development mauka of Kalaeloa Barber's Point Harbor, *Kapolei West Expansion*, has been added to Section 4.6 of this report. As a conservative measure, noise-level calculations were performed for the closest point to the Terminal of the Kapolei West Expansion development, a distance of 0.43 miles. The calculated noise level at the Kapolei West Expansion resulting from a 92 dBA source at the Terminal was 27 dBA. The calculated noise level is significantly lower than 40 dBA, the level typical of a quiet room. This information has been added to Section 4.6.2.2 of this report.

7.4 AVAILABILITY OF DRAFT EA

The draft EA is available for review at the Ewa Beach Public & School Library.

7.5 DRAFT EA COMMENTS

In accordance with OEQC guidelines (OEQC, 2004), the Draft EA was submitted for review to the accepting authority (OEQC), the approving agency (DOT Harbors Division), and other mandatory agencies (DPP and the nearest public library, Ewa Beach Public & School Library). The Draft EA also was submitted for review to the agencies recommended in the OEQC guidelines (OEQC, 2004), which include the State of Hawaii Department of Business, Economic Development & Tourism [DBEDT] Planning Office, DOH, DLNR, DLNR SHPD, OHA, BWS, C&C Department of Design and Construction [DDC], C&C Department of Parks and Recreation [DPR], and C&C Department of Facility Maintenance [DFM]. In addition, the Draft EA was submitted for review to the U.S. Army Corps of Engineers, in accordance with their request.

The fourteen agencies to which the Draft EA was submitted are summarized in Table 7.2. Copies of the cover letters to these agencies are included in Appendix E. The copy of the Draft EA that was submitted to the U.S. Army Corps of Engineers was done so in conjunction with the response to the comment letter received from the DOH. That copy was submitted electronically, on compact disc, without a cover letter.

Comment letters to the Draft EA were received from nine agencies. Copies of the comment letters are included in Appendix F. Five agencies declined to respond. Of the nine agencies that responded, four did not have comments.

7.6 RESPONSES TO COMMENTS

Response letters have been prepared and sent to the nine agencies from which comment letters to the Draft EA were received. Copies of the response letters are included in Appendix G. Detailed responses to each agency comment are included in the letters. Where appropriate, changes to the text of the Draft EA report were made and incorporated into the Final EA report. All of the comments received concerning the Draft EA have been addressed, and it is concluded that there are no outstanding issues that would preclude construction of the Terminal. The responses to comments are summarized briefly below.

7.6.1 Response to the State of Hawaii Office of Environmental Quality Control

The OEQC had four comments. The first was a concern about potential odors. It is not believed that there will be significant odor impacts resulting from terminal operations. A discussion is provided in the response letter submitted to the OEQC. The other three comments were requests to consult with the State of Hawaii Department of Health Clean Air Branch, with nearby existing and future residential communities, and with the neighborhood board. These requests have been met and a summary of the consultations is included in the response letter submitted to the OEQC.

TABLE 7.2
Summary of Responses to Draft Environmental Assessment
GLP Asphalt Kalaeloa Asphalt Terminal
Final Environmental Assessment

Distributed Agency		Distribution Requirement		Responses			
		Mandatory	Recommended	Did Not Respond	No Comments	Comments	Comment Date
Accepting Authority							
1	OEQC	☑				☑	March 6, 2007
Approving Agency							
2	DOT Harbors Division	☑			☑		March 5, 2007
State Agencies							
3	DBEDT Planning Office		☑	☑			
4	DOH		☑			☑	March 5, 2007
5	DLNR		☑	☑			
6	DLNR SHPD		☑	☑			
7	OHA		☑		☑		March 6, 2007
City & County of Honolulu							
8	BWS		☑			☑	February 27, 2007
9	DDC		☑		☑		March 2, 2007
10	DPP	☑				☑	March 2, 2007
11	DPR		☑	☑			
12	DFM		☑		☑		April 5, 2007
Libraries and Depositories							
13	Ewa Beach Public & School Library	☑		☑			
Federal Agencies							
14	U.S. Army Corps of Engineers					☑	April 19, 2007

7.6.2 Response to the State of Hawaii Department of Transportation - Harbors Division

DOT Harbors Division did not have any comments other than to write that they found the Draft EA to be satisfactory in accordance with Chapter 343, Hawaii Revised Statutes, relating to Environmental Impact Statements.

7.6.3 Response to the State of Hawaii Department of Business, Economic Development & Tourism

No comments were received from DBEDT.

7.6.4 Response to the State of Hawaii Department of Health

Comments were received from the DOH Wastewater Branch, Clean Water Branch, and Clean Air Branch. Responses to the comments received from each branch are summarized below.

7.6.4.1 Response to the DOH Wastewater Branch

The DOH Wastewater Branch had three comments, which are discussed below.

Status of IWSs at Kalaeloa Barber's Point Harbor. The DOH requested that the status of three IWSs on property owned by DOT Harbors Division at Kalaeloa Barber's Point Harbor be determined. The DOT Harbors Division was contacted and the disposition of the IWSs was determined. The DOT Harbors Division has submitted a letter to the DOH Wastewater Branch describing the status of the IWSs. A copy of that letter is included in Appendix D of the Final EA.

Administration of HAR 11-62. The DOH requested that the text of the EA report be corrected to reflect that it is the DOH Wastewater Branch that administers HAR 11-62, not the DOH Clean Water Branch. The mistake has been corrected in the text of the Final EA.

The Proposed Terminal IWS. The DOH requested that the wording of the EA report be corrected to indicate that the Terminal will not construct an on-site seepage pit and leach field to handle wastewater. This miswording has been corrected in the text of the Final EA. In accordance with the recommendation provided by the DOH Wastewater Branch, the IWS at the Terminal will consist of a septic tank or aerobic unit with absorption bed or seepage pit as disposal.

7.6.4.2 Response to the DOH Clean Water Branch

The DOH Clean Water Branch had four comments, which are discussed below.

Federal Discharge Permit. The DOH commented that the U.S. Army Corps of Engineers should be contacted to determine if a federal discharge permit would be required for the proposed project. In response, a copy of the Draft EA was submitted to the U.S. Army Corps of Engineers for their review. Following their review of the Draft EA, the U.S. Army Corps of

Engineers issued a letter indicating that a federal permit would not be required. A copy of that letter is included in Appendix F of the Final EA.

Required NPDES Permits. The DOH commented that the Terminal may require an individual permit application or an NOI for general permit coverage under the NPDES. In response, a summary of the required NPDES permits required during construction and operation of the Terminal was provided to the DOH. The summary included references to the applicable sections in the EA report. Where appropriate, the text of the Final EA was revised. The following NPDES permits are anticipated: (1) storm water discharge associated with construction activities, (2) storm water discharge associated with industrial activities, and (3) discharges of hydrotesting water associated with integrity testing of ASTs.

NPDES Submittal to the SHPD. The DOH commented that new NOI or NPDES permit applications must be submitted to the SHPD or it must be demonstrated to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD. In response, it was reported to the DOH that the SHPD was contacted about the Terminal but they had no comments. In addition, a copy of the Draft EA report was submitted to the SHPD for review. A copy of the cover letter that accompanied the Draft EA is included in Appendix E of the Final EA report. No response letter was received from the SHPD.

Compliance with HAR 11-54. The DOH commented that discharges related to project construction or operation activities must comply with the State Water Quality Standards specified in HAR 11-54. In response, the applicable sections in the EA report were referenced. Also, a paragraph was added to the Final EA that states that construction and operation of the terminal will comply with HRS 342D-50(a), which states that "no person, including any public body, shall discharge any water pollutants into state waters, or cause or allow any water pollutant to enter state waters except in compliance with this chapter, rules adopted pursuant to this Chapter, or a permit or variance issued by the director."

7.6.4.3 Response to the DOH Clean Air Branch

The DOH Clean Air Branch had two comments, which are discussed below.

Air Pollution Control Permit. The DOH commented that the Terminal may require an air pollution control permit and that the project must comply with all applicable air pollution control permit conditions and requirements. In response, it was pointed out that GLP Asphalt has been working with the DOH Clean Air Branch concerning potential air quality impacts and that potential air quality impacts are discussed in the EA report. In addition, it was mentioned that an air permit application is in preparation and will be submitted to the DOH prior to construction of the Terminal. Construction the Terminal will not begin until the DOH has issued the permit.

Control of Fugitive Dust. The DOH recommended that a dust control management plan be developed and they commented that activities must comply with the provisions of HAR 11-60.1-33. In response, the applicable section in the Draft EA report was cited, which states that BMPs will be implemented during construction to ensure that dust emissions are minimized. In

addition, it was stated that a dust management plan will be implemented for construction of the Terminal. Also, a paragraph was added to the Final EA that states that control of dust will be in accordance with the fugitive dust requirements found in HAR 11-60.1-33.

7.6.5 Response to the State of Hawaii Department of Land and Natural Resources

No comments were received from DLNR.

7.6.6 Response to the State Historic Preservation Division

No comments were received from the SHPD.

7.6.7 Response to the State of Hawaii Office of Hawaiian Affairs

OHA did not have any comments.

7.6.8 Response to the C&C Board of Water Supply

The BWS made several comments concerning water requirements for the proposed terminal site but did not have any suggested changes. The BWS did comment that the construction drawings should be submitted to them for their review and approval. The response to that comment was that the construction drawings will be submitted to them once the drawings have been completed.

7.6.9 Response to the C&C Department of Design and Construction

The DDC did not have any comments.

7.6.10 Response to the C&C Department of Planning and Permitting

The DPP suggested some revisions to the wording concerning the SMA permit process. The suggested changes were made to the text of the Final EA. DPP commented that the adequacy of the proposed storm water and wastewater controls will be evaluated during the SMA Permit review process.

7.6.11 Response to the C&C Department of Parks and Recreation

No comments were received from DPR.

7.6.12 Response to the C&C Department of Facility Maintenance

DFM did not have any comments.

7.6.13 Response to the Ewa Beach Public & School Library

No comments were received in response to the copy of the Draft EA that was submitted to the Ewa Beach Public & School Library.

7.6.14 Response to the U.S. Army Corps of Engineers

The copy of the Draft EA that was submitted to the U.S. Army Corps of Engineers for their review was done so in conjunction with the response to the comment letter received from the DOH. The DOH had commented that the U.S. Army Corps of Engineers should be contacted to determine if a federal discharge permit would be required for the proposed project. Following their review of the Draft EA, the U.S. Army Corps of Engineers issued a letter indicating that a federal permit would not be required. A copy of that letter is included in Appendix F of the Final EA.

SECTION 8 – FINDINGS AND CONCLUSIONS

In rendering a FONSI, the state is required under HRS 343 (DOH, 1974) to consider the potential negative effects, both short-term and long-term, all facets of a proposed project could have on the environment (DOH, 1996a). Accordingly, the DOH has established thirteen *significance criteria* by which to evaluate proposed projects (HAR 11-200-12; DOH, 1996a).

TABLE 8.1
Evaluation of Significance Criteria
GLP Asphalt Kalaeloa Asphalt Terminal
Final Environmental Assessment

No.	Significance Criterion	Yes	No	EA Section
1	Involves an irrevocable commitment to loss or destruction of any natural or cultural resource?	☐	☑	4.2, 4.3 4.4, 5.3
2	Curtails the range of beneficial uses of the environment?	☐	☑	5.5
3	Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders?	☐	☑	3.1
4	Substantially affects the economic welfare, social welfare, and cultural practices of the community or State?	☐	☑	3.2 5.2
5	Substantially affects public health?	☐	☑	3.1, 4.3, 4.5
6	Involves substantial secondary impacts, such as population changes or effects on public facilities?	☐	☑	5.1 5.2
7	Involves a substantial degradation of environmental quality?	☐	☑	Section 4
8	Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger action?	☐	☑	Section 3 Section 4 Section 5
9	Substantially affects a rare, threatened, or endangered species, or its habitat?	☐	☑	4.4
10	Detrimentally affects air or water quality or ambient noise level?	☐	☑	4.3, 4.5, 4.6
11	Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters?	☐	☑	2.2
12	Substantially affects scenic vistas and viewplanes identified in county or state plans or studies?	☐	☑	5.4.2
13	Requires substantial energy consumption?	☐	☑	6.2

The results of the EA were compared with the significance criteria. It is concluded that the proposed construction and operation of the Terminal meet all thirteen criteria. The criteria and the relevant sections in the EA are summarized in Table 8.1. By meeting these criteria, it is appropriate that the proposed Terminal be issued a FONSI and that an EIS not be required.

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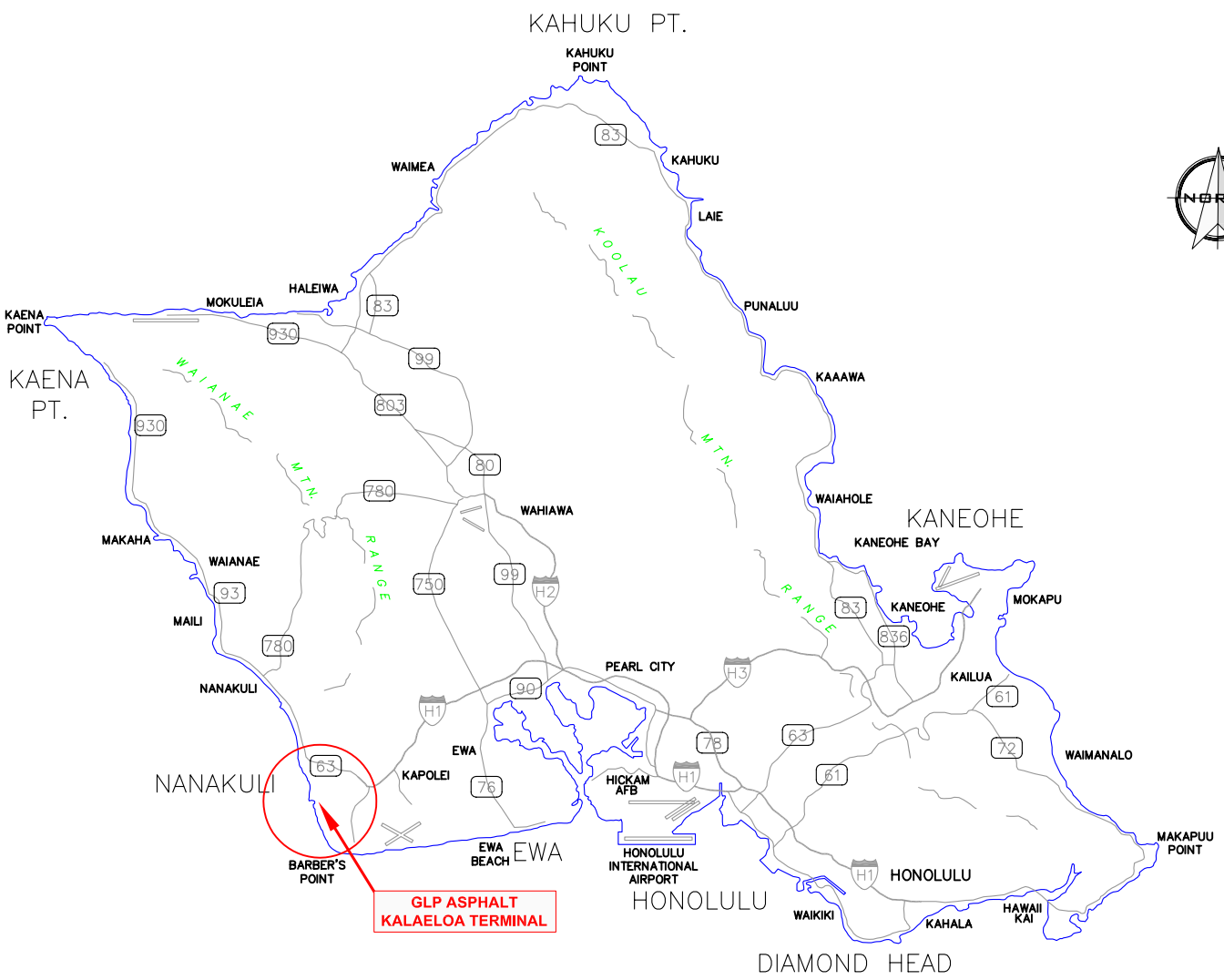
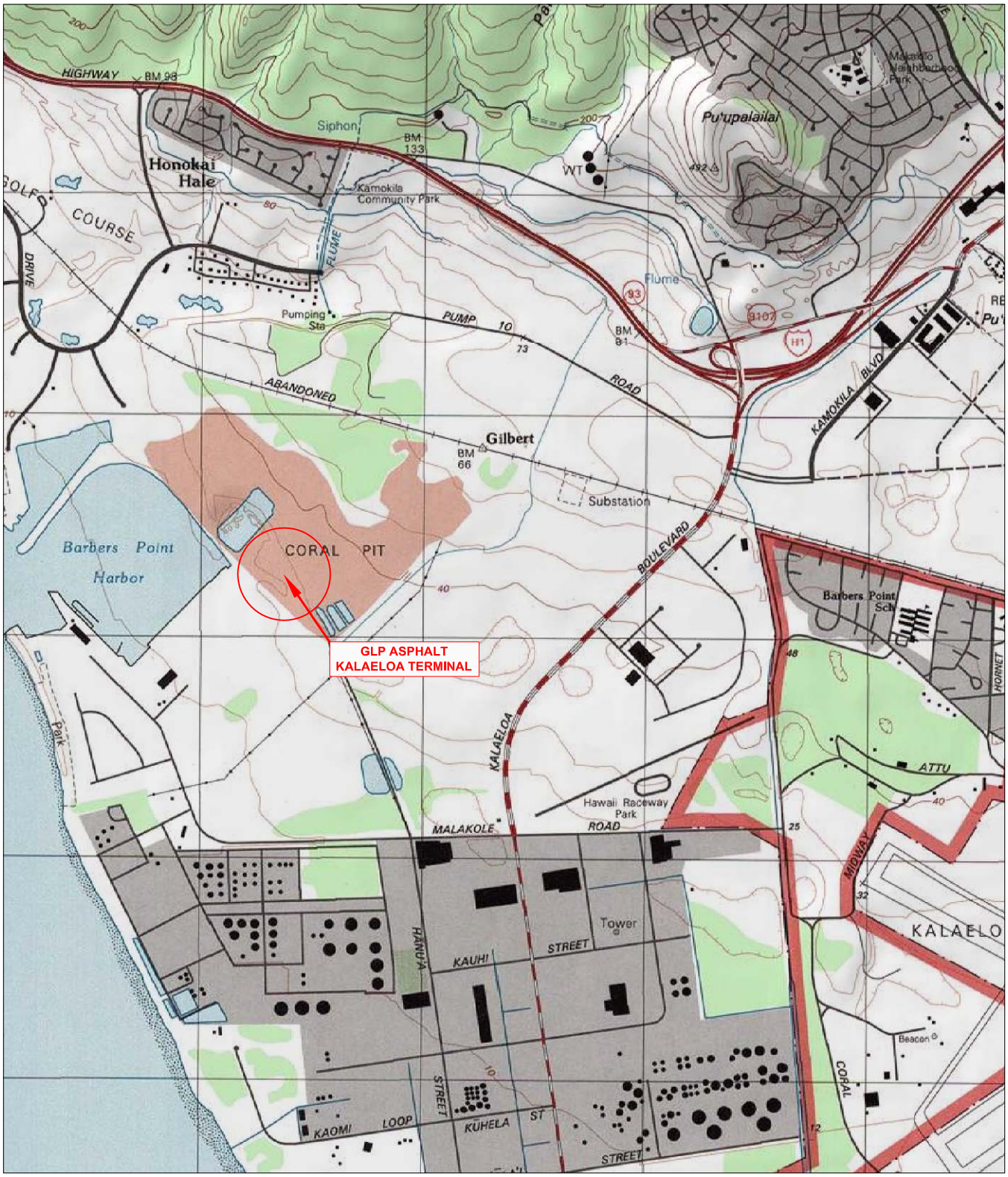
FIGURES



	Regional Location Map (Island of Oahu)	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 1

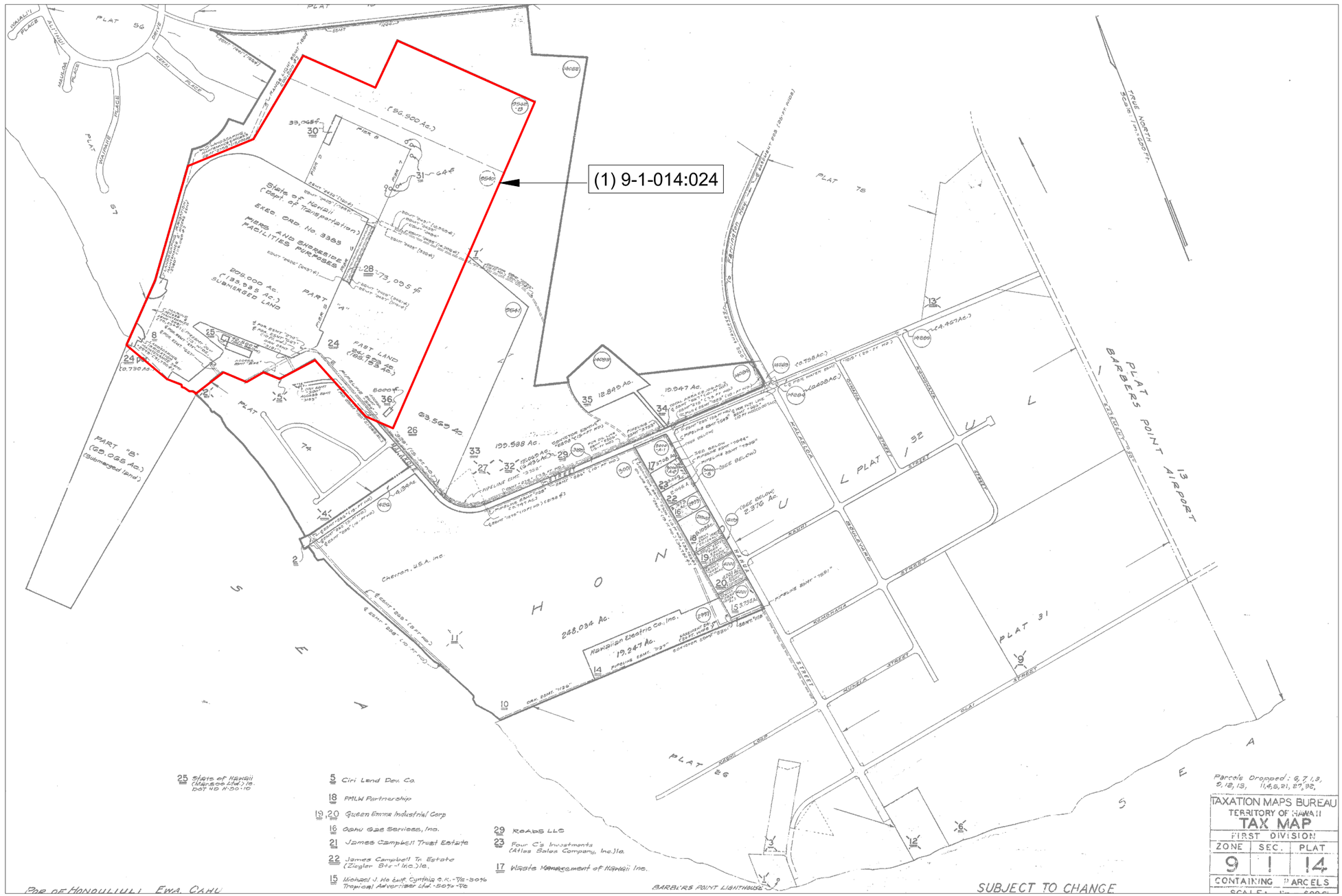


SOURCE
TOPO! Version 3.2.0 Software Program

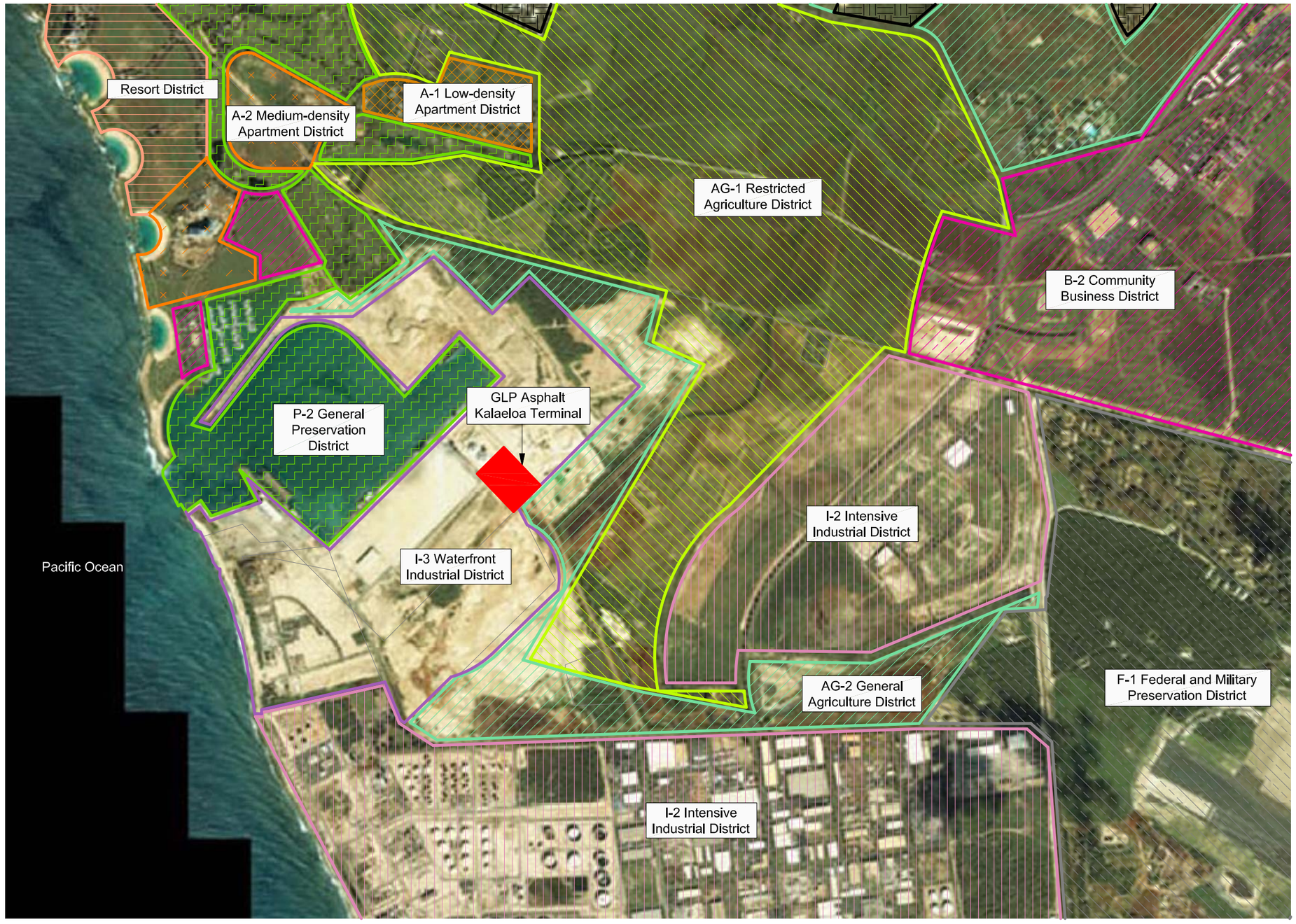
NORTH

GRAPHIC SCALE
0.5 0 0.5 MILES

esi	Site Area Topographic Map	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 2



esi	Tax Map [TMK No: (1) 9-1-014:024]	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 3



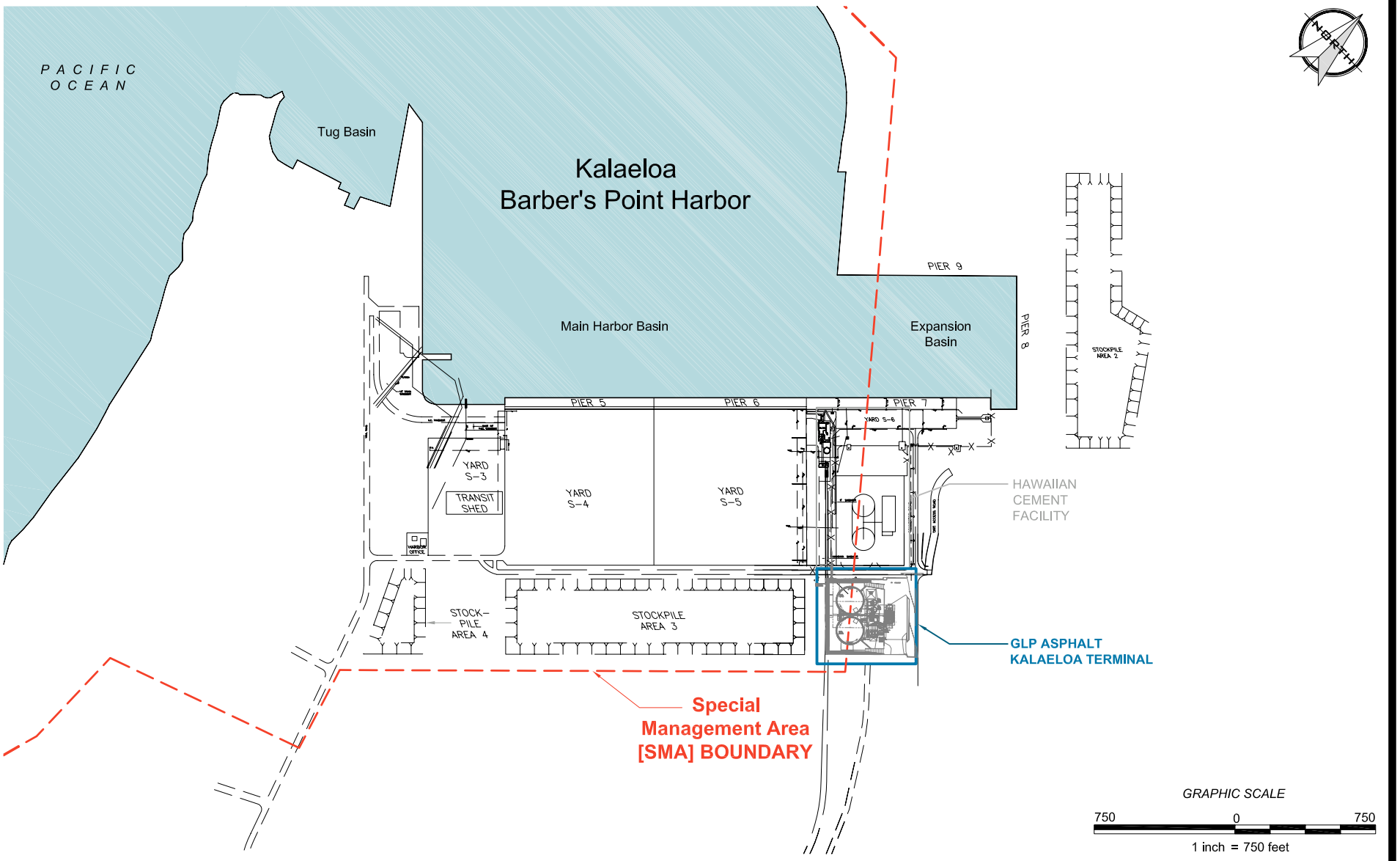
LEGEND

- A-1 Low-density Apartment District
- A-2 Medium-density Apartment District
- AG-1 Restricted Agriculture District
- AG-2 General Agriculture District
- B-2 Community Business District
- F-1 Federal and Military Preservation District
- I-2 Intensive Industrial District
- I-3 Waterfront Industrial District
- P-2 General Preservation District
- R-5 Residential District
- Resort District
- GLP Asphalt Kalaeloa Terminal

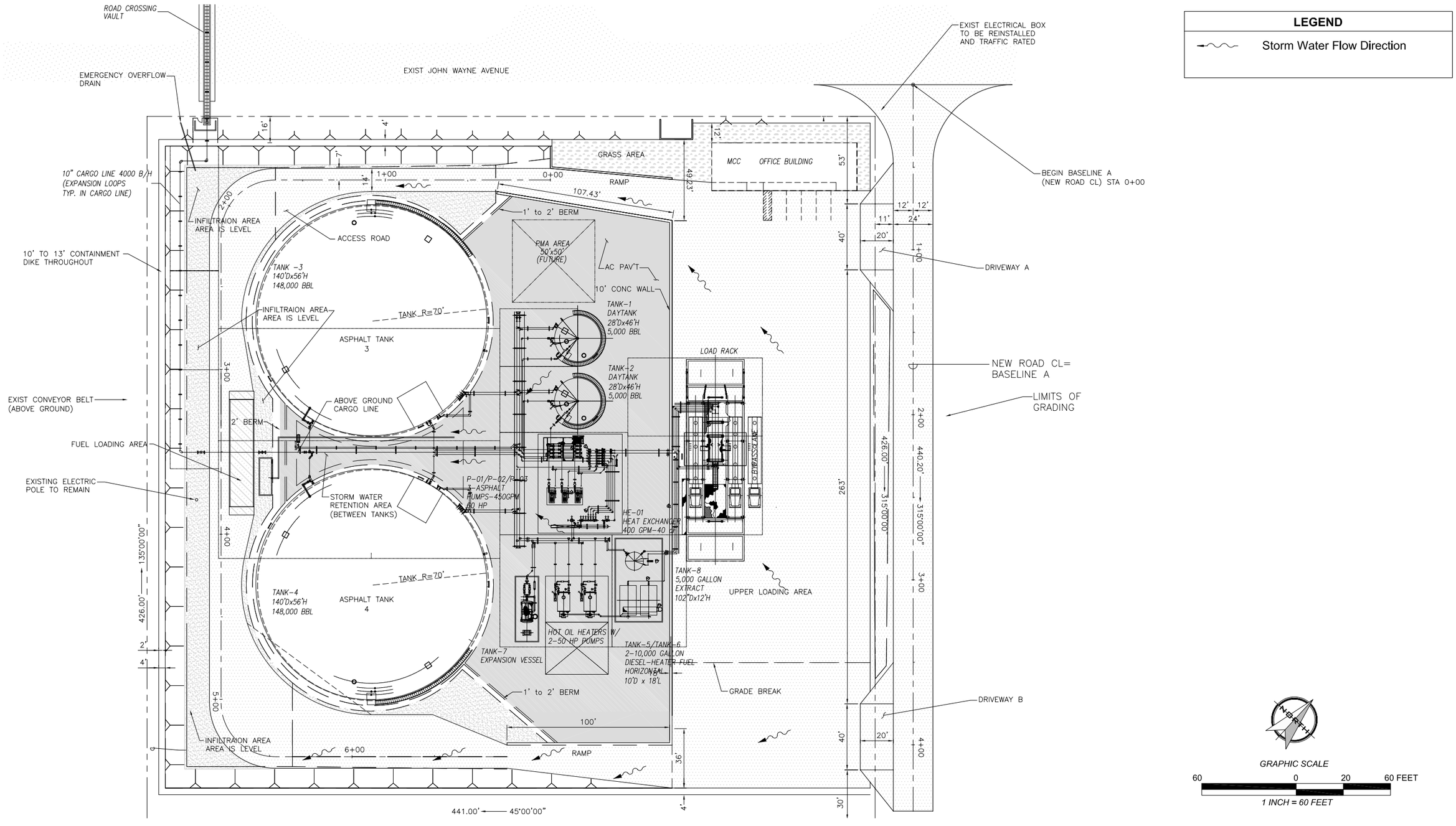
NORTH

esi	City & County Zoning Map	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 4

esi	Site Location	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 5



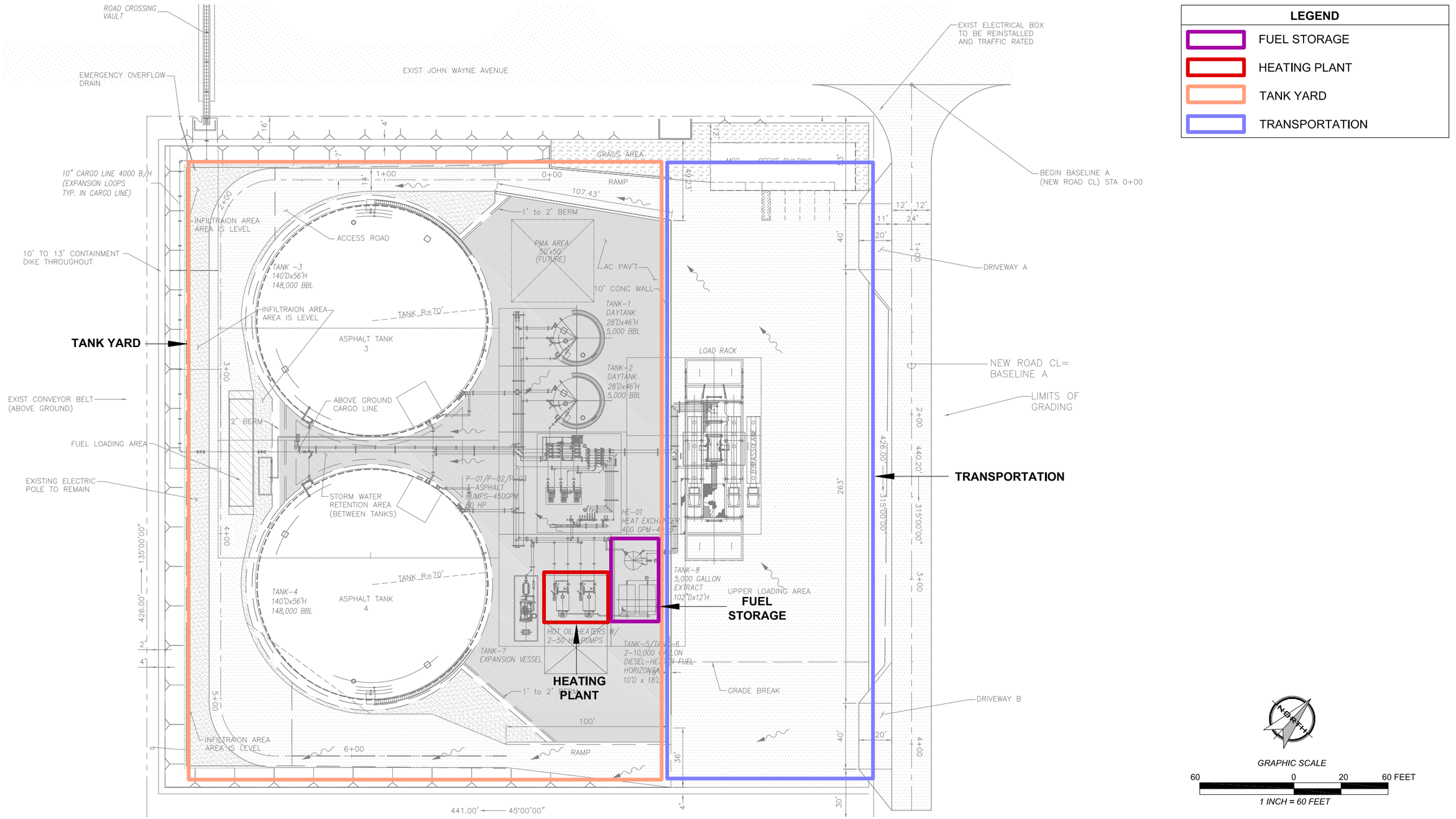
esi	Site Area Map	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 6



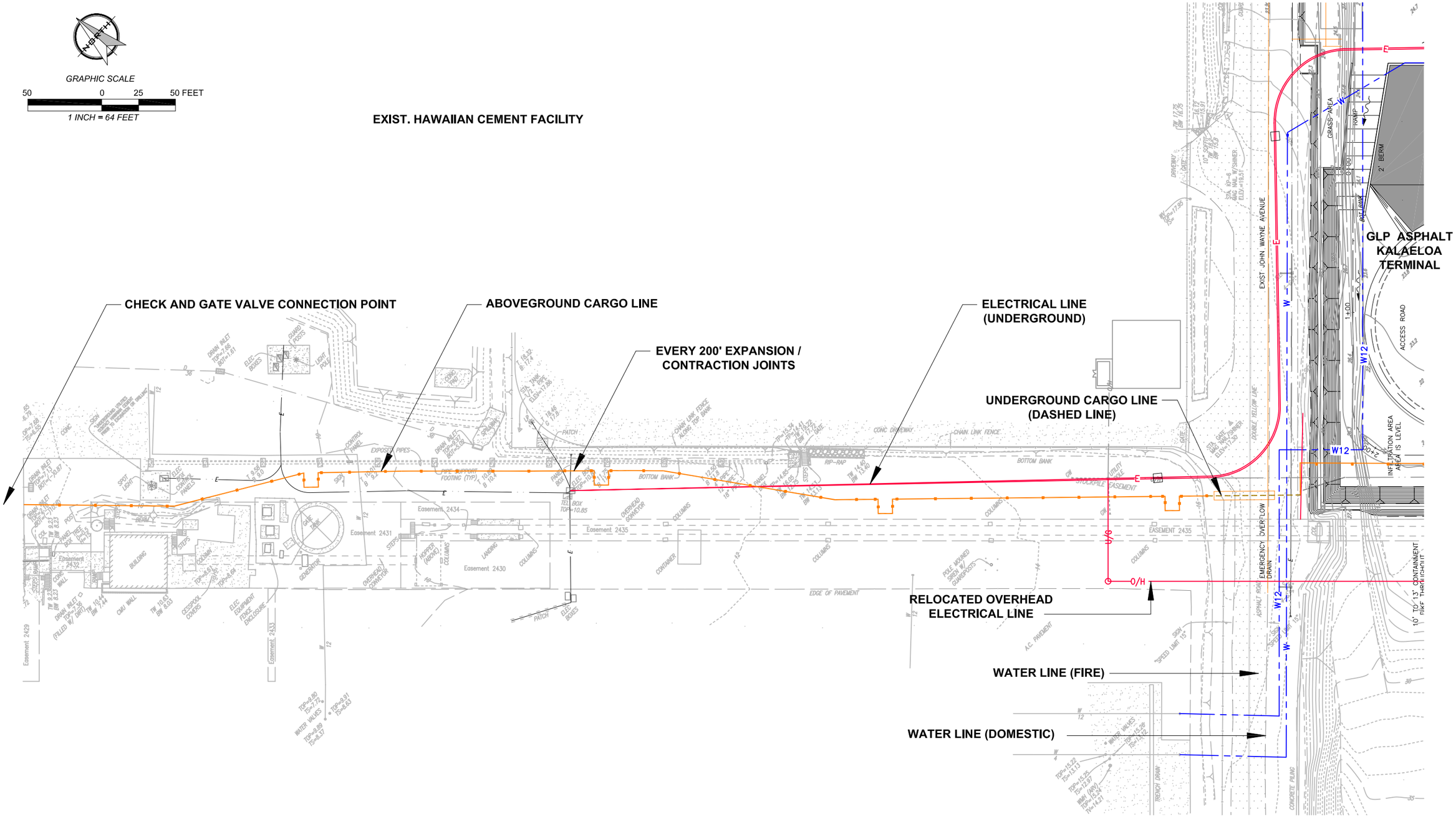
LEGEND

Storm Water Flow Direction

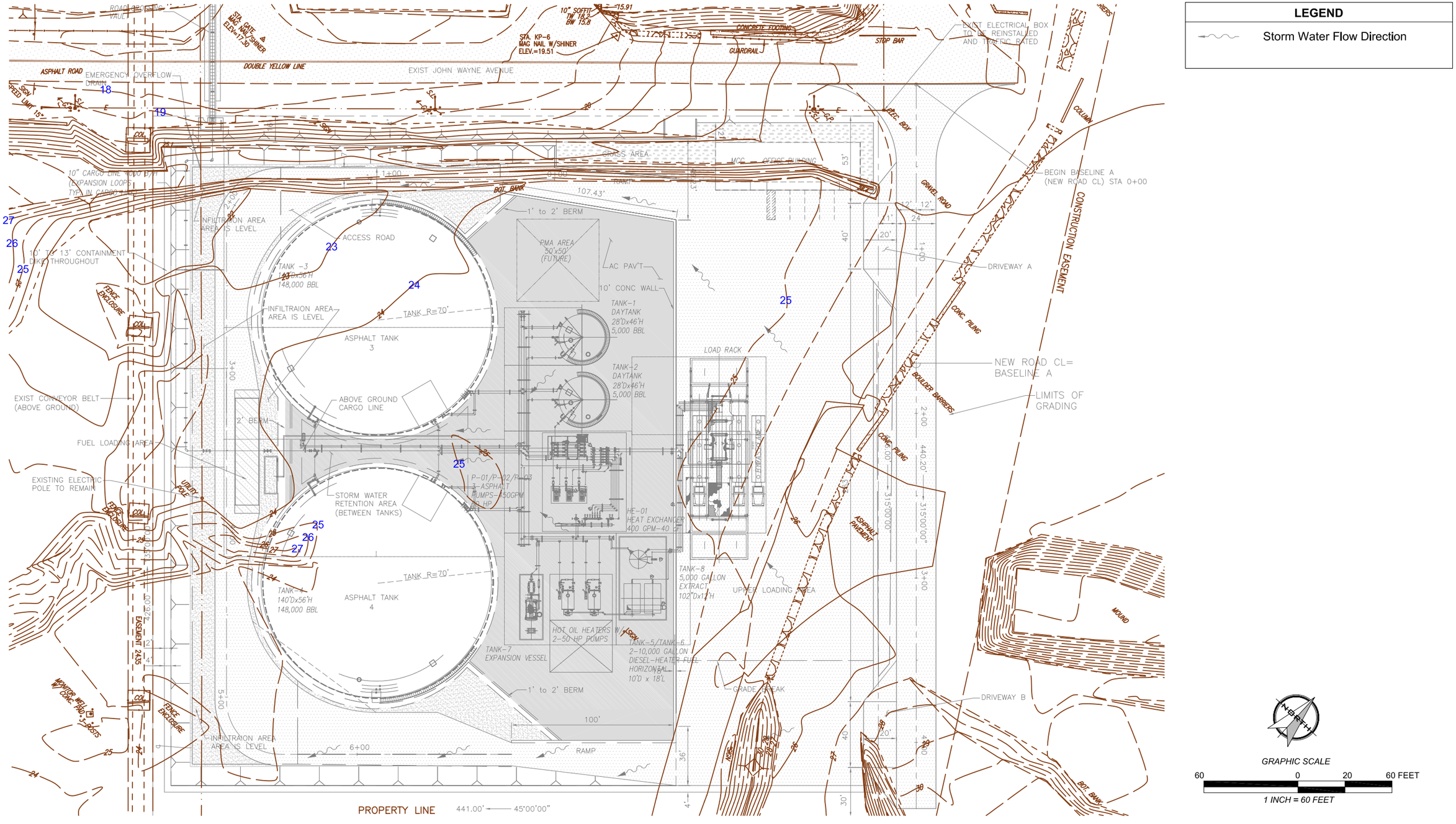
esi	Site Map	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 7



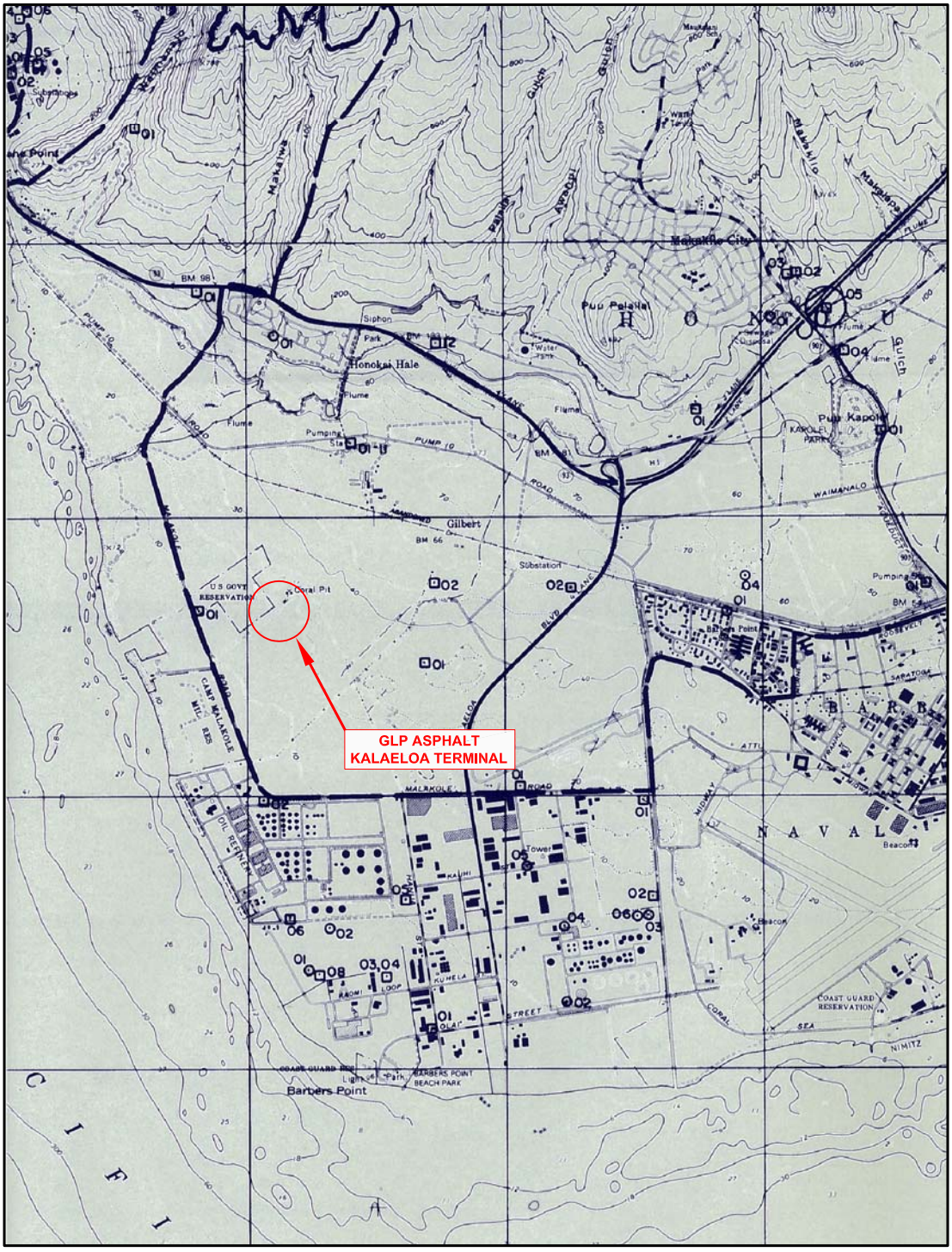
esi	Principal Areas	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 8



esti	Cargo Line Area	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 9



esi	Topographic Survey Map	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 10



LEGEND

UNDERGROUND INJECTION CONTROL (UIC) LINE	DRINKING SOURCE
INJECTION WELL	OTHER WELL

SOURCE

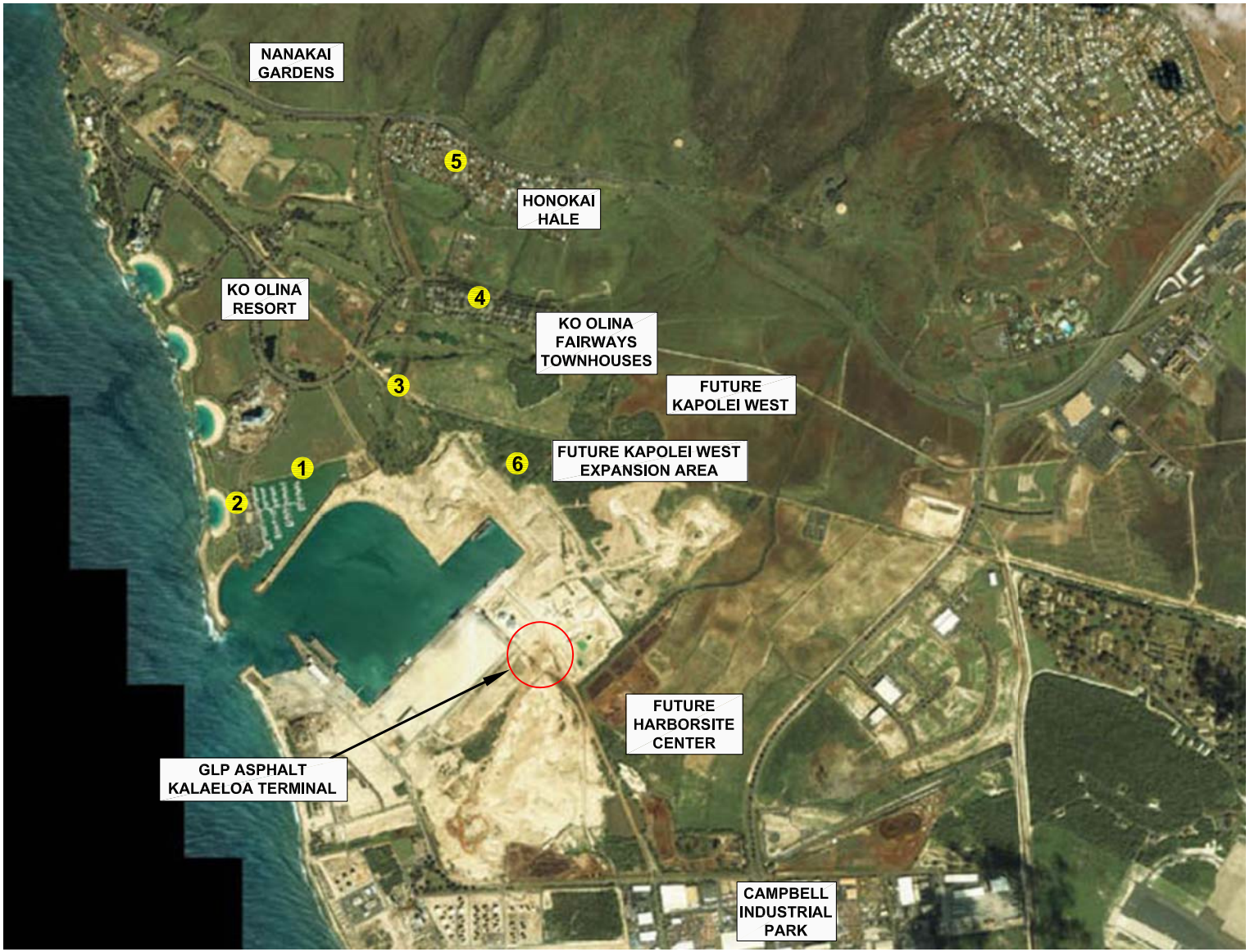
O-6, EWA, HAWAII, STATE OF HAWAII, DEPARTMENT OF HEALTH, UNDERGROUND INJECTION CONTROL PROGRAM, EFFECTIVE - JULY 6, 1984, U.S. DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY, 1983

NORTH

GRAPHIC SCALE

0.5 0 0.5 MILES

esi	UIC Line Map	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 11



NORTH

LEGEND

1 Noise Sensitive Areas

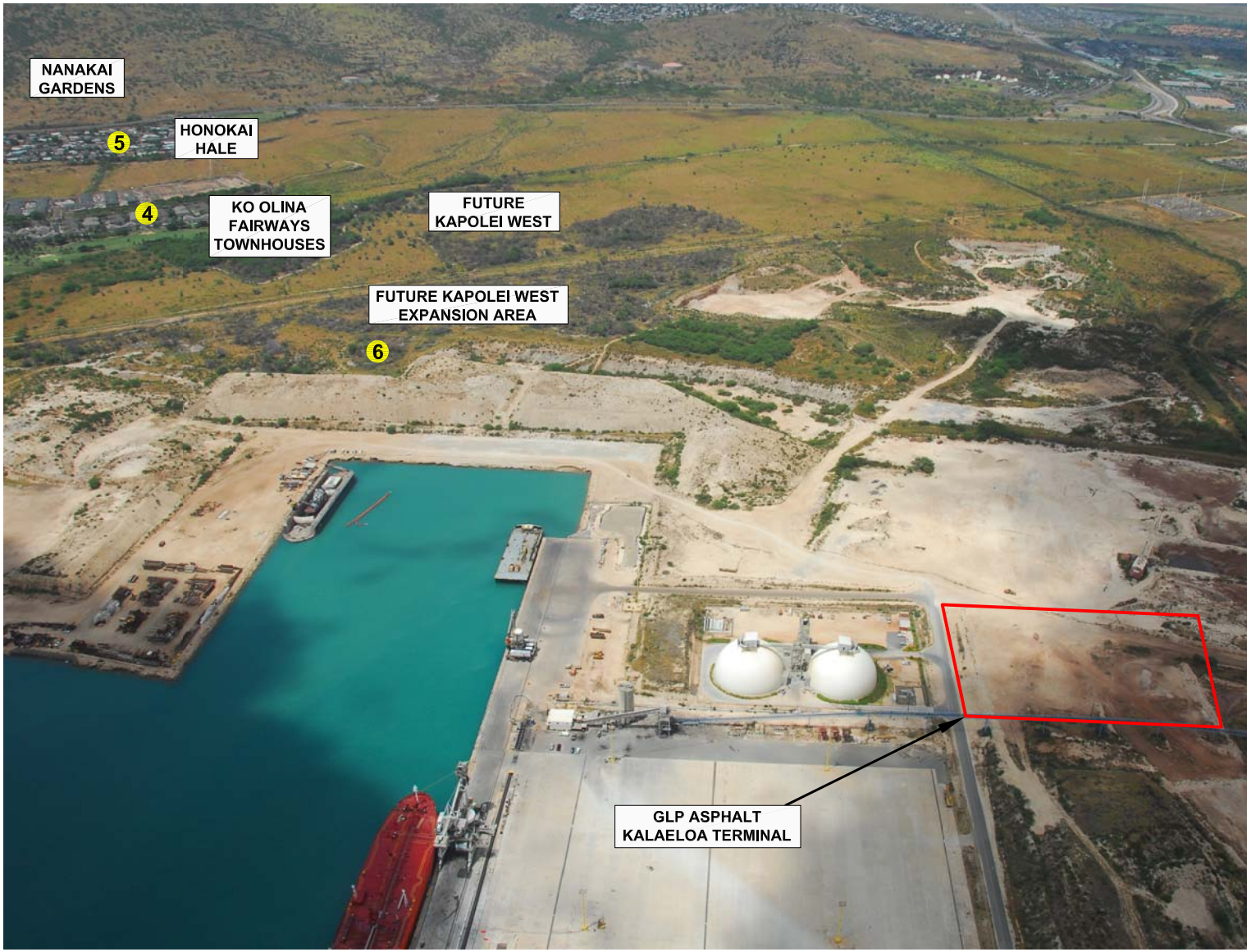
Source: E&RI Inc. , 1992-2001

	Noise-Sensitive Areas	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 12

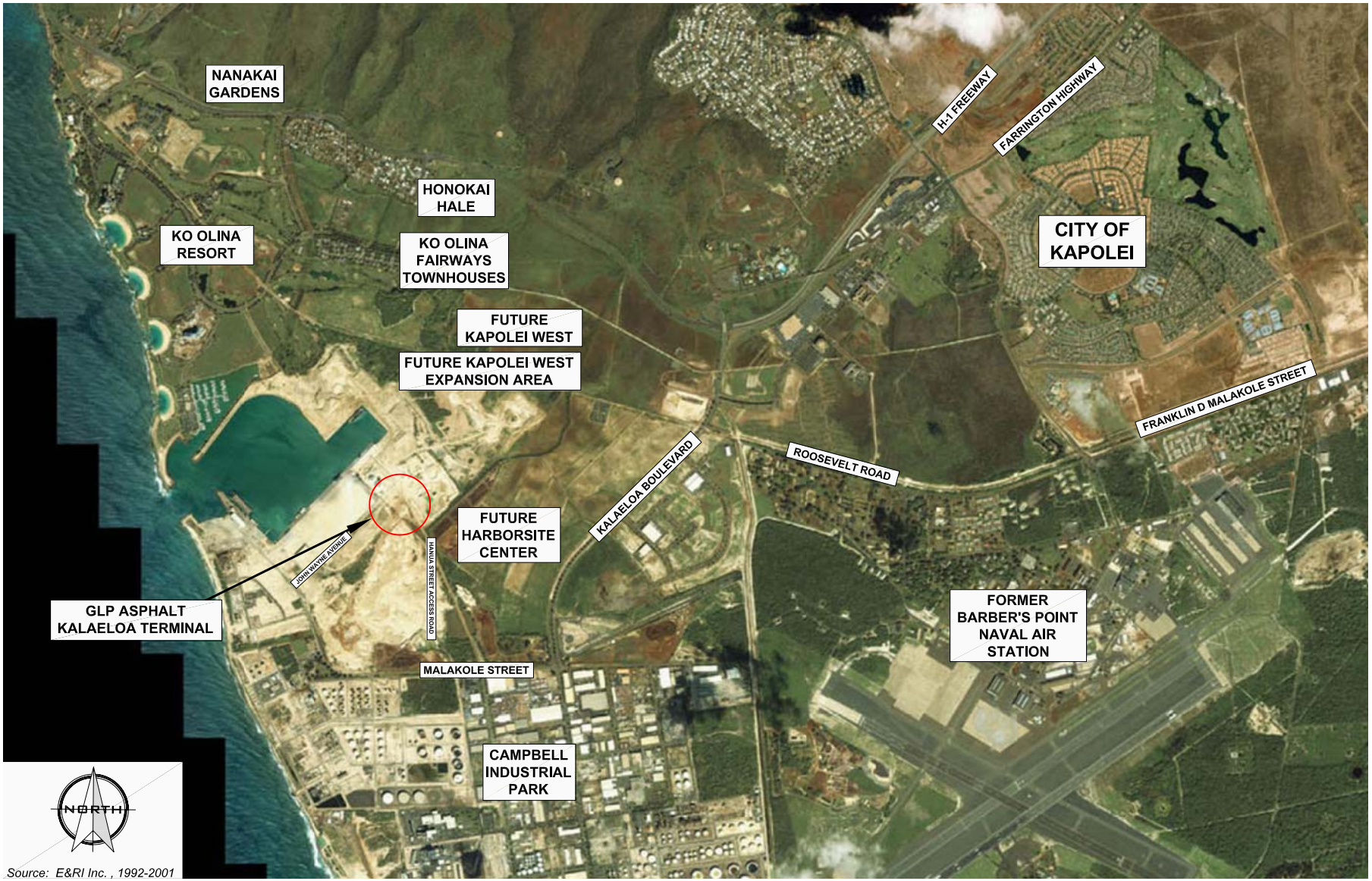
LEGEND

1 Noise Sensitive Areas

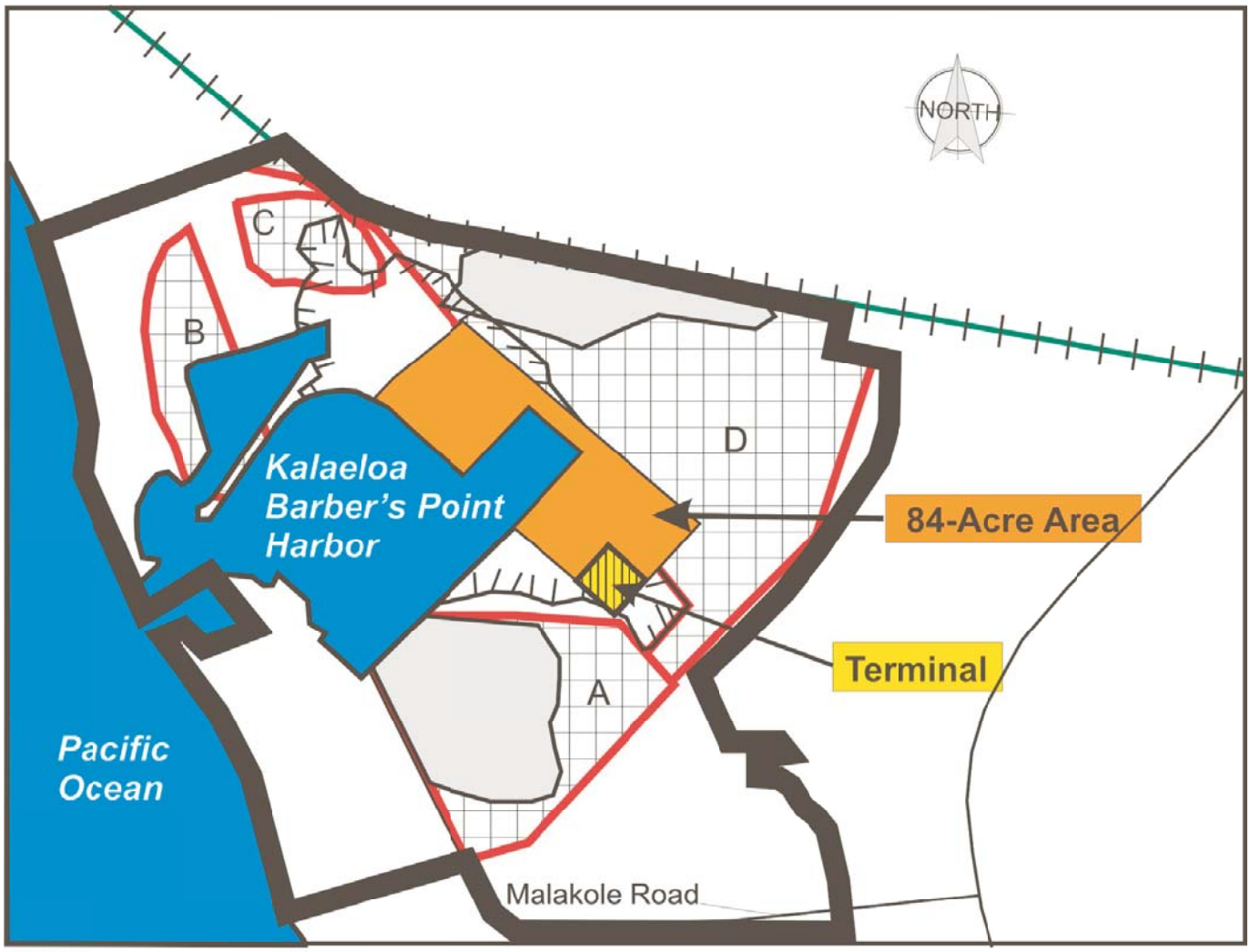
ESI	Noise-Sensitive Areas - Part I	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 12-1



	Noise-Sensitive Area - Part II	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 12-2



esi	Kapolei Area	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 13



1976 archaeological survey areas

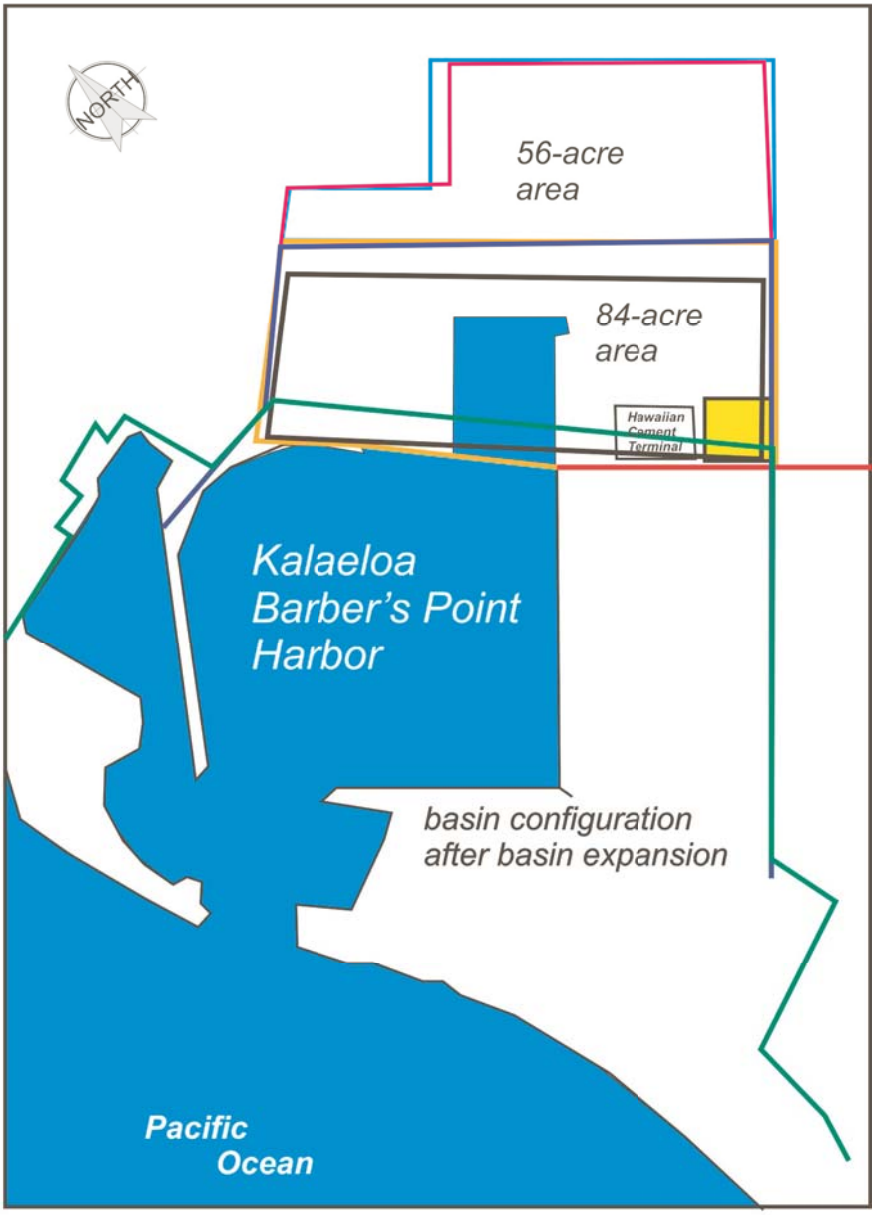
discovered archaeological sites in survey areas A & D (1976)

outline of former limestone quarry

Barber's Point Archaeological District

railroad

esri	Map of Archaeological Survey Areas	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 14



	Archaeological Survey Area Boundary and the SMA Boundary Map	Project No. 106065
	GLP Asphalt Kalaeloa Terminal EA	Date: 4/27/2007
	Kapolei, Hawaii	Figure 15

APPENDIX A

Material Safety Data Sheets

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

CHEVRON Asphalt Cement

Product Number(s): CPS204735 [See Section 16 for Additional Product Numbers]

Company Identification
Chevron Products Company
Marketing, MSDS Coordinator
6001 Bollinger Canyon Road
San Ramon, CA 94583
United States of America

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
ChevronTexaco Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
MSDS Requests: (800) 689-3998

SPECIAL NOTES: This is a generic MSDS which describes the health hazards of all Chevron Asphalt Cements. It applies to all Chevron Paving Grade Asphalt Cement products, including all Penetration Grades, AC (Asphalt Cement graded by original viscosity at 140F), AR (Asphalt Cement graded by viscosity of residue from Rolling Thin Film Oven Test), PG (Performance Graded), PBA (Performance Based Asphalts), and PAC (Polymer Modified Asphalt Cement) products.

This MSDS does not apply to Industrial Asphalts (roofing grades), Emulsified Asphalts, or Cutback Asphalts.

SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT

CHEVRON Asphalt Cement		100 %weight
Asphalt	8052-42-4	> 93 %weight
Organic amine complex	Proprietary	0 - 2 %weight
Organic amide complex	Proprietary	0 - 5 %weight
Polymers, asphalt	Proprietary	0 - 6 %weight

SECTION 3 HAZARDS IDENTIFICATION

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****

EMERGENCY OVERVIEW

- HEATING MAY RELEASE HIGHLY TOXIC AND FLAMMABLE HYDROGEN SULFIDE GAS (H2S)
- DO NOT ATTEMPT RESCUE WITHOUT SUPPLIED-AIR RESPIRATORY PROTECTION
- MAY CAUSE RESPIRATORY TRACT IRRITATION IF INHALED

****
****

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation. If this material is heated, thermal burns may result from eye contact.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. If this material is heated, thermal burns may result from skin contact.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: The vapor or fumes from this material may cause respiratory irritation. Symptoms of respiratory irritation may include coughing and difficulty breathing. If this material is heated, fumes may be unpleasant and produce nausea and irritation of the eye and upper respiratory tract. Hydrogen sulfide has a strong rotten-egg odor. However, with continued exposure and at high levels, H2S may deaden a person's sense of smell. If the rotten egg odor is no longer noticeable, it may not necessarily mean that exposure has stopped. At low levels, hydrogen sulfide causes irritation of the eyes, nose, and throat. Moderate levels can cause headache, dizziness, nausea, and vomiting, as well as coughing and difficulty breathing. Higher levels can cause shock, convulsions, coma, and death. After a serious exposure, symptoms usually begin immediately.

The U.S. National Institute for Occupational Safety and Health (NIOSH) considers air

concentrations of hydrogen sulfide gas greater than 100 ppm to be Immediately Dangerous to Life and Health (IDLH).

DELAYED OR OTHER HEALTH EFFECTS:
Cancer: May cause cancer in laboratory animals, but the available information is inadequate to determine if this material can cause cancer in humans.
Risk depends on duration and level of exposure. See Section 11 for additional information.

SECTION 4 FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water. If heated material should splash into eyes, flush eyes immediately with fresh water for 15 minutes while holding the eyelids open. Remove contact lenses, if worn. Get immediate medical attention.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, apply a waterless hand cleaner, mineral oil, or petroleum jelly. Then wash with soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse. If the hot material gets on skin, quickly cool in water. See a doctor for extensive burns. Do not try to peel the solidified material from the skin, or use solvents or thinners to dissolve it. The use of vegetable oil or mineral oil is recommended for removal of this material from the skin.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue. If exposure to hydrogen sulfide (H2S) gas is possible during an emergency, wear an approved, positive pressure air-supplying respirator. Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.
Note to Physicians: Administration of 100% oxygen and supportive care is the preferred treatment for poisoning by hydrogen sulfide gas. For additional information on H2S, see Chevron MSDS No. 301.

SECTION 5 FIRE FIGHTING MEASURES

FIRE CLASSIFICATION:
OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

FLAMMABLE PROPERTIES:
Flashpoint: (Cleveland Open Cup) > 450 °F (> 232 °C)
Autoignition: 700 °F (371.1 °C)
Flammability (Explosive) Limits (% by volume in air): Lower: NA Upper: NA

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Sulfur, Nitrogen .

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material. If this material is released into a work area, evacuate the area immediately. Persons entering the contaminated area to correct the problem or to determine whether it is safe to resume normal activities must comply with all instructions in the Exposure Controls/PersonalProtection section.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. If heated material is spilled, allow it to cool before proceeding with disposal methods.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: This material is typically stored, transported and used at temperatures between 275F (135C) and 360F (183C). Do not use or store near heat, sparks, or open flames. Use or store only in a well-ventilated area. Keep container closed when material is not in use. DO NOT ADD OR ALLOW WATER TO MIX WITH HOT ASPHALT. Steam generated eruptions may occur. STORE AND TRANSPORT ASPHALT ONLY IN PROPERLY VENTED CONTAINERS. Combustion of asphalt and asphalt vapors may occur. DO NOT MISHANDLE ASPHALT EQUIPMENT. Observe manufacturer's guidelines on proper equipment use.
Do not breathe vapor or fumes. Do not breathe vapor or fumes from heated material. Avoid contact of heated material with eyes, skin, and clothing. Smoking, eating and drinking, etc. should be prohibited when skin contact with the product or fume condensate is possible. Workers should clean hands and face before smoking, eating and drinking, etc. Do not use solvents to clean hands and face. Use vegetable oils or mineral oil, followed by a thorough washing with soap and water. Wash thoroughly after handling.
Unusual Handling Hazards: An ignition source should be considered present in large tanks where asphalt is stored at temperatures above 350 F (176.7C). Deposits can form in the vapor space of large asphalt tanks which may ignite as low as 350 F. Pyrophoric iron sulfide, commonly present in such tanks, may cause ignition below 350 F.
Toxic quantities of hydrogen sulfide (H2S) may be present in storage tanks and bulk transport vessels which contain or have contained this material. Persons opening or entering these

compartments should first determine if H2S is present. See Exposure Controls/Personal Protection -Section 8. Do not attempt rescue of a person over exposed to H2S without wearing approved supplied-air or self-contained breathing equipment. If there is a potential for exceeding one-half the occupational exposure standard, monitoring of hydrogen sulfide levels is required. Since the sense of smell cannot be relied upon to detect the presence of H2S, the concentration should be measured by the use of fixed or portable devices.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating an accumulation of electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:
Use in a well-ventilated area. If operating conditions generate vapor or fumes that exceed current government occupational standards, use process enclosures, local exhaust ventilation, or other engineering controls to control exposure.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: No eye protection is ordinarily required under normal conditions of use. If this material is heated, wear chemical goggles or safety glasses or a face shield.
Skin Protection: No skin protection is ordinarily required under normal conditions of use. If this material is heated, wear insulated clothing to prevent skin contact if engineering controls or work practices are not adequate to prevent skin contact.
Respiratory Protection: No respiratory protection is normally required. Determine if airborne concentrations are below the recommended exposure limits. If not, wear an approved respirator that provides adequate protection from measured concentrations of this material, such as: Air-Purifying Respirator for Dusts and Mists.
If material is heated and emits hydrogen sulfide, determine if airborne concentrations are below the occupational exposure limit for hydrogen sulfide. If not, wear an approved positive pressure air-supplying respirator. For more information on hydrogen sulfide, see Chevron MSDS No. 301. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Limit	TWA	STEL	Ceiling	Notation
Asphalt	ACGIH_TLV	.5 mg/m3			A4

The ACGIH TLV is 0.5 mg/m3 as the benzene extractable portion of the inhalable fraction of asphalt fume. The TLV may also be determined by unspecified 'equivalent' methods.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Black
Physical State: Semi-solid
Odor: Low odor
pH: NA
Vapor Pressure: <0.01 psia
Vapor Density (Air = 1): NA
Boiling Point: >650 °F
Solubility: Soluble in halogenated hydrocarbons and benzene; insoluble in water and alcohols.
Melting Point: 100 - 200 °F (Softening Point)
Specific Gravity: 0.96 - 1.04 @ 15.6 °C / 15.6 °C
Viscosity: 50 - 20000 poise @ 140 °F

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: Hydrogen Sulfide (Elevated temperatures)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS
Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.
Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or

product components.
Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials or product components.
Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

ADDITIONAL TOXICOLOGY INFORMATION:
There is concern about the carcinogenicity of chemical compounds found in asphalts. The International Agency for Research on Cancer (IARC) reviewed the carcinogenic potential of asphalts in 1985 and again in 1987. At that time, they concluded there was inadequate evidence to decide that asphalts were carcinogenic to humans. Overall, findings from health monitoring studies of asphalt workers are not conclusive. However, asphalt fume condensates and certain chemical components of asphalt fume have been shown to cause cancer in mice when repeatedly applied to the skin and allowed to remain on the skin for a prolonged period of time. In addition, asphalt fume condensates have been shown to be weakly positive in Ames mutagenicity tests. Skin contact and breathing of fumes, mists and vapors should be reduced to a minimum.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
This material is not expected to be harmful to aquatic organisms.

ENVIRONMENTAL FATE
This material is not expected to present an environmental problem.

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and

mode-specific or quantity-specific shipping requirements.

DOT Shipping Name: ELEVATED TEMPERATURE LIQUID, N.O.S.
DOT Hazard Class: 9 (Miscellaneous)
DOT Identification Number: UN3257
DOT Packing Group: lll

SECTION 15 REGULATORY INFORMATION

SARA 311/312 CATEGORIES:

1. Immediate (Acute) Health Effects: NO
2. Delayed (Chronic) Health Effects: YES
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

4_I1=IARC Group 1	15=SARA Section 313
4_I2A=IARC Group 2A	16=CA Proposition 65
4_I2B=IARC Group 2B	17=MA RTK
05=NTP Carcinogen	18=NJ RTK
06=OSHA Carcinogen	19=DOT Marine Pollutant
09=TSCA 12(b)	20=PA RTK

The following components of this material are found on the regulatory lists indicated.

Asphalt	17, 18, 20

CHEMICAL INVENTORIES:
UNITED STATES: All of the components of this material are on the Toxic Substances Control Act (TSCA) Chemical Inventory.
CANADA: All the components of this material are on the Canadian DSL or have been notified under the New Substance Notification Regulations, but have not yet been published in the

Canada Gazette.

WHMIS CLASSIFICATION:
This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0
HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

Additional Product Number(s):
CPS290003, CPS290005, CPS290007, CPS290008, CPS290010, CPS290011, CPS290012, CPS290013, CPS290014, CPS290015, CPS290016, CPS290020, CPS290021, CPS290022, CPS290026, CPS290029, CPS290030, CPS290031, CPS290032, CPS291000, CPS291006, CPS291009, CPS291041, CPS291058, CPS291075, CPS291079, CPS291081, CPS291084, CPS291086, CPS291087, CPS291099, CPS291101, CPS291102, CPS291108, CPS291115, CPS291129, CPS291153, CPS291164, CPS291165, CPS291167, CPS291173, CPS291174, CPS291175, CPS291176, CPS291177, CPS291190, CPS291192, CPS291201, CPS291208, CPS291209, CPS291210, CPS291231, CPS291233, CPS291234, CPS291235, CPS291262, CPS291266, CPS291269, CPS291271, CPS291272, CPS291273, CPS291279, CPS291282, CPS291295, CPS291298, CPS291309, CPS291316, CPS291317, CPS291318, CPS291319, CPS291320, CPS291321, CPS291322, CPS291323, CPS291324, CPS291325, CPS291326, CPS291329, CPS291330, CPS291331, CPS291333, CPS291336, CPS291343, CPS291345, CPS291352, CPS291354, CPS291357, CPS291358, CPS291360, CPS291362, CPS291363, CPS291367, CPS291368, CPS291369, CPS291370, CPS291374, CPS291375, CPS291376, CPS291377, CPS291378, CPS291379, CPS291380, CPS291381, CPS291382, CPS291386, CPS291387, CPS291388, CPS291389, CPS291390, CPS291391, CPS291392, CPS291393, CPS291396, CPS291398, CPS291399, CPS291401, CPS291402, CPS291404, CPS291406, CPS291415, CPS291417, CPS291419, CPS291420, CPS291426, CPS291427, CPS291428, CPS291429, CPS291430, CPS291432, CPS291433, CPS291434, CPS291435, CPS291436, CPS291437, CPS291438, CPS291439, CPS291440, CPS291441, CPS291442, CPS291444, CPS291445, CPS291447, CPS291448, CPS291449, CPS291450, CPS291451, CPS291452, CPS291453, CPS291454, CPS291455, CPS291456, CPS291457, CPS291458, CPS291459, CPS291460, CPS291461, CPS291462, CPS291463, CPS291464, CPS291465, CPS291466, CPS291467, CPS291468, CPS291469, CPS291470, CPS291471, CPS291472, CPS291473, CPS291474, CPS291475, CPS291476, CPS291477, CPS291478, CPS291479, CPS291480, CPS291481, CPS291482, CPS291483, CPS291484, CPS291485, CPS291486, CPS291487, CPS291488, CPS291489, CPS291490, CPS291491, CPS291492, CPS291493, CPS291494, CPS291495, CPS291496, CPS291497, CPS291498, CPS291499, CPS291500, CPS291501, CPS291502, CPS291503, CPS291504, CPS291505, CPS291506, CPS291507, CPS291508, CPS291509, CPS291510, CPS291511, CPS291512, CPS291513, CPS291514, CPS291515, CPS291516, CPS291517, CPS291518, CPS291519, CPS291520, CPS291521, CPS291522, CPS291523, CPS291524, CPS291525, CPS291526, CPS291565, CPS291593, CPS291594, CPS291595, CPS291599, CPS291601, CPS291602, CPS291603, CPS291604, CPS291605, CPS291609, CPS291679, CPS291684, CPS291687, CPS291688, CPS291692, CPS291693,

CPS291694, CPS291697, CPS291700, CPS291702, CPS291705, CPS291707, CPS291708, CPS291710, CPS291712, CPS291715, CPS291717, CPS291719, CPS291725, CPS291730, CPS291742, CPS291750, CPS291751, CPS291803, CPS291880, CPS292133, CPS292206, CPS292610, CPS292611, CPS292612, CPS293222, CPS294521, CPS294525, CPS294527, CPS294544, CPS294546, CPS294547, CPS294548, CPS294549, CPS294566, CPS294568, CPS294569, CPS294578, CPS294602, CPS294604, CPS294606, CPS294608, CPS294610, CPS294612, CPS294614, CPS294616, CPS294618, CPS294620, CPS294622, CPS294624, CPS294626, CPS294628, CPS294634, CPS294674, CPS294676, CPS294678, CPS294680, CPS294682, CPS294684, CPS295154, CPS295248, CPS295678, CPS295679, CPS295680, CPS295683

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet:Sections 1 & 16 (Product Codes) and all other sections (prepared using the ProSteward MSDS system).

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV	-	Threshold Limit Value	TWA	-	Time Weighted Average
STEL	-	Short-term Exposure Limit	PEL	-	Permissible Exposure Limit
			CAS	-	Chemical Abstract Service Number
NDA	-	No Data Available	NA	-	Not Applicable
<=	-	Less Than or Equal To	>=	-	Greater Than or Equal To

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the ChevronTexaco Energy Research & Technology Company, 100 Chevron Way, Richmond, California 94802.

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Diesel - Low Sulfur (LS) and Ultra Low Sulfur Diesel (ULSD)

GENERAL USE: Fuel

PRODUCT DESCRIPTION: Liquid, Color varies, clear to yellow (pale to straw) color. Petroleum Odor.

TESORO

MANUFACTURER'S NAME Tesoro Petroleum Companies, Inc.	DATE PREPARED: February 16, 2006 SUPERSEDES: New Page 1 of 4
ADDRESS (NUMBER, STREET, P.O. BOX) 300 Concord Plaza Drive	TELEPHONE NUMBER FOR INFORMATION (877) 783-7676
MATERIAL SAFETY DATA SHEET COUNTRY San Antonio, TX 78216-6999 USA	EMERGENCY TELEPHONE NUMBER Chemtrec (800) 424-9300 Outside USA (703) 527-3887
DISTRIBUTOR'S NAME Same	
ADDRESS (NUMBER, STREET, P.O. BOX)	TELEPHONE NUMBER FOR INFORMATION
(CITY, STATE AND ZIP CODE) COUNTRY	EMERGENCY TELEPHONE NUMBER

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS	CAS #	% (by volume)	OSHA PEL		ACGIH TWA		SARA TITLE III	RQ LBS
			PPM	MG/M3	PPM	MG/M3		
Diesel fuel #2	68476-34-6	96 - 100	not established					
Xylene (mixed) (a,b,c)	1330-20-7	0 - 1.1	100	435	100		Yes	1000
1,2,4-Trimethylbenzene (a)	95-63-6	0 - 1.2	25	125			Yes	
Nonane	111-84-2	0 - 1.1	200	1050	200			
Naphthalene (a,b,c,d,e)	91-20-3	0 - 1	10	50	10		Yes	100

(a,c) See Section 15

(b) Indicates that the Resource Conservation and Recovery Act (RCRA) has determined the waste for this chemical is listed as hazardous and must be handled according to regulations in 40 CFR 260-281.

(d) Product is listed or defined as a marine pollutant in IMDG Code or 49 CFR 172.101 Appendix B, List of Marine Pollutants and must be classified as an Environmentally Hazardous Substance, Class 9, in addition to any other defined hazards for this product.

(e) California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986, chemicals known to the state to cause cancer or reproductive toxicity. A person in the course of doing business must warn others who may consume, come into contact with, or otherwise be exposed to this chemical.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Various colored liquid, potentially hazardous vapors. Flammable as defined by DOT and TDG. May be classified by DOT as Combustible. Classified as Combustible by OSHA. Can cause eye and skin irritation upon contact. Inhalation of vapors can cause anesthetic effect leading to death in poorly ventilated areas. Hazard symbols for this product - Xn Risk Phrases - R20 36/38

POTENTIAL HEALTH EFFECTS

INHALATION: High concentrations are irritating to the respiratory tract; may cause headache, dizziness, nausea, vomiting and malaise.

SKIN: Brief contact may cause slight irritation; prolonged contact may cause moderate irritation or dermatitis.

EYES: High vapor concentration or contact may cause irritation and discomfort.

INGESTION: May result in vomiting; aspiration of vomitus into the lungs must be avoided; DO NOT induce vomiting. Minute amounts aspirated into the lungs can produce severe lung injury, chemical pneumonitis, pulmonary edema or death.

CARCINOGENICITY NTP? No IARC MONOGRAPHS? No OSHA REGULATED? No

SECTION 4 - FIRST AID MEASURES

INHALATION: Remove affected person to fresh air; provide oxygen if breathing is difficult; if affected person is not breathing, administer CPR and seek emergency medical attention.

SKIN: Remove contaminated clothing; wash affected area with soap and water; launder contaminated clothing before reuse; if irritation persists, seek medical attention.

EYES: Check for and remove contact lenses. Flush eyes with clear running water for 15 minutes while holding eyelids open; if irritation persists, seek medical attention.

INGESTION: DO NOT induce vomiting; if vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs; seek immediate medical attention. Vomiting may be induced only under the supervision of a physician.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT (METHOD USED)	FLAMMABLE LIMITS	LEL: 0.6%	UEL: 4.7%
135° F (57.2° C) TCC	AUTOIGNITION TEMPERATURE:	495° F (257° C)	NFPA CLASS: II

GENERAL HAZARDS: Product is considered combustible. Products of combustion include compounds of carbon, hydrogen and oxygen, including carbon monoxide.

EXTINGUISHING MEDIA
Carbon dioxide, water fog, dry chemical, chemical foam.

FIRE FIGHTING PROCEDURES
Firefighters must wear full facepiece self - contained breathing apparatus in positive pressure mode. Do not use solid stream of water since stream will scatter and spread fire. Fine water spray can be used to keep fire - exposed containers cool.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Closed containers can explode due to buildup of pressure when exposed to extreme heat. Do not use direct stream of water on pool fires as product may reignite on water surface. Caution - Material is combustible!

HAZARDOUS COMBUSTION PRODUCTS
Smoke, fumes or vapors, oxides of carbon.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: COMBUSTIBLE. Evacuate and ventilate area; confine and absorb into absorbent; place material into approved containers for disposal; for spills in excess of allowable limits (RQ) notify the National Response Center (800) 424 - 8802; refer to CERCLA 40 CFR 302 and SARA Title III, Section 313 40 CFR 372 for detailed instructions concerning reporting requirements. Do not discharge into lakes, ponds, streams or public waters.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: This material is combustible. It should be stored in tightly closed containers in a cool, well ventilated area. Vapor may form explosive mixtures in air. All sources of ignition should be controlled. This material must be classified as FLAMMABLE by DOT if transported by vessel or aircraft. Refer to 49 CFR 173.120. Keep this and other chemicals out of reach of children. Avoid inhaling concentrated fumes or vapors.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

The use of local exhaust ventilation is recommended to control emissions near the source. Provide mechanical ventilation of confined spaces. Use explosion-proof ventilation equipment.

PERSONAL PROTECTION:

RESPIRATORY PROTECTION: None required while threshold limits are kept below maximum allowable concentrations; if TWA exceeds limits, NIOSH approved respirator must be worn. Refer to 29 CFR 1910.134 or European Standard EN 149 for complete regulations.

PROTECTIVE GLOVES: Neoprene, butyl or nitrile rubber gloves with cuffs.

EYE PROTECTION: Chemical safety goggles. Refer to 29 CFR 1910.133 or European Standard EN166.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Safety eyewash station nearby.

WORK / HYGIENIC PRACTICES: Practice safe workplace habits. Minimize body contact with this, as well as all chemicals in general.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

VAPOR PRESSURE < 0.5 PSIA @ 100° F	VAPOR DENSITY (AIR = 1) > 1
SPECIFIC GRAVITY (WATER = 1) 0.78 - 0.955	EVAPORATION RATE (CCL4 = 1) < 1
SOLUBILITY IN WATER Negligible, below 1.0%	FREEZING POINT Not applicable
pH Not determined	APPEARANCE AND ODOR Liquid, clear, yellow (pale to straw), petroleum odor.
BOILING POINT 300° F - 700° F (148° C - 372° C)	PHYSICAL STATE Liquid
VISCOSITY 1.7 - 40.0 cS @ 100°F	VOLATILE ORGANIC COMPOUNDS (Total VOC's) 6.75 lbs / gallon

SECTION 10 - STABILITY AND REACTIVITY

STABILITY UNSTABLE: STABLE: XXX	CONDITIONS TO AVOID: Extreme temperatures, open flames.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers, strong acids.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Decomposition will not occur if handled and stored properly. In case of a fire, oxides of carbon, hydrocarbons, fumes or vapors, and smoke may be produced.

HAZARDOUS POLYMERIZATION MAY OCCUR: WILL NOT OCCUR: XXX	CONDITIONS TO AVOID: None

SECTION 11 - TOXICOLOGICAL INFORMATION

Hazardous Ingredients	CAS #	EINECS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
Diesel fuel #2	68476-34-6	270-676-1	Not established	Not established
Xylene (mixed) (a,b,c)	1330-20-7	215-535-7	4300 mg / kg Oral - rat	5000 ppm / 4H Inhalation - rat
1,2,4-Trimethylbenzene (a)	95-63-6	202-436-9	5 gm / kg Oral - rat	18 gm / m3 / 4H Inhalation - rat
Nonane	111-84-2	203-913-4	218 mg / kg Oral - mouse	3200 ppm / 4H Inhalation - rat
Naphthalene (a,b,c,d,e)	91-20-3	202-049-5	1780 mg / kg Oral - rat	Not established

SECTION 12 - ECOLOGICAL INFORMATION

No data are available on the adverse effects of this material on the environment. Neither COD nor BOD data are available. Release of this product should be prevented from contaminating soil and water and from entering drainage and sewer systems. U.S.A. regulations require reporting spills of this material that could reach any surface waters. The toll free number for the U.S. Coast Guard National Response Center is (800) 424-8802. Naphthalene (91-20-3) one of the ingredients in this mixture is classified as a Marine Pollutant.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of in accordance with Local, State, and Federal Regulations. This product may produce hazardous vapors in a closed disposal container creating a dangerous environment. Refer to "40 CFR Protection of Environment Parts 260 - 299" for complete waste disposal regulations. Consult your local, state, or Federal Environmental Protection Agency before disposing of any chemicals. Do not flush to sanitary sewer or waterway.

SECTION 14 - TRANSPORT INFORMATION

PROPER SHIPPING NAME: Diesel Fuel

DOT HAZARD CLASS / Pack Group: 3 / III
REFERENCE: 49 CFR 173.150, .203, .242
UN / NA IDENTIFICATION NUMBER: UN 1202
LABEL: FLAMMABLE LIQUID
HAZARD SYMBOLS: F

IATA HAZARD CLASS / Pack Group: Not applicable
IMDG HAZARD CLASS: Not applicable
RID/ADR Dangerous Goods Code: Not applicable
UN TDG Class / Pack Group: Not applicable
Hazard Identification Number (HIN): 30

Note: Transportation information provided is for reference only. Client is urged to consult CFR 49 parts 100 - 177, IMDG, IATA, EC, United Nations TDG, and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

SECTION 15 - REGULATORY INFORMATION

TSCA (Toxic Substance Control Act)
All components of this product are listed on the U.S. Toxic Substances Control Act Chemical Inventory (TSCA Inventory) or are exempted from listing because a Low Volume Exemption has been granted in accordance with 40 CFR 723.50.

SARA TITLE III (Superfund Amendments and Reauthorization Act)
311/312 Hazard Categories
Immediate health

313 Reportable Ingredients:
(a) Indicates a toxic chemical subject to annual reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

CERCLA (Comprehensive Response Compensation and Liability Act)
(c) The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) has notification requirements for releases or spills to the environment of the Reportable Quantity (RQ for this mixture > 24,000 lbs) or greater amounts, according to 40 CFR 302.

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986
There is a chemical present known to the state of California to cause cancer or reproductive toxicity.

CPR (Canadian Controlled Products Regulations)
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations. WHMIS Classification: B3, D2B

IDL (Canadian Ingredient Disclosure List)
Components of this product identified by CAS number and listed on the Canadian Ingredient Disclosure List are shown in Section 2.

DSL / NDSL (Canadian Domestic Substances List / Non-Domestic Substances List)
Components of this product identified by CAS number are listed on the DSL or NDSL, or are otherwise in compliance with the New Substances Notification (NSN) regulations. Only ingredients classified as "hazardous" are listed in Section 2 unless otherwise indicated.

EINECS (European Inventory of Existing Commercial Chemical Substances)
Components of this product identified by CAS numbers are on the European Inventory of Existing Commercial Chemical Substances.

EC Risk Phrases	SYMBOL(S) REQUIRED FOR LABEL	EC Safety Phrases
R20 Harmful by inhalation R36/38 Irritating to eyes and skin.	Harmful 	S23 Do not breathe vapor S25 Avoid contact with eyes S28 After contact with skin, wash immediately with plenty of soap and water. S29 Do not empty into drains S62 If swallowed, do not induce vomiting; seek medical advice immediately and show this label.

SECTION 16 - OTHER INFORMATION

Values do not reflect absolute minimums and maximums; these values are typical which may vary from time to time.

HMIS HAZARD RATINGS				
	HEALTH	1	* = Chronic Health Hazard	2 = MODERATE
	FLAMMABILITY	2	0 = INSIGNIFICANT	3 = HIGH
	PHYSICAL HAZARD	0	1 = SLIGHT	4 = EXTREME
	PERSONAL PROTECTIVE EQUIPMENT	B	Safety Glasses, Gloves	

REVISION SUMMARY:
This MSDS has been revised in the following sections:

New MSDS Diesel LS & ULSD Created on Feb. 10, 2006

MSDS Prepared by: Chem-Tel, Inc.
1305 N. Florida Ave.
Tampa, Florida USA 33602
(800) 255-3924 Outside USA (813) 248-0573

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Chevron Turbine Oil TR ISO 32

Product Number(s): CPS253033

Company Identification
ChevronTexaco Global Lubricants
6001 Bollinger Canyon Rd.
San Ramon, CA 94583
United States of America
www.chevron-lubricants.com

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
ChevronTexaco Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevron.com
Product Information: (800) LUBE TEK
MSDS Requests: (800) 414-6737

SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Distillates, hydrotreated heavy paraffinic	64742-54-7	80 - 100 %weight

SECTION 3 HAZARDS IDENTIFICATION

IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.
Ingestion: Not expected to be harmful if swallowed.
Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

SECTION 4 FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes

with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.
Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

FIRE CLASSIFICATION:
OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

FLAMMABLE PROPERTIES:
Flashpoint: (Cleveland Open Cup) 204 °C (400 °F) (Min)
Autoignition: No Data Available
Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.
PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.
General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge

and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.

Respiratory Protection: No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Distillates, hydrotreated heavy paraffinic	ACGIH	5 mg/m3	10 mg/m3	–	–
Distillates, hydrotreated heavy paraffinic	OSHA Z-1	5 mg/m3	–	–	–

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Colorless
Physical State: Liquid
Odor: Petroleum odor
pH: Not Applicable
Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)
Vapor Density (Air = 1): >1

Boiling Point: >315.6°C (600°F)
Solubility: Soluble in hydrocarbons; insoluble in water
Freezing Point: Not Applicable

Melting Point: Not Applicable
Specific Gravity: 0.86 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)
Volatile Organic Compounds (VOC) : 1.8 %weight (Approximate)
Viscosity: 29 cSt @ 40°C (104°F) (Min)

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS
Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.
Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.
Skin Sensitization: No product toxicology data available.
Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
The toxicity of this material to aquatic organisms has not been evaluated. Consequently, this material should be kept out of sewage and drainage systems and all bodies of water.

ENVIRONMENTAL FATE
This material is not expected to be readily biodegradable.

SECTION 13 DISPOSAL CONSIDERATIONS

Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local

environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Name: NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR
DOT Hazard Class: NOT APPLICABLE
DOT Identification Number: NOT APPLICABLE
DOT Packing Group: NOT APPLICABLE
Additional Information: NOT HAZARDOUS BY U.S. DOT. ADR/RID HAZARD CLASS NOT APPLICABLE.

IMO/IMDG Shipping Name: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER THE IMDG CODE
IMO/IMDG Hazard Class: NOT APPLICABLE
IMO/IMDG Identification Number: NOT APPLICABLE
IMO/IMDG Packing Group: NOT APPLICABLE

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES: 1. Immediate (Acute) Health Effects: NO
2. Delayed (Chronic) Health Effects: NO
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	08=PA RTK

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:
AUSTRALIA: This material contains components that require notification before sale or importation into Australia.
CANADA: One or more components of this product are not on the Domestic Substances List (DSL). Volume tracking or notification by the Canadian Importer of Record may be required. Please contact ChevronTexaco Global Lubricants.
EUROPEAN UNION: All the components of this material are in compliance with the EU Seventh Amendment Directive 92/32/EEC.
JAPAN: This material contains components that require notification before sale or importation into Japan.
KOREA: This material contains components that require notification before sale or importation into Korea.
PHILIPPINES: This material contains components that require notification before sale or importation into the Philippines.
UNITED STATES: All of the components of this material are on the Toxic Substances Control Act (TSCA) Chemical Inventory.

NEW JERSEY RTK CLASSIFICATION:
Refer to components listed in Section 2. Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Lubricating oil)

WHMIS CLASSIFICATION:
This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0
HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 1-16

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Government Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - ChevronTexaco	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the ChevronTexaco Energy Research & Technology Company, 100 Chevron Way, Richmond, California 94802.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

CHEVRON Asphalt Emulsions - Anionic

Product Number(s):
CPS291092, CPS291125, CPS291126, CPS291136, CPS291137, CPS291139, CPS291179, CPS291373, CPS291539, CPS291541, CPS291542, CPS291543, CPS291544, CPS291548, CPS291554, CPS291557, CPS291566, CPS291567, CPS291568, CPS291578, CPS293223, CPS294512, CPS294819, CPS294834, CPS294920, CPS294973, CPS294997, CPS294999
Synonyms: BITUSIZE A-5, BITUSIZE BB-1, CHEVRON Asphalt Emulsion QS-H, CHEVRON Asphalt Emulsion RS-1H, CHEVRON Asphalt Emulsion SS-1, CHEVRON Asphalt Emulsion SS-1 ADOT, CHEVRON Asphalt Emulsion SS-1H, CHEVRON Emulsion Dilute SS-1H, Special 77

Company Identification
Chevron Products Company
Marketing, MSDS Coordinator
6001 Bollinger Canyon Road
San Ramon, CA 94583
United States of America

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
ChevronTexaco Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
MSDS Requests: (800) 689-3998

SPECIAL NOTES: This is a generic MSDS for Chevron Asphalt Emulsions - Anionic. The health hazards for all Chevron AE - Anionic are described in this MSDS.

SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT

CHEVRON Asphalt Emulsion - Anionic		100 %weight
Water	7732-18-5	< 45 %weight
Asphalt	8052-42-4	< 65 %weight
Additives	Proprietary	< 3 %weight

SECTION 3 HAZARDS IDENTIFICATION

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EMERGENCY OVERVIEW

- CAUSES EYE IRRITATION
- PROLONGED OR REPEATED CONTACT WITH SKIN CAN BE HARMFUL
- KEEP OUT OF REACH OF CHILDREN

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IMMEDIATE HEALTH EFFECTS
Eye: Contact with the eyes causes irritation. Symptoms may include pain, tearing, reddening, swelling and impaired vision.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: May be irritating to mouth, throat, and stomach. Symptoms may include pain, nausea, vomiting, and diarrhea.
Inhalation: Not expected to be harmful if inhaled.

DELAYED OR OTHER HEALTH EFFECTS:

Cancer: May cause cancer in laboratory animals, but the available information is inadequate to determine if this material can cause cancer in humans.
Risk depends on duration and level of exposure. See Section 11 for additional information.

SECTION 4 FIRST AID MEASURES

Eye: Flush eyes with water immediately while holding the eyelids open. Remove contact lenses, if worn, after initial flushing, and continue flushing for at least 15 minutes. Get medical attention if

irritation persists.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, apply a waterless hand cleaner, mineral oil, or petroleum jelly. Then wash with soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: If swallowed, get medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.
Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

FIRE CLASSIFICATION:
OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

NFPA RATINGS: Health: 1 Flammability: 1 Reactivity: 0

FLAMMABLE PROPERTIES:
Flashpoint: NA
Autoignition: NA
Flammability (Explosive) Limits (% by volume in air): Lower: NA Upper: NA

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Sulfur, Nitrogen .

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.
Do not heat above 200F (93.3C) or product degradation may occur. Avoid freezing.
Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Wash thoroughly after handling. Smoking, eating and drinking, etc. should be prohibited when skin contact with the product or fume condensate is possible. Workers should clean hands and face before smoking, eating and drinking, etc. Do not use solvents to clean hands and face. Use vegetable oils or mineral oil, followed by a thorough washing with soap and water. Keep out of the reach of children.

General Handling Information: REFER TO PRODUCT LABEL OR MANUFACTURER'S TECHNICAL BULLETINS FOR THE PROPER USE AND HANDLING OF THIS MATERIAL. Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating an accumulation of electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT
Eye/Face Protection: Wear protective equipment to prevent eye contact. Selection of protective equipment may include safety glasses, chemical goggles, face shields, or a combination depending on the work operations conducted.
Skin Protection: Wear protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted. Suggested materials for protective gloves include: Chlorinated Polyethylene (or Chlorosulfonated Polyethylene), Viton.
Respiratory Protection: No respiratory protection is normally required. If exposure to harmful levels of airborne material may occur when working with this material, wear an approved respirator that provides protection, such as: Air-Purifying Respirator for Organic Vapors, Dusts and Mists.
Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Limit	TWA	STEL	Ceiling	Notation
Asphalt	ACGIH_TLV	.5 mg/m3			A4

The ACGIH TLV is 0.5 mg/m3 as the benzene extractable portion of the inhalable fraction of asphalt fume. The TLV may also be determined by unspecified 'equivalent' methods.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Dark brown to tan
Physical State: Liquid
Odor: NDA
pH: 7 - <11.5
Vapor Pressure: NA
Vapor Density (Air = 1): NA
Boiling Point: 212 °F
Solubility: Readily dispersible in water
Melting Point: 30 °F
Specific Gravity: 0.9 - 1.1 @ 60 °C
Viscosity: 20 - 2000 SFS @ 77 °F

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: None known (None expected)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS
Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.
Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.
Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials or product components.
Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

ADDITIONAL TOXICOLOGY INFORMATION:
There is concern about the carcinogenicity of chemical compounds found in asphalts. The International Agency for Research on Cancer (IARC) reviewed the carcinogenic potential of asphalts in 1985 and again in 1987. At that time, they concluded there was inadequate evidence to decide that asphalts were carcinogenic to humans. Overall, findings from health monitoring studies of asphalt workers are not conclusive. However, asphalt fume condensates and certain chemical components of asphalt fume have been shown to cause cancer in mice when repeatedly applied to the skin and allowed to remain on the skin for a prolonged period of time. In addition, asphalt fume condensates have been shown to be weakly positive in Ames mutagenicity tests. Skin contact and breathing of fumes, mists and vapors should be reduced to a minimum.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
The toxicity of this material to aquatic organisms has not been evaluated. Consequently, this material should be kept out of sewage and drainage systems and all bodies of water.

ENVIRONMENTAL FATE
No data available.

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Name: NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR
DOT Hazard Class: NOT APPLICABLE
DOT Identification Number: NOT APPLICABLE
DOT Packing Group: NOT APPLICABLE

SECTION 15 REGULATORY INFORMATION

SARA 311/312 CATEGORIES:

1. Immediate (Acute) Health Effects: YES
2. Delayed (Chronic) Health Effects: YES
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

4_I1=IARC Group 1	15=SARA Section 313
4_I2A=IARC Group 2A	16=CA Proposition 65
4_I2B=IARC Group 2B	17=MA RTK
05=NTP Carcinogen	18=NJ RTK

06=OSHA Carcinogen

19=DOT Marine Pollutant

09=TSCA 12(b)

20=PA RTK

The following components of this material are found on the regulatory lists indicated.

Asphalt	17, 18, 20

CHEMICAL INVENTORIES:
UNITED STATES: All of the components of this material are on the Toxic Substances Control Act (TSCA) Chemical Inventory.
CANADA: All the components of this material are on the Canadian DSL or have been notified under the New Substance Notification Regulations, but have not yet been published in the Canada Gazette.

WHMIS CLASSIFICATION:
Class D, Division 2, Subdivision B: Toxic Material - Skin or Eye Irritation

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 1 Flammability: 1 Reactivity: 0
HMIS RATINGS: Health: 2 Flammability: 1 Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet:Section 1 (Product Codes) and all other sections (prepared using the ProSteward MSDS system). This Material Safety Data Sheet replaces Chevron MSDSs: 303, 1908, 1927, 1928, 1929, 1932, 1991, & 3596.

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value TWA - Time Weighted Average

STEL	-	Short-term Exposure Limit	PEL	-	Permissible Exposure Limit
			CAS	-	Chemical Abstract Service Number
NDA	-	No Data Available	NA	-	Not Applicable
<=	-	Less Than or Equal To	>=	-	Greater Than or Equal To

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the ChevronTexaco Energy Research & Technology Company, 100 Chevron Way, Richmond, California 94802.

HASA CALCIUM CHLORIDE

Material Safety Data Sheet

Emergency 24 Hour Telephone: CHEMTREC 800.424.9300

Corporate Headquarters: Hasa Inc.
23119 Drayton Street
Saugus, California 91350
Telephone • 661.259.5848
Fax • 661.259.1538

COMPOSITION/INFORMATION ON INGREDIENTS	
Chemical Name:	Calcium Chloride
CAS Number:	10043-52-4

Exposure Limits (TWAs) in Air					
ACGIH TLV:	N/A	**OSHA PEL:**	N/A	**STEL:**	N/A

HAZARD IDENTIFICATION		
Routes of Exposure:		Inhalation, Skin
Summary of Acute Health Hazards		
Ingestion:	**Acute Exposure:**	May cause abdominal spasms and nausea. Overdose may cause gastro-intestinal tract or cardiovascular irregularities. The fatal dose is estimated to be about 30 gms
	Chronic Exposure:	No adverse effects have been reported from its use as a food additive.
Inhalation:	**Acute Exposure:**	Inhalation or dust may cause irritation with coughing and shortness of breath.
	Chronic Exposure:	Reported cases of burning sensation and pain in the nasal cavities. Occasional nose bleed, and tickling in the throat. Perforation of the nasal septum has been reported.
Skin:	**Acute Exposure:**	Single, short exposure not likely to cause significant skin irritation. However, direct contact with dust or solutions may cause severe irritation. Erythema, blistering, exfoliation, ulceration, necrosis, and scarring. The degree of irritation depends on the concentration and duration of contact.
	Chronic Exposure:	Effects depend on concentration and duration of exposure. Repeated or prolonged contact with corrosive substances may result in dermatitis or effects similar to those in acute exposure.
Eyes:	**Acute Exposure:**	Direct contact with the dust may cause irritation with redness and pain and superficial injury. Lacrimation and eye discharge may also occur. Direct contact of calcium chloride in solution is essentially innocuous. Application of 2 – 10% solution to rabbit eyes caused no permanent injury.
	Chronic Exposure:	Repeated or prolonged exposure may result in conjunctivitis.

Summary of Chronic Health Hazards:	N/A
Signs and Symptoms of Exposure:	N/A
Effects of Overexposure:	N/A
Medical Conditions Generally Aggravated by Exposure:	N/A
Note to Physicians:	N/A

FIRST AID MEASURES	
Ingestion:	Treat symptomatically and supportively. GET MEDICAL ATTENTION IMMEDIATELY. If vomiting occurs, keep head lower than hips to prevent aspiration.
Inhalation:	Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. GET MEDICAL ATTENTION IMMEDIATELY.
Skin:	Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). GET MEDICAL ATTENTION IF IRRITATION PERSISTS.
Eyes:	Wash eyes immediately with large amounts of water or normal saline solution, occasionally lifting upper and lower lids until no evidence of chemical remains (approx. 15-20 minutes). GET MEDICAL ATTENTION IMMEDIATELY.

FIRE FIGHTING MEASURES			
Flash Point:	Negligible Fire Hazard	**Autoignition Temperature:**	Negligible Fire Hazard
Lower Explosive Limit:	N/A	**Upper Explosive Unit:**	N/A

Unusual Fire and Explosion Hazards:	Negligible fire hazard when exposed to heat or flame.
Extinguishing Media:	Dry chemical, carbon dioxide, water spray or regular foam. For 1arger fires, use water spray, fog, or regular foam. (1990 Emergency Response Guidebook, DOT p 5800.5).
Special Firefighting Procedures:	Move containers from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Extinguish fire using agent suitable for type of surrounding fire. Do not use water directly on material. Avoid breathing corrosive vapors; keep upwind.

ACCIDENTAL RELEASE MEASURES
Do not touch spilled material. Stop leak if you can do it without risk. For small spills, take up with sand or other absorbent material and place into container for 1ater disposal. For small dry spills, with clean shovel place material into clean, dry container and cover.
Move containers from spill area. For larger spills, dike far ahead of spill for later disposal. Keep unnecessary people away. Isolate hazard and deny entry.

HANDLING AND STORAGE
Observe all federal, state and local regulations when storing this substance. Store in a tightly closed container. Store away from incompatible substances.

EXPOSURE CONTROLS/PERSONAL PROTECTION	
Respiratory Protection:	Avoid breathing dust. If necessary, use only MSHA - or NIOSH-approved respirators.
Ventilation:	N/A
Protective Clothing:	Employees must wear protective clothing, shoes and equipment to prevent repeated or prolonged skin contact with this substance.
Eye Protection:	Employees must wear safety glasses with splash shields or safety goggles to prevent contact with this substance.
Other Protective Clothing or Equipment:	Where there is any possibility that an employee's eyes and/or skin may be exposed to this substance, the employer should provide an eye wash fountain and quick drench shower within the immediate work area for emergency use.
Work/Hygienic Practices:	Wash hands with soap and water before eating, drinking, smoking, or using toilet facilities.

PHYSICAL AND CHEMICAL PROPERTIES			
Physical State:	Solid	**pH:**	9-10
Melting Point/Range:	782° C; 1440° F	**Boiling Point/Range:**	>1600° C; 2912° F
Specific Gravity (Water=1):	2.15 @ 25°C	**Molecular Weight:**	110.986
Vapor Density:	N/A	**% Volatiles:**	N/A
How to detect this compound:	N/A	**Vapor Pressure (mmHg):**	N/A
Appearance/Color/Odor:	Colorless to white, deliquescent crystals.		
Solubility in Water:	Approx. 40 weight percent @ 20° C with evolution of heat.		

STABILITY AND REACTIVITY			
Stability:	Stable	**Hazardous Polymerization:**	Will not occur.
Conditions to Avoid:	Anhydrous form reacts exothermically with water.		
Materials to Avoid:	Boric Acid + Calcium Oxide, Bromine Trifluoride, Furan-2- Peroxycarboxylic Acid. Metals (Corrosive in the presence of moisture), Methyl Vinyl Ether, Zinc.		
Hazardous Decomposition Products:	Thermal decomposition products may include toxic and corrosive fumes.		

TOXICOLOGICAL INFORMATION
N/A

ECOLOGICAL INFORMATION
N/A

DISPOSAL CONSIDERATIONS
Observe all federal, state and local regulations when disposing this substance.

TRANSPORT INFORMATION	
DOT Proper Shipping Name:	N/A
DOT Hazard Class/I.D. No.:	N/A

REGULATORY INFORMATION				
Reportable Quantity: N/A				
NFPA RATING:	Health - 1	Fire - 0	Reactivity - 1	
0= Insignificant	1= Slight	2= Moderate	3= High	4= Extreme
Carcinogenicity Lists: No	**NTP:** No	**IARC Monograph:** No	**OSHA Regulated:** No	

OTHER INFORMATION	
Synonyms/Common Names:	Anhydrous Calcium Chloride, Prilled Calcium Chloride, Calcium Dichloride
Chemical Family/Type:	Inorganic Salt

Please Note: The information contained herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge and belief. NO WARRANTY OR GUARANTEE, expressed or implied, is made regarding the product performance, product stability, or as to any other condition of use, handling, transportation, and storage. Customer use, handling, transportation, and storage may involve additional safety and/or performance considerations. Our technical personnel will be happy to respond to questions regarding safe handling, storage, transportation and use procedures. The safe handling, storage, transportation and use procedures remain the sole responsibility of the customer. No suggestions for handling, storage, transportation or use are intended as or to be construed as recommendations which may infringe on any existing patents or violate any Federal, State, and/or local law and/or regulation, ordinance, standard, etc.. This Material Safety Data Sheet has been prepared by HASA, Inc. staff from test reports and other information available in the public domain.

Material Safety Data Sheet

Ashland Chemical Co.

Date Prepared: 01/06/98
Date Printed: 06/22/99
MSDS No: 999.0029739-003.003I

HYDROCHLORIC ACID 15%

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity
Product Name: HYDROCHLORIC ACID 15%
General or Generic ID: INORGANIC ACID

Company
Ashland Chemical Co.
P.O. Box 2219
Columbus, OH 43216
614-790-3333

Emergency Telephone Number:
1-800-ASHLAND (1-800-274-5263)
24 hours everyday

Regulatory Information Number:
1-800-325-3751

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
WATER		83.0- 87.0
HYDROGEN CHLORIDE		15.0

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3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye

Can cause permanent eye injury. Symptoms include stinging, tearing, redness, and swelling of eyes. Can injure the cornea and cause blindness. Liquid causes frostbite. Freezing is followed by slight swelling and injury to the cornea which will heal.

Skin

Can cause permanent skin damage. Symptoms may include redness, burning, and swelling of skin, burns, and other skin damage. Causes burns and frostbite.

Swallowing

Swallowing this material may be harmful or fatal. Symptoms may include severe stomach and intestinal irritation (nausea, vomiting, diarrhea), abdominal pain, and vomiting of blood. Swallowing this material may cause burns and destroy tissue in the mouth, throat, and digestive tract. Low blood pressure and shock may occur as a result of severe tissue injury. This material is not likely to be swallowed.

Inhalation

Breathing of vapor or mist is possible. Breathing this material may be harmful or fatal. Symptoms may include severe irritation and burns to the nose, throat, and respiratory tract.

Symptoms of Exposure

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: central nervous system excitation (giddiness, liveliness, light-headed feeling) followed by central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, shock, and death.

Target Organ Effects

No data

Developmental Information

Based on the available information, risk to the fetus from maternal exposure to this material cannot be assessed.

Cancer Information

This material is not listed as a carcinogen by the International Agency for Research on Cancer, the National Toxicology Program, or the Occupational Safety and Health Administration.

Other Health Effects

No data

Primary Route(s) of Entry

Inhalation, Skin contact, Eye contact.

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4. FIRST AID MEASURES

Eyes

If material gets into the eyes, immediately flush eyes gently with water for at least 15 minutes while holding eyelids apart. If symptoms develop as a result of vapor exposure, immediately move individual away from exposure and into fresh air before flushing as recommended above. Seek immediate medical attention.

Skin

Immediately flush skin with water for at least 15 minutes while removing contaminated clothing and shoes. Seek immediate medical attention. Wash clothing before reuse and discard contaminated shoes. Treat burned or frostbitten skin by flushing the exposed area with lukewarm water. Seek immediate medical attention.

Swallowing

Seek immediate medical attention. Do not induce vomiting. Vomiting will cause further damage to the mouth and throat. If individual is conscious and alert, immediately rinse mouth with water and give milk or water to drink. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, administer oxygen.

Note to Physicians

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin, lung (for example, asthma-like conditions).

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5. FIRE FIGHTING MEASURES

Flash Point

Not applicable

Explosive Limit

Not applicable

Autoignition Temperature

No data

Hazardous Products of Combustion

May form: acid vapors, chlorine, corrosive vapors, hydrogen chloride, toxic fumes.

Fire and Explosion Hazards

No data

Extinguishing Media

water fog, carbon dioxide, dry chemical.

Fire Fighting Instructions

Water may be used to keep fire-exposed containers cool until fire is out. Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS. Avoid direct contact of this material with water as this can cause a violent exothermic reaction.

NFPA Rating

Not determined

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6. ACCIDENTAL RELEASE MEASURES

Small Spill

Ventilate area. Evacuate area. Cover the contaminated surface with sodium bicarbonate or a soda ash/flaked lime mixture (50-50). Mix and add water if necessary to form a slurry. Scoop up slurry and wash site with soda ash solution. Proper mixing procedures are essential. Trained personnel should conduct this procedure. Untrained personnel should be removed from the spill area. Flush area with water.

Large Spill

Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated

absorbent, soil and other materials to containers for disposal. Persons not wearing protective equipment should be excluded from area of spill until clean-up is completed. Stop spill at source. Dike to prevent spreading. Pump to salvage tank. Stop flow of gas.

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7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Addition to water releases heat which can result in violent boiling and spattering. Always add slowly and in small amounts. Never use hot water. Never add water to acids. Always add acids to water. Emergency eyewash fountains and safety showers should be available in the immediate vicinity of potential exposure. Do not puncture or incinerate containers. Warning. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

Storage

Store in closed containers in a dry, well-ventilated area.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection

Chemical splash goggles and face shield (8" min.) in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. (Consult your industrial hygienist.)

Skin Protection

Wear impervious gloves (consult your safety equipment supplier). Wear resistant gloves such as: neoprene, polyvinyl chloride, To prevent skin contact, wear impervious clothing and boots..

Respiratory Protections

If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

Engineering Controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Exposure Guidelines

Component

WATER
No exposure limits established

HYDROGEN CHLORIDE
OSHA VPEL 5.000 ppm - Ceiling
ACGIH TLV 5.000 ppm - Ceiling

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9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point
(for component) 212.0 F (100.0 C) @ 760 mmHg

Vapor Pressure
(for component) 55.000 mmHg @ 68.00 F

Specific Vapor Density
1.270 @ AIR=1

Specific Gravity
1.072 @ 77.00 F

Liquid Density
8.920 lbs/gal @ 77.00 F
1.072 kg/l @ 25.00 C

Percent Volatiles
100.0 %

Evaporation Rate
SLOWER THAN ETHYL ETHER

Appearance
CLEAR

State
LIQUID

Physical Form
HOMOGENEOUS SOLUTION

Color
COLORLESS TO LIGHT YELLOW

Odor
PUNGENT

pH
< 7.0 @ as is

Solubility in Water
COMPLETE

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10. STABILITY AND REACTIVITY

Hazardous Polymerization
Product will not undergo hazardous polymerization.

Hazardous Decomposition
May form: acid vapors, hydrogen chloride.

Chemical Stability
Stable.

Incompatibility
Avoid contact with: alkali metals, aluminum, metals subject to acid corrosion, organic materials, oxidizable substances, reactive metals such as aluminum and magnesium, strong alkalies, strong bases, water, Acid reacts with most metals to release hydrogen gas which can form explosive mixtures with air..

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11. TOXICOLOGICAL INFORMATION

No data

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12. ECOLOGICAL INFORMATION

No data

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13. DISPOSAL CONSIDERATION

Waste Management Information
Collect and add slowly to large volume of agitated solution of soda ash and slaked lime. Add neutralized solution to excess running water in accordance with applicable regulations. Dispose of in accordance with all applicable local, state and federal regulations.

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14. TRANSPORT INFORMATION

DOT Information - 49 CFR 172.101
DOT Description:
HYDROCHLORIC ACID,8,UN1789,II

Container/Mode:
55 GAL DRUM/TRUCK PACKAGE

NOS Component:
Not applicable

RQ (Reportable Quantity) - 49 CFR 172.101

Product Quantity (lbs)	Component
33333	HYDROGEN CHLORIDE

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15. REGULATORY INFORMATION

US Federal Regulations
TSCA (Toxic Substances Control Act) Status
TSCA (UNITED STATES) The intentional ingredients of this

product are listed.

CERCLA RQ - 40 CFR 302.4(a)

Component	RQ (lbs)
HYDROGEN CHLORIDE	5000

SARA 302 Components - 40 CFR 355 Appendix A

Section 302 Component(s)	TPQ (lbs)	RQ (lbs)
HYDROGEN CHLORIDE	5000	5000

Section 311/312 Hazard Class - 40 CFR 370.2

Immediate(X) Delayed(X) Fire( ) Reactive(X) Sudden Release of Pressure( )

SARA 313 Components - 40 CFR 372.65

Section 313 Component(s)	CAS Number	%
HYDROCHLORIC ACID (acid aerosols)	7647-01-0	15.00

International Regulations

Inventory Status

Not determined

State and Local Regulations

California Proposition 65

The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains the following substance(s) known to the state of California to cause reproductive harm.

ARSENIC

New Jersey RTK Label Information

HYDROGEN CHLORIDE	7647-01-0

Pennsylvania RTK Label Information

HYDROCHLORIC ACID	7647-01-0

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16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Last page

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY UNDERTAKING

Trade name **REDICOTE® E11**

Chemical description/Application Emulsifier

Supplier
Akzo Nobel Surface Chemistry Pte Ltd
41 Science Park Road #03-03
The Gemini, Singapore Science Park II
SINGAPORE 117610
Tel: +65 6773 8488
Fax: +65 6773 8484

Emergency telephone
+65 63162701 x 112 (Akzo Nobel Surface Chemistry Pte Ltd)
+31 570679211 (Akzo Nobel Chemicals, The Netherlands)

Producer
Akzo Nobel Surface Chemistry Pte Ltd
40 Jurong Island Highway, Jurong Island
Singapore 627830
Tel: +65 63162701*112

2. COMPOSITION/INFORMATION ON INGREDIENTS

This product is to be considered as a preparation according to EU-legislation.

Substance name	EU number	CAS number	Concentration	Symbols	Risk phrases
N,N,N',N'.N''-Pentamethyl-N-tallowalkyl-chloride	271-762-1	68607-29-4	~50 %	Xn ,N	*R-22, 50/53
2-Propanol	200-661-7	67-63-0	~35 %	Xi ,F	R-11, 36, 67
Water	231-791-2	7732-18-5	~15 %	-	

Other information All components are registered in EINECS. * Classification of the substance with respect to irritating effects is not relevant for the product classification.

3. HAZARDS IDENTIFICATION

Highly flammable. Above the flash point an explosive mixture can be formed. Harmful. Harmful if swallowed. Irritating to skin. Risk of serious damage to eyes. Vapours may cause drowsiness and dizziness. Dangerous for the environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

General Obtain medical attention immediately (show this Safety Data Sheet).

Inhalation Provide fresh air, warmth and rest, preferably in a comfortable upright sitting position. If breathing stops, provide artificial respiration. Obtain medical attention.

Skin Remove contaminated clothing. Wash the skin with soap and water. Seek medical advice if symptoms appears.

Eyes Immediately rinse with water for several minutes. Hold eyelids apart. Get medical attention immediately. Continue to rinse during transport.

Ingestion Only when conscious, rinse mouth, give plenty of water to drink (approx. 500 ml). Obtain medical attention.

5. FIRE FIGHTING MEASURES

Extinguishing media Water spray, fog or mist, alcohol resistant foam, powder, carbon dioxide.

Unsuitable extinguishing media Waterjet, foam.

Special fire fighting procedures Treat as an oil fire. Water spray may be ineffective unless used by experienced fire fighters. Wear self contained breathing apparatus.

Unusual fire hazards Above the flash point an explosive mixture can be formed. If involved in a fire it will support combustion and may decompose to give off toxic materials. In case of fire and/or explosion do not breathe fumes.

Hazardous combustion products No typical hazardous decomposition products known.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions For personal protection see Section 8.

Environmental precautions Should not be allowed to enter drains or water courses. Dispose of this material and its container at hazardous or special waste collection point.

Methods for cleaning up Contain spill with inert material. Place in container for disposal according to local regulations. Cover the remainder with inert absorbent (e.g. vermiculite) for disposal. In case of large spillages contact the local authority.

7. HANDLING AND STORAGE

Handling The usual precautions for flammable liquids should be observed. When using do not eat, drink or smoke. Avoid spilling, skin and eye contact. No sparking tools should be used.

Storage Keep away from heat, sparks and open flame. No smoking. To maintain quality: Store at ambient temperatures. Avoid elevated temperatures. For further information see product information sheet.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits

Ingredient name	Exposure limit 8 hours	Short term exposure	References
2-Propanol	400 ppm	500 ppm	OES.
Comments	OES = EH40/2002 Occupational Exposure Limits 2002.		

Engineering controls Provide eyewash station. Provide shower facilities near the work place. Mechanical ventilation or local exhaust ventilation may be required.

Personal protection

Respiratory If ventilation is insufficient, suitable respiratory protection must be provided. Wear full face mask supplied with: Combination filter ABEKP.

Hand Neoprene or nitrile.

Eyes Wear tightly fitting safety goggles.

Skin and body Use suitable protective clothing as protection against splashing or contamination. Launder clothes before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid.		
Colour	Yellow.		
Odour	2-Propanol.		
Boiling point/range (ºC)	-	**Pressure (kPa)**	
Melting point/range (ºC)	< -20		
Flash point (ºC)	~ 18	**Method**	Abel-Pensky DIN 51755
Autoignition temperature (ºC)	** 460		
Lower explosion limit (vol %)	** 2		
Upper explosion limit (vol %)	** 13		
Vapour pressure	-	**Temperature (°C)**	
Relative vapour density (air=1)	** 2		
Density (kg/m3)	900	**Temperature (°C)**	20
Viscosity	< 50 mPas	**Temperature (°C)**	20
pH value	-		
pH value diluted solution	6-9	**Conc. (%)**	*
Solubility in water	Soluble.		
Solubility in other solvents	-		
Other physical data	** 2-Propanol.		

(These data are typical for the product and not a specification)

10. STABILITY AND REACTIVITY

Stability	Avoid elevated temperatures. Stable under recommended storage and handling conditions (see section 7).
Hazardous decomposition products	No typical hazardous decomposition products known.

11. TOXICOLOGICAL INFORMATION

Toxicological data

Health effects

Respiratory	The inhalation of aerosols may cause irritation of the respiratory tract. Contains solvent. Emits vapours during heating. High concentrations may cause stupor, dizziness, nausea, vomiting.
Skin	Irritating. May cause transient redness and pain.
Eyes	May cause severe irritation. Risk of chemical burns.
Ingestion	Harmful if swallowed. May cause irritation to mucous membranes in mouth, throat, stomach and intestinal canal.

Component	**N,N,N',N'.N''-Pentamethyl-N-tallowalkyl- 1,3-propanediammonium chloride**
Toxicological data	LD50. oral rat 1000-2000 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicological data

Ecotoxicology	The product contains substance(s) classified very toxic to aquatic organisms.
Degradation	The product is classified as not readily biodegradable.

Component	**N,N,N',N'.N''-Pentamethyl-N-tallowalkyl- 1,3-propanediammonium chloride**
Ecotoxicological data	LC50 96 hours Brachydanio rerio (fish) < 1 mg/l
Ecotoxicology	Very toxic to aquatic organisms.
Degradation	Not readily biodegradable. <60% BOD, 28 days, Closed Bottle Test (OECD 301D).

13. DISPOSAL CONSIDERATIONS

Disposal methods	Incineration is recommended. Dispose of in accordance with local authority requirements. Nitrous gases may be formed by incineration.
Waste category	Hazardous waste in accordance with the Council Directive 91/689/EEC of 12 December 1991 on hazardous waste.

14. TRANSPORT INFORMATION

Proper shipping name Flammable liquid, n.o.s. (Quaternary ammonium compound/2-Propanol mixture)

Land transport

UN number	1993	**RID-class**	3
ADR class	3	**RID packing group**	II
ADR packing group	II		
Classification code	F1		
CEFIC number	30G30	**Tremcard internal code**	518

Sea transport

UN number	1993		
IMDG class	3	**EmS**	F-E, S-E
IMDG packing group	II	**Marine pollutant**	No.

Air transport

UN number	1993	**Subsidary risk**	
IATA/ICAO class	3	**Packing group**	II

15. REGULATORY INFORMATION

Substance name N,N,N',N'.N''-Pentamethyl-N-tallowalkyl- 1,3-propanediammonium chloride

2-Propanol

Symbols

Risk phrases	R-11 Highly flammable. R-22 Harmful if swallowed. R-38 Irritating to skin. R-41 Risk of serious damage to eye. R-67 Vapours may cause drowsiness and dizziness. R-50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety phrases	S-16 Keep away from sources of ignition - No Smoking. S-26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S-28 After contact with skin, wash immediately with plenty of soap and water. S-36/37/39 Wear suitable protective clothing, gloves and eye/face protection. S-57 Use appropriate containment to avoid environmental contamination.
EU directive	Safety Data Sheet according to EC-directive 2001/58/EC
Water hazard classification	WGK: 3 (Germany).

16. OTHER INFORMATION

This information only concerns the above mentioned product as supplied and may not be valid if used with other product(s) or in any process. It remains the user´s own responsibility to make sure that the information is appropriate and complete for his special use of this product.

Composed by	Barbro Dihné Eva Cassel
Explanations to R-phrases in section 2	R-22 Harmful if swallowed. R-50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*R-11 Highly flammable.R-36 Irritating to eyes.R-67 Vapours may cause drowsiness and dizziness.
Date of major revision	2002-07-04
Date of printing	2004-04-29

Material Safety Data Sheet

USA
24 Hour Emergency Assistance CHEMTREC - Domestic +1 800 424 9300
24 Hour Emergency Assistance CHEMTREC - International +1 703 527 3887
General Assistance Number +1 800 4 KRATON
24 Hour Health and Safety Assistance +1 800 305 1438

EUROPE
24 Hour Emergency Assistance SGS ECLN +32 35 75 03 30

Visit our Website at www.kraton.com

Section 1. Material / Company Identification

PRODUCT NAME **KRATON Polymers SBS D Series Products:**
Note: This MSDS covers all alphanumeric suffixes for the following products.Suffixes designate location of manufacture, lube type, product form and/or new Commercial grade:

D1101, D1102, D1116, D1118, D1120, D1122, D1133, D1134, D1144, D1151, D1152, D1153, D1155, D1184, D1186, D1190, D1192, DX1000

CHEMICAL NAME Styrene-Butadiene-Styrene Block Copolymer
PRODUCT FAMILY Thermoplastic Elastomer

CORPORATE OFFICE
Kraton Polymers, US, LLC
15710 John F. Kennedy Boulevard
Suite 300
Houston
TX 77032
General Assistance : +1 281 504 4950
Fax: +1 832 204 5460

UNITED KINGDOM SALES OFFICE
KRATON Polymers UK Ltd
Stellar House, Barbour Square, Tattenhall
CH3 9RF Chester, UK
General Assistance +44 (0) 1829 773 134
Fax +44 (0) 1829 773 130

Section 2. Composition

COMPONENTS	CAS#
1. Styrene-Butadiene-Styrene Block Copolymer	9003-55-8
2. Antioxidant/Stabilizer/may contain Dusting Agent	

Note: This is a Research and Development product.

Section 3. Hazards Identification

Human Health Hazards
Molten product adheres to the skin and causes burns.

Safety Hazards
Electrostatic charges may be generated during handling. Risk of self-ignition of bulk product above certain temperature (Refer to Section 10). Specifically for powder grades and accumulated polymer dust: dust explosion could occur.

Environmental Hazards
No specific Hazards

Other Hazards
Not classified as dangerous for supply or conveyance.

Special Notes
These materials are rubber compounds, which are essentially non-toxic. Material is not irritating. If polymer dusts are generated, they could scratch the eyes and cause minor irritation to the respiratory tract.

Section 4. First Aid Measures

Symptoms and Effects
Not expected to give rise to an acute hazard under normal conditions of use.

Inhalation
Remove to fresh air. If rapid recovery does not occur, obtain medical attention.

Skin
If contact with hot material, cool the burn area by flushing with large amounts of water. DO NOT attempt to remove anything from the burn area or apply burn creams or ointments. Cover the burn area loosely with a sterile dressing, if available and seek medical attention.

Eye
Flush eye with water. Seek medical attention if necessary.

Ingestion
No specific measures.

Advice to physicians
Treat Symptomatically

Section 5. Fire Fighting Measures

Specific Hazards
Not classified as flammable but will burn. Hazardous combustion products may include carbon monoxide, carbon dioxide.

Extinguishing Media
Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable Extinguishing Media
Water in a jet may disperse fire.

Protective Equipment
Full protective clothing and self contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions
Avoid raising a dust cloud

Environmental Precautions
No Specific Measures.

Clean-Up Methods - Small Spillage
Shovel up and place in a labeled, sealable container for subsequent safe disposal as required by local, state, federal, international or country specific regulations.

Clean-Up Methods - Large Spillage
Transfer to a labeled, sealable container for product recovery or safe disposal as required by local, state, federal, international or country specific regulations.

Protective Measures
Wear appropriate personal protective equipment (refer to Section 8) when responding to spills.

Spill Management
Shovel and sweep up or use industrial vacuum cleaner. Proper disposal should be evaluated based on regulatory status of this material (refer to Section 13), potential contamination from subsequent use and spillage, and regulations governing disposal in the local area. Prevent entry into waterways, sewer, or confined areas.

Section 7. Handling and Storage

Handling
Avoid generation or accumulation of dusts. Take precautionary measures against static discharges, earth/ground all equipment. Avoid contact with heated or molten product. Do not breathe dust. Do not breathe fumes or vapors from heated product. Use local exhaust extraction over processing area.

When processing KRATON Polymers products, maintain a fire watch if the material reaches 225 deg. C (437 deg. F) for KRATON IR and KRATON D (polymers and compounds) and 280 deg. C (536 deg. F) for KRATON G (polymers and compounds).

The temperatures listed above are indicated only for safety reasons (risk of fire and product degradation) and are not necessarily recommended for processing.

Degradation of the polymer (polymer breakdown) will start at lower temperatures depending on the specific processing conditions. Therefore, operating below these temperatures does not guarantee the absence of product degradation.

For more information about processing precautions, consult the KRATON Polymers technical literature available from your sales representative.

Static charge buildup can be a potential fire hazard when used in the presence of volatile or flammable vapors or in high airborne dust concentrations. For more information, consult the KRATON Polymers Static Electricity Safety Bulletin available from your sales representative.

Storage
Keep container dry. Keep in a cool, well-ventilated place. Keep away from direct sunlight and other sources of heat or ignition. Avoid storage of bulk product at temperatures above ambient to minimize risk of exothermic degradation, self-heating and possible self-ignition (Refer to Section 10). Avoid storage under pressure or at elevated temperatures to minimize particulate clustering. Do not stack Flexible Intermediate Bulk Containers (FIBCs) nor palletized bags.

Storage Temperatures
Ambient

Product Transfer
Take precautionary measures against static discharge. Earth/Ground all equipment.

Other Information
KRATON Polymer has a tendency to accumulate static charge during transport, handling and processing. Reducing the velocity of transport will reduce charging. Static charge buildup can be a potential fire hazard when used in the presence of volatile or flammable mixtures. For more information, consult the KRATON Polymers Static Electricity Safety Bulletin available from your sales representative.

Section 8. Exposure Controls / Personal Protection

Occupational Exposure
None established. In the absence of occupational exposure standards for this product, it is recommended that the following be adopted:

RUBBER FUME
TLV (EH40)
RUBBER MANUFACTURING AND PROCESSING GIVING RISE TO RUBBER DUST AND RUBBER FUME
Rubber Fume:
MEL/TWA (8h) = 0.6 mg/m3
Rubber Process Dust:
MEL/TWA (8h) = 6 mg/m3

MEL = Maximum Exposure Limit

DUST, RESPIRABLE DUST
TLV (EH40)
Total Inhalable Dust
TWA (8 h) = 10 mg/m3
Respirable Dust
TWA (8 h) = 4 mg/m3

Engineering Control Measures

Use local exhaust ventilation.

Respiratory Protection
Where local exhaust ventilation is not practicable and odors are detected use a negative pressure half face respirator equipped with a cartridge designed to protect against organic vapors and if dust is also present a particulate pre-filter should also be used. For high airborne dust concentrations use a cartridge designed to be used against nuisance dust.

Hand Protection
Cloth gloves if desired.

Eye Protection
Dust-tight mono goggles.

Body Protection
Standard issue work clothes which may include apron, safety shoes or boots as necessary.

Section 9. Physical and Chemical Properties

Physical State: Crumb ou Pellets
Color: Clear to White
Odor: Essentially odorless
Flash Point: Not applicable
Density: Typical between 880-950 kg/m3 at 20C
Specific Gravity: <1
Bulk density (for solids): Typical 300-400 kg/m3 at 20 Deg. C (ASTM D-1895)
Solubility (In Water): Insoluble
N-octanol/water partition coefficient (log Pow): Not applicable

Section 10. Reactivity and Stability

Stability
Stable under ambient conditions. Oxidizes exothermically above ambient temperature.

Conditions to Avoid
Avoid contact with strong oxidizing agents. Accumulation of product in areas exposed to elevated temperatures for extended periods in air may result in self-heating and auto ignition. Avoid elevated temperatures in storage for prolonged periods of time (example: 5 days at 200 Degrees F or 93 Degrees C).

Hazardous Decomposition Products
Hazardous vapors from heated products are not expected to be generated under normal processing temperatures and conditions. Although highly dependent on temperature and environmental conditions, a variety of thermal decomposition products may be present if the product is over heated, is smoldering or catches fire. These range from simply hydrocarbons (such as methane and propane) to toxic/irritating vapors (such as carbon monoxide and dioxide, acrolein, aldehydes and ketones). (Refer to Handling in Section 7).

Section 11. Toxicological Information

Basis for Assessment
Toxicological data have not been determined specifically for this product. Information given is based on a knowledge of the toxicology of similar products.

Acute Toxicity Oral
Expected to be of low toxicity, LD50 > 2000 mg/kg

Acute Toxicity Dermal
Expected to be of low toxicity, LD50 > 2000 mg/kg

Acute Toxicity Inhalation
Data not available.

Skin Irritation
Not expected to be irritating.

Eye Irritation
Not expected to be irritating.

Skin Sensitization
Not expected to be a skin sensitizer.

Repeated Dose Toxicity
Repeated exposure does not cause significant toxic effects.

Mutagenicity
Not considered to be a mutagenic hazard.

This product does not contain any carcinogens as listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

Section 12. Ecological Information

Basis for assessment
Ecotoxicological data have not been determined specifically for this product. The information given below is based on a knowledge of the components and the ecotoxicology of similar products.

Mobility
Floats on water. Remains on surface of soil.

Persistence/Degradability
Expected to be not inherently biodegradable. Persists under anaerobic conditions.

Bioaccumulation
Not expected to bioaccumulate.

Acute Toxicity (Fish, Invertabrates, Algae, Bacteria) and Sewage treatment
Expected to be practically non toxic, LC/EC/IC 50 > 1000 mg/l

Other Information
KRATON Polymers products (the neat resin or the base product) are high molecular weight polymers which by all accounts are non-toxic and biologically inactive.

Section 13. Disposal Considerations

Waste Disposal
Recover or Recycle if possible, otherwise Incineration, otherwise Licensed Landfill.

Product Disposal
Same as for waste disposal.

Container Disposal
Remove all packaging for recover or waste disposal.

Local Legislation
The recommendations given are considered appropriate for safe disposal. However, local, state, federal, international, or country specific regulations take precedents. They may vary, and they may be more stringent but they must be strictly enforced and complied with.

If this material becomes a waste and has not been chemically altered, it is not considered a hazardous waste as defined by RCRA (40CFR 261).

Section 14. Transport Information

US Department of Transportation Classification

This material is not subject to DOT regulations under 49 CFR Parts 171-180.

International Air Transportation Association Classification
This material is not classified as hazardous under IATA regulations.

International Maritime Organization - IMDG
This material is not classified as hazardous under IMDG regulations.

UN, IMO, ADR/RID, ICAO Code
This material is not dangerous for conveyance under these codes.

Section 15. Regulatory Information

The regulatory information provided is not intended to be comprehensive. Other local, state, federal, international or country specific regulations may apply to this material.

EUROPE - EC Classification
Not classified as dangerous under EC criteria.

US legislation:
US Federal - Superfund Amendment & Reauthorization Act (SARA) Title III:
This material is not regulated under SARA Title III.
US Federal - Toxic Substances Control Act (TSCA) Inventory Status:
This product is listed on the EPA TSCA Inventory of Chemical Substances with the Accession number 88961, which is identified by the CAS number in Section 2.
US State - California Safe Drinking Water
This material is not regulated by the California Safe Drinking Water Act.
US State -Toxic Enforcement Act (Proposition 65):
This material is not regulated by the Toxic Enforcement Act (Proposition 65).
US State - New Jersey Right-To-Know List:
This material is not regulated by the New Jersey Right-To-Know Act.
US State - Pennsylvania Right-To-Know List:
This material is not regulated by Pennsylvania Right-To-Know Act.

International legislation

Canada - Workplace Hazardous Materials Information System (WHMIS):
"This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required." This is NOT a WHMIS controlled product.

Section 16. Other Information

Revision #23
Revision Date: 8/9/2006
Revisions since last change:
Added a new grade to Section 1 in August 2006.

This document should be made available to all who may handle the product.

Medical, Healthcare and Cosmetic Applications and Trademark Usage
KRATON Polymers' products should not be used in any devices or materials intended for implantation in the human body as defined by the U.S. Food and Drug Administration under 21 CFR 812.3(d) and 21 CFR 860.3(d). KRATON Polymers' products may, in certain circumstances, be used in the following products or applications with prior written approval for each specific product or application: a. Cosmetics (exclusive of packaging or delivery applications). b. Drugs and other Pharmaceuticals (exclusive of packaging or delivery applications). KRATON Polymers' trade names, trademarks, logos or other similar identifying characteristics should not be used in the manufacture, sale, or promotion of cosmetics, drugs, and pharmaceutical products or other medical/healthcare applications or materials. KRATON Polymers has no specific expertise in these markets and applications, and does not intend to perform testing, clinical studies or other investigations of the suitability of its products for specific applications. Each customer or user of KRATON Polymers' products is solely responsible for determining the suitability of the materials it selects for the intended purpose and acknowledges that it has not relied on any representations of KRATON Polymers regarding suitability for use in its intended cosmetics, drugs, pharmaceutical products or materials. Please contact your KRATON Polymers Sales Representative for more details before using our products in these specific applications.

Information on the food packaging clearances of individual products is available from KRATON Polymers.

Other information

Disclaimer
The information in this document is based on our current knowledge and is intended to describe the product for the purposes of Health, Safety and Environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. Advice in this document relates only to the product as originally supplied. Where other ingredients are added in the processing of this product, advice should be sought on their safe handling and use.

sasol
reaching new frontiers

material safety data sheet

1 Product and company identification

Product name	**SASOBIT**
Product code	1596
Manufacturer/Supplier	Sasol Wax (South Africa) a division of Sasol Chemical Industries Limited
Address	1 Klasie Havenga Rd Sasolburg 1947 South Africa
Telephone number	+27 (0)16 960 3297 or (016) 960 3297
Fax number	+27 (0)16 960 2310 or (016) 960 2310
National emergency number	0800 1128 90
International emergency number	+27 (0)17 610 4444

2 Composition/information on ingredients

Generic name	Fischer-Tropsch Wax,Synthetic Paraffin Wax Solid saturated hydrocarbons
Synonyms	Hard Wax, Polymethylene,
CAS number	8002-74-2
Molecular formula	C_nH_{2N+2}

3 Hazards identification

Physical state and appearance	Solid
Hazardous components	None
Emergency overview	**WARNING! COMBUSTIBLE SOLID** Non toxic/hazardous. Molten wax may results in heat burns.
Potential accute health effects	
Eyes	Solid-None/Molten-May cause severe burns./Prills-Irritation
Skin	Solid-Dermitis may occur with prolonged exposure./Molten-May cause heat burns, not readily absorbed through the skin
Inhalation	Inhalation of paraffin wax vapours or powder particles may cause respiratory tract irritation.
Ingestion	Molten - the high temperature may cause burns on contact with mouth/oesophagus/stomach.

4 First-aid measures

Eye Contact	Check for and remove any contact lenses. Immediately flush eyes with plenty of water. Seek medical attention.
Skin Contact	Molten-Immerse affected area in cold water to assist cooling. Seek medical attention. **Do not remove solidified wax from skin.**
Note to physician	Support respiratory and cardiovascular function.

5 Fire-fighting measures

Flammability of the product	Combustible at high temperature
Products of combustion	Carbon oxides (CO, CO_2)
Fire fighting media and instructions	
Small fire	Dry chemical powder
Large fire	Water spray, fog or foam **Do not use water jet.**
Protective equipment (fire)	Approved/certified respirator or equivalent
Specific hazards	Incomplete combustion produces fumes, flue gases, carbon monoxide
Additional information	Apply cold water in order to cool containers exposed to danger.

6 Accidental release measures

Small spill and leak	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large spill and leak	Use a shovel to put the material in a convenient waste disposal container.

7 Handling and storage

Handling	Avoid breathing dust. Pneumatic conveying of this product could lead to the production of fine material, which increases the risk of dust explosions. The pipes and ducts should be made from conductive material and properly earthed.
Storage	Keep container tightly closed. Keep container in al cool, well-ventilated area.

8 Exposure controls/personal protection

Exposure limits (fumes)	ACGIH (United States, 2002) TWA: 2mg/m^3 NIOSH (United States, 2002) TWA: 2mg/m^3
Engineering controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limits. Molten wax should not be exposed to water, as it causes violent steam explosions on molten wax.
Personal Protective equipment	
Eyes	Safety glasses Face shield should be worn to protect eyes against hot wax splashes.
Body	Full suit
Respiratory	Approved dust respirator, or vapour respirator in area of high concentrations of dust/vapour
Hands	Heat resistant gloves if working with molten wax
Feet	Safety boots
Personal protection in case of large spill	Splash goggles, full suit, boots, gloves

9 Physical and chemical properties

Colour	Greyish-white to yellowish
Odour	Practically odourless
Flash point (open cup)	285°C
Congealing point	>90°C
Density at 25°C	0.9 g/cm^3
Average molecular mass	approx. 1000 g/mole
Solubility in water (20°C)	Insoluble
pH-value aqueous extract	Neutral
Physical state	Solid at 25°C, liquid above congealing point
Explosion properties	Hazard exists if in sub-micron form (dust)

10 Stability and reactivity

Conditions to avoid	Prolonged storage 50°C above congealing point may interfere with quality.
Incompatibility with substances	Avoid contact with strong oxidising agents
Hazardous decomposition products	Flue gas, carbon monoxide, aldehydes in the case of incomplete combustion
Thermal Decomposition	approx. 250°C

11 Toxicological information

NOEL (rat) - 20 - 2000 mg/kg/day
Oral TDL_0 rat - > 2000 mg/kg/day

12 Ecological information

The product is a water-insoluble, solid polymer which, under environmental conditions, has no detrimental effect on plants, animals or micro-organisms. Keep away from waterways, sewers, drains, basements and confined spaces.

13 Disposal considerations

Waste information	Waste must be disposed of in accordance with federal, state and local environment control regulations.
Product recommendation	
EWC (European Waste Catalogue)	used waxes and greases
OECD-List	yellow waste
Packaging	
Pallets	Empty pallets may be returned to supplier
Cartons	Recyclable
Paper bags	Recyclable
Big-bags	Returnable packaging- may be returned to supplier
Drums	Drums may be returned to supplier.

14 Transport information

THIS PRODUCT IS NOT CONTROLLED UNDER ANY OF THE FOLLOWING CLASSIFICATIONS DOT (United States), TDG (Canada), IMDG, IATA

Sea transport
Note that cargo's of tank vessel according to SschStrO & 2 Abs. 1 No. 16 must be reported to the port authorities.

15 Regulatory information

HCS classification	Combustible
TSCA 8(b) inventory	Paraffin wax

This product is not classified according to the EU regulations.

16 Other information

Although the information contained herein is presented in good faith and to the best of Sasol Wax's knowledge and experience, it is made without any warranty or guarantee whatsoever.

Pacific Biodiesel
40 Hobron Avenue
Kahului, Hawaii 96732
(808) 877-3144
(808) 877-5030 Fax
www.biodiesel.com

Material Safety Data Sheet

Emergency Phone Number: (808) 283-4102

Section I: Product Identification

Common Product Name:	Brown Grease Boiler Fuel
Chemical Name:	Triglyceride, Triacylglycerol
Product Description:	Re-processed natural fats and oils
Formula:	N/A
Chemical Family:	CAS No. 8001-22-7

Section II: Ingredients and Hazardous Classification

	Ingredient	Percent
Typical Composition:	Triglycerides	99%
	Water	<1%
OSHA PEL:	None	
ACGH/TLV:	None	
SARA Title III Section 313:	Not Listed	

This product contains no hazardous materials

Section III: Physical and Chemical Characteristics

Boiling Point:	N/A (Decomposes)
Melting Point:	90^0 F
Vapor Pressure:	N/A
Evaporation Rate:	N/A
Specific Gravity:	0.90-.91 @ 75^0 F (Water = 1)
Solubility in Water:	Insoluble
Appearance:	Dark brown oily liquid above melting point

Section IV: Fire and Explosion Hazard Data

Flash Point (Method Used):	491^0 F (PMCC)
Flammability Limits in Air, % by vol. lower:	Not Applicable
Flammability Limits in Air, % by vol. upper:	Not Applicable
NFPA Rating:	Class IIIB Combustible Liquid
HMIS Rating:	Health (0) Fire (1) Reactivity (0)

Extinguishing Media:
Dry Chemical, Foam, or Carbon Dioxide. Use water with caution. Material can float on water and spread.

Firefighting Procedures:
Water should be used to keep fire-exposed containers cool.

Fire & Explosion Hazards:
Rags soaked in product can cause spontaneous combustion, and should be stored in a UL listed container or be washed with soap and water prior to storage. Fire Fighters should not enter enclosed or confined spaces without the proper protective equipment, including a full self contained breathing apparatus in the positive pressure demand mode.

Section V: Reactivity Data

Chemical Stability:	stable
Hazardous Polymerization:	will not occur
Conditions and Materials to Avoid:	avoid contact with strong oxidizers
Hazardous Decomposition Products:	carbon monoxide and carbon dioxide

Section VI: Health Hazard Data

Inhalation: Negligible at room temperature.
Ingestion: Not hazardous
Eye Contact: Not hazardous.
Skin Contact: Not hazardous. Heated oils can cause burns

Emergency First Aid Procedures:
Inhalation: Remove to fresh air. Seek medical care if symptoms persist
Ingestion:
Give one or two glasses of water to drink. Contact physician or poison control center if gastro-intestinal symptoms develop.
Eye Contact: Irrigate eyes with water for at least 15 minutes
Skin Contact:
Wash affected area with soap and water. Seek medical help if heated oil causes burns.

Section VII: Precautions for Safe Handling and Use

Environmental Precautions:
Avoid uncontrolled release of this material where spills are possible. A comprehensive spill response plan should be developed and implemented.

Spill or Leak Precautions

Contain spilled materials and transfer to secure containers. Use adsorbent materials if necessary. In the event of an uncontrolled release, the user should determine if the release is reportable under applicable laws and regulations.

Waste Disposal

All recovered material should be packaged, labeled, transported and disposed or reclaimed in conformance with applicable laws and regulations, and in conformance with good engineering practice.

Section VIII: Exposure Control/ Personal Protection Measures

Respiratory Protection: If vapors or mists are generated, wear a NIOSH approved organic vapor/mist respirator

Protective Clothing: Safety glasses, goggles or face shield recommended. PVC or other petroleum compatible gloves are recommended. Heated oil can cause burns.

Ventilation: Mechanical

Section VIIII: Transportation Information

UN Hazard Class: N/A

NMFC (National Motor Freight Classification):

Proper Shipping Name: Brown Grease
Identification Number: N/A
Shipping Classification: N/A
Listed in TSCA inventory: N/A

Section X: Regulatory Information

OSHA Status:

This product is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. Thermal processing and decomposition fumes from this product may be hazardous as noted in sections V and VI.

TSCA Status: N/A

CERCLA (Comprehensive Response Compensation and Liability Act):

Not reportable

SARA Title 3 (Superfund Amendments and Reauthorization Act): Not Reportable

RCRA Status:

This product is not considered a hazardous waste either by listing or characteristic. Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be considered a hazardous waste.

California Proposition 65:

This product contains no chemicals known to the state of California to cause cancer.

Section XI: Other Information

The information in this document pertains only to the product described in Section I, and is not valid for material blended with or otherwise combined with the product described in Section I. The information and recommendations contained in this publication represent the best current information and opinion at the time of publication. Because individual conditions of use may vary, Pacific Biodiesel makes no guarantee, expressed or implied, as to the accuracy, reliability, or completeness of the information contained in this publication, and assumes no responsibility for any loss, damage or expense, direct or consequential, arising out of its use. It is the responsibility of the user to satisfy to determine the suitability of this publication to their particular use, and to comply with federal and state regulations.

UNITEK

MATERIAL SAFETY DATA SHEET

ECODIESEL™

Dear Unitek Customer,

At Unitek Solvent Services, Inc., supplying material safety data sheets is more than a requirement to us; it is a commitment to our customers and their employees.

The material safety data sheet is a valuable source of product information and should be a part of your hazard communication program.

ECODIESEL™
MATERIAL SAFETY DATA SHEET

SECTION 1 – PRODUCT AND PREPARATION INFORMATION

PRODUCT INFORMATION

IDENTITY (TRADE NAME): ECODIESEL™
SYNONYMS: Diesel

FAMILY/CHEMICAL NAME: Petroleum Hydrocarbon Distillate

MEDICAL OR TRANSPORTATION EMERGENCY ..... TELEPHONE: 808-682-8284

If you desire non-emergency information about this product, please call 808-682-8284

MANUFACTURER/SUPPLIER:

Unitek Solvent Services, Inc.
91-125 Kaomi LP.
Kapolei, HI 96707
Recycling Facility: 808-682-8284 Fax: 808-673-3234

PREPARATION INFORMATION

ORIGINAL ISSUE DATE: January 1, 2006 **REVISION DATE:**
SUPERSEDES: N/A **PREPARED BY:** Product MSDS Coordinator

SECTION 2 – CHEMICAL COMPOSITION

ALIPHATIC PETROLEUM DISTILLATE	100%

SECTION 3 – EMERGENCY AND FIRST AID PROCEDURES

EYES: For direct contact, flush eyes with water for 15 minutes lifting upper and lower lids occasionally. If irritation or redness from exposure to vapor or mist develops, move victim away from exposure into fresh air. Consult physician if irritation or pain persists.

SKIN: Remove contaminated clothing and shoes. Wash skin twice with sap and water. Consult physician if irritation or pain persists.

INHALATION; (BREATHING) Remove to fresh air immediately. Use oxygen if there is difficulty breathing or artificial respiration if breathing has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary.

INGESTION: (SWALLOWING) Seek immediate medical attention. **DO NOT INDUCE VOMITING.** If spontaneous vomiting occurs, keep head below hips to avoid aspiration (into lungs).

SPECIAL NOTE TO PHYSCIAN: Treat symptomatically and supportively. Administration of gastric lavage, if warranted, should be performed by qualified medical personnel. Contact Unitek environmental Services at 1-808-682-8284 for additional information

SECTION 4 – HEALTH HAZARD DATA AND TOXICOLOGICAL PROPERTIES

PRIMARY ROUTES OF EXPOSURE: Eye and skin contact; Inhalation; Ingestion

EXPOSURE LIMITS: Not Established

SIGNS AND SYMPTOMS OF EXPOSURE

Acute:

Eyes: Contact with liquid or exposure to vapor may cause mild to moderate irritation with stinging, tearing or redness.

Skin: Contact tends to remove skin oils, possibly leading to irritation and dermatitis. No significant skin absorption hazard.

Inhalation (Breathing): High concentration of vapor or mist may be irritation to the respiratory tract; may cause nausea; may cause headaches, dizziness, impaired coordination, anesthesia and other central nervous system efforts.

Ingestion (Swallowing): Low order of acute oral toxicity. May cause irritation of the throat, nausea, vomiting, myocardial injury with arrhythmias and symptoms of central nervous system depression as listed for ACUTE Inhalation. Aspiration into the lungs during ingestion or vomiting may cause mild or sever pulmonary injury and possibly death.

Chronic: Prolonged or repeated skin contact may cause drying and cracking or dermatitis

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with pre-existing lung, cardiac, central nervous system or skin disorders my have increased susceptibility to the effects of exposure.

OTHER POTENTIAL HEALTH HAZARDS: There is no known human sensitization or toxicologically synergistic product associated with this material.

SECTION 5 – FIRE AND EXPLOSION HAZARD DATA

EMERGENCY RESPONSE GUIDE NUMBER:	27Reference Emergency Response Guidebook (DOT 5800.5)
FIRE AND EXPLOSION HAZARDS:	None expected, NFPA Class 2 Combustible liquid.
FIRE FIGHTING PROCEDURES:	NFPA 704 RATING 0-2-0 (Health-Fire-Reactivity). Keep storage containers cool with water spray. Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide limited protection.
EXTINGUISHING MEDIA:	Carbon dioxide, foam, dry chemical or water spray.
CONDITIONS OF FLAMMABILITY:	Heat, Sparks or flame.
FLASH POINT:	>154°F (PMCC)
EXPLOSIVE LIMITS:	LOWER: 0.6 VOL. % UPPER: 7.5 VOL. %
HAZARDOUS COMBUSTION PRODUCTS:	Burning may produce carbon monoxide.

SECTION 6 – REACTIVITY DATA

STABILITY:	Stable under normal temperatures and pressures, and not reactive with water
INCOMPATIBILITY (MATERIALS AND CONDITIONS TO AVOID):	Acids, oxidizing agents or chlorine may cause a violent reaction. Avoid heat, sparks or flame.
HAZARDOUS POLYMERIZATION:	Not known to occur normal temperatures and pressures.
HAZARDOUS DECOMPOSITION PRODUCTS:	None under normal temperatures and pressures..

SECTION 7 – PREVENTATIVE MEASURES

PRECAUTIONS FOR SAFE USE AND HANDLING

HANDLING PRECAUTIONS:	Keep away from heat, sparks or flame. Metal containers, including tank cars and trucks, should be grounded and bonded and when material is transferred. Avoid contact with eyes, skin, clothing or shoes. Use in well ventilated area and avoid breathing vapor or mist.
PERSONAL HYGIENE:	Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products. Clean contaminated clothing, shoes and protective equipment before reuse. Discard contaminated clothing, shoes or protective equipment if they cannot be thoroughly cleaned.
SHIPPING AND STORING PRECAUTIONS:	Keep container tightly closed when not in use and during transport. Do not pressurize, cut heat, weld, grind or expose containers to flame or other sources of ignition. Empty product containers may contain product residue. See Section 9 for Packing Group information.
SPILL PROCEDURES:	Remove all ignition sources. Stop leak if you can do it without risk. Wear protective equipment specified in Section 7, CONTROL MEASURES. Ventilate area and avoid breathing vapor or mist. Water spray may reduce vapor; but I may not prevent ignition in closed spaces. For large spills, isolate area and deny entry; dike far ahead of liquid spill for later disposal. Contain away from surface waters and sewers. If possible, contain liquid for possible re-refining or absorb with compatible sorbent material and shovel with a non-sparking tool into closable container for disposal. See Emergency Response Guidebook (DOT 5800.5)
DISPOSAL METHODS:	Dispose in accordance with federal, state, and local regulations. Contact Unitek at (808) 682-8284

CONTROL MEASURES

EYE PROTECTION:	Where there is likelihood of eye contact, wear chemical goggles and faceshield. DO NOT wear contact lenses.
PROTECTIVE GLOVES:	Use nitrile, neoprene or PVC is recommended
RESPIRATORY PRECAUTION:	Use NIOSH/MSHA-approved respiratory protective equipment when concentration of vapor or mist exceeds applicable exposure limit. A self-contained breathing apparatus (SCBA) and full protective equipment is required for large spills or fire emergencies.

Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFG 1910.134

ENGINEERING CONTROLS: Provide process enclosure or local ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where explosive mixtures may be present, systems safe for such location should be used.

OTHER PROTECTION: Where spills and splashes are possible, wear appropriate oil-resistant boots, apron or other protective clothing. Clean water should be available in work areas for flushing the eyes and skin.

SECTION 8 – PHYSICAL DATA

PHYSICAL STATE APPEARANCE AND ODOR:	Liquid, dark, bright with characteristic hydrocarbon odor.
ODOR THRESHOLD:	Not Available
SPECIFIC GRAVITY:	0.841 – 0.876 at 25/25 C (water=1)
DENSITY:	7.014 to 7.306 lbs/gal
VAPOR DENSITY:	>1.0 (air=1)
VAPOR PRESSURE:	< 1mm Hg at 72° F
BOILING POINT:	341-741 °F
FREEZING POINT:	Not available
% VOLATILE BY VOLUME:	<0.8%
SOLUBILITY IN WATER:	Negligible @ 72° F

SECTION 8 – PHYSICAL DATA

TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME:	PETROLUM PRODUCTS, N.O.S. (ECODIESEL™)
DOT CLASS:	COMBUSTIBLE LIQUID
DOT ID NUMBER:	NA1993
HAZARD CLASS & PACKING GROUP:	3, P.G. III

SARA TITLE III: Contains no chemicals subject to SARA 302/313 reporting. Product poses the following physical and health hazards as defined in 40 CFG 370.3 (Sections 311,312 of SARA Title III):

Immediate (Acute) Health Hazard
Delayed (Chronic)Health Hazard
Fire Hazard

APPENDIX B

Department of Transportation Harbors Division
Lease Application Letter

LINDA LINGLE
GOVERNOR

RODNEY K. HARAGA
DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BARRY FUKUNAGA
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:
DEP-H 8765.07

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
79 S. NIMITZ HIGHWAY
HONOLULU, HAWAII 96813-4898

August 1, 2006

Mr. Robert Creps
Executive Vice President
Grace Pacific Corporation
P. O. Box 78
Honolulu, Hawaii 96810

Dear Mr. Creps:

The request by Grace Pacific Corporation to acquire four (4) acres of land at the Kalaeloa Harbor for an asphalt storage facility has been reviewed to determine whether it would be possible to accommodate such installation. Based on our evaluation, we find that sufficient area is available and can be made available subject to assistance from Grace Pacific in releasing an obligation that is placed on the Harbors Division by the Campbell Estate as a part of our earlier acquisition of the harbor lands.

In our earlier discussion, Grace Pacific sought space at the harbor to address a number of needs. Included in the areas sought was space for the placement of an asphalt storage facility. Recent conditions in the islands affecting the availability of asphalt has imposed a serious situation that necessitates faster development of a suitable storage facility that can provide additional capacity to supplement the only source that currently provides asphalt.

Because of the seriousness of this situation and the need to accelerate effort on the establishment of such a facility, Grace Pacific seeks to pursue the lease of harbor land for the asphalt facility separate from all of the other spaces that are also being sought. In this respect, an area was identified that will meet the requirements necessary for the effective operation of such a facility along with a request that priority be given toward the execution of a lease by the Harbors Division that will enable the development of the desired storage facility.

In order to accommodate this request, the Harbors Division must have sufficient space to accommodate adjustment in land assignments that will allow the Harbors Division to address the number of other interests for harbor space, including those sought by Grace Pacific. The resolution to this matter can only be achieved by Grace Pacific's willingness to relinquish its claim on leased area acquired from the Campbell Estate that falls within property under the jurisdiction of the Harbors Division. The obligation to honor this earlier commitment is a requirement imposed by Campbell Estate as a condition on our purchase of the land. Since you

Mr. Robert Creps
August 1, 2006
Page Two

indicate that Grace Pacific is willing to release its claim and allow our use of the area, we are prepared to offer your firm the desired site for the asphalt facility.

As a procedural matter, we ask that you complete the enclosed application form and provide the filing fee. We will concurrently begin work on the development of the lease arrangements and begin meetings to go over the requirements, procedures and terms that will be established.

We appreciate your assistance and support in addressing the issues needed to make it possible to proceed with this lease and look to an expeditious development of the lease in order to allow the earliest installation of the asphalt plant. This project will be beneficial to the economic welfare of our island community and we look forward to its timely and successful completion.

Very truly yours,

BARRY FUKUNAGA
Deputy Director-Harbors

Enclosure

APPENDIX C

Application for Special Management Area Use Permit

CITY AND COUNTY OF HONOLULU
DEPARTMENT OF PLANNING & PERMITTING
650 South King Street
Honolulu, Hawaii 96813

LAND USE PERMITS DIVISION MASTER APPLICATION FORM

Additional data, drawings/plans, and fee requirements are listed on a separate sheet titled "Instructions for Filing". *PLEASE ASK FOR THESE INSTRUCTIONS.*

All specified materials described in the "Instructions for Filing" and required fees must accompany this form; incomplete applications will delay processing. You are encouraged to consult with Zoning Division staff in completing the application. Please call the appropriate phone number given in the "Instructions for Filing."

Please print legibly or type the required information.

SUBMITTED FEE: $ 1,878

PERMIT/APPROVAL REQUESTED (Check one or more as appropriate):

Cluster:
☐ Agricultural
☐ Country
☐ Housing

Conditional Use Permit:
☐ Minor ☐ Major

☐ **Existing Use**:
_____
(Indicate Type of Use)

☐ **Minor Shoreline Structures Permit**

☐ **Modify Approved Permit**:
_____
(Indicate Reference File No.)

☐ **Plan Review Use**

Planned Development:
☐ Housing
☐ Commercial (WSD Only)
☐ Resort (WSD Only)

☐ **Shoreline Setback Variance**

Special District Permit:
☐ Minor ☐ Major
_____
(Indicate District)
☐ Downtown Height >350 Feet

Special Management Area Use Permit:
☐ Minor ☑ Major

☐ **Variance** from LUO Sec.(s):
_____

☐ **Waiver** from LUO Sec.(s):
_____

☐ **Zoning Adjustment**, LUO Sec.(s):
_____

☐ **201G Project**

TAX MAP KEY(S): (1) 9-1-014:024
LOT AREA: 4.26 acres
ZONING DISTRICT(S): Industrial
STATE LAND USE DISTRICT: Oahu
STREET ADDRESS/LOCATION OF PROPERTY: John Wayne Avenue, Kapolei HI 96707 /Kalaeloa Harbor in Kapolei, Hawaii

RECORDED FEE OWNER:
Name (& title, if any) State of Hawawaii, DOT Harbors Division
Mailing Address 79 South Nimitz Highway
Honolulu, Hawaii 96813
Phone Number (808) 587-1944
Signature

PRESENT USE(S) OF PROPERTY/BUILDING:
Vacant

PROJECT NAME (if any): GLP Kalaeloa Asphalt Terminal

APPLICANT:
Name GLP Asphalt LLC.
Mailing Address P.O. Box 78
Honolulu, Hawaii 96810
Phone Number (808) 674-8383
Signature

AUTHORIZED AGENT/CONTACT PERSON:
Name Robert Crepes
Mailing Address P.O. Box 78
Honolulu, Hawaii 96810
Phone Number (808) 674-8383
Signature

REQUEST/PROPOSAL (Briefly describe the nature of the request, proposed activity or project):
GLP Asphalt LLC. is proposing construction and operation of a new asphalt terminal, located at Kalaeloa Harbor [KH]. The Terminal's primary function will be to store and distribute asphalt cement. The asphalt cement will be shipped to KH by vessel and will be transferred to the terminal via a heated cargo line. The asphalt cement will be stored at the terminal in heated, above-ground storage tanks [ASTs]. The Terminal will serve as a primary distribution site for customers utilizing asphalt cement. The principal use of asphalt cement is in the manufacturing of hot mix asphalt for road and parking lot surfaces.

POSSE JOB NO. _____

APPENDIX D

Correspondence

LINDA LINGLE
GOVERNOR

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
79 SOUTH NIMITZ HIGHWAY
HONOLULU, HAWAII 96813-4898

IN REPLY REFER TO:

HAR-EE
2719.07

April 26, 2007

RECEIVED
APR 30 2007

TO: HAROLD YEE, CHIEF
WASTEWATER BRANCH
DEPARTMENT OF HEALTH

FROM: GLENN M. OKIMOTO
HARBORS ADMINISTRATOR

SUBJECT: INDIVIDUAL WASTEWATER SYSTEMS AT KALAELOA BARBERS POINT HARBOR, TMK: (1) 9-1-014: 24

Through Department of Health (DOH) letter EPO-7-028, dated March 5, 2007, to Dr. Howard B. West, we were informed that you have in your files three (3) individual wastewater system (IWS) records for the subject parcel. We wish to update you on the status of each IWS by providing the following information:

1. IWS File No. 2614, Transit Shed: This IWS was installed and an Inspection Report will be submitted to your branch shortly.

2. IWS File No. 2614-B, Hawaii Cement Facility: This IWS was installed by Hawaiian Cement, Inc. It is our understanding that Hawaiian Cement is working directly with you on an Inspection Report for its IWS.

3. IWS File No. 2614-AGT, Harbors Office Complex: This IWS has yet to be installed. We will be submitting the required Inspection Report upon the completion of its installation.

Should you have any questions, please contact Randal Leong, Harbors Division Environmental Engineer, at 587-1962.

c: Environmental Science International, Inc. (Dr. Howard West)
Grace Pacific Corporation (Richard Levins)

FACSIMILE TRANSMITTAL

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

❄ **THERE ARE 1 PAGES TO SEND, INCLUDING THIS PAGE.** ❄

DATE: **November 20, 2006**

TO: **Office of Hawaiian Affairs**

ATTN: **To whom it may concern**

FAX NUMBER: **(808) 594-1865** **Project No. 106065**

FROM: **Iris van der Zander**

To whom it may concern,

As part of an Environmental Assessment I am trying to find information about cultural and archaeological sites around the Kalaeloa/Barbers Point Harbor area, specifically around the Hawaiian Cement Terminal area at this site. Could you give me some information about possible cultural or archaeological sites or send me contact information of a person that is knowledgeable about this area ? I may be contacted under the phone number (808)-216-2432 or at the above mentioned telephone and fax numbers.

Mahalo,

Iris van der Zander

FACSIMILE TRANSMITTAL

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

❄ **THERE ARE 1 PAGES TO SEND, INCLUDING THIS PAGE.** ❄

DATE: **November 20, 2006**

TO: **State Historic Preservation Division (DLNR)**

ATTN: **To whom it may concern**

FAX NUMBER: **(808) 692-8020** **Project No. 106065**

FROM: **Iris van der Zander**

To whom it may concern,

As part of an Environmental Assessment I am trying to find information about cultural and archaeological sites around the Kalaeloa/Barbers Point Harbor area, specifically around the Hawaiian Cement Terminal area at this site. Could you give me some information about possible cultural or archaeological sites ? I may be contacted under the phone number (808)-216-2432 or at the above mentioned telephone and fax numbers.

Mahalo,

Iris van der Zander

PHONE (808) 594-1888

FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

HRD06/2815

December 12, 2006

Iris van der Zander
Environmental Science International, Inc.
56 Oneawa Street
Suite 103
Kailua, HI 96734

RE: Environmental Assessment (EA) Pre-consultation, Kalaeloa/Barbers Point Harbor area, 'Ewa District, O'ahu.

Dear Iris van der Zander,

The Office of Hawaiian Affairs (OHA) is in receipt of your November 20, 2006, request for comment. We offer the following comments.

According to your document, you are looking for information regarding cultural and/or archaeological sites around the Kalaeloa/Barbers Point Harbor area, including the Hawaiian Cement Terminal. A Tax Map Key (TMK) number or numbers for the proposed project area would be required for us to determine whether it includes ceded lands. We recommend that you contact the Department of Land and Natural Resources (DLNR) – State Historic Preservation Division (SHPD), which is legally-mandated to maintain a list of documented sites and previous historic-preservation studies. Please contact Adam Johnson (O'ahu Assistant Archaeologist-SHPD), and provide TMK information. We also recommend consultation with Nettie Tiffany and Shad Kane, who are knowledgeable about the culture-history of the area.

OHA further requests that if this project goes forward, should iwi kūpuna or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Thank you for the opportunity to comment, and we also look forward to the opportunity to review the forthcoming Draft Environmental Assessment. If you have further questions, please contact Kai Markell, Lead Advocate – Culture, at (808) 594-1945 or kaim@oha.org.

Sincerely,

Clyde W. Nāmu'o
Administrator

FW: Barbers Points Tanks - Lauwiliwili Street (2006 33 5100)

Dick and Iris:

Please see memo below and attached maps.

Jon

From: Kelly, Steve [mailto:SteveK@kapolei.com]
Sent: Monday, November 13, 2006 1:09 PM
To: Jon Young
Cc: rcreps@gracepacificcorp.com
Subject: RE: Barbers Points Tanks

Hi Jon-
I believe the future alignment of Lauwiliwili St. we show on the Kapolei Harborside Center plan lines up generally with the future roadway to the north of the new terminal as labeled on your drawing. The land plan for Harborside is quite conceptual given where we are in the approval process. Future planning and engineering will refine the alignment and we will take your plans into account as planning progresses. The portion of the roadway that will abut the new terminal is on State land therefore it will be a matter of coordinating with the State on the location once we build the road to our property boundary.

Please feel free to contact me further to discuss.
-steve

Steve Kelly, AICP
Aina Nui Corporation ○ Kapolei Property Development, LLC *affiliates of the James Campbell Company, LLC*
1001 Kamokila Blvd. Suite 250 ○ Kapolei, Hawaii 96707 ○ (808) 674-3289 direct (808)728-0078 cell
stevek@kapolei.com
www.kapolei.com

-----Original Message-----
From: Jon Young [mailto:jyoung@beltcollins.com]
Sent: Monday, November 13, 2006 8:59 AM
To: Kelly, Steve
Cc: rcreps@gracepacificcorp.com
Subject: Barbers Points Tanks

Steve <<HARBOR-Pier-exhibit-061013.pdf>> :

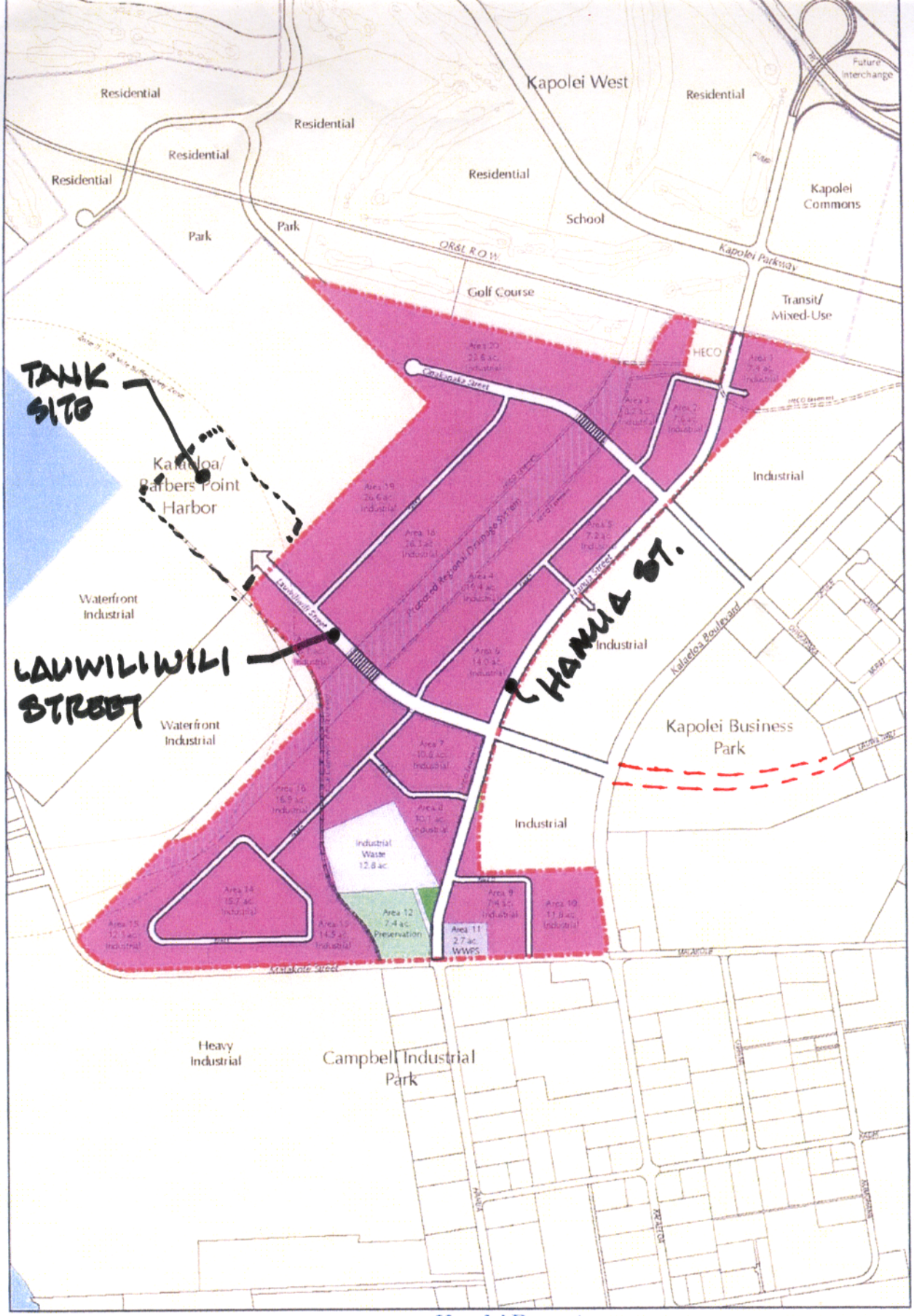
Attached is an exhibit that shows the existing conveyor belt, the existing Hawaiian Cement facility, the proposed Grace Pacific tank facility, and the proposed future road (Lauwiliwili Street).

As discussed, we believe it would be appropriate to adjust the location of the extension of Lauwiliwili Street shown on the exhibits for the State Land Use Petition for Kapolei Harbor Site Center.

If you have any questions, please feel free to contact us.

Sincerely,
Jon M. Young P.E.

Civil Engineering
Project Manager
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, HI 96819-4554
Tel: 808 521 5361 * Fax: 808 538 7819
E-mail: jyoung@beltcollins.com
Web: http://www.beltcollins.com



Kapolei Harborside Center
Project Master Plan

Kapolei Property Development LLC
an affiliate of the Estate of James Campbell

GROUP 70

10 April 2006

Exhibit "12A"

BCH - 1-14-07

LINDA LINGLE
GOVERNOR

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:
HAR-PM
4232.07

January 5, 2007

Mr. Howard B. West, PhD
Vice President
Mr. Robert H. Chong
Senior Environmental Scientist
Environmental Science International
56 Oneawa Street, Suite 103
Kailua, Hawaii 96734

Dear Mr. West and Mr. Chong:

Subject: Harbors Division's Comments and Recommendations
Draft Environmental Assessment
GLP Asphalt LLC Kalaeloa Asphalt Terminal
Tax Map Key: 1st Division, 9-1-14: Portion of 24
Kalaeloa Barbers Point Harbor, Honouliuli, Ewa, Island of Oahu

In reply to your letter of December 11, 2006 regarding the above-captioned Draft Environmental Assessment, the State of Hawaii, Department of Transportation, Harbors Division provides the following comments/recommendations:

1. The official name of the harbor is "Kalaeloa Barbers Point Harbor."

2. Construction plans bearing the stamp of a professional engineer registered in Hawaii should be submitted to the Harbors Division for approval.

3. Page 1-11, Section 1.4.4.1: The design and location of the emergency drainage system should take into consideration the downstream facilities as the tenant would be liable for any damage caused by the discharge of water in the event of an emergency.

4. Page 3-3, Section 3.1.5, Paragraph 3: Section cited should be Section 1.4 rather than Section 1.5.

5. Page 3-3, Section 3.1.6: It is likely that more than just a seepage pit is required by HAR 11-62 for the disposal of wastewater.

6. Section 5.4: While not directly impacting the project area, a recent archaeological data recovery report was completed in 1997 by Hal Hammatt that addressed the features in the 56.5-acre harbor expansion parcel. The State Historic Preservation Office approved the findings and should have copies of the report. No further archeological work is required in the 56.5-acre parcel.

7. Page 5-6, Section 5.4.1, Paragraph 3: While most of the proposed terminal parcel is within the 84-acre parcel, the makai portion of the terminal within the SMA boundary area (See Figure 6) is not.

8. Page 6-2, Section 6.1.1, Figures 7, 8 and 10: It is unclear if the proposed road shown mauka of the terminal parcel on these figures is based on the proposed alignment of the future Lauwiliwili Street which will serve as the main access road to the Harbor. If it is not, the terminal parcel needs to be configured in such a way that the Lauwiliwili Street extension can be transitioned into the Harbor internal roadway system.

9. Page 7-1, Section 7.1.2: This subsection heading is wrong as it should be: "City and County of Honolulu Department of Planning and Permitting" and not "State of Hawaii Department of Planning and Permitting".

10. A residential development called Kapolei West is being planned to the *mauka* of Kalaeloa Barbers Point Harbor. In the Kapolei West EIS, we commented that Kalaeloa Harbor is an industrial facility and that the harbor and surrounding areas may experience high noise levels during cargo off-loading and loading operations, dredging work and other miscellaneous activities. In addition, high intensity lighting may accompany the aforementioned activities during the evening hours. In the Kalaeloa Asphalt Terminal EA on page ES-9, we note that a number of public agencies, neighboring facilities and community groups were consulted. In addition to those listed, we recommend that the developer of Kapolei West be included in the consultation process to keep them updated of the increasing levels of industrial activities that will occur. The developers are Aina Nui Corporation and The Estate of James Campbell.

11. We note that the report indicates that noise generated during normal operation of the asphalt terminal at five nearest noise-sensitive areas will not exceed the maximum permissible sound levels. We recommend that the consultant be advised of a new residential development *mauka* of Kalaeloa Barbers Point Harbor and that a sixth survey point be considered that would be representative of the new development.

Should you have questions with regard to this matter, please call Mr. Glenn Abe, Supervising Property Manager at 587-1944.

Very truly yours,

BARRY FUKUNAGA
Interim Director of Transportation

HAR-PM

Joni Savusa/HAR/HIDOT
01/04/2007 07:23 AM

To Glenn Abe/HAR/HIDOT@HIDOT
cc Wendell Hosea/HAR/HIDOT@HIDOT
bcc
Subject Re: RS 07.0417 - ROBERT A. CHONG, SENIOR ENVIRONMENTAL SCIENTIST AND HOWARD B. WEST, PhD V.P. - ESI IS SUBMITTING ONE OF THE DRAFT ENVIRONMENTAL ASSESSMENT (EA) REPORT FOR THE PROPOSED GLP KALAELOA ASPHALT TERMINAL, LOCATED IN KALAELOA HARBOR, KAPOLEI, HI 96707. TWO COPIES HAS BEEN SUBMITTED TO GLENN ABE.

Would eventually like to see detailed drawings of pipeline/hatch at pier side and measures to accommodate vehicle traffic. Need to insure asphalt plant does not extend into Hanua Street, otherwise looks ok.

Looks ok from environmental perspective but defer to HAR-E.

CF/BKD:jls

Pearl L Ganon/HAR/HIDOT

Pearl L Ganon/HAR/HIDOT
12/12/2006 09:15 AM

To Barry A Fukunaga/HAR/HIDOT@HIDOT, Glenn Abe/HAR/HIDOT@HIDOT
cc Glenn Okimoto/HAR/HIDOT@HIDOT, Jean Oshita/HAR/HIDOT@HIDOT, Frederick Nunes/HAR/HIDOT@HIDOT, Fred Pascua/HAR/HIDOT@HIDOT, Barry Kim/HAR/HIDOT@HIDOT, Deborah Kuwaye/HAR/HIDOT@HIDOT, Wendell Hosea/HAR/HIDOT@HIDOT, Linda Matsumoto/HAR/HIDOT@HIDOT, Joni Savusa/HAR/HIDOT@HIDOT
Subject RS 07.0417 - ROBERT A. CHONG, SENIOR ENVIRONMENTAL SCIENTIST AND HOWARD B. WEST, PhD V.P. - ESI IS SUBMITTING ONE OF THE DRAFT ENVIRONMENTAL ASSESSMENT (EA) REPORT FOR THE PROPOSED GLP KALAELOA ASPHALT TERMINAL, LOCATED IN KALAELOA HARBOR, KAPOLEI, HI 96707. TWO COPIES HAS BEEN SUBMITTED TO GLENN ABE.

HAR-PM,	(AAA)
DEP-H, HAR, -S,	INFO
-S,	MC
-E, -EP, -O,	C/R
SUSPENSE DATE:	27 DECEMBER 2006

APPENDIX E

Cover Letters for Submittal of Draft EA

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

February 6, 2007

Chief Eng., Board of Water Supply
630 South Beretania Street,
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

To Whom It May Concern:

On behalf of GLP Asphalt LLC [GLP Asphalt], Environmental Science International [ESI] is submitting one copy of the Draft Environmental Assessment [EA] report for the proposed GLP Kalaeloa Asphalt Terminal, located along John Wayne Avenue at Kalaeloa Barber's Point Harbor, Kapolei, Hawaii.

Please conduct an internal review of the report and send comments and recommendations to ESI. ESI and GLP Asphalt LLC will review the comments and recommendations and will revise the EA report accordingly.

If you have any questions or require additional information, please contact Ms. Iris van der Zander or Mr. Howard West at (808) 261-0740.

Mahalo,

Iris van der Zander, Ph.D.
Environmental Geochemist
Environmental Science International

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

February 6, 2007

Department of Design & Construction
650 South King Street,
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

To Whom It May Concern:

On behalf of GLP Asphalt LLC [GLP Asphalt], Environmental Science International [ESI] is submitting one copy of the Draft Environmental Assessment [EA] report for the proposed GLP Kalaeloa Asphalt Terminal, located along John Wayne Avenue at Kalaeloa Barber's Point Harbor, Kapolei, Hawaii.

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If you have any questions or require additional information, please contact Ms. Iris van der Zander or Mr. Howard West at (808) 261-0740.

Mahalo,

Iris van der Zander, Ph.D.
Environmental Geochemist
Environmental Science International

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

February 6, 2007

Department of Facility Maintenance
650 South King Street,
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

To Whom It May Concern:

On behalf of GLP Asphalt LLC [GLP Asphalt], Environmental Science International [ESI] is submitting one copy of the Draft Environmental Assessment [EA] report for the proposed GLP Kalaeloa Asphalt Terminal, located along John Wayne Avenue at Kalaeloa Barber's Point Harbor, Kapolei, Hawaii.

Please conduct an internal review of the report and send comments and recommendations to ESI. ESI and GLP Asphalt LLC will review the comments and recommendations and will revise the EA report accordingly.

If you have any questions or require additional information, please contact Ms. Iris van der Zander or Mr. Howard West at (808) 261-0740.

Mahalo,

Iris van der Zander, Ph.D.
Environmental Geochemist
Environmental Science International

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

February 6, 2007

Department of Parks & Recreation
650 South King Street,
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

To Whom It May Concern:

On behalf of GLP Asphalt LLC [GLP Asphalt], Environmental Science International [ESI] is submitting one copy of the Draft Environmental Assessment [EA] report for the proposed GLP Kalaeloa Asphalt Terminal, located along John Wayne Avenue at Kalaeloa Barber's Point Harbor, Kapolei, Hawaii.

Please conduct an internal review of the report and send comments and recommendations to ESI. ESI and GLP Asphalt LLC will review the comments and recommendations and will revise the EA report accordingly.

If you have any questions or require additional information, please contact Ms. Iris van der Zander or Mr. Howard West at (808) 261-0740.

Mahalo,

Iris van der Zander, Ph.D.
Environmental Geochemist
Environmental Science International

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

February 5, 2007

State of Hawaii Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801

Subject: Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

To Whom It May Concern:

On behalf of GLP Asphalt LLC [GLP Asphalt], Environmental Science International [ESI] is submitting three copies of the Draft Environmental Assessment [EA] report for the proposed GLP Kalaeloa Asphalt Terminal, located along John Wayne Avenue at Kalaeloa Barber's Point Harbor, Kapolei, Hawaii.

Please conduct an internal review of the report and send comments and recommendations to ESI. ESI and GLP Asphalt LLC will review the comments and recommendations and will revise the EA report accordingly.

If you have any questions or require additional information, please contact Ms. Iris van der Zander or Mr. Howard West at (808) 261-0740.

Mahalo,

Iris van der Zander, Ph.D.
Environmental Geochemist
Environmental Science International

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

February 7, 2007

Ewa Beach Public & School Library
91-950 North Road
Ewa Beach, Hawaii 96706

Subject: Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

To Whom It May Concern:

On behalf of GLP Asphalt LLC [GLP Asphalt], Environmental Science International [ESI] is submitting one copy of the Draft Environmental Assessment [EA] report for the proposed GLP Kalaeloa Asphalt Terminal, located along John Wayne Avenue at Kalaeloa Barber's Point Harbor, Kapolei, Hawaii.

If you have any questions or require additional information, please contact Ms. Iris van der Zander or Mr. Howard West at (808) 261-0740.

Mahalo,

Iris van der Zander, Ph.D.
Environmental Geochemist
Environmental Science International

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

February 5, 2007

State of Hawaii
Department of Transportation
Harbors Division
79 South Nimitz Highway
Honolulu, Hawaii 96813

Attention: Mr. Glenn Abe – Supervising Property Manager

Subject: Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

Dear Mr. Abe,

On behalf of GLP Asphalt LLC [GLP Asphalt], Environmental Science International [ESI] is submitting six copies of the Draft Environmental Assessment [EA] report for the proposed GLP Kalaeloa Asphalt Terminal, located along John Wayne Avenue at Kalaeloa Barber's Point Harbor, Kapolei, Hawaii. Two of these copies are designated for the DOT Harbors Division and four copies are for submittal to the Office of Environmental Quality and Control [OEQC]. Additional copies of other mandatory and recommended agencies, groups, and organizations, as required under Hawaii Revised Statues 343 will be submitted to the appropriate agencies by ESI.

Please conduct an internal review of the report and send comments and recommendations to ESI. ESI and GLP Asphalt LLC will review the comments and recommendations and will revise the EA report accordingly.

If you have any questions or require any additional information, please contact Ms. Iris van der Zander or Mr. Howard West at (808) 261-0740.

Mahalo,

Iris van der Zander, Ph.D.
Environmental Geochemist
Environmental Science International

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

February 7, 2007

State of Hawaii
Department of Transportation
Harbors Division
79 South Nimitz Highway
Honolulu, Hawaii 96813

Attention: Mr. Glenn Abe – Supervising Property Manager

Subject: Additional Copies of Report, Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

Dear Mr. Abe,

As requested by DOT Harbors, Environmental Science International [ESI] is submitting two additional copies of the Draft Environmental Assessment [EA] report for the proposed GLP Kalaeloa Asphalt Terminal, located along John Wayne Avenue at Kalaeloa Barber's Point Harbor, Kapolei, Hawaii.

If you have any questions or require any additional information, please contact Ms. Iris van der Zander or Mr. Howard West at (808) 261-0740.

Mahalo,

Howard West

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

February 6, 2007

State Department of Land and Natural Resources
Kalanimoku Building, 1151 Punchbowl Street
Honolulu Hawaii 96813

Subject: Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

To Whom It May Concern:

On behalf of GLP Asphalt LLC [GLP Asphalt], Environmental Science International [ESI] is submitting five copies of the Draft Environmental Assessment [EA] report for the proposed GLP Kalaeloa Asphalt Terminal, located along John Wayne Avenue at Kalaeloa Barber's Point Harbor, Kapolei, Hawaii.

Please conduct an internal review of the report and send comments and recommendations to ESI. ESI and GLP Asphalt LLC will review the comments and recommendations and will revise the EA report accordingly.

If you have any questions or require additional information, please contact Ms. Iris van der Zander or Mr. Howard West at (808) 261-0740.

Mahalo,

Howard West

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

February 6, 2007

Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

To Whom It May Concern:

On behalf of GLP Asphalt LLC [GLP Asphalt], Environmental Science International [ESI] is submitting one copy of the Draft Environmental Assessment [EA] report for the proposed GLP Kalaeloa Asphalt Terminal, located along John Wayne Avenue at Kalaeloa Barber's Point Harbor, Kapolei, Hawaii.

Please conduct an internal review of the report and send comments and recommendations to ESI. ESI and GLP Asphalt LLC will review the comments and recommendations and will revise the EA report accordingly.

If you have any questions or require additional information, please contact Ms. Iris van der Zander or Mr. Howard West at (808) 261-0740.

Mahalo,

Howard West

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

February 6, 2007

Office of Planning
Department of Business, Economic Development and Tourism
235 South Beretania Street,
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

To Whom It May Concern:

On behalf of GLP Asphalt LLC [GLP Asphalt], Environmental Science International [ESI] is submitting one copy of the Draft Environmental Assessment [EA] report for the proposed GLP Kalaeloa Asphalt Terminal, located along John Wayne Avenue at Kalaeloa Barber's Point Harbor, Kapolei, Hawaii.

Please conduct an internal review of the report and send comments and recommendations to ESI. ESI and GLP Asphalt LLC will review the comments and recommendations and will revise the EA report accordingly.

If you have any questions or require additional information, please contact Ms. Iris van der Zander or Mr. Howard West at (808) 261-0740.

Mahalo,

Howard West

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

February 6, 2007

State Historic Preservation Officer
State Department of Land and Natural Resources
601 Kamokila Boulevard, Room 555
Kapolei, Hawaii 96707

Subject: Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

To Whom It May Concern:

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Mahalo,

Iris van der Zander, Ph.D.
Environmental Geochemist
Environmental Science International

Howard B. West, Ph.D.
Vice President
Environmental Science International

APPENDIX F

Comment Letters Received for Draft EA

LINDA LINGLE
GOVERNOR

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Director
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
79 SO. NIMITZ HWY., HONOLULU, HAWAII 96813-4898

IN REPLY REFER TO:

HAR-PM
4349.07

March 19, 2007

RECEIVED
MAR 21 2007

Howard B. West, PhD
Vice President
Mr. Robert H. Chong
Senior Environmental Scientist
Environmental Science International
56 Oneawa Street, Suite 103
Kailua, Hawaii 96734

Dear Dr. West and Mr. Chong:

Subject: Comments from State Office of Environmental Quality Control (OEQC)
Draft Environmental Assessment
GLP Asphalt LLC Kalaeloa Asphalt Terminal
Tax Map Key: 1st Division, 9-1-14: Portion of 24
Kalaeloa Barbers Point Harbor, Honouliuli, Ewa, Island of Oahu

Ms. Genevieve Salmonson, Director of the State Office of Environmental Quality Control ("OEQC"), by way of a letter dated March 6, 2007 (copy enclosed) and addressed to Mr. Barry Fukunaga, Interim Director of the State Department of Transportation, informed Mr. Fukunaga that the above-captioned Draft Environmental Assessment ("DEA") was reviewed and her OEQC staff provided the following comments:

1. Please describe any potential odor impacts of the proposed operations.

2. Please consult with State Department of Health Clean Air Branch concerning potential air quality impacts.

3. Please consult with nearby existing and future residential communities.

4. Please consult with the neighborhood board.

5. If you have any questions with regard to the above comments, please call Mr. Jeyan Thirugnanam of OEQC at 586-4185.

As part of the DEA review process, please follow-up and incorporate your findings in the revised DEA that the foregoing comments, concerns or issues have been adequately addressed.

Should you have questions with regard to this matter, please call Mr. Glenn Abe, Supervising Property Manager, at 587-1944.

Very truly yours,

GLENN M. OKIMOTO
Harbors Administrator

Enclosure: Copy of March 6, 2007 letter from OEQC

DPR 3313

RLS 07.0678

LINDA LINGLE
GOVERNOR OF HAWAII

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186
E-mail: oeqc@health.state.hi.us

March 6, 2007

Mr. Barry Fukunaga, Interim Director
State Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i 96813

Dear Mr. Fukunaga:

Subject: Draft EA for Kalaeloa Asphalt Terminal

Thank you for the opportunity to review the subject document. We have the following comment.

1. Please describe any potential odor impacts of the proposed operations.

2. Please consult with the Department of Health Clean Air Branch concerning potential air quality impacts.

3. Please consult with nearby existing and future residential communities.

4. Please consult with the neighborhood board.

If you have any questions, please call Jeyan Thirugnanam at 586-4185.

Sincerely,

Genevieve Salmonson

Genevieve Salmonson
Director

c: GLP
ESI

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843

February 27, 2007

Ms. Iris van der Zander, Ph.D.
Environmental Science International
56 Oneawa Street, Suite 103
Kailua, Hawaii 96734

Dear Ms. van der Zander:

Subject: Your Letter Dated February 6, 2007 Regarding the Draft Environmental Assessment – GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707

Thank you for the opportunity to comment on the proposed project.

The existing water system is presently adequate to accommodate the proposed development. However, please be advised that this information is based upon current data and, therefore, the Board of Water Supply (BWS) reserves the right to change any position or information stated herein up until the final approval of your building permit application. The final decision on the availability of water will be confirmed when the building permit application is submitted for approval.

The applicant will be required to get a water allocation from the State of Hawaii Department of Transportation, Harbors Division.

The project is subject to BWS Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the building permit.

The on-site fire protection requirement should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

The construction drawings should be submitted for our review and approval.

If you have any questions, please contact Robert Chun at 748-5440.

Very truly yours,

K. Shida

KEITH S. SHIDA
Principal Executive
Customer Care Division

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 523-4564 • Fax: (808) 523-4567
Web site: www.honolulu.gov

MUFI HANNEMANN
MAYOR

EUGENE C. LEE, P.E.
DIRECTOR

CRAIG I. NISHIMURA, P.E.
DEPUTY DIRECTOR

March 2, 2007

Mr. Howard B. West, Ph.D.
Vice President
Environmental Science International
56 Oneawa Street, Suite 103
Kailua, Hawaii 96734

Dear Mr. West:

Subject: Draft Environmental Assessment
GLP Asphalt LLC, Kalaeloa Asphalt Terminal
Kalaeloa Barber's Point Harbor
Kapolei, Hawaii 96707

Thank you for giving us the opportunity to comment on the above Draft Environmental Assessment.

The Department of Design and Construction has no comments to offer at this time.

Very truly yours,

Eugene C. Lee, P.E.
Director

ECL:lt (194535)

DEPARTMENT OF FACILITY MAINTENANCE

CITY AND COUNTY OF HONOLULU

1000 Uluohia Street, Suite 215, Kapolei, Hawaii 96707
Phone: (808) 692-5054 • Fax: (808) 692-5857
Website: www.honolulu.gov

MUFI HANNEMANN
MAYOR

LAVERNE HIGA, P.E.
DIRECTOR AND CHIEF ENGINEER

GEORGE "KEOKI" MIYAMOTO
DEPUTY DIRECTOR

IN REPLY REFER TO:
DRM 07-278

April 5, 2007

Dr. Iris van der Zander, Ph.D.
Environmental Science International
56 Oneawa Street, Suite 103
Kailua, Hawaii 96734

Dear Dr. van der Zander:

Subject: **Draft Environmental Assessment (DEA) – GLP Asphalt LLC, Kalaeloa Asphalt Terminal Kalaeloa Barber's Point Harbor, Kapolei, Hawaii**

Thank you for the opportunity to review and comment on the DEA dated January 30, 2007, for the proposed Kalaeloa Asphalt Terminal.

We have no comments to offer as the improvements proposed in the DEA are within State-owned property and will have negligible impact on our facilities and operations.

Should you have any questions, please call Charles Pignataro of the Division of Road Maintenance, at 484-7697.

Sincerely,

Laverne Higa

Laverne Higa, P

Director and Chief Engineer

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER. HAWAII 96858-5440

RECEIVED
APR 24 2007

REPLY TO
ATTENTION OF

April 19,2007

Regulatory Branch

File No. **POH-2007-136**

Howard West
Environmental Science International
56 Oneawa Street, Suite 103
Kailua, HI 96734

Dear Mr. West:

This is in response to your phone request dated March 3,2007 for a jurisdictional determination for proposed construction of the Kalaeloa Asphalt Terminal at Kalaeloa Barbers Point Harbor, Kapolei, Oahu Island, Hawaii (TMK: (1) 9-1-014: 024). We have reviewed the information you provided under the Corps' authority to issue Department of the Army (DA) permits pursuant to Section 10 of the Rivers and Harbors Act (RHA) of 1899 (33 USC 403) and Section 404 of the Clean Water Act (CWA) (33 USC 1344).

Based on the information you provided in the draft Environmental Assessment prepared for the Kalaeloa Asphalt Terminal, we are able to confirm the absence of waters of the U.S., including wetlands, on the above-referenced parcel adjacent, and we anticipate the proposed project to not involve the placement and/or discharge of fill or dredged material into waters of the U.S.; **therefore, a** DA **permit will not be required for the Kalaeloa Asphalt Terminal.**

Although it has been determined that the subject parcel is absent of waters of the U.S., it should be noted that the proposed project is in the near vicinity of the Kalaeloa Harbor, and best management practices (BMPs) should be implemented to ensure protection of the nearby aquatic environment. If, however, it should later be determined that the proposed project will require or may result in the placement or discharge of fill or dredged material into waters of the U.S., you will contact the assigned project manager below for project re-evaluation and permit determination. Lastly, please forward your future jurisdictional determination requests in writing to the Regulatory Branch, Honolulu District.

Should you have any questions regarding this project, please contact Ms. Joy Anamizu by phone at 808-438-7023, or by e-mail at *joy.n.anamizu@usace.army.mil* and refer to the file number above.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
EPO-7-028

March 5, 2007

RECEIVED
MAR 09 2007

Dr. Howard B. West, Vice President
Environmental Science International
56 Oneawa Street, Suite 103
Kailua, Hawaii 96734

Dr. West:

SUBJECT: Draft Environmental Assessment for GLP Asphalt LLC Kalaeloa Asphalt Terminal at Kalaeloa Barber's Point Harbor, Kapolei, Oahu, Hawaii
TMK: (1) 9-1-014: 024

Thank you for allowing us to review and comment on the subject documents. The documents were routed to the various branches of the Environmental Health Administration. We have the following Wastewater Branch, Clean Water Branch and Clean Air Branch comments.

Wastewater Branch

The subject project is located in the Critical Wastewater Disposal Area (CWDA) where no new cesspools will be allowed.

We have three (3) individual wastewater system (IWSs) records for this parcel. Approvals to construct these facilities were granted in 1994, 2000, and 2005. To date, no final IWS inspection reports have been submitted to the Department and we must conclude that the facilities have not been constructed.

Before we can concur with the proposed draft environmental assessment (EA), the following items must be satisfactorily addressed:

1) Please update the Department of Health on the status of the IWS plans that we approved for the subject property. If the IWSs were built, please consult with DOT-Harbors Division and have the IWS engineer of record submit an IWS final inspection report(s) to us;

2) Page 3-3. The Department of Health's Wastewater Branch administers Hawaii Administrative Rule (HAR) Chapter 11-62 - not Clean Water Branch as stated in the draft EA.

3) The use of onsite seepage pit and leach field to handle wastewater is not acceptable. At the minimum, an IWS consisting of a septic tank or aerobic unit with absorption bed or seepage pit as disposal is required. Due to the proximity to the ocean, groundwater levels may exclude use of seepage pits for septic tank effluent disposal.

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems." We do reserve the right to review the detailed wastewater plans for conformance to applicable rules. Should you have any questions, please contact the Planning & Design Section of the Wastewater Branch at 586-4294.

Clean Water Branch

The Department of Health (DOH), Clean Water Branch (CWB) has reviewed the limited information contained in the subject document and offers the following comments:

1. The Army Corps of Engineers should be contacted at (808) 438-9258 for this project. Pursuant to Federal Water Pollution Control Act (commonly known as the "Clean Water Act" (CWA) Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40, Code of Federal Regulations (CFR), Section 122.2; and Hawaii Administrative Rules (HAR), Chapter 11-54.

2. In accordance with HAR, Sections 11-55-04 and 11-55-34.05, the Director of Health may require the submittal of an individual permit application or a Notice of Intent (NOI) for general permit coverage authorized under the National Pollutant Discharge Elimination System (NPDES).

   a. An application for an NPDES individual permit is to be submitted at least 180 days before the commencement of the respective activities. The NPDES application forms may also be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/forms/indiv-index.html.

   b. An NOI to be covered by an NPDES general permit is to be submitted at least 30 days before the commencement of the respective activity. A separate NOI is needed for coverage under each NPDES general permit. The NOI forms may be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html.

i. Storm water associated with industrial activities, as defined in Title 40, CFR, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi). [HAR, Chapter 11-55, Appendix B]

ii. Construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. **An NPDES permit is required before the commencement of the construction activities.** [HAR, Chapter 11-55, Appendix C]

iii. Discharges of treated effluent from leaking underground storage tank remedial activities. [HAR, Chapter 11-55, Appendix D]

iv. Discharges of once through cooling water less than one (1) million gallons per day. [HAR, Chapter 11-55, Appendix E]

v. Discharges of hydrotesting water. [HAR, Chapter 11-55, Appendix F]

vi. Discharges of construction dewatering effluent. [HAR, Chapter 11-55, Appendix G]

vii. Discharges of treated effluent from petroleum bulk stations and terminals. [HAR, Chapter 11-55, Appendix H]

viii. Discharges of treated effluent from well drilling activities. [HAR, Chapter 11-55, Appendix I]

ix. Discharges of treated effluent from recycled water distribution systems. [HAR, Chapter 11-55, Appendix J]

x. Discharges of storm water from a small municipal separate storm sewer system. [HAR, Chapter 11-55, Appendix K]

xi. Discharges of circulation water from decorative ponds or tanks. [HAR, Chapter 11-55, Appendix L]

3. In accordance with HAR, Section 11-55-38, the applicant for an NPDES permit is required to either submit a copy of the new NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD. If applicable, please submit a copy of the request for review by SHPD or SHPD's determination letter for the project.

4. Any discharges related to project construction or operation activities, with or without a Section 401 WQC or NPDES permit coverage, shall comply with the applicable State Water Quality Standards as specified in HAR, Chapter 11-54.

The Hawaii Revised Statutes, Subsection 342D-50(a), requires that "[n]o person, including any public body, shall discharge any water pollutants into state waters, or cause or allow any water pollutant to enter state waters except in compliance with this chapter, rules adopted pursuant to this Chapter, or a permit or variance issued by the director."

If you have any questions, please contact Mr. Alec Wong, Supervisor of the Engineering Section, CWB, at (808) 586-4309.

Clean Air Branch

A Project that May Require an Air Pollution Control Permit

The Project must comply with all applicable Air Pollution Control Permit conditions and requirements.

Control of Fugitive Dust

A significant potential for fugitive dust emissions exists during all phases of construction and operations. Proposed activities that occur in proximity to existing residences, businesses, public areas or thoroughfares, exacerbate potential dust problems. It is recommended that a dust control management plan be developed which identifies and addresses all activities that have a potential to generate fugitive dust. The plan, which doses not require the Department of Health (DOH) approval, would help with recognizing and minimizing the dust problems from the proposed project.

Activities must comply with the provisions of Hawaii Administrative Rules, §11-60.1-33 on Fugitive Dust. In addition, for cases involving mixed land use, we strongly recommend that buffer zones be established, wherever possible, in order to alleviate potential nuisance problems.

The contractor should provide adequate measures to control the fugitive dust from the road areas and during the various phases of construction. Examples of measures that can be implemented to control dust include, but are not limited to, the following:

a) Planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;
b) Providing an adequate water resource at the site prior to start-up of construction activities;

c) Landscaping and providing rapid covering of bare areas, including slopes, starting from the initial grading phase;
d) Minimizing dust from shoulders and access roads;
e) Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and
f) Controlling dust from debris being hauled away from the project site.

If you have any questions, please contact the Clean Air Branch at 586-4200

We strongly recommend that you review all of the Standard Comments on our website: www.state.hi.us/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this application should be adhered to.

If there are any questions about these comments please contact Jiacai Liu with the Environmental Planning Office at 586-4346.

Sincerely,

KELVIN H. SUNADA, MANAGER
Environmental Planning Office

c: EPO
WWB
CWB
CAB

Enclosures: Septic Tank File # 2614 and # 2614-AGT

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME LEINAALA FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File:

Wastewater Branch
919 Ala Moana Blvd. Room 309
Honolulu, Hawaii 96814-4920
Phone (808) 586-4294 Fax (808) 586-4300

SEPTIC TANK PROFILE

A **septic tank** file has been found and the following information is provided. In general, the Department of Health has reviewed and approved of the plans based on the information submitted as verification that a treatment individual wastewater system (IWS) such as a septic tank was constructed and authorized to be used for wastewater disposal from a building/dwelling.

Tax Map Key (1) 9 - 1 - 014 : 024 Septic Tank File # 2614-AGT

(1) = Oahu (2) = Maui (3) = Hawaii (4) = Kauai

Owner DOT Barbers point Harbor

Lot Location Kapolei

Submit Plan 10 / 26 / 2005 Plan Approval 11 / 25 / 2005

IWS BPA ___/___/___ Inspection ___/___/___

System Approved ___/___/___ Last BPA ___/___/___

Treatment Type / Disposal Via Septic tank / Bed

Use For office

Designed By ME pacific

Percolation Rate / Capacity 15 min/in / 2000 gallons

For further information, you may call the Wastewater Branch engineer as listed:

[X] Oahu: Johnny Ong, Wastewater Branch (808)586-4294 Fax 586-4300.

[ ] Maui: Roland Tejano, Maui District Health Office (808)984-8232 Fax 984-8237.

[ ] Kona: Dane Hiromasa, Kealakekua Health Center (808)322-1963 Fax 322-1511.

[ ] Hilo: Jerry Nunogawa, Hawaii District Health Office (808)933-0401 Fax 933-0400.

[ ] Kauai: Lori Vetter, Kauai District Health Office (808) 241-3323 Fax 241-3566.

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME LEINAALA FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File:

Wastewater Branch
919 Ala Moana Blvd. Room 309
Honolulu, Hawaii 96814-4920
Phone (808) 586-4294 Fax (808) 586-4300

SEPTIC TANK PROFILE

A **septic tank** file has been found and the following information is provided. In general, the Department of Health has reviewed and approved of the plans based on the information submitted as verification that a treatment individual wastewater system (IWS) such as a septic tank was constructed and authorized to be used for wastewater disposal from a building/dwelling.

Tax Map Key (1) 9 - 1 - 014 : 024 Septic Tank File # 2614

(1) = Oahu (2) = Maui (3) = Hawaii (4) = Kauai

Owner Barbers point Harbor or Transit shed

Lot Location Barbers point

Submit Plan 03/22/1994 Plan Approval 05/10/1994

IWS BPA ___/___/___ Inspection ___/___/___

System Approved ___/___/___ Last BPA ___/___/___

Treatment Type / Disposal Via septic tank / Trench

Use For commercial

Designed By Sato

Percolation Rate / Capacity 9 min/in / 1000 gallons

For further information, you may call the Wastewater Branch engineer as listed:

[X] Oahu: Johnny Ong, Wastewater Branch (808)586-4294 Fax 586-4300.

[ ] Maui: Roland Tejano, Maui District Health Office (808)984-8232 Fax 984-8237.

[ ] Kona: Dane Hiromasa, Kealakekua Health Center (808)322-1963 Fax 322-1511.

[ ] Hilo: Jerry Nunogawa, Hawaii District Health Office (808)933-0401 Fax 933-0400.

[ ] Kauai: Lori Vetter, Kauai District Health Office (808) 241-3323 Fax 241-3566.

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4432 • FAX: (808) 527-6743
DEPT. INTERNET: www.honoluludpp.org • INTERNET: www.honolulu.gov

MUFI HANNEMANN
MAYOR

HENRY ENG, FAICP
DIRECTOR

DAVID K. TANOUE
DEPUTY DIRECTOR

2007/ELOG-331(cm)

March 2, 2007

Ms. Iris van der Zander, Ph.D.
Environmental Science International
56 Oneawa Street, Suite 103
Kailua, Hawaii 96734

Dear Ms. van der Zander:

Subject: Draft Environmental Assessment
Kalaeloa Asphalt Terminal, GLP Asphalt LLC.
Kalaeloa Barber's Point Harbor – Kalaeloa
Tax Map Key 9-1-14: 24

We have reviewed the Draft Environmental Assessment (EA) for the Kalaeloa Asphalt Terminal and offer the following comments:

1. Page 3-1, **Section 3.1.2 Special Management Area**, correctly notes that the county reviews and approves projects proposed within the special management area. Please note that the adoption of special management areas are mandated by the State of Hawaii; and, the designation the specific SMAs are established by the City Council by ordinance. The Special Management Area Permit is administered by the Department of Planning and Permitting, within the City and County of Honolulu, with major permits granted by the City Council. The following two clarifications should be made to this section in the Final EA:

    a) The correct reference for the regulations of the SMA process is "Chapter 25, Revised Ordinances of Honolulu, (ROH)"; and

    b) Projects within the SMA must satisfy the Environmental Review Process prior to application for an SMA permit, not prior to issuance.

2. The Draft EA summarizes potential impacts of storm water and wastewater treatment at the facility. The adequacy of these proposed controls will be evaluated during the SMA Permit review process.

Thank you for the opportunity to comment on the DEA. If you have any questions, please contact Carrie McCabe of our staff at 527-5349.

Very truly yours,

Henry Eng, FAICP, Director
Department of Planning and Permitting

HE:pl

G:/landuse/posseworkingdirectory/carrie/2007/ED/Kalaeloa asphalt comments-dpp.com

LINDA LINGLE
GOVERNOR OF HAWAII

GENEVIEVE SALMONSON
DIRECTOR

RECEIVED
MAR 12 2007

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186
E-mail: oeqc@health.state.hi.us

March 6, 2007

Mr. Barry Fukunaga, Interim Director
State Department of Transportation
869 Punchbowl Street
Honolulu, Hawai'i 96813

Dear Mr. Fukunaga:

Subject: Draft EA for Kalaeloa Asphalt Terminal

Thank you for the opportunity to review the subject document. We have the following comment.

1. Please describe any potential odor impacts of the proposed operations.

2. Please consult with the Department of Health Clean Air Branch concerning potential air quality impacts.

3. Please consult with nearby existing and future residential communities.

4. Please consult with the neighborhood board.

If you have any questions, please call Jeyan Thirugnanam at 586-4185.

Sincerely,

Genevieve Salmonson

Genevieve Salmonson
Director

c: GLP
ESI

PHONE (808) 594-1888 FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU. HAWAI'I 96813

HRD06/2900

March 6, 2007

Howard West
Environmental Science International
56 Oneawa Street, Suite 103
Kailua, HI 96734

RE: Draft Environmental Assessment for the Proposed GLP Asphalt, LLC Kalaeloa Asphalt Terminal, Kapolei, Oʻahu, TMK (1) 9-1-014: 024.

Dear Mr. West,

The Office of Hawaiian Affairs (OHA) is in receipt of your February 6, 2007 submission and offers the following comments:

Our staff has no comment specific to the above-listed proposed project at this time. Thank you for your continued correspondence.

OHA asks that, in accordance with Section 6E-46.6, Hawaii Revised Statutes and Chapter 13-300, Hawaii Administrative Rules, if the project moves forward, and if any significant cultural deposits or human skeletal remains are encountered, work shall stop in the immediate vicinity and the State Historic Preservation Division (SHPD/DLNR) shall be contacted.

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Jesse Yorck, Native Rights Policy Advocate, at (808) 594-0239 or jessev@oha.org.

Aloha.

Clyde W. Nāmuʻo
Administrator

APPENDIX G

Responses to Comment Letters Concerning Draft EA

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

April 27, 2007

Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96843

Attention: Mr. Keith S. Shida, Principal Executive, Customer Care Division

Subject: Response to Comment Letter Concerning Submittal of Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

References: Comment Letter from the City and County of Honolulu Board of Water Supply, February 27, 2007.

Dear Mr. Shida,

On behalf of GLP Asphalt LLC, we thank you for your prompt and courteous response to our submittal of the Draft Environmental Assessment report for the proposed GLP Kalaeloa Asphalt Terminal, located at Kalaeloa Barber's Point Harbor in Kapolei, Hawaii. We appreciate your Office taking the time to review the report.

The comments that the Board of Water Supply have made are listed below in bold italics and our responses follow.

1. ***The applicant will be required to get a water allocation from the State of Hawaii Department of Transportation, Harbors Division.***

   GLP Asphalt has conferred with DOT Harbors concerning water allocation.

2. ***The project is subject to BWS Cross-Connection Control and Backflow Prevention requirements prior to the issuance of the building permit.***

   These requirements will be met by GLP Asphalt as part of the building permit process.

3. ***The on-site fire protection requirement should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.***

   GLP Asphalt has conferred with Captain Kishida and other members of the Honolulu Fire Department concerning the appropriate on-site fire protection.

4. The construction drawings should be submitted for our review and approval.

The construction drawings for the proposed terminal will be submitted to the Board of Water Supply for review and approval once the drawings have been completed.

If you have any questions or require additional information, please contact me at 261-0740.

Mahalo,

Howard West

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

April 27, 2007

Department of Design and Construction
650 South King Street
Honolulu, Hawaii 96813

Attention: Mr. Eugene C. Lee, Director

Subject: Response to Comment Letter Concerning Submittal of Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

References: Comment Letter from Department of Design and Construction, March 2, 2007.

Dear Mr. Lee,

On behalf of GLP Asphalt LLC, we thank you for your prompt and courteous response to our submittal of the Draft Environmental Assessment report for the proposed GLP Kalaeloa Asphalt Terminal, located at Kalaeloa Barber's Point Harbor in Kapolei, Hawaii. We appreciate your Department taking the time to review the report. We note that you have no comments at this time.

If you have any questions or require additional information, please contact me at 261-0740.

Mahalo,

Howard West

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

April 27, 2007

Department of Facility Maintenance
1000 Uluohia Street, Suite 215
Kapolei, Hawaii 96707

Attention: Ms. Laverne Higa, Director and Chief Engineer

Subject: Response to Comment Letter Concerning Submittal of Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

References: Comment Letter from Department of Facility Maintenance, April 5, 2007.

Dear Ms. Higa,

On behalf of GLP Asphalt LLC, we thank you for your prompt and courteous response to our submittal of the Draft Environmental Assessment report for the proposed GLP Kalaeloa Asphalt Terminal, located at Kalaeloa Barber's Point Harbor in Kapolei, Hawaii. We appreciate your Department taking the time to review the report. We note that you have no comments at this time.

If you have any questions or require additional information, please contact me at 261-0740.

Mahalo,

Howard West

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

April 27, 2007

Environmental Planning Office
State of Hawaii Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Attention: Mr. Kelvin H. Sunada, Manager

Subject: Response to Comment Letter Concerning Submittal of Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

References:
1. Comment Letter from the State of Hawaii Department of Health Environmental Planning Office: DOH Correspondence EPO-7-028, March 5, 2007.
2. Individual Wastewater Systems at Kalaeloa Barbers Point Harbor, TMK: (1) 9-1-014: 24: Letter from Mr. Glenn M. Okimoto (DOT Harbors Division) to Mr. Harold Yee (DOH Wastewater Branch), DOT Correspondence HAR-EE 2719.07, April 26, 2007.

Dear Mr. Sunada,

On behalf of GLP Asphalt LLC, we thank you for your prompt and courteous response to our submittal of the Draft Environmental Assessment [EA] report for the proposed GLP Kalaeloa Asphalt Terminal, located at Kalaeloa Barber's Point Harbor in Kapolei, Hawaii. We appreciate your Office taking the time to review the report.

The comments that DOH have made are listed below in bold italics and our responses follow. Where appropriate, changes have been made in the corresponding sections within this report.

Wastewater Branch

1. ***The subject project is located in the Critical Wastewater Disposal Area (CWDA) where no new cesspools will be allowed.***

   GLP Asphalt will not be constructing a cesspool at the proposed terminal.

2. ***We have three (3) individual wastewater system (IWSs) records for this parcel. Approvals to construct these facilities were granted in 1994, 2000, and 2005. To date, no final IWS inspection reports have been submitted to the Department and we must conclude that the facilities have not been constructed.***

   Before we can concur with the proposed draft environmental assessment (EA), the following items must be satisfactorily addressed:

1) Please update the Department of Health on the status of the IWS plans that we approved for the subject property. If the IWSs were built, please consult with DOT-Harbors Division and have the IWS engineer of record submit an IWS final inspection report(s) to us.

On March 29, 2007, the DOH Wastewater Branch (Mr. Tom See) was contacted to discuss concerns over the IWSs in question. Three IWSs were to be constructed on property owned by DOT Harbors Division at Kalaeloa Barber's Point Harbor [TMK No. (1) 9-1-014:024]. On April 3, 2007, GLP Asphalt representatives (Mr. Bill Anonsen and Mr. Howard West) met with DOT Harbors Division personnel (Mr. Fredrick Nunes, Mr. Glenn Abe, and Mr. Randal Leong) to discuss the current disposition of the IWSs. Subsequent research by DOT Harbors Division has produced the following information.

1994 Approved Facility. The 1994 approved facility (Septic Tank File No. 2614) was constructed by DOT Harbors Division and currently is in operation. It was constructed in conjunction with the restrooms servicing the general harbor.

2000 Approved Facility. The 2000 approved facility (Septic Tank File Number unknown) was constructed by Hawaiian Cement and currently is in operation. It was constructed in conjunction with the restrooms servicing the Hawaiian Cement storage terminal next to Pier 7.

2005 Approved Facility. The 2005 approved facility (Septic Tank File No. 2614-AGT) has not been constructed.

DOT Harbors Division is in the process of locating the IWS final inspection report for the 1994 approved facility. Also, DOT Harbors Division has submitted a request to Hawaiian Cement to obtain a copy of the IWS final inspection report for the 2000 approved facility. Once DOT Harbors Division has obtained these reports, they will be submitted to the DOH Wastewater Branch. Following construction of the 2005 approved facility, DOT Harbors Division will submit the IWS final inspection report to the DOH in a timely fashion.

On April 26, 2007, the DOT Harbors Division submitted a letter to the DOH Wastewater Branch describing the status of the IWSs (see letter referenced above). A copy of that letter is attached, and a copy is included in the Final EA report.

3. ***2) Page 3-3. The Department of Health's Wastewater Branch administers Hawaii Administrative Rule (HAR) Chapter 11-62 - not Clean Water Branch as stated in the draft EA.***

This mistake has been corrected.

4. ***3) The use of onsite seepage pit and leach field to handle wastewater is not acceptable. At the minimum, an IWS consisting of a septic tank or aerobic unit with absorption bed or seepage pit as disposal is required. Due to the proximity to the ocean, groundwater levels may exclude use of seepage pits for septic tank effluent disposal.***

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems." We do reserve the

right to review the detailed wastewater plans for conformance to applicable rules. Should you have any questions, please contact the Planning & Design Section of the Wastewater Branch at 586-4294.

This miswording in the report has been corrected. The wording in Section 3.1.6 of the report has been changed to the following.

> "There is no municipal sewer system that services Kalaeloa Barber's Point Harbor. Facilities currently at Kalaeloa Barber's Point Harbor utilize septic tanks and seepage pits to handle wastewater. To handle wastewater at the terminal, an individual wastewater system [IWS] will be constructed. The IWS will consist of a septic tank or aerobic unit with absorption bed or seepage pit as disposal. The IWS will be designed in accordance with HAR 11-62. It is anticipated that wastewater generated at the Terminal will be minimal."

The wording in the Executive Summary and Section 6.2.1.3 of the report also has been changed accordingly.

Clean Water Branch

5. The Department of Health (DOH), Clean Water Branch (CWB) has reviewed the limited information contained in the subject document and offers the following comments:

1. The Army Corps of Engineers should be contacted at (808) 438-9258 for this project. Pursuant to Federal Water Pollution Control Act (commonly known as the "Clean Water Act" (CWA) Paragraph 401(a) (l), a Section 401 Water Quality Certification (WQC) is required for "[any applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters ..." (emphasis added). The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40, Code of Federal Regulations (CFR), Section 122.2; and Hawaii Administrative Rules (HAR), Chapter 11-54.

On March 30, 2007, the U.S. Army Corps of Engineers (Ms. Joy Anamizu) was contacted to discuss the possibility that the terminal could require a federal permit. Ms. Anamizu requested that a copy of the Draft EA report be submitted to the U.S. Army Corps of Engineers for review. On April 19, 2007, following their review, the U.S. Army Corps of Engineers issued a letter indicating that a federal permit would not be required. A copy of that letter will be included in the Final EA report. The text of the letter is cited below (the bolded words are part of the original text of the letter and were not added).

> "Dear Mr. West:
>
> This is in response to your phone request dated March 3, 2007 for a jurisdictional determination for proposed construction of the Kalaeloa Asphalt Terminal at Kalaeloa Barbers Point Harbor, Kapolei, Oahu Island, Hawaii (TMK: (1) 9-1-014:024). We have reviewed the information you provided under the Corps' authority to issue Department of the Army (DA) permits pursuant to Section 10 of

the Rivers and Harbors Act (RHA) of 1899 (33 USC 403) and Section 404 of the Clean Water Act (CWA) (33 USC 1344).

Based on the information you provided in the draft Environmental Assessment prepared for the Kalaeloa Asphalt Terminal, we are able to confirm the absence of waters of the U.S., including wetlands, on the above-referenced parcel adjacent, and we anticipate the proposed project to not involve the placement and/or discharge of fill or dredged material into waters of the U.S.; **therefore, a DA permit will not be required for the Kalaeloa Asphalt Terminal.**

Although it has been determined that the subject parcel is absent of waters of the U.S., it should be noted that the proposed project is in the near vicinity of the Kalaeloa Harbor, and best management practices (BMPs) should be implemented to ensure protection of the nearby aquatic environment. If, however, it should later be determined that the proposed project will require or may result in the placement or discharge of fill or dredged material into waters of the U.S., you will contact the assigned project manager below for project re-evaluation and permit determination. Lastly, please forward your future jurisdictional determination requests in writing to the Regulatory Branch, Honolulu District.

Should you have any questions regarding this project, please contact Ms. Joy Anamizu by phone at 808-438-7023, or by e-mail at joy.n.anamizu@usace.army.mil and refer to the file number above.

Sincerely,
George P. Young, P.E.
Chief, Regulatory Branch"

6. ***2. In accordance with HAR, Sections 11-55-04 and 11-55-34.05, the Director of Health may require the submittal of an individual permit application or a Notice of Intent (NOI) for general permit coverage authorized under the National Pollutant Discharge Elimination System (NPDES).***

   a. An application for an NPDES individual permit is to be submitted at least 180 days before the commencement of the respective activities. The NPDES application forms may also be picked up at our office or downloaded from our website at: http://www.hawaii.govlhealth/environmental/water/cleanwater/forms/indiv-index.html.

   b. An NOI to be covered by an NPDES general permit is to be submitted at least 30 days before the commencement of the respective activity. A separate NOI is needed for coverage under each NPDES general permit. The NOI forms may be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html.

   As discussed in Sections 3.1.5 and 4.2.2.1 of the Draft EA report, an NOI for general permit coverage authorized under the NPDES will be submitted to the DOH Clean Water Branch. The title of Section 4.2.2.1, "NPDES Storm Water Discharge Permits," has been changed to "NPDES Discharge Permits" to account for NPDES permits other than those required for storm

water. Obtaining a permit for the discharge of hydrotesting waters mistakenly was omitted from the Draft EA report. This omission has been corrected.

7. ***i. Storm water associated with industrial activities, as defined in Title 40, CFR, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi). [HAR, Chapter 1 1-55, Appendix B].***

   As discussed in Sections 3.1.5 and 4.2.2.1 of the Draft EA report, an NOI for general NPDES permit coverage for storm water discharge associated with industrial activities will be submitted to the DOH Clean Water Branch.

8. ***ii. Construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NPDES permit is required before the commencement of the construction activities. [HAR, Chapter 11-55, Appendix C]***

   As discussed in Section 4.2.2.1 of the Draft EA report, an NOI for general NPDES permit coverage for storm water discharge associated with construction activities will be submitted to the DOH Clean Water Branch.

9. ***iii. Discharges of treated effluent from leaking underground storage tank remedial activities. [HAR, Chapter 1 1-55, Appendix D]***

   iv. Discharges of once through cooling water less than one (1) million gallons per day. [HAR, Chapter 1 1-55, Appendix El]

   It is not anticipated that an NPDES permit will be required for discharges of treated effluent from leaking underground storage tank remedial activities or for discharges of cooling water. The proposed terminal will not have underground storage tanks and will not utilize cooling water.

10. ***v. Discharges of hydrotesting water. [HAR, Chapter 11-55, Appendix F]***

    As mentioned in our response to Comment 6 above, obtaining a permit for the discharge of hydrotesting waters mistakenly was omitted from the Draft EA report. The following paragraph has been added to Section 4.2.2.1.

    > "Following construction of the Terminal, an NPDES permit will be obtained for discharges of hydrotesting water associated with integrity testing of ASTs (HAR 11-55, Appendix F), although it is not anticipated that there will be such discharges from the Terminal. It is anticipated that, following sampling and analysis to confirm the absence of pollutants, the hydrotesting water will be released from the tank and allowed to infiltrate on-site. In accordance with NPDES requirements, engineered controls and BMPs will be implemented to prevent discharges from the Terminal."

11. ***vi. Discharges of construction dewatering effluent. [HAR, Chapter 11-55, Appendix G]***

As discussed in Section 4.2.2.1 of the Draft EA report, it is not anticipated that an NPDES permit will be required for discharges of construction dewatering effluent. Construction of the proposed terminal will not require dewatering.

12. ***vii. Discharges of treated effluent from petroleum bulk stations and terminals. [HAR, Chapter 11-55, Appendix HI]***

    viii. Discharges of treated effluent from well drilling activities. [HAR, Chapter 1 1-55, Appendix I]

    ix. Discharges of treated effluent from recycled water distribution systems. [HAR, Chapter 11 -5 5, Appendix J]

    x. Discharges of storm water from a small municipal separate storm sewer system. [HAR, Chapter 1 1-55, Appendix K]

    xi. Discharges of circulation water from decorative ponds or tanks. [HAR, Chapter 11 - 55, Appendix L]

    Neither construction nor operation of the proposed terminal will require the above-cited discharges. Therefore, it is not anticipated that an NPDES permit will be required for these activities.

13. ***3. In accordance with HAR, Section 11-55-38, the applicant for an NPDES permit is required to either submit a copy of the new NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD. If applicable, please submit a copy of the request for review by SHPD or SHPD's determination letter for the project.***

    As cited in Table 7.1 of the Draft EA report, the DLNR SHPD was contacted about the proposed terminal but they had no comments. A copy of the Draft EA report was submitted to the DLNR SHPD for review, along with the DOH and other recommended state agencies. A copy of the cover letter accompanying the Draft EA is included in Appendix E of the Final EA report. No response letter was ever received from the DLNR SHPD.

14. ***4. Any discharges related to project construction or operation activities, with or without a Section 401 WQC or NPDES permit coverage, shall comply with the applicable State Water Quality Standards as specified in HAR, Chapter 11-54.***

    The Hawaii Revised Statutes, Subsection 342D-50(a), requires that "[no person, including any public body, shall discharge any water pollutants into state waters, or cause or allow any water pollutant to enter state waters except in compliance with this chapter, rules adopted pursuant to this Chapter, or a permit or variance issued by the director."

    If you have any questions, please contact Mr. Alec Wong, Supervisor of the Engineering Section, CWB, at (808) 586-4309.

On March 29, 2007, Mr. Alec Wong was contacted and the permitting requirements for the proposed terminal were discussed. As cited in Section 3.1.5 of the Draft EA report, construction and operation of the terminal will comply with HAR 11-54. To emphasize compliance with HRS 342D, the following paragraph has been added to the beginning of Section 3.1.5.

> "Construction and operation of the terminal will comply with Hawaii Revised Statutes, Subsection 342D-50(a), which states that "no person, including any public body, shall discharge any water pollutants into state waters, or cause or allow any water pollutant to enter state waters except in compliance with this chapter, rules adopted pursuant to this Chapter, or a permit or variance issued by the director.""

Clean Air Branch

15. A Project that May Require an Air Pollution Control Permit

The Project must comply with all applicable Air Pollution Control Permit conditions and requirements.

GLP Asphalt has been working with the State of Hawaii Department of Health Clean Air Branch concerning potential air quality impacts. Potential air quality impacts are discussed in Section 4.5 of the EA report. An air permit application is in preparation and will be submitted to the Department of Health prior to construction of the terminal. Construction the Terminal will not begin until the DOH has issued the permit.

16. Control of Fugitive Dust

A significant potential for fugitive dust emissions exists during all phases of construction and operations. Proposed activities that occur in proximity to existing residences, businesses, public areas or thoroughfares, exacerbate potential dust problems. It is recommended that a dust control management plan be developed which identifies and addresses all activities that have a potential to generate fugitive dust. The plan, which doses not require the Department of Health (DOH) approval, would help with recognizing and minimizing the dust problems from the proposed project.

Activities must comply with the provisions of Hawaii Administrative Rules, 11-60.1-33 on Fugitive Dust. In addition, for cases involving mixed land use, we strongly recommend that buffer zones be established, wherever possible, in order to alleviate potential nuisance problems.

The contractor should provide adequate measures to control the fugitive dust from the road areas and during the various phases of construction. Examples of measures that can be implemented to control dust include, but are not limited to, the following:

a) Planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing on-site vehicular traffic routes, and locating potential dust-generating equipment in areas of the least impact;

b) Providing an adequate water resource at the site prior to start-up of construction activities;

c) Landscaping and providing rapid covering of bare areas, including slopes, starting from the initial grading phase;

d) Minimizing dust from shoulders and access roads;

e) Providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities; and

f) Controlling dust from debris being hauled away from the project site.

As stated in Section 4.5.2.1 of the Draft EA report, "BMPs will be implemented during construction to ensure that dust emissions are minimized." Grace Pacific Corporation has created and implemented dust management plans for its Makakilo operations. A similar plan will be implemented for construction of the terminal. The following paragraph has been added to Section 3.1.9.

> "The most significant potential source of air pollution associated with the Terminal is fugitive dust generated during construction activities. As described in Section 4.5.2.1 of this report, BMPs will be implemented during construction to ensure that dust emissions are minimized. The control of dust will be in accordance with the fugitive dust requirements found in HAR 11-60.1-33 (DOH, 2003a)."

17. If you have any questions, please contact the Clean Air Branch at 586-4200.

We strongly recommend that you review all of the Standard Comments on our website: www.state.hi.us/health/environmental/env-planning/landuse/landuse.html. Any comments specifically applicable to this application should be adhered to.

The Clean Air Branch Standard Comments concerning Control of Fugitive Dust have been downloaded from the DOH website and reviewed.

If you have any questions or require additional information, please contact me at 261-0740.

Mahalo,

Howard West

Howard B. West, Ph.D.
Vice President
Environmental Science International

Attachment: Letter from DOT Harbors Division to DOH Wastewater Branch.

LINDA LINGLE
GOVERNOR

BARRY FUKUNAGA
INTERIM DIRECTOR

Deputy Directors
FRANCIS PAUL KEENO
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
79 SOUTH NIMITZ HIGHWAY
HONOLULU, HAWAII 96813-4898

IN REPLY REFER TO:

HAR-EE
2719.07

April 26, 2007

RECEIVED
APR 30 2007

TO: HAROLD YEE, CHIEF
WASTEWATER BRANCH
DEPARTMENT OF HEALTH

FROM: GLENN M. OKIMOTO
HARBORS ADMINISTRATOR

SUBJECT: INDIVIDUAL WASTEWATER SYSTEMS AT KALAELOA BARBERS POINT HARBOR, TMK: (1) 9-1-014: 24

Through Department of Health (DOH) letter EPO-7-028, dated March 5, 2007, to Dr. Howard B. West, we were informed that you have in your files three (3) individual wastewater system (IWS) records for the subject parcel. We wish to update you on the status of each IWS by providing the following information:

1. IWS File No. 2614, Transit Shed: This IWS was installed and an Inspection Report will be submitted to your branch shortly.

2. IWS File No. 2614-B, Hawaii Cement Facility: This IWS was installed by Hawaiian Cement, Inc. It is our understanding that Hawaiian Cement is working directly with you on an Inspection Report for its IWS.

3. IWS File No. 2614-AGT, Harbors Office Complex: This IWS has yet to be installed. We will be submitting the required Inspection Report upon the completion of its installation.

Should you have any questions, please contact Randal Leong, Harbors Division Environmental Engineer, at 587-1962.

c: Environmental Science International, Inc. (Dr. Howard West)
Grace Pacific Corporation (Richard Levins)

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

April 27, 2007

Harbors Division
State of Hawaii Department of Transportation
79 South Nimitz Highway
Honolulu, Hawaii 96813-4898

Attention: Mr. Glenn Okimoto, Harbors Administration

Subject: Response to Comment Letter Concerning Submittal of Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

References: Comment Letter from State of Hawaii Department of Transportation, Harbors Division, March 5, 2007.

Dear Mr. Okimoto,

On behalf of GLP Asphalt LLC, we thank you for your prompt and courteous response to our submittal of the Draft Environmental Assessment report for the proposed GLP Kalaeloa Asphalt Terminal, located at Kalaeloa Barber's Point Harbor in Kapolei, Hawaii. We appreciate your Office taking the time to review the report. We note that you find the Draft Environmental Assessment to be satisfactory in accordance with Chapter 343, Hawaii Revised Statutes, relating to Environmental Impact Statements.

If you have any questions or require additional information, please contact me at 261-0740.

Mahalo,

Howard West

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

April 27, 2007

Department of Planning and Permitting
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Attention: Mr. Henry Eng, Director

Subject: Response to Comment Letter Concerning Submittal of Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

References: Comment Letter from City and County of Honolulu Department of Planning and Permitting, March 2, 2007.

Dear Mr. Eng,

On behalf of GLP Asphalt LLC, we thank you for your prompt and courteous response to our submittal of the Draft Environmental Assessment report for the proposed GLP Kalaeloa Asphalt Terminal, located at Kalaeloa Barber's Point Harbor in Kapolei, Hawaii. We appreciate your Office taking the time to review the report.

The comments DPP have made are listed below in bold italics and our responses follow. Where appropriate, changes have been made in the corresponding sections within this report.

1. ***Page 3-1, Section 3.1.2 Special Management Area, correctly notes that the county reviews and approves projects proposed within the special management area. Please note that the adoption of special management areas are mandated by the State of Hawaii; and, the designation the specific SMAs are established by the City Council by ordinance. The Special Management Area Permit is administered by the Department of Planning and Permitting, within the City and County of Honolulu, with major permits granted by the City Council. The following two clarifications should be made to this section in the Final EA:***

   a) The correct reference for the regulations of the SMA process is "Chapter 25, Revised Ordinances of Honolulu, (ROH)"; and

   The first paragraph in Section 3.1.2 has been revised to incorporate DPP's suggested clarifications. The following two paragraphs replace the original first paragraph in Section 3.1.2:

   "The adoption of SMAs is mandated by the State of Hawaii, and the designation of specific SMAs is established by the City Council by ordinance. Within the C&C, the

SMA permit is administered and regulated by the Department of Planning and Permitting [DPP], with major permits granted by the City Council.

The requirements and regulations pertaining to SMAs can be found in HRS 205A and Chapter 25, ROH. The purpose of these requirements is to regulate development along shorelines in order to avoid permanent losses of valuable resources and ensure that access to publicly owned and publicly used beaches, recreational areas, and natural reserves is provided."

b) Projects within the SMA must satisfy the Environmental Review Process prior to application for an SMA permit, not prior to issuance.

The final sentence in the original second paragraph in Section 3.1.2 has been revised as follows:

"Projects within the SMA must undergo the procedural steps set forth in HRS 343 prior to application for an SMA permit."

2. The Draft EA summarizes potential impacts of storm water and wastewater treatment at the facility. The adequacy of these proposed controls will be evaluated during the SMA Permit review process.

Storm water controls are discussed in Sections 1.4.4 and 3.1.5, and wastewater treatment is discussed in Sections 3.1.6 and 6.2.1.3. These sections have been revised in accordance with written and verbal comments received by the Wastewater Branch and the Clean Water Branch of the State of Hawaii Department of Health. Based on discussions with Wastewater Branch and Clean Water Branch personnel, it is believed that the storm water and wastewater controls proposed for the planned terminal will be found to be adequate during the SMA permit review process.

If you have any questions or require additional information, please contact me at 261-0740.

Mahalo,

Howard West

Howard B. West, Ph.D.
Vice President
Environmental Science International

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56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

April 27, 2007

State of Hawaii Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Attention: Ms. Genevieve Salmonson, Director

Subject: Response to Comment Letter Concerning Submittal of Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

References:
1. Comment Letter from the State of Hawaii Office of Environmental Quality Control to Mr. Barry Fukunaga of the State of Hawaii Department of Transportation, March 6, 2007.
2. Letter from Mr. Glenn M. Okimoto of the State of Hawaii Department of Transportation to Environmental Science International Concerning Comments from the State Office of Environmental Quality Control (OEQC), March 19, 2007.

Dear Ms. Salmonson,

On behalf of GLP Asphalt LLC, we thank you for your prompt and courteous response to our submittal of the Draft Environmental Assessment [EA] report for the proposed GLP Kalaeloa Asphalt Terminal, located at Kalaeloa Barber's Point Harbor in Kapolei, Hawaii. We appreciate your Office taking the time to review the report.

The comments that OEQC have made are listed below in bold italics and our responses follow.

1. Please describe any potential odor impacts of the proposed operations.

It is not believed that there will be significant odor impacts resulting from terminal operations. As discussed in Section 4.5 of the Draft EA report, the principal source of air emissions will be the heaters. Those heaters will be operated in strict accordance with an air permit issued by the State of Hawaii Department of Health Clean Air Branch.

Asphalt cement, the principal petroleum product stored at the planned terminal, is not volatile. Therefore, odors will be limited to the immediate area where the asphalt cement is dispensed (i.e., at the loading rack). The loading rack will be designed to control the release of fumes and vapors during loading. Other materials at the proposed terminal will be contained in above-ground storage tanks and associated piping, which should eliminate the release of vapors associated with petroleum fuels (i.e., diesel fuel) and other petroleum products (i.e., heating oil).

2. Please consult with the Department of Health Clean Air Branch concerning potential air quality impacts.

GLP Asphalt has worked closely with the State of Hawaii Department of Health Clean Air Branch concerning potential air quality impacts. Potential air quality impacts are discussed in Section 4.5 of the EA report. An air permit application is in preparation and will be submitted to the Department of Health prior to construction of the terminal. The terminal will not begin operations until the Department of Health has issued the permit.

3. Please consult with nearby existing and future residential communities.

As discussed in the response to comment 4 below, Ms. Maeda Timson, the Chairperson for the Makakilo/Kapolei/Honokai Hale Neighborhood Board was contacted about the proposed terminal. Ms. Timson indicated that the public hearing conducted as part of the final EA process would provide an adequate forum for public comment from the residents of nearby communities.

As mentioned in Section 7.3.1 of the Draft EA report, Aina Nui Corporation was contacted in order to inform the developers of Kapolei West and the Kapolei Harborside Center about the proposed terminal. The Manager of Aina Nui Corporation stated that Kapolei West is not being started before 2009 and that the Kapolei Harborside Center Project includes turning the land adjacent to the harbor into an industrial business park. His main concern was coordinating the planned construction of the extension of Lauwiliwili Street with the construction of the terminal. It was agreed that future contact will be maintained via electronic mail.

Ms. Marjorie Collier, the resident property manager at Ko Olina Fairways, was contacted on April 24, 2007. She was informed about the proposed terminal and given an overview of the types of activities associated with construction and operation of the terminal. Ms. Collier did not have any comments, but requested a copy of the Draft EA report, which was provided to her. She stated that she would send a copy of the report to Ralph Harris, president of the Ko Olina Community Board.

Mr. Russell Doane, the harbormaster at Ko Olina Marina, was contacted on April 24, 2007. He was informed about the proposed terminal and given an overview of the types of activities associated with construction and operation of the terminal. He did not foresee any significant impacts to marina tenants due to air emissions or noise. Mr. Doane indicated that the frequency of the ship traffic into Kalaeloa Barber's Point Harbor is not high enough to warrant concern. He requested a copy of the Draft EA report, which was provided to him.

4. Please consult with the neighborhood board.

On February 28, 2007, GLP Asphalt representatives (Mr. Richard Levins, Mr. Bob Creps, Mr. Robert Chong, and Mr. Howard West) met with Mr. Art Challacomb and Ms. Carrie McCabe of the State of Hawaii Department of Planning and Permitting following their review of the Draft EA report. Mr. Challambom and Ms. McCabe stated that they did not believe a meeting with the local neighborhood board was necessary because a public hearing will be

conducted as part of the SMA permit process. They further stated that the public hearing will provide ample opportunity for public comment.

On April 4, 2007, Ms. Lori Lum (from the Law Offices of Watanabe Ing & Komeiji), acting on behalf of GLP Asphalt, contacted Ms. Maeda Timson, the Chairperson for the Makakilo/Kapolei/Honokai Hale Neighborhood Board. Ms. Timson was informed about the proposed terminal and notified that, as part of the SMA permit process, there will be a public hearing. Ms. Timson said that she did not believe that GLP Asphalt needed to meet with the neighborhood board because there will be a public hearing. She also confirmed that their current board does not have an environmental or zoning committee.

If you have any questions or require additional information, please contact me at 261-0740.

Mahalo,

Howard West

Howard B. West, Ph.D.
Vice President
Environmental Science International

Environmental Science International
56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
(808) 261-0740 phone / (808) 261-0749 fax

106065

April 27, 2007

State of Hawaii Office of Hawaiian Affairs
711 Kapi'olani Boulevard, Suite 500
Honolulu, Hawai'i 96813

Attention: Mr. Clyde W. Namu'o, Administrator

Subject: Response to Comment Letter Concerning Submittal of Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

References: Comment Letter from the State of Hawaii Office of Hawaiian Affairs, March 6, 2007.

Dear Mr. Namu'o,

On behalf of GLP Asphalt LLC, we thank you for your prompt and courteous response to our submittal of the Draft Environmental Assessment report for the proposed GLP Kalaeloa Asphalt Terminal, located at Kalaeloa Barber's Point Harbor in Kapolei, Hawaii. We appreciate your Office taking the time to review the report. We note that you have no comments at this time.

If you have any questions or require additional information, please contact me at 261-0740.

Mahalo,

Howard West

Howard B. West, Ph.D.
Vice President
Environmental Science International

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56 Oneawa Street, Suite 103, Kailua, Hawaii 96734
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106065

April 27, 2007

Regulatory Branch
U. S. Army Engineer District, Honolulu
Department of The Army
Fort Shafter, Hawaii 96858-5440

Attention: Mr. George P. Young, Chief

Subject: Response to Comment Letter Concerning Submittal of Draft Environmental Assessment - GLP Asphalt LLC, Kalaeloa Asphalt Terminal, Kalaeloa Barber's Point Harbor, Kapolei, Hawaii 96707.

References: Comment Letter from the Regulatory Branch of the U. S. Army Engineer District, Honolulu, April 19, 2007.

Dear Mr. Young,

On behalf of GLP Asphalt LLC, we thank you for your prompt and courteous response to our submittal of the Draft Environmental Assessment report for the proposed GLP Kalaeloa Asphalt Terminal, located at Kalaeloa Barber's Point Harbor in Kapolei, Hawaii. We appreciate your Office taking the time to review the report.

The comments that the Army Corps of Engineers have made are listed below in bold italics and our responses follow.

1. ***Based on the information you provided in the draft Environmental Assessment prepared for the Kalaeloa Asphalt Terminal, we are able to confirm the absence of waters of the U.S., including wetlands, on the above-referenced parcel adjacent, and we anticipate the proposed project to not involve the placement and/or discharge of fill or dredged material into waters of the U.S.; therefore, a DA permit will not be required for the Kalaeloa Asphalt Terminal.***

   We acknowledge that the proposed terminal will not require a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) or Section 404 of the Clean Water Act (33 USC 1344).

2. ***Although it has been determined that the subject parcel is absent of waters of the U.S., it should be noted that the proposed project is in the near vicinity of the Kalaeloa Harbor, and best management practices (BMPs) should be implemented to ensure protection of the nearby aquatic environment. If, however, it should later be***

determined that the proposed project will require or may result in the placement or discharge of fill or dredged material into waters of the U.S., you will contact the assigned project manager below for project re-evaluation and permit determination.

As discussed in Section 4.2.2.1 of the Draft EA, prior to construction of the terminal, an NPDES permit will be obtained for discharges of storm water associated with construction activities. In accordance with NPDES requirements, engineered controls and BMPs will be implemented to control storm water discharges. A BMP plan will be prepared and implemented, in accordance with NPDES requirements. It is not anticipated that construction of the terminal will result in the placement or discharge of fill or dredged material into Kalaeloa Barber's Point Harbor.

3. Lastly, please forward your future jurisdictional determination requests in writing to the Regulatory Branch, Honolulu District.

All future requests for jurisdictional determination will be submitted in writing.

If you have any questions or require additional information, please contact me at 261-0740.

Mahalo,

Howard West

Howard B. West, Ph.D.
Vice President
Environmental Science International