Pamela Townsend

From: Michael Jenkins <MJenkins@localgovlaw.com>
Sent: Tuesday, January 28, 2014 2:54 PM
To: Pamela Townsend
Subject: FW: Hazards and Hazardous Materials List
Attachments: Hazards and Hazardous Materials List 1-27-14.pdf; Hazards and Hazardous Materials List 1-27-14.docx; Attachment to Hazards and Hazardous Materials list 1-27-14.docx

From: Carlsen, Nicki [mailto:Nicki.Carlsen@alston.com]
Sent: Tuesday, January 28, 2014 1:22 PM
To: Michael Jenkins
Subject: Hazards and Hazardous Materials List

Hi Mike – Attached is a description of design features and CUP conditions for Hazards and Hazardous Materials for the City's consideration (pdf and Word), along with attachment (from June 2013 submission). Please let me know if you have any questions. Thanks, Nicki

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Pamela Townsend

From: Michael Jenkins <MJenkins@localgovlaw.com>
Sent: Monday, October 28, 2013 3:36 PM
To: Edward Almanza (superpark@igc.org)
Cc: Pamela Townsend; Ken Robertson
Subject: FW: Final Versions of Aesthetics and Geology Design Features
Attachments: Aesthetics List 10-28-13.docx; Geology and Soils List 10-28-13.docx

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From: Carlsen, Nicki [mailto:Nicki.Carlsen@alston.com]
Sent: Monday, October 28, 2013 3:30 PM
To: Michael Jenkins
Subject: Final Versions of Aesthetics and Geology Design Features

Hi Mike – Here are the design features summaries for aesthetics and geology and soils, which I understand the City is expecting. Thank you, Nicki

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Pamela Townsend

From: Michael Jenkins <MJenkins@localgovlaw.com>
Sent: Monday, October 14, 2013 4:50 PM
To: Edward Almanza (superpark@igc.org)
Cc: Ken Robertson; Pamela Townsend
Subject: FW: Hermosa -- Air Quality, Noise, and Transportation/Traffic Lists for Submittal
Attachments: Air Quality List 10-14-13.docx; Noise List 10-14-13.docx; Transportation Traffic List 10-14-13.docx

From: Carlsen, Nicki [mailto:Nicki.Carlsen@alston.com]
Sent: Monday, October 14, 2013 4:44 PM
To: Michael Jenkins
Subject: Hermosa -- Air Quality, Noise, and Transportation/Traffic Lists for Submittal

Dear Mike –

Attached are lists for air quality, noise and transportation, which includes Applicant's proposed design features and operational practices as well as the applicable CUP conditions of approval by phase of the project. I understand that Ed is expecting these lists for the draft EIR.

Thanks for your assistance,
Nicki

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1/28/14

HAZARDS AND HAZARDOUS MATERIALS DESIGN FEATURES, OPERATIONAL PRACTICES, AND 1993 CONDITIONS OF APPROVAL

Phase 1

Design Features and Operational Practices

During Phase 1 of the Proposed Project, there would be demolition and construction activities on the Project site and off-site site construction activities related to the provision of utilities to the Project site and improvements to the intersection of Valley Drive and 6th Street. Phase 1 demolition and construction activities would incorporate the following design features and operational practices related to hazards and hazardous materials:

- The entrance and exit to the Project site would be provided via the existing driveways on Valley Drive and 6th Street. After the completion of the demolition activities, construction of retaining walls, and rough grading, the Project site would be enclosed by a six-foot high temporary chain link construction fence that provides 30-foot wide secured gated openings for vehicular ingress and egress. The appropriate signage would be provided consistent with the requirements of the City.
- Electrical equipment installed to prepare the Project site for Phase 2 would have an uninterruptable power supply for critical systems such as the temporary production equipment safety systems.
- The design of the facility would provide containment to ensure that oil from any of the temporary tanks or temporary processing equipment would be contained on the Project site if tank or equipment failure occurred, including during the 100-year storm event. This project design would be in place during Phase 2 of the Proposed Project.

1993 Conditional Use Permit Conditions of Approval

The demolition and construction activities for Phase 1 of the Proposed Project would comply with the following conditions of approval:

- A minimum of one annual site audit shall take place to inspect for soil contamination as a result of accidental spills in any areas not paved and exposed. Auditor shall be hired by City. (Section 1. General, Condition 3)
- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- The site shall be enclosed by a solid masonry or concrete wall with solid gates during all operations, protecting both against public entry, observation and attraction. A chain link fence to provide security is acceptable only through the exploratory phase. (Section 3. Public Safety, Condition 1)

- Signs warning of unauthorized entry and safety hazards shall be posted on all sides. (Section 3. Public Safety, Condition 3)
- Access to facilities shall be limited to authorized personnel only. (Section 3. Public Safety, Condition 4)
- A supplementary analysis by a professional consultant shall be provided detailing any necessary improvements the Fire Department may need to prevent, and to halt oil related fires and shall also include the following: public notification, warning and evacuation plan. (Section 4. Fire Safety, Condition 2)
- On-site signs shall be limited to those needed for public health and safety. (Section 10. Aesthetics, Condition 12)

Phase 2

Design Features and Operational Practices

During Phase 2 of the Proposed Project, four wells would be drilled utilizing an electric drill rig and temporary production equipment would be installed and used to process the extracted oil, gas, and water. The processed oil would be removed from the Project site by truck and delivered to an off-site location for sale. Phase 2 of the Proposed Project would incorporate the following design features and operational practices related to hazards and hazardous materials during drilling activities and temporary production:

- For the entire duration of Phase 2, the 32-foot sound attenuation wall within the six-foot high temporary chain link construction fence along the perimeter of the Project site and the temporary landscaping along 6th Street and Valley Drive installed in Phase 1, along with the three existing mature trees, would be in place. There would be 30-foot wide secured gated openings for vehicular ingress and egress including emergency response equipment. The appropriate signage would be provided consistent with the requirements of the City. The trees along Valley Drive would be trimmed to keep branches from hanging over the on-site equipment and avoid trespass activities.
- An emergency generator would be installed during the drilling of the wells to provide power for the safe shutdown of the drilling operation in the event of a loss of power from Southern California Edison (SCE).
- A trucking safety program would be implemented to address potential trucking risks associated with the transport of the processed oil to an off-site location for sale. The trucking safety program measures would include the following:
  - Pre-employment driver screening program;
  - Random drug and alcohol testing of drivers;
  - Use of fully certified drivers;
  - Notification of traffic violations;
  - Regular and event-related vehicle inspections and maintenance;

- Onboard safety systems consisting of:
  - Onboard brake stroke monitoring systems
  - Collision mitigation and threat warning systems
  - Lane departure warning systems
  - Rear and side collision detection and warning systems
  - Vehicle stability systems
  - Tire pressure monitoring systems
  - Wireless mobile communications
- GPS tracking and data monitoring;
- Auditing

- A comprehensive fire protection system as required by Federal, State, and local codes, ordinance, and regulations would be provided for the drilling and testing facilities on the Project site. The design and operation of the Proposed Project would occur consistent with the requirements of the California Fire Code (CFC) and the National Fire Protection Association (NFPA) Standards. The storage of hazardous materials, the installation and use of fire protection systems and devices, and safety training for employees and emergency responders would occur consistent with the applicable laws, ordinances, regulations, and standards (LORS).
- Security on the Project site during Phase 2 would be provided by onsite personnel and a site security program, including a Close Circuit Television system, a gate access system, and intrusion and motion detection system, to control all access to and from the Proposed Project.
- Although the Proposed Project would be an onshore oil and gas production facility and would comply with all associated onshore design standards and regulations, in order to improve safety and environmental protection, the Applicant has proposed that the Project would have further proposed enhancements based on offshore operation and equipment practices that are above and beyond the requirements of an onshore facility. Refer to the attached for the list of proposed enhancements (Attachment H to Response to Requested Clarifications, dated June 24, 2013).
- The wells developed as a part of the Proposed Project, including the water injection wells, would be reviewed and approved by the Division of Oil, Gas and Geothermal Resources and constructed such that no contamination of any subsurface water reservoir would occur.
- During drilling, a Class III Blowout Preventer (BOP) would be included. The BOP would include four remote-controlled, hydraulically operated BOPs consisting of an annular BOP, two BOPs equipped with pipe rams, and one BOP equipped with blind-shear rams. The blind-shear rams installed in the BOP stack would be capable of shearing any drill pipe (including workstring and tubing) in the hole under maximum anticipated surface pressure. The BOP stack and drilling program would

be evaluated by a third-party professional engineer (Professional Engineering Certification [30 CFR§ 250.416]) as follows:

  - The professional engineer would verify that the BOP design is appropriate for the drilling program and the expected reservoir pressures. The professional engineer would also inspect the BOP to verify that there is no existing damage.
  - The shear rams would be tested according to 30 CFR § 250.416. A section of drill pipe, the same as used in the drilling program, would be placed in the BOP and then the shear ram would be activated. The BOP would then undergo a pressure test to ensure that a proper seal would be created. After the shear ram is tested, the BOP would be examined to confirm there was no damage to the BOP created by the test. In addition, the sheared drill pipe would be examined to determine that the shear ram would be capable of creating a clean cut.

- During drilling, a covered shale shaker designed to recover fugitive gases would be used.
- The Proposed Project's plant safety and control systems would provide a closed-loop system for oil and gas handling. The oil and gas would be contained within closed temporary tanks and vessels at all times and the closed-loop system is a design that does not allow for the venting or emitting of gases into the air as part of the normal operation of the facility. All tanks and process vessels would be connected to a vapor recovery unit and, instead of venting gases to the atmosphere, they are sent to an enclosed ground flare via the vapor recovery unit. In addition, all pressure relieving devices would be connected to the enclosed ground flare. As a result, the closed-loop system is self-contained and would not allow for venting of gases to the air, even during any emergency venting of gases.
- The Proposed Project would have a fixed hydrogen sulfide (H_2S) gas detection and alarm system installed on the Project site and continuous monitoring would occur during drilling, workover, and well servicing activities. The gas detection and alarm system would include the following:

  - The detector and alarm system equipment would be capable of sensing a minimum of five parts per million H_2S in the air, with sensing points located at the perimeter of the project site perimeter, the gas handling facilities, select drilling locations, the small office building, and other areas where H_2S might accumulate. The H_2S detection devices would activate audible and visible alarms if the concentration of H_2S reaches 5 parts per million in the air.
  - In the event H_2S is detected by any device, frequent inspections of all areas of poor ventilation would be made with a portable H_2S detection instrument. H_2S detector ampules or other approved devices would be available for use by all personnel.

1993 Conditional Use Permit Conditions of Approval

The drilling activities and operations in Phase 2 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- Security personnel shall be employed at all times during the drilling stage (24 hours) and emergency phone numbers shall be posted during production Phase II. (Section 3. Public Safety, Condition 2)
- Signs warning of unauthorized entry and safety hazards shall be posted on all sides. (Section 3. Public Safety, Condition 3)
- Access to facilities shall be limited to authorized personnel only. (Section 3. Public Safety, Condition 4)
- Trees shall be maintained at a distance from all walls to prohibit children and others from unauthorized entry. (Section 3. Public Safety, Condition 5)
- All site personnel shall be instructed on required safety procedures if hydrogen sulfide concentrations are encountered. Documentation of training and instruction shall be made available to the City Personnel *[sic]* Director. (Section 3. Public Safety, Condition 6)
- An emergency response plan, including a blowout prevention and control plan, shall be prepared for review and approval by the Division of Oil and Gas and the Hermosa Beach Fire Department. (Section 3. Public Safety, Condition 11)
- When a leak or spill occurs, it shall be contained, the fluid shall be recovered and the area restored to its original condition. (Section 3. Public Safety, Condition 12)
- Adequate fire detection and fighting equipment and supplies approved by the Fire Department, shall be maintained on the drillsite and tank production facility at all times. (Section 4. Fire Safety, Condition 1)
- Oil sumps, drip pans, etc. shall be cleaned at regular intervals to reduce fire hazards and prevent minor spills. (Section 4. Fire Safety, Condition 3)
- Oily rags, paper and miscellaneous waste shall be disposed of in an appropriate manner to reduce fire hazards. (Section 4. Fire Safety, Condition 4)
- Signs warning of flammable fluids and prohibiting smoking shall be installed where appropriate. (Section 4. Fire Safety, Condition 5)
- The drillsite and production facility shall be protected by automatic fire detection sensors and suppression systems. The fire suppression systems shall include a tank-cooling sprinkler system. (Section 4. Fire Safety, Condition 6)

- Drilling operations shall be conducted in accordance with appropriate Division of Oil and Gas regulations and shall utilize all required blowout prevention equipment and safety devices. (Section 4. Fire Safety, Condition 7)
- All equipment necessary to contain an oil fire or blowout shall be provided and/or maintained on site and all fire personnel shall be trained on its use. (Section 4. Fire Safety, Condition 9)
- Lighting shall be limited solely to the amount and intensities necessary for safety and security purposes. (Section 10. Aesthetics, Condition 5)
- On-site signs shall be limited to those needed for public health and safety. (Section 10. Aesthetics, Condition 12)

Phase 3

Design Features and Operational Practices

During Phase 3 of the Proposed Project, there would be construction activities resulting in various vehicles traveling to and from the Project site, including trucks used in the export of soil during the implementation of the remedial action plan for the Proposed Project. In addition, there would be construction activities associated with the installation of off-site pipelines resulting in short-term road closures in the Cities of Hermosa Beach, Redondo Beach, and Torrance. Phase 3 construction activities would incorporate the following design features and operational practices related to hazards and hazardous materials:

- The Applicant would implement the Remedial Action Plan (RAP) upon receipt of Fire Department approval. All soil removal, treatment, facility construction, transportation, and disposal activities would be performed in accordance with all applicable federal, state, and local laws, regulations, and ordinances. In addition, the measures defined in Section 7.0, Remedial Action Implementation, of the RAP would be implemented during the removal of the soil from the Project site. This would include the following related to the air quality and the containment of the contaminated soil:
  - Impacted soil will be removed in such a way as to minimize fugitive dust. The soil will be removed to the appropriate depth and lateral limits by excavator or other earthmoving equipment and directly loaded into trucks for transportation off-site. This will minimize equipment movement on the Project site. Water spraying will occur within the excavation zone to further minimize fugitive dust.
  - Excavation areas will be controlled to avoid dust generation with physical barriers (perimeter fencing with windscreen). If wind speeds on-site exceed 20 miles per hour, all excavation activities will cease.
  - All excavation work will be completed in accordance with SCAQMD Rule 1166. An approved SCAQMD Rule 1166 plan will be in place and, as a part of the plan, a photo ionization detector or equivalent will be used to monitor VOC emissions from the excavation activities. If elevated VOC levels are

detected, the plan measures will be implemented and the excavation operations will be brought into compliance or work will cease.

- All large equipment, trucks, and small equipment that will have the potential to come in contact with the contaminated soil will be decontaminated in a designated area on-site prior to leaving the Project site. The decontamination area will be outside the work area and covered in plastic sheeting. The equipment and trucks will be pulled onto the plastic sheeting and visually inspected for the presence of any dirt adhering to the outer surfaces. All identified dirt will be brushed off and collected in the plastic sheeting. Each truck will be inspected to verify that the load is properly covered and secured. Upon exiting the inspection and cleaning area, truck tread plates will be placed to further reduce the potential to track out dirt. All small equipment will be decontaminated prior to and after each use using a triple rinse procedure. The decontamination areas will be cleaned between the use for each vehicle or piece of equipment to avoid cross contamination.
- Air monitoring will be performed during the excavation activities in which contaminated or potentially contaminated materials will be disturbed, excavated, or otherwise handled. Air monitoring/health and safety professionals that are staffed on-site will conduct the air monitoring.

- A 16-foot split-faced block wall would be installed around the perimeter of Project site. The wall would be set back 10 feet from the Valley Drive and 6th Street property lines to allow for a permanent landscape area. The wall would have a gated entrance off of Valley Drive (set back 70 feet from the sidewalk) and a gated exit to 6th Street. The gates would be metal and motor operated. The wall and gate colors would be reviewed and approved by the Planning Director. The appropriate signage would be provided consistent with the requirements of the City.
- A fire hydrant would be provided on Valley Drive to the south of the entrance driveway. The location would be determined at the request of the Hermosa Beach Fire Department and the City Public Works Department. The Proposed Project would provide for the off-site installation of an 8-inch water line from 8th Street to the defined location along Valley Drive to provide adequate fire flow.
- The design of the facility would provide containment to ensure that oil from the largest tank or processing equipment would be contained on the Project site if tank or equipment failure occurred during the 100-year storm event. This Project design would be permanently in place throughout the ongoing operation of the Proposed Project.
- The permanent oil, gas, and water production equipment would be installed on the eastern portion of the project site. This would include storage tanks with a maximum height of 16 feet. The area on the Project site with the tanks would have a finished grade of 6 to 7 feet below the ground surface and be surrounded

by a 6 to 7-foot retaining wall in the interior of the Project site and the 16-foot split-face block wall around the perimeter of the Project site.

- The ground surface of the Project site would be paved with concrete or asphaltic concrete and serve as a suitable driving surface for emergency response equipment.
- Adjacent to the project site, pedestrian access is provided by sidewalks along the west side of Valley Drive and the south side of 6th Street. The Proposed Project would include implementation of a City-approved Phase 3 Pedestrian Protection Plan that provides specific pedestrian protection measures during construction activities that are within and adjacent to the public right of way.
- Electrical equipment installed for Phases 3 and 4 would have an uninterruptable power supply for critical systems such as the production equipment safety systems and security lights. An emergency generator would be installed during the drilling of wells to provide power for the safe shutdown of the drilling operation in the event of a loss of power from SCE.

1993 Conditional Use Permit Conditions of Approval

The construction activities that would occur in Phase 3 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- Signs warning of unauthorized entry and safety hazards shall be posted on all sides. (Section 3. Public Safety, Condition 3)
- Access to facilities shall be limited to authorized personnel only. (Section 3. Public Safety, Condition 4)
- Fire flows to service the operation shall meet Fire Department requirements. (Section 4. Fire Safety, Condition 8)
- A spilt-face block wall maintained graffiti free of a minimum of 12 feet in height shall be provided; wall materials shall be reviewed and approved by Planning Director. During test drilling minimum 6' high fencing shall be provided. (Section 10. Aesthetics, Condition 7)
- The height of the site's perimeter wall shall be increased to at least 16 feet if beam pumping units taller than 12 feet are installed, or if perimeter trees, when planted for Phase II, are not a minimum of sixteen (16) feet in height when installed. (Section 10. Aesthetics, Condition 8)
- On-site signs shall be limited to those needed for public health and safety. (Section 10. Aesthetics, Condition 12)

- Areas of [pipeline] construction and maintenance activities shall be delineated by signs, flagmen, pavement markings, barricades, and lights, as determined by permit requirements of all local agencies. (Section 13. Pipeline Construction, Condition 4)
- Where pedestrian activities are affected during [pipeline] construction, appropriate warning signs shall be installed and pedestrians will be diverted. Pedestrian access to business and residences will be maintained during construction. Special facilities, such as handrails, fences, and walkways shall be provided, if necessary, for the safety of pedestrians. (Section 13. Pipeline Construction, Condition 5)
- Obstruction of emergency vehicle operations will be partially mitigated by ensuring that providers of emergency services are kept informed of the location, nature, and duration of [pipeline] construction activities so alternate routes can be chosen. It is essential that fire department access is maintained to all buildings adjacent to construction activities. For this reason, a minimum of at least one lane for streets undergoing construction will be kept open at all times, and fire hydrants in construction areas will remain accessible. (Section 13. Pipeline Construction, Condition 6)

Phase 4

Design Features and Operational Practices

During Phase 4 of the Proposed Project, remaining wells would be drilled utilizing an electric drill rig and production equipment would be installed and used to process the extracted oil, gas, and water. Phase 4 of the Proposed Project would incorporate the following design features and operational practices related to public services:

- The Proposed Project would implement the Industrial Facilities Specific Risk Mitigation Measures provided in Table 8.1 on pages 8.3 of the *E&B Oil Development Project Quantitative Risk Analysis (QRA)*, dated July 3, 2013. In addition, the Proposed Project would incorporate the Principal Facility Risk Mitigation Measures provided on pages 8.4 and 8.5 of the *QRA*. Further, the Proposed Project would incorporate the Pipeline Risk Mitigation Measures and E&B Pipeline Safety Provisions provided in Tables 8.2 and 8.3 on page 8.6 and 8.7, respectively, of the QRA.
- A comprehensive fire protection system as required by Federal, State, and local codes, ordinance, and regulations would be provided for the drilling and ongoing operation of the facilities on the Project site. The design and operation of the Proposed Project would occur consistent with the requirements of the California Fire Code (CFC) and the National Fire Protection Association (NFPA) Standards. The storage of hazardous materials, the installation and use of fire protection systems and devices, and safety training for employees and emergency responders would occur consistent with the applicable laws, ordinances, regulations, and standards (LORS).

- The fire protection systems for the ongoing operation of the Proposed Project would include a foam injection system and automated detection and annunciation systems. The automated alarm systems would be installed for the detection of chemical and fire hazards to notify the onsite personnel that a potential problem is occurring. If it is determined that a chemical fire or fire emergency exists, the onsite operator would activate the emergency shutdown system and notify the Fire Department immediately.
- Security on the Project site during Phase 4 would be provided by onsite personnel and a site security program, including a Close Circuit Television system, a gate access system, and intrusion and motion detection system, to control all access to and from the Proposed Project.
- Although the Proposed Project would be an onshore oil and gas production facility and would comply with all associated onshore design standards and regulations, in order to improve safety and environmental protection, the Applicant has proposed that the Project would have further proposed enhancements based on offshore operation and equipment practices that are above and beyond the requirements of an onshore facility. Refer to the attached for the list of proposed enhancements (Attachment H to Response to Requested Clarifications, dated June 24, 2013).
- The wells developed as a part of the Proposed Project, including the water injection wells, would be reviewed and approved by the Division of Oil, Gas and Geothermal Resources and constructed such that no contamination of any subsurface water reservoir would occur.
- During drilling, a Class III Blowout Preventer (BOP) would be included. The BOP would include four remote-controlled, hydraulically operated BOPs consisting of an annular BOP, two BOPs equipped with pipe rams, and one BOP equipped with blind-shear rams. The blind-shear rams installed in the BOP stack would be capable of shearing any drill pipe (including workstring and tubing) in the hole under maximum anticipated surface pressure. The BOP stack and drilling program would be evaluated by a third-party professional engineer (Professional Engineering Certification [30 CFR§ 250.416]) as follows:
  - The professional engineer would verify that the BOP design is appropriate for the drilling program and the expected reservoir pressures. The professional engineer would also inspect the BOP to verify that there is no existing damage.
  - The shear rams would be tested according to 30 CFR § 250.416. A section of drill pipe, the same as used in the drilling program, would be placed in the BOP and then the shear ram would be activated. The BOP would then undergo a pressure test to ensure that a proper seal would be created. After the shear ram is tested, the BOP would be examined to confirm there was no damage to the BOP created by the test. In addition, the sheared drill pipe would be examined to determine that the shear ram would be capable of creating a clean cut.
- During drilling, a covered shale shaker designed to recover fugitive gases would be used.

- The Proposed Project's plant safety and control systems would provide a closed-loop system for oil and gas handling. The oil and gas would be contained within closed tanks and vessels at all times and the closed-loop system is a design that does not allow for the venting or emitting of gases into the air as part of the normal operation of the facility. All tanks and process vessels would be connected to a vapor recovery unit and, instead of venting gases to the atmosphere, they are sent to the vapor recovery unit. In addition, all pressure relieving devices would be connected to an enclosed ground flare. As a result, the closed-loop system is self-contained and would not allow for venting of gases to the air, even during any emergency venting of gases.
- The Proposed Project would be equipped with an approved integrated safety-control system that would cause shut-in of all wells and shutdown of the complete production facility in the event of fire, pipeline failure, or other catastrophe. A complete testing of the safety-control system would be conducted every six months.
- The Proposed Project would have isolation valves that would be used to shut in areas of the facility during an emergency situation. The isolation valves would be automatic and have a quick response time in order to limit any potential release. The isolation valves would automatically shut down when either the loss of pressure in a particular segment of the facility is noted or when there is an increase in pressure. In addition, automatic shutdowns that can terminate all facility production and shut off flow from producing wells would be installed. These shutdowns would close off the process from the source and help prevent larger releases. The locations of the isolation valves would be at the boundaries of the Project site, the process vessels, and any areas that have the potential for a large release determined during the risk assessment design and the hazard analysis studies prepared during the detailed final design of the Proposed Project. The locations of the segments are provided in the *E&B Oil Development Project Quantitative Risk Analysis (QRA)*, dated July 3, 2013.
- The production facility safety equipment and procedures for the Proposed Project would be based on the American Petroleum Institute Recommend Practice for Analysis, Design, Installation, and Testing Basic Surface Safety System (API) (API RP 14C).
- Programmable Logic Controllers (PLCs) would be installed to monitor and control the production process. The production process would be highly automated through pre-defined control set points defined by the process analysis prepared during the detailed final design of the Proposed Project. This automated process would limit the effects of human error.
- Redundant safety systems would be provided for additional protective measures. All critical systems would have primary and secondary safety devices (such as high level alarms and pressure safety valves). The safety devices would be designed through standardized hazard analysis procedures.

- SAFE charts would be used to verify the design and installation of a safety system (API 14C). This would assist in determining if a safety device is operable, properly calibrated, and accomplishes the intended control function.
- During the final project design, operating parameters for each piece of equipment would be determined and alarms would be programmed. When there is a detection of an abnormal event in the process, a signal would be sent to the trained operator, and the operator would be able to quickly respond with an appropriate action. In the event of inaction by the operator, the system would be set for fail safe and would shut down in advance of any undesirable event.
- The Proposed Project would have an integrated safety control system that would be actuated by the devices discussed below. These devices would be installed and maintained in an operating condition at all times. As discussed below, the devices would be periodically tested and the testing may be witnessed and approved by the Applicant's operations personnel. The Applicant would maintain records at the Project site showing the present status and past history of these device, including the dates and details of inspections, testing, repairs, adjustments, and reinstallation or replacement. The devices for the Proposed Project's safety control systems are described below:
  - Safety Devices on Vessels and Tanks. All production vessels and tanks would be equipped with safety devices that would cause shut-in of the wells connected to the vessel or tank. The Applicant would test the safety devices on a monthly basis and document the testing as discussed above. The safety devices would include the following:
    - All separators would be equipped with high-low-pressure shut-in sensors and high-low level shut-in controls.
    - All pressure surge tanks would be equipped with a high-and-low-pressure shut-in sensor and high-low-level shut-in controls.
    - Atmospheric surge tanks would be equipped with a high-level shut-in sensor.
    - All other hydrocarbon-handling pressure vessels would be equipped with high-low-pressure shut-in sensors and high-level shut-in controls unless they are determined by the Applicant's operations personnel to be otherwise protected.
  - Pressure Relief Valves. The Applicant would test the pressure relief valves every six moths and document the testing as discussed above. The pressure relief valves would include the following:
    - All pressure vessels would be equipped with relief valves connected into a gas vent line. All gas vent line systems would be equipped with a scrubber or similar separation equipment.

- A relief valve would be set no higher than the safe working pressure of the vessel to which it is attached.

- Pilot-operated pressure-relief valves would be equipped to permit testing with an external pressure source. Spring-loaded pressure relief valves would either be bench-tested or equipped to permit testing with an external pressure source.

- Well Head Surface Safety Valves. The well head surface safety valves would include the following:

  - All wells capable of flowing oil or gas and all artificial lift wells capable of afterflow when the source of power is shut off would be equipped with an automatic, fail-close, wellhead surface safety valve. High-low pressure sensors would be located in the flowline close to the wellhead and would be set to cause shut-in of the valve in the event of abnormally high or low flowline pressures. In addition, each valve would be connected to the integrated safety control system on the facility.

  - All well head surface safety valves would be tested by the Applicant monthly for operation and holding pressure. If the valve fails to test properly, it would be repaired or replaced and again tested for proper operation. Pressure sensors would be operated and tested by the Applicant monthly for proper pressure settings. The Applicant would document the testing as discussed above.

  - Artificial lift wells not equipped with a well head surface safety valve would have safety devices installed to shut off the source of power in the event of abnormally high or low flowline pressures. The source of power would be controllable by the integrated safety system.

- Emergency Shutdown Systems (EDS).

  - Multiple ESD systems would be located throughout the facility. The locations would be in strategic areas where they can be quickly activated.

- Combustible Gas Detector and Alarm System. An automatic combustible gas detector and alarm system would be installed and maintained in accordance with the following:

  - Gas detection systems would be installed in all areas containing gas handling facilities or equipment and in enclosed areas that are classified as hazardous areas as defined in the California Administrative Code, Title 24, Part 3.

  - All gas detection systems would be capable of continuously monitoring for the presence of combustible gas in the areas where the detection devices are located.

- A diagram of the gas detection systems showing the location of all gas detection points would be posted in a prominent place on the Project site.
- The gas detection systems would be tested monthly by the Applicant, and may be witnessed and approved by the Applicant's operations personnel. The Applicant would maintain a record of the tests on the Project site.

- A fixed hydrogen sulfide (H_2S) gas detection and alarm system would be installed on the Project site and continuous monitoring would occur during drilling, workover, and well servicing activities. The gas detection and alarm system would include the following:
  - The detector and alarm system equipment would be capable of sensing a minimum of five parts per million H_2S in the air, with sensing points located at the perimeter of the Project site perimeter, the gas handling facilities, select drilling locations, the small office building, and other areas where H_2S might accumulate. The H_2S detection devices would activate audible and visible alarms if the concentration of H_2S reaches 5 parts per million in the air.
  - In the event H_2S is detected by any device, frequent inspections of all areas of poor ventilation would be made with a portable H_2S detection instrument. H_2S detector ampules or other approved devices would be available for use by all personnel.
- Operator Training.
  - The operators would be trained through systematic training courses (30 CFR § 250.1501). The typical training program utilized is API T2.
- Safety and Environmental Management Systems Program (30 CFR § 250.1902). The following would be addressed in the Safety and Environmental Management Systems Program for the Proposed Project:
  - General
  - Safety and Environmental Information
  - Hazard Analysis
  - Management of Change
  - Operating Procedures
  - Mechanical Integrity
  - Pre-startup Review
  - Emergency Reponses and Control
  - Investigation of Incidents
  - Auditing
  - Recordkeeping
  - Stop Work Authority
  - Employee Participation Plan

- Reporting Unsafe Working Conditions

- Preventative Maintenance.
  - Safety devices would be inspected monthly.
  - Mechanical Integrity would be tested as follows: API 510 (Vessels) - Inspection intervals will follow Section 6 of API 510; API 570 (Piping) - Inspection intervals will follow Section 6 of API 570; and API 653 (Tanks) - Inspection intervals will follow Section 6 of API 653.
- Oil pipeline would be inspected every 3 years (normally 5 years) using an In-Line-Inspection tool.
- Gas pipeline would be inspected every 5 years (normally 7 years) using an In-Line-Inspection tool.
- Fugitive Emission Inspections would occur as follows:
  - Inspections to be conducted monthly
  - Infrared camera imaging weekly

- The Proposed Project would provide nighttime lighting to address site security and worker safety consistent with the requirements of the City. This would include the following:
  - To address site security, light fixtures would be provided at the project site entrance and exit. The lights would consist of an approximately 150-watt light fixture adjacent to the gate that would be mounted on the perimeter wall at a height of approximately 15 feet. The light fixtures would be shielded/hooded and downcast so that they would not create light spill or glare beyond the property line.
  - To address site security, lighting would be provided for the small office building. The light would consist of an approximately 150-watt light fixture wall-mounted at a height of approximately 10 feet at the building entrance. The fixture would be shielded/hooded and downcast so that it would not create light spill or glare. In addition, the light on the office building would be located behind the 16-foot split-faced block wall, which would block any light spill or glare from leaving the project site.
  - To address worker safety, lighting would be provided for the drill rig and drill rig platform as discussed above for Phase 2. The lights on the rig platform and the lower portion of the drill rig mast would be located behind the 32-foot sound attenuation wall, which would block any light spills or glare from leaving the project site.
  - To address worker safety, lighting would be provided for along the interior of the 16-foot perimeter split-faced block wall and incorporated into the pipe rack and equipment design. The lighting would be shielded/hooded and

downcast so that it would not create light spill or glare. In addition, this lighting would be located behind the 16-foot split-faced block wall, which would block any light spill or glare from leaving the project site.

- The maintenance activities on the project site that would require the use of a workover rig would occur between the hours of 8:00 A.M. and 6:00 P.M. Therefore, no nighttime lighting would be required.

1993 Conditional Use Permit Conditions of Approval

The drilling and ongoing operations that would occur in Phase 4 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- The site shall be enclosed by a solid masonry or concrete wall with solid gates during all operations, protecting both against public entry, observation and attraction. A chain link fence to provide security is acceptable only through the exploratory phase. (Section 3. Public Safety, Condition 1)
- Security personnel shall be employed at all times during the drilling stage (24 hours) and emergency phone numbers shall be posted ruing production Phase II. (Section 3. Public Safety, Condition 2)
- Signs warning of unauthorized entry and safety hazards shall be posted on all sides. (Section 3. Public Safety, Condition 3)
- Access to facilities shall be limited to authorized personnel only. (Section 3. Public Safety, Condition 4)
- Trees shall be maintained at a distance from all walls to prohibit children and others from unauthorized entry. (Section 3. Public Safety, Condition 5)
- All site personnel shall be instructed on required safety procedures if hydrogen sulfide concentrations are encountered. Documentation of training and instruction shall be made available to the City Personnel *[sic]* Director. (Section 3. Public Safety, Condition 6)
- An emergency response plan, including a blowout prevention and control plan, shall be prepared for review and approval by the Division of Oil and Gas and the Hermosa Beach Fire Department. (Section 3. Public Safety, Condition 11)
- When a leak or spill occurs, it shall be contained, the fluid shall be recovered and the area restored to its original condition. (Section 3. Public Safety, Condition 12)
- Adequate fire detection and fighting equipment and supplies approved by the Fire Department, shall be maintained on the drillsite and tank production facility at all times. (Section 4. Fire Safety, Condition 1)
- Oil sumps, drip pans, etc. shall be cleaned at regular intervals to reduce fire hazards and prevent minor spills. (Section 4. Fire Safety, Condition 3)

- Oily rags, paper and miscellaneous waste shall be disposed of in an appropriate manner to reduce fire hazards. (Section 4. Fire Safety, Condition 4)
- Signs warning of flammable fluids and prohibiting smoking shall be installed where appropriate. (Section 4. Fire Safety, Condition 5)
- The drillsite and production facility shall be protected by automatic fire detection sensors and suppression systems. The fire suppression systems shall include a tank-cooling sprinkler system. (Section 4. Fire Safety, Condition 6)
- Drilling operations shall be conducted in accordance with appropriate Division of Oil and Gas regulations and shall utilize all required blowout prevention equipment and safety devices. (Section 4. Fire Safety, Condition 7)
- Fire flows to service the operation shall meet Fire Department requirements. (Section 4. Fire Safety, Condition 8)
- All equipment necessary to contain an oil fire or blowout shall be provided and/or maintained on site and all fire personnel shall be trained on its use. (Section 4. Fire Safety, Condition 9)
- Lighting shall be limited solely to the amount and intensities necessary for safety and security purposes. (Section 10. Aesthetics, Condition 5)
- On-site signs shall be limited to those needed for public health and safety. (Section 10. Aesthetics, Condition 12)

Attachment H

SUMMARY OF PLANT SAFETY AND CONTROL SYSTEMS

The Plant Safety and Control Systems Report provided as Appendix B to the Project Application was prepared to affirm that the proposed project would not only meet all applicable standards, but, where appropriate, exceed them. The proposed project would be an onshore oil and gas production facility and must comply with all associated onshore design standards and regulations. The Plant Safety and Control Systems Report provided information on additional design standards and regulations provided as a part of the proposed project above and beyond the requirements for an onshore facility in order to improve safety and environmental protection. Phase 2 and Phase 4 of the proposed project include the drilling of oil and gas wells and the subsequent production operations and, therefore, the additional design standards and regulations defined in the Plant Safety and Control Systems Report apply to these phases.

The proposed enhancements for the proposed project based on offshore operation and equipment practices are provided in Table 1 below. The proposed safety and control enhancements provided above and beyond the applicable standards for onshore oil and gas production facilities for the proposed project are provided in Table 2 below.

TABLE 1
PROPOSED ENHANCEMENTS BASED ON OFFSHORE OPERATION AND EQUIPMENT PRACTICES

PROPOSED DESIGN AND OPERATIONAL PRACTICES	INTENT	SOURCE OF STANDARD OR REGULATION	REFERENCE IN STANDARD OR REGULATION
SAFE Charts	SAFE charts will be used to verify the design and installation of a safety system. It helps determine if a safety device is operable, properly calibrated, and accomplishes the intended control function.	API 14C part 4.3.3 "Safety Analysis Function Evaluation (SAFE) Chart"	"Completion of the SAFE chart provides a means of verifying the design logic of the basic safety system."
Operator Training	The operators will be trained through systematic training courses. The typical training programs utilized in the offshore environment are API T2, API T3, and API T6. The operators will be thoroughly trained by a specific program based off these standards.	30 CFR § 250.1501 "What is the goal of my training program?"	"The goal of your training program must be safe and clean OCS operations. To accomplish this, you must ensure that your employees and contract personnel engaged in well control, ~~deep water well control,~~ or production safety operations understand and can properly perform their duties."
Safety and Environmental Management Systems (SEMS)	A safety and environmental management system (SEMS) will be developed. SEMS is used in the offshore environment to improve the safety of operations and reduce accidents. The methodology will be used onshore to accomplish the same goals.	30 CFR § 250.1900 "Must I have a SEMS program?"	"You must develop, implement, and maintain a safety and environmental management system (SEMS) program. Your SEMS program must address the elements described in § 250.1902, American Petroleum Institute's Recommended Practice for Development of a Safety and Environmental Management Program for Offshore Operations and Facilities (API RP 75) (as incorporated by reference in § 250.198), and other requirements as identified in this subpart."
Safety and Environmental Management Systems (SEMS)	SEMS dictates that the operator include at a minimum safety and environmental information, hazard analysis, management of change, operating procedures, safe work practices, training, mechanical integrity, pre-startup review, emergency response and control, investigation of incidents, auditing, recordkeeping, stop work authority, ultimate work authority, employee participation plan, reporting unsafe working conditions, job safety analysis, and it must meet or exceed the	30 CFR § 250.1902 "What must I include in my SEMS program?"	"You must have a properly documented SEMS program in place and make it available to BSEE upon request as required by § 250.1924(b). (a) Your SEMS program must meet the minimum criteria outlined in this subpart, including the following SEMS program elements: (1) General (see § 250.1909) (2) Safety and Environmental Information (see § 250.1910) (3) Hazards Analysis (see § 250.1911) (4) Management of Change (see § 250.1912)

TABLE 1 (CONTINUED)
PROPOSED ENHANCEMENTS BASED ON OFFSHORE OPERATION AND EQUIPMENT PRACTICES

PROPOSED DESIGN AND OPERATIONAL PRACTICES	INTENT	SOURCE OF STANDARD OR REGULATION	REFERENCE IN STANDARD OR REGULATION
	standards of safety and environmental protection described in API RP 75. The addition of the aforementioned offshore programs will improve the overall safety of the onshore facility.		(5) Operating Procedures (see § 250.1913) (6) Safe Work Practices (see § 250.1914) (7) Training (see § 250.1915) (8) Mechanical Integrity (Assurance of Quality and Mechanical Integrity of Critical Equipment) (see § 250.1916) (9) Pre-startup Review (see § 250.1917) (10) Emergency Response and Control (see § 250.1918) (11) Investigation of Incidents (see § 250.1919) (12) Auditing (Audit of Safety and Environmental Management Program Elements) (*see* § 250.1920) (13) Recordkeeping (Records and Documentation) and additional BSEE requirements (*see* § 250.1928) (14) Stop Work Authority (SWA) (see § 250.1930) (15) Ultimate Work Authority (UWA) (see § 250.1931) (16) Employee Participation Plan (EPP) (see § 250.1932) (17) Reporting Unsafe Working Conditions (see § 250.1933). (b) You must include a job safety analysis (JSA) for OCS activities identified or discussed in your SEMS program (see § 250.1911). (c) Your SEMS program must meet or exceed the standards of safety and environmental protection of API RP 75 (as incorporated by reference in § 250.198)."

TABLE 1 (CONTINUED)
PROPOSED ENHANCEMENTS BASED ON OFFSHORE OPERATION AND EQUIPMENT PRACTICES

PROPOSED DESIGN AND OPERATIONAL PRACTICES	INTENT	SOURCE OF STANDARD OR REGULATION	REFERENCE IN STANDARD OR REGULATION
Hazard Analysis	SEMS requires a hazard analysis and also dictates that API RP 75 must be followed. API RP 75 *(Recommended Practice for Development Of A safety And Environmental Program For Outer Continental Shelf Operations and Facilities)*, recommends the use of API RP 14J *(Recommended Practice for Design and Hazards Analysis For Offshore Production Facilities)* for hazard analysis. The hazard analysis is conducted by a multi-disciplinary team that utilizes a systematic approach to analyze process designs.	30 CFR § 250.1911 "What hazards analysis criteria must my SEMS program meet?	"You must ensure that a hazards analysis (facility level) and a JSA (operations/task level) are developed and implemented for all of your facilities and activities identified or discussed in your SEMS. You must document and maintain a current analysis for each operation covered by this section for the life of the operation at the facility. You must update the analysis when an internal audit is conducted to ensure that it is consistent with your facility's current operations."
BAST and BACT	The Best Available Control Technology (BACT) as well as the Best Available and Safest Technology (BAST) will be implemented. The technology will limit emissions and improve facility safety.	30 CFR § 250.105 "Definitions"	*"Best available and safest technology (BAST)* means the best available and safest technologies that the BSEE Director determines to be economically feasible wherever failure of equipment would have a significant effect on safety, health, or the environment. *Best available control technology (BACT)* means an emission limitation based on the maximum degree of reduction for each air pollutant subject to regulation, taking into account energy, environmental and economic impacts, and other costs. The Regional Supervisor will verify the BACT on a case-by-case basis, and it may include reductions achieved through the application of processes, systems, and techniques for the control of each air pollutant."

TABLE 1 (CONTINUED)
PROPOSED ENHANCEMENTS BASED ON OFFSHORE OPERATION AND EQUIPMENT PRACTICES

PROPOSED DESIGN AND OPERATIONAL PRACTICES	INTENT	SOURCE OF STANDARD OR REGULATION	REFERENCE IN STANDARD OR REGULATION
ESD requirements	Emergency Shutdown (ESD) systems will be located throughout the facility, as well as near the driller's console. The ESD provides a means for personnel to manually initiate shutdowns as soon as an abnormal condition is observed. Being able to isolate the facility once an abnormal condition is detected can save valuable time and prevent undesirable outcomes.	30 CFR § 250.406 part a. "What additional safety measures must I take when I conduct drilling operations on a platform that has producing wells or has other hydrocarbon flow?"	"You must take the following safety measures when you conduct drilling operations on a platform with producing wells or that has other hydrocarbon flow: (a) You must install an emergency shutdown station near the driller's console;"
ESD	The ESD will conform to the requirements in API RP 14C.	30 CFR § 250.503 "Emergency Shutdown system"	*ESD.* The ESD must conform to the requirements of Appendix C, section C1, of API RP 14C (as incorporated by reference in § 250.198), and the following:
ESD	Multiple ESD systems will be located throughout the facility. The locations will be in areas where they can be quickly activated.	API 14C C.1.1.1 "Emergency Shutdown (ESD) System:" "Purpose"	*"An* Emergency Shutdown (ESD) system is a system of manual control stations strategically located on a platform that, when activated, will initiate shutdown of all wells and other process stations."
BOP (includes shear ram)	The BOP stack is composed of redundant mechanical safety components whose purpose is to confine fluids to the wellbore and cut off fluid flow to the surface. A major difference between the onshore requirements set forth by DOGGR and the offshore requirements in 30 CFR § 250 is the inclusion of a shear ram. A shear ram can be activated while there is drill pipe or tubing in the hole. When the shear ram is activated the piping is sheared and the fluid pathway to the surface is shut in. DOGGR only requires using a blind ram, which is intended to operate when the drill pipe or tubing is not in the BOP.	30 CFR § 250.441 part b. "What are the requirements for a surface BOP stack?	"Your surface BOP stack must include at least four remote-controlled, hydraulically operated BOPs consisting of an annular BOP, two BOPs equipped with pipe rams, and one BOP equipped with blind-shear rams. The blind-shear rams must be capable of shearing the drill pipe that is in the hole."

TABLE 1 (CONTINUED)
PROPOSED ENHANCEMENTS BASED ON OFFSHORE OPERATION AND EQUIPMENT PRACTICES

PROPOSED DESIGN AND OPERATIONAL PRACTICES	INTENT	SOURCE OF STANDARD OR REGULATION	REFERENCE IN STANDARD OR REGULATION
Professional Engineer Certification	The BOP stack and drilling program will be evaluated by a professional engineer. The professional engineer will certify that the BOP design is appropriate for the drilling program and the expected reservoir pressures. The professional engineer will also inspect the BOP to verify there is no existing damage.	30 CFR § 250.416 "You must include in the diverter and BOP descriptions:"	"(f) When you use a ~~subsea BOP stack or~~ surface BOP stack ~~on a floating facility~~, independent third-party verification that shows: (1) The BOP stack is designed for the specific equipment on ~~the rig~~ and for the specific well design; (2) The BOP stack has not been compromised or damaged from previous service; (3) The BOP stack will operate in the conditions in which it will be used; and (g) The qualifications of the independent third-party referenced in paragraphs (e) and (f) of this section: (1) The independent third-party in this section must be a technical classification society, or a licensed professional engineering firm, or a registered professional engineer capable of providing the verifications required under this part. (2) You must: (i) Include evidence that the registered professional engineer, or a technical classification society, or engineering firm you are using or its employees hold appropriate licenses to perform the verification in the appropriate jurisdiction, and evidence to demonstrate that the individual, society, or firm has the expertise and experience necessary to perform the required verifications."

TABLE 1 (CONTINUED)
PROPOSED ENHANCEMENTS BASED ON OFFSHORE OPERATION AND EQUIPMENT PRACTICES

PROPOSED DESIGN AND OPERATIONAL PRACTICES	INTENT	SOURCE OF STANDARD OR REGULATION	REFERENCE IN STANDARD OR REGULATION
BOP Shear Ram testing	The shear rams will be tested according to 30 CFR § 250.416. A section of drill pipe, the same as which is used in the drilling program, will be placed in the BOP and then the shear ram will be activated. The BOP will then undergo a pressure test to ensure that a proper seal is created. After the shear ram is tested the BOP is examined to confirm there was no damage to the BOP created by the test. The sheared drill pipe is also examined to determine that the ram is capable of creating a clean cut.	30 CFR § 250.416 part e. "What must I include in the diverter and BOP descriptions?"	"(e) Independent third-party verification and supporting documentation that show the blind-shear rams installed in the BOP stack are capable of shearing any drill pipe (including workstring and tubing) in the hole under maximum anticipated surface pressure. The documentation must include actual shearing and subsequent pressure integrity test results for the most rigid pipe to be used and calculations of shearing capacity of all pipe to be used in the well, including correction for MASP;"

Source: Interact, June 2013.

[1] The language that has been shown in strikeout would not be applicable to the proposed project.

TABLE 2
PROPOSED ONSHORE SAFETY AND CONTROL ENHANCEMENTS

PROPOSED DESIGN AND OPERATIONAL PRACTICES	INTENT
PLCs and Automation	Programmable Logic Controllers (PLCs) will be installed to monitor and control the process. The process will be highly automated through predefined control set points defined by process analysis. The automated process limits the effects of human error. There have been substantial improvements to PLCs in the last 20 years. With the advance in the computer industry, PLCs have similarly seen control capability improvement. Modern PLCs have the capability to manage vast amounts of information and offer supervisory control. During the design, operating parameters for each piece of equipment will be determined and alarms will be programmed. When there is a detection of an abnormal event in the process, a signal will be sent to the trained operator, and the operator will be able to quickly respond with an appropriate action. In the event of inaction by the operator, the system is set for fail safe and will shut down in advance of any undesirable event. The operator will have specific facility training on how to react to each alarm that is given. The PLCs will utilize the BACT as defined in 30 CFR § 250.105.
Gas Detection	A gas detection system will be implemented in the facility. The detection system will be in place during the drilling and production phases of this project. The systems will be provided in areas where adequate ventilation cannot be achieved and in areas where personnel are frequently in attendance. In addition, the gas detection systems will be strategically located near the boundaries of the facility. Exact locations will be determined during the design phases. The gas detection systems will be able to detect hydrogen sulfide as well as hydrocarbons. When a pre-determined concentration is detected an alarm will be sent to an operator who will take immediate action. If the concentration of gas detected has reached a critical level then automatic isolation valves will be activated that will promptly shut in affected areas. Infrared cameras will be used to provide facility wide inspection of components.
Isolation Valves	Isolation valves will be used to shut in areas of the facility during an emergency situation. The isolation valves will be automatic and have a quick response time in order to limit any potential release. Isolation valves will automatically shut down when either a loss of pressure in the particular segment of the plant is noted or when there is an increase in pressure. Automatic shutdowns will also be installed that can terminate all facility production and shut off flow from producing wells. These shut downs will close off the process from the source and help prevent larger releases. The isolation valves will be installed to limit any potential releases that may occur. The locations will be at plant boundaries, process vessels, and any areas that have the potential for a large release as has been determined during the risk assessment design and as will be determined from hazard analysis studies during detailed design.

TABLE 2 (CONTINUED)
PROPOSED ONSHORE SAFETY AND CONTROL ENHANCEMENTS

PROPOSED DESIGN AND OPERATIONAL PRACTICES	INTENT
Redundancy	Redundant safety systems will be in place for additional protective measures. All critical systems will have primary and secondary safety devices. Examples of primary and secondary safety devices that will be implemented are high level alarms and pressure safety valves. The safety devices will be designed through standardized hazard analysis procedures.
Closed Loop System	The Operational Strategy for this facility will be to have a "closed loop" system for oil and gas handling. The oil and gas will be within closed tanks and vessels at all times, with any potential vapors from the oil storage tanks or oil/gas separation vessels being collected via a vapor recovery system and recycled back into the fluid/gas streams. Pressure relief devices, when appropriate, will also relief gas back into the vapor recovery system and under certain circumstances will relief gas to the flare system.

Source: Interact, June 2013.

Pamela Townsend

Subject: FW: Figure 2 for Ed
Attachments: Figure 2 from Updated Parking Plan 01-8-14.pdf

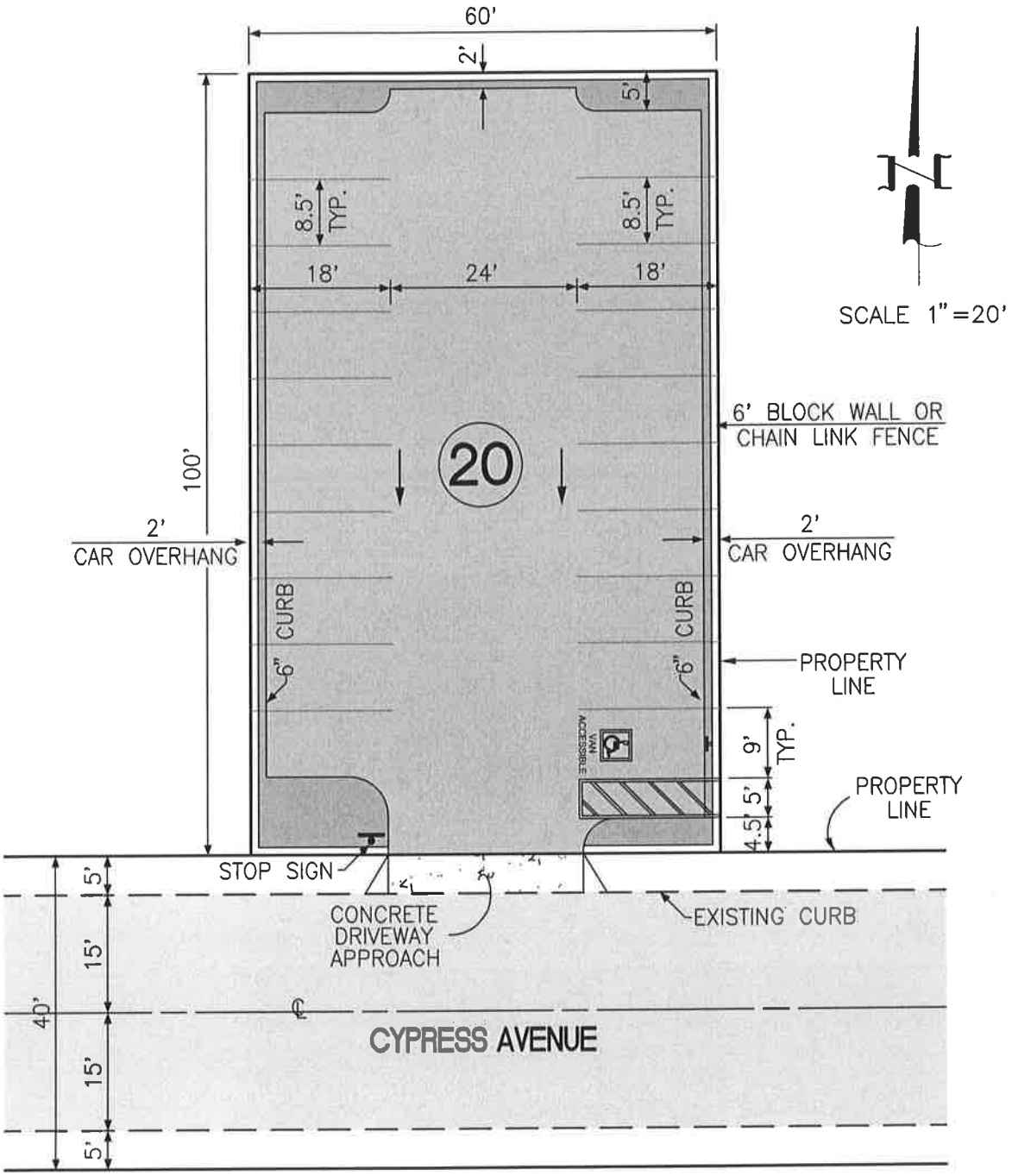
RECEIVED
JAN 0 8 2014
COMMUNITY DEV. DEPT.

From: Karen Northcutt [mailto:knorthcutt@earthlink.net]
Sent: Wednesday, January 08, 2014 10:38 PM
To: Ed Almanza
Subject: Fwd: Figure 2 for Ed

Ed,
Lauren provided this separate graphic that is in the revised parking plan. It has the redesigned spaces to include the handicapped space requested by Pam.

In a separate email, I've sent a link to the entire parking plan package with a Jan. 2014 date so you know it is the latest version.

Let me know if there are any problems with the graphic.
Karen
Karen Northcutt knorthcutt@earthlink.net work (760) 379-4626 or cell (661) 330-5799



NOTES:
1. LANDSCAPE AREA 819 SF 14%
2. PAVED AREA 5,181 SF 86%
3. SURFACE DRAINAGE →
4. LANDSCAPE TO BE CONSISTENT WITH MUNICIPAL CODE CHAPTERS 8.56 AND 8.12

Source: MDS Consulting, January 31, 2013.

E&B Natural Resources
www.EBNR-Hermosa.com

E&B Oil Development Project

Figure 2
Conceptual Site Plan/Parking Plan

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10/14/13

AIR QUALITY
DESIGN FEATURES, OPERATIONAL PRACTICES,
AND 1993 CONDITIONS OF APPROVAL

Phase 1

Design Features and Operational Practices

During Phase 1 of the Proposed Project, there would be demolition and construction activities with various combinations of construction equipment working on the project site. Phase 1 demolition and construction activities have been designed to incorporate the following operational practices to address air emissions and odors:

- The demolition and construction activities for the Proposed Project will be scheduled to avoid the overlap of emission-generating activities that together would cause an exceedance of the South Coast Air Quality Management District (SCAQMD) thresholds of significance for the criteria pollutants.
- The Applicant would implement the applicable requirements of SCAQMD Rule 403 (Fugitive Dust) during demolition and construction.
- The Applicant will implement the applicable requirements of the SCAQMD Rule 402 (Odors/Nuisance) during demolition and construction.

1993 Conditional Use Permit Conditions of Approval

The demolition and construction activities for Phase 1 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- The number of truck trips shall be limited to a maximum of 18 rounds trips per day, except in an emergency, as defined by this C.U.P. and reported to the City in accordance with the notification requirement. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 6)
- All requirements of AQMD shall be met at all times. (Section 11. Odors/Vapor/Air Pollution, Condition 5)
- Construction equipment and vehicles shall be maintained in proper tune. (Section 11. Odors/Vapor/Air Pollution, Condition 9)
- Grading shall not be performed when wind speeds exceed 20 mph. The contractor shall maintain a wind speed monitoring device on site during grading operations. The contractor shall continually keep the soil moist during grading operations. At no time shall any dust be allowed to leave the work site. (Section 12. Grading/Storm Water/Site Runoff, Condition 1)

- Normal wetting procedures shall be employed during grading. Reviewed and approval of procedure shall be by Public Works Director. (Section 12. Grading/Storm Water/Site Runoff, Condition 2)
- Graded surfaces shall be paved or landscaped per approved plan. (Section 12. Grading/Storm Water/Site Runoff, Condition 3)

Phase 2

Design Features and Operational Practices

During Phase 2 of the Proposed Project, four wells would be drilled utilizing an electric drill rig and temporary production equipment would be used to process the extracted oil, gas, and water. Phase 2 of the Proposed Project has been designed to incorporate the following design features and operational practices to address air emissions and odors during drilling activities and temporary production:

- An electric automated drill rig, with an approximately 87-foot rig mast, will be used to drill the wells.
- The Proposed Project's plant safety and control systems will be a closed-loop system. A closed-loop system is a design that does not allow for the venting or emitting of gases into the air as part of the normal operation of the facility. All tanks and process vessels will be connected to a vapor recovery unit and, instead of venting gases to the atmosphere, they are sent to the vapor recovery unit. In addition, all pressure relieving devices will be connected to an enclosed ground flare. As a result, the closed-loop system is self-contained and will not allow for venting of gases to the air, even during any emergency venting of gases. Besides offering protection from venting, this will also eliminate the release of odors associated with gases.
- The Proposed Project will have an Air Quality Monitoring Plan that will provide for the monitoring of total hydrocarbon vapors and hydrogen sulfide (H_2S) on the project site during drilling and production operations. Monitors installed within and at the edge of the facility will be triggered if total hydrocarbon vapors and H_2S are detected. A meteorological station to monitor wind speed and direction under the guidance and specifications of the SCAQMD will be installed at an applicable location.
- The Proposed Project will have an Odor Minimization Plan that will address the potential sources of odors from all equipment, including wells and drilling operation, and provide methods to reduce or eliminate any identified odors (for example through containment, design modifications, carbon canisters). The Plan will include facility information, signs with contact information, logs of odor complaints, protocols for handling odor complaints and odor event investigations, and defines the methods that will be instituted to prevent a re-occurrence.
- The Proposed Project will use an odor suppressant spray system or vapor capture hood and carbon filter system on the mud shaker tables and install carbon capture canisters on all tanks (permanent and portable) containing potentially odiferous

materials that are not equipped with vapor recovery so that no odor can be detected at the closest receptor.

1993 Conditional Use Permit Conditions of Approval

The drilling activities and operations in Phase 2 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- Drill cuttings and other wastes, shall be collected in above ground containers and disposed of at an approved disposal site. Receipts for all disposal of waste product shall be provided within ten (10) days of disposal to the Public Works Director. (Section 1. General, Condition 8)
- The number of truck trips shall be limited to a maximum of 18 rounds trips per day, except in an emergency, as defined by this C.U.P. and reported to the City in accordance with the notification requirement. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 6)
- A vapor recovery system shall be installed to recover 99% of hydrocarbon emissions during storage and transfer of crude oil. (Section 11. Odors/Vapor/Air Pollution, Condition 1)
- Raw gas shall not be allowed into the atmosphere. (Section 11. Odors/Vapor/Air Pollution, Condition 2)
- Gas and vapor detection systems shall be installed at appropriate locations. (Section 11. Odors/Vapor/Air Pollution, Condition 3)
- All project site activities shall be conducted such as to eliminate escape of gas in accordance with best available control technology and practices which shall be reviewed and approved by the City. (Section 11. Odors/Vapor/Air Pollution, Condition 4)
- All requirements of AQMD shall be met at all times. (Section 11. Odors/Vapor/Air Pollution, Condition 5)
- A state-of-the-art scrubber shall be employed for the exploratory phase to eliminate odors from waste gases, and any flame shall be enclosed. (Section 11. Odors/Vapor/Air Pollution, Condition 6)
- Tanks shall be designed and located so that no odors or fumes can be detected from the adjacent areas outside the exterior walls of the project. (Section 11. Odors/Vapor/Air Pollution, Condition 7)
- Operators shall not blow lines to the atmosphere, except in an emergency, as defined by the C.U.P. and reported to the City in accordance with the notification requirement. (Section 11. Odors/Vapor/Air Pollution, Condition 8)

- Odorless drilling muds shall be used. (Section 11. Odors/Vapor/Air Pollution, Condition 10)
- Well tubing and rods shall not remain out of the well during workover operations less than 8-hours. The tubing will be surface washed with a detergent solution to remove odor bearing residual hydrocarbons if exposed longer than 8-hours. (Section 11. Odors/Vapor/Air Pollution, Condition 11)
- Odor control will be further enforced by the SCAQMD under Rules 402, 466, 466.1 of their regulations, and the commercial recovery system shall be employed for the permanent facility. (Section 11. Odors/Vapor/Air Pollution, Condition 12)
- There shall be no open flames allowed. (Section 11. Odors/Vapor/Air Pollution, Condition 13)
- The permittee shall monitor drilling mud during drilling on the site for odorous substances and take such measures to eliminate any odor which could be perceptible outside the drill site. (Section 11. Odors/Vapor/Air Pollution, Condition 14)
- Well cellars shall be maintained in a clean and efficient manner to prevent waste accumulation and shall be frequently steam cleaned. (Section 11. Odors/Vapor/Air Pollution, Condition 16)

Phase 3

Design Features and Operational Practices

During Phase 3 of the Proposed Project, there would be construction activities with various combinations of construction equipment working on the project site and off-site related to the pipelines. Phase 3 construction activities have been designed to incorporate the following air emission operational practices:

- The demolition and construction activities for the Proposed Project will be scheduled to avoid the overlap of emission-generating activities that together would cause an exceedance of the South Coast Air Quality Management District (SCAQMD) thresholds of significance for the criteria pollutants.
- The Applicant would implement the applicable requirements of SCAQMD Rule 403 (Fugitive Dust) during demolition and construction.
- The Applicant will implement the applicable requirements of the SCAQMD Rule 402 (Odors/Nuisance) during demolition and construction.
- The Applicant will implement the Remedial Action Plan (RAP) upon receipt of Fire Department approval. All soil removal, treatment, facility construction, transportation, and disposal activities will be performed in accordance with all applicable federal, state, and local laws, regulations, and ordinances. In addition, the measures defined in Section 7.0, Remedial Action Implementation, of the RAP will be implemented during the removal of the soil from the Project site. This will include the following related to air quality:

- Impacted soil will be removed in such a way as to minimize fugitive dust. The soil will be removed to the appropriate depth and lateral limits by excavator or other earthmoving equipment and directly loaded into truck for transportation off-site. This will minimize equipment movement on the Project site. Water spraying will occur within the excavation zone to further minimize fugitive dust.
- Excavation areas will be controlled to avoid dust generation with physical barriers (perimeter fencing with windscreen). If wind speeds on-site exceed 20 miles per hour, all excavation activities will cease.
- All excavation work will be completed in accordance with SCAQMD Rule 1166. An approved SCAQMD Rule 1166 plan will be in place and, as a part of the plan, a photo ionization detector or equivalent will be used to monitor VOC emissions from the excavation activities. If elevated VOC levels are detected, the plan measures will be implemented and the excavation operations will be brought into compliance or work will cease.
- All large equipment, trucks, and small equipment that will have the potential to come in contact with the contaminated soil will be decontaminated in a designated area on-site prior to leaving the Project site. The decontamination area will be outside the work area and covered in plastic sheeting. The equipment and trucks will be pulled onto the plastic sheeting and visually inspected for the presence of any dirt adhering to the outer surfaces. All identified dirt will be brushed off and collected in the plastic sheeting. Each truck will be inspected to verify that the load is properly covered and secured. Upon exiting the inspection and cleaning area, truck tread plates will be placed to further reduce the potential to track out dirt. All small equipment will be decontaminated prior to and after each use using a triple rinse procedure. The decontamination areas will be cleaned between the use for each vehicle or piece of equipment to avoid cross contamination.
- Air monitoring will be performed during the excavation activities in which contaminated or potentially contaminated materials will be disturbed, excavated, or otherwise handled. Air monitoring/health and safety professionals that are staffed on-site will conduct the air monitoring.

1993 Conditional Use Permit Conditions of Approval

The construction activities that would occur in Phase 3 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- The number of truck trips shall be limited to a maximum of 18 rounds trips per day, except in an emergency, as defined by this C.U.P. and reported to the City in

accordance with the notification requirement. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 6)

- All requirements of AQMD shall be met at all times. (Section 11. Odors/Vapor/Air Pollution, Condition 5)
- Construction equipment and vehicles shall be maintained in proper tune. (Section 11. Odors/Vapor/Air Pollution, Condition 9)
- Grading shall not be performed when wind speeds exceed 20 mph. The contractor shall maintain a wind speed monitoring device on site during grading operations. The contractor shall continually keep the soil moist during grading operations. At no time shall any dust be allowed to leave the work site. (Section 12. Grading/Storm Water/Site Runoff, Condition 1)
- Normal wetting procedures shall be employed during grading. Reviewed and approval of procedure shall be by Public Works Director. (Section 12. Grading/Storm Water/Site Runoff, Condition 2)
- Graded surfaces shall be paved or landscaped per approved plan. (Section 12. Grading/Storm Water/Site Runoff, Condition 3)

Phase 4

Design Features and Operational Practices

During Phase 4 of the Proposed Project, remaining wells would be drilled utilizing an electric drill rig and production equipment would be used to process the extracted oil, gas, and water. Phase 4 of the Proposed Project has been designed to incorporate the following design features and operational practices to address air emissions and odors:

- An electric automated drill rig, with an approximately 87-foot rig mast, will be used to drill the wells.
- The Proposed Project's plant safety and control systems will be a closed-loop system. A closed-loop system is a design that does not allow for the venting or emitting of gases into the air as part of the normal operation of the facility. All tanks and process vessels will be connected to a vapor recovery unit and, instead of venting gases to the atmosphere, they are sent to the vapor recovery unit. In addition, all pressure relieving devices will be connected to an enclosed ground flare. As a result, the closed-loop system is self-contained and will not allow for venting of gases to the air, even during any emergency venting of gases. Besides offering protection from venting, this will also eliminate the release of odors associated with gases.
- The Proposed Project will be inspected for fugitive emissions as required by SCAQMD Rule 1173 "Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants." This requires that every valve, thread connection, coupling, and site glass be inspected. The Proposed Project will accept the limitation on allowable leaking components more stringent that those required by Rule 1173. In addition, Rule 1173 requires

daily inspection of compressors, pumps, and pressure relief devices and inspection of all other components at least quarterly. New technology (such as thermal imaging devices) will be used to augment traditional methods of leak detection.

- The Proposed Project will have an Air Quality Monitoring Plan that will provide for the monitoring of total hydrocarbon vapors and hydrogen sulfide (H_2S) on the project site during drilling and production operations. Monitors installed within and at the edge of the facility will be triggered if total hydrocarbon vapors and H_2S are detected. A meteorological station to monitor wind speed and direction under the guidance and specifications of the SCAQMD will be installed at an applicable location.
- The Proposed Project will have an Odor Minimization Plan that will address the potential sources of odors from all equipment, including wells and drilling operation, and provide methods to reduce or eliminate any identified odors (for example through containment, design modifications, carbon canisters). The Plan will include facility information, signs with contact information, logs of odor complaints, protocols for handling odor complaints and odor event investigations, and defines the methods that will be instituted to prevent a re-occurrence.
- The Proposed Project will use an odor suppressant spray system or vapor capture hood and carbon filter system on the mud shaker tables and install carbon capture canisters on all tanks (permanent and portable) containing potentially odiferous materials that are not equipped with vapor recovery so that no odor can be detected at the closest receptor.

1993 Conditional Use Permit Conditions of Approval

The drilling and ongoing operations that would occur in Phase 4 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- Drill cuttings and other wastes, shall be collected in above ground containers and disposed of at an approved disposal site. Receipts for all disposal of waste product shall be provided within ten (10) days of disposal to the Public Works Director. (Section 1. General, Condition 8)
- The number of truck trips shall be limited to a maximum of 18 rounds trips per day, except in an emergency, as defined by this C.U.P. and reported to the City in accordance with the notification requirement. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 6)
- A vapor recovery system shall be installed to recover 99% of hydrocarbon emissions during storage and transfer of crude oil. (Section 11. Odors/Vapor/Air Pollution, Condition 1)

- Raw gas shall not be allowed into the atmosphere. (Section 11. Odors/Vapor/Air Pollution, Condition 2)
- Gas and vapor detection systems shall be installed at appropriate locations. (Section 11. Odors/Vapor/Air Pollution, Condition 3)
- All project site activities shall be conducted such as to eliminate escape of gas in accordance with best available control technology and practices which shall be reviewed and approved by the City. (Section 11. Odors/Vapor/Air Pollution, Condition 4)
- All requirements of AQMD shall be met at all times. (Section 11. Odors/Vapor/Air Pollution, Condition 5)
- A state-of-the-art scrubber shall be employed for the exploratory phase to eliminate odors from waste gases, and any flame shall be enclosed. (Section 11. Odors/Vapor/Air Pollution, Condition 6)
- Tanks shall be designed and located so that no odors or fumes can be detected from the adjacent areas outside the exterior walls of the project. (Section 11. Odors/Vapor/Air Pollution, Condition 7)
- Operators shall not blow lines to the atmosphere, except in an emergency, as defined by the C.U.P. and reported to the City in accordance with the notification requirement. (Section 11. Odors/Vapor/Air Pollution, Condition 8)
- Odorless drilling muds shall be used. (Section 11. Odors/Vapor/Air Pollution, Condition 10)
- Well tubing and rods shall not remain out of the well during workover operations less than 8-hours. The tubing will be surface washed with a detergent solution to remove odor bearing residual hydrocarbons if exposed longer than 8-hours. (Section 11. Odors/Vapor/Air Pollution, Condition 11)
- Odor control will be further enforced by the SCAQMD under Rules 402, 466, 466.1 of their regulations, and the commercial recovery system shall be employed for the permanent facility. (Section 11. Odors/Vapor/Air Pollution, Condition 12)
- There shall be no open flames allowed. (Section 11. Odors/Vapor/Air Pollution, Condition 13)
- The permittee shall monitor drilling mud during drilling on the site for odorous substances and take such measures to eliminate any odor which could be perceptible outside the drill site. (Section 11. Odors/Vapor/Air Pollution, Condition 14)
- The permittee shall undertake no refining process or any process for the extraction of produces from natural gas, except for such minor processed as necessary to natural gas acceptable to the City gas mains for domestic use. (Section 11. Odors/Vapor/Air Pollution, Condition 15)

- Well cellars shall be maintained in a clean and efficient manner to prevent waste accumulation and shall be frequently steam cleaned. (Section 11. Odors/Vapor/Air Pollution, Condition 16)

TRANSPORTATION/TRAFFIC
DESIGN FEATURES, OPERATIONAL PRACTICES, AND 1993 CONDITIONS OF APPROVAL

Phase 1

Design Features and Operational Practices

During Phase 1 of the Proposed Project, there would be demolition and construction activities resulting in various vehicles traveling to and from the project site. Phase 1 demolition and construction activities would include the following design features and operational practices to address transportation and traffic:

- The entrance and exit to the project site would be provided via the existing driveways on Valley Drive and 6th Street. After the completion of the demolition activities and rough grading, the project site would be enclosed by a six-foot high temporary chain link construction fence that provides 30-foot wide secured gated openings for vehicular ingress and egress. The appropriate signage would be provided consistent with the requirements of the City.
- The Proposed Project would include the construction of improvements to the intersection of 6th Street/Valley Drive to provide the necessary turning radius for the project-related trucks turning southbound on Valley Drive from 6th Street. These improvements would result in: the removal of a portion of the landscaped area and entry driveway to the City Beach Self Storage Facility; redesign of the sidewalk on the southwest corner of the intersection; relocation of the stop sign and striping for the northbound lanes on Valley Drive to address the redesign of the southwest corner; removal of a utility pole and underground the utilities on the southwest corner of the intersection; removal of a utility pole and underground the utilities on 6th Street; and the removal of two on-street parking spaces on 6th Street. As a part of the intersection improvements, the stop sign and striping for the southbound lanes on Valley Drive would be relocated to allow for adequate line of sight with the addition of the perimeter fencing on the project site. In addition, the curb on the northwest corner along 6th Street adjacent to the project site would be temporarily provided as a rolled asphalt curb for Phases 1 and 2.
- Adjacent to the project site, pedestrian access is provided by sidewalks along the west side of Valley Drive and the south side of 6th Street. The Proposed Project would include implementation of a City-approved Phase 1 Pedestrian Protection Plan that provides specific pedestrian protection measures during the following demolition and construction activities:
  - During the first five weeks, when the undergrounding of the existing overhead utilities along Valley Drive and at the intersection of 6th Street and Valley Drive would result in the closure of the sidewalks along Valley Drive and at the intersection of 6th Street and Valley Drive.
  - Between weeks 5 and 8, when the construction of the redesigned intersection at the intersection of 6th Street and Valley Drive would result in the closure of

the sidewalks on 6th Street and Valley Drive immediately adjacent to the southwest corner of the intersection.

- Between weeks 9 and 11, when the installation of electrical service from 8th Street and the project entrance would result in the closure of the sidewalk along Valley Drive.
- Between weeks 26 and 27, when the installation of the temporary landscaping would result in some closures of the sidewalk along Valley Drive.

1993 Conditional Use Permit Conditions of Approval

The demolition and construction activities for Phase 1 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- Parking shall be provided on the site consistent with the submitted parking plan to provide adequate parking facilities for all workers involved in oil recovery operations, including exploratory and production phases. (Section 2. Land Use Development, Condition 9)
- All truck deliveries shall be limited to daylight hours (9:00 AM – 3:00 PM), Monday through Friday, except for an emergency situation, as defined by this C.U.P. and reported to the City in accordance with the notification requirement, which have been reported to the Director of Public Works in advance of the delivery. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 1)
- Equipment deliveries shall be made only during daytime hours between 9 AM and 3 PM. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 3)
- Project related truck travel shall be restricted to specific truck routes and access points as approved by the Public Works Department. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 4)
- Signs shall be installed to direct detour traffic as approved by the Public Works Director. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 5)
- The number of truck trips shall be limited to a maximum of 18 rounds trips per day, except in an emergency, as defined by this C.U.P. and reported to the City in accordance with the notification requirement. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 6)
- Maintenance Yard site access shall be designed to enable trucks to turn into the site without inhibiting traffic movement on Valley Drive or Sixth Street. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 7)

- Minor curb radii reconstruction shall be done by the operator as determined by the City Public Works depending on the length and necessary turning radii for project related trucks. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 8)
- An evaluation of the structural condition of the existing pavement shall be performed by a soils engineer on all access streets and the proposed truck routes prior to commencing any sit preparation or construction and prior to the issuance of any necessary permits. The evaluation shall include as a minimum:

  a) the number, type, size, and weight of trucks for export of materials or product,

  b) the number, type, size and weight of truck deliveries of building supplies, drilling supplies, etc.

  c) the number, type, size and weight of equipment transported to the site,

  d) other associated transportation items,

  e) other anticipated loading.

  The evaluation shall contain recommendations as to actions required to maintain said streets and routes in their current condition throughout the planned development phase, planned production phase, and in the close out phase. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 11)
- The operator shall perform the actions on the existing pavement as recommended by the soils or highway engineer, the operator will hire a licensed contractor and provide street profiles, drawings, and engineering to the satisfaction of the Public Works Department prior to work commencing. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 12)
- The City Council may restrict the use of certain street, alleys, or roadways in connection with the permittee's operations. In the event any street, alley, or roadway is damaged by the permittee's operations, such damages shall be paid for by the permittee upon demand by the City, and the failure to pay such damages, being the reasonable cost of the repair of any such damaged portions, shall be grounds for the revocation of the permit and the collection of such damages. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 13)

Phase 2

Design Features and Operational Practices

During Phase 2 of the Proposed Project, four wells would be drilled utilizing an electric drill rig and temporary production equipment would be used to process the extracted oil, gas, and water. The processed oil would be removed from the project site by truck and delivered to an off-site location for sale. Phase 2 of the Proposed Project has been designed to incorporate the following design features and operational practices to address transportation and traffic during drilling activities and temporary production:

- The electric automated drill rig, with an approximately 87-foot high rig mist, and its associated equipment would be brought to the project site on large trucks with trailers permitted by the City and the California Highway Patrol. The permitted loads would be assisted by signage, flagmen, and other traffic control measures as required by the City.
- The temporary production equipment would be brought to the project site by large trucks with trailers. If determined by the Applicant to be needed, signage, flagmen, and other traffic control measures would be provided to assist vehicles entering the project site.
- A trucking safety program would be implemented to address potential trucking risks associated with the transport of the processed oil to an off-site location for sale. The trucking safety program measures would include the following:
  - Pre-employment driver screening program;
  - Random drug and alcohol testing of drivers;
  - Use of fully certified drivers;
  - Notification of traffic violations;
  - Regular and event-related vehicle inspections and maintenance;
  - Onboard safety systems consisting of:
    - Onboard brake stroke monitoring systems
    - Collision mitigation and threat warning systems
    - Lane departure warning systems
    - Rear and side collision detection and warning systems
    - Vehicle stability systems
    - Tire pressure monitoring systems
    - Wireless mobile communications
  - GPS tracking and data monitoring;
  - Auditing

1993 Conditional Use Permit Conditions of Approval

The drilling activities and operations in Phase 2 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- Parking shall be provided on the site consistent with the submitted parking plan to provide adequate parking facilities for all workers involved in oil recovery

operations, including exploratory and production phases. (Section 2. Land Use Development, Condition 9)

- All truck deliveries shall be limited to daylight hours (9:00 AM – 3:00 PM), Monday through Friday, except for an emergency situation, as defined by this C.U.P. and reported to the City in accordance with the notification requirement, which have been reported to the Director of Public Works in advance of the delivery. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 1)
- Equipment deliveries shall be made only during daytime hours between 9 AM and 3 PM. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 3)
- Project related truck travel shall be restricted to specific truck routes and access points as approved by the Public Works Department. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 4)
- The number of truck trips shall be limited to a maximum of 18 rounds trips per day, except in an emergency, as defined by this C.U.P. and reported to the City in accordance with the notification requirement. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 6)
- The City Council may restrict the use of certain street, alleys, or roadways in connection with the permittee's operations. In the event any street, alley, or roadway is damaged by the permittee's operations, such damages shall be paid for by the permittee upon demand by the City, and the failure to pay such damages, being the reasonable cost of the repair of any such damaged portions, shall be grounds for the revocation of the permit and the collection of such damages. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 13)

Phase 3

Design Features and Operational Practices

During Phase 3 of the Proposed Project, there would be construction activities resulting in various vehicles traveling to and from the project site, including trucks used in the export of soil during the implementation of the remedial action plan for the Proposed Project. In addition, there would be construction activities associated with the installation of off-site pipelines resulting in short-term road closures in the Cities of Hermosa Beach, Redondo Beach, and Torrance. Phase 3 construction activities would include the following design features and operational practices to address transportation and traffic:

- The Applicant would implement the Remedial Action Plan (RAP) for the removal of contaminated soil from the Project site upon approval by the Fire Department. A detailed transportation plan would be developed and included with the final RAP submittal documents. The soil would be hauled to a permitted Class 1 disposal site as a Hazardous Waste under the appropriate Hazardous Waste Manifest.

- A trucking safety program would be implemented to address potential trucking risks associated with the transport of the exported soil to an off-site location for disposal. The trucking safety program measures would include the following:
  - Pre-employment driver screening program;
  - Random drug and alcohol testing of drivers;
  - Use of fully certified drivers;
  - Notification of traffic violations;
  - Regular and event-related vehicle inspections and maintenance;
  - Onboard safety systems consisting of:

    Onboard brake stroke monitoring systems

    Collision mitigation and threat warning systems

    Lane departure warning systems

    Rear and side collision detection and warning systems

    Vehicle stability systems

    Tire pressure monitoring systems

    Wireless mobile communications
  - GPS tracking and data monitoring;
  - Auditing
- A 16-foot high split-face block wall would be constructed around the perimeter of the project site. The wall would be set back 10 feet from the Valley Drive and 6th Street property lines to allow for a landscape area. The wall would have a gated entrance off of Valley Drive (set back 70 feet from the sidewalk) and a gated exit to 6th Street. The gates would be metal and motor operated. The appropriate signage would be provided consistent with the requirements of the City.
- The Proposed Project would construct street improvements along the frontage of the project site on Valley Drive and 6th Street. The improvements would include the installation of new curbs, gutters, and sidewalks.
- Adjacent to the project site, pedestrian access is provided by sidewalks along the west side of Valley Drive and the south side of 6th Street. The Proposed Project would include implementation of a City-approved Phase 3 Pedestrian Protection Plan that provides specific pedestrian protection measures during the following construction activities:
  - During the first days during week 5, when the removal of three mature trees would result in the periodic closure of the sidewalk along Valley Drive.
  - Between weeks 6 and 13, during the implementation of the Remedial Action Plan, when there would be periodic disruption of the sidewalk along Valley Drive.

- Between weeks 58 and 59, when the construction of street improvements (new curb, gutter, and sidewalk along 6th Street and Valley Drive would result in the closure of the sidewalk along Valley Drive.
- Between weeks 60 and 61, when the installation of the permanent landscaping would result in the closure of the sidewalk along Valley Drive.

1993 Conditional Use Permit Conditions of Approval

The construction activities associated with the project site that would occur in Phase 3 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- Parking shall be provided on the site consistent with the submitted parking plan to provide adequate parking facilities for all workers involved in oil recovery operations, including exploratory and production phases. (Section 2. Land Use Development, Condition 9)
- All truck deliveries shall be limited to daylight hours (9:00 AM – 3:00 PM), Monday through Friday, except for an emergency situation, as defined by this C.U.P. and reported to the City in accordance with the notification requirement, which have been reported to the Director of Public Works in advance of the delivery. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 1)
- Equipment deliveries shall be made only during daytime hours between 9 AM and 3 PM. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 3)
- Project related truck travel shall be restricted to specific truck routes and access points as approved by the Public Works Department. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 4)
- Signs shall be installed to direct detour traffic as approved by the Public Works Director. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 5)
- The number of truck trips shall be limited to a maximum of 18 rounds trips per day, except in an emergency, as defined by this C.U.P. and reported to the City in accordance with the notification requirement. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 6)
- Maintenance Yard site access shall be designed to enable trucks to turn into the site without inhibiting traffic movement on Valley Drive or Sixth Street. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 7)
- Minor curb radii reconstruction shall be done by the operator as determined by the City Public Works depending on the length and necessary turning radii for project related trucks. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 8)

- Area residents shall be notified of pipeline construction prior to commencement. Signs shall be installed to direct detour traffic. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 9)
- The City Council may restrict the use of certain street, alleys, or roadways in connection with the permittee's operations. In the event any street, alley, or roadway is damaged by the permittee's operations, such damages shall be paid for by the permittee upon demand by the City, and the failure to pay such damages, being the reasonable cost of the repair of any such damaged portions, shall be grounds for the revocation of the permit and the collection of such damages. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 13)

The construction activities associated with the off-site pipelines that would occur in Phase 3 of the Proposed Project would comply with the following conditions of approval:

- Areas of construction and maintenance activities [for the pipeline construction] shall be delineated by signs, flagmen, pavement markings, barricades, and lights, as determined by permit requirements of all local agencies. (Section 13. Pipeline Construction, Condition 4)
- Where pedestrian activities are affected during [pipeline] construction, appropriate warning signs shall be installed and pedestrians will be diverted. Pedestrians access to business and residences will be maintained during construction. Special facilities, such as handrails, fences, and walkways shall be provided, if necessary, for the safety of pedestrians. (Section 13. Pipeline Construction, Condition 5)
- Obstruction of emergency vehicle operations will be partially mitigated by ensuring that providers of emergency services are kept informed of the location, nature, and duration of [pipeline] construction activities so alternate routes can be chosen. It is essential that fire department access is maintained to all buildings adjacent to construction activities. For this reason, a minimum of at least one lane for streets undergoing construction will be kept open at all times, and fire hydrants in construction areas will remain accessible. (Section 13. Pipeline Construction, Condition 6)
- If public transit stops along pipeline routes need to be temporarily relocated during construction, the applicant shall coordinate with the appropriate local operators to provide signs directing riders to the temporary stop locations. (Section 13. Pipeline Construction, Condition 7)
- When hauling excavated and waste materials from construction sites, substandard roadways will be avoided and local jurisdiction regulations governing hauling vehicles will be adhered to. (Section 13. Pipeline Construction, Condition 8)
- Pipeline construction and operation of earth moving equipment shall be limited to daylight hours between 8:00 AM and 3:00 PM and shall not be permitted during weekend periods. Additionally, construction-related trucks should not be operated during peak traffic hours of 7 to 9 AM and 3 to 7 PM. Pipeline construction at major intersections shall be limited to daylight hours between 9:00

AM and 3:00 PM to avoid peak traffic periods. (Section 13. Pipeline Construction, Condition 9)

- Equipment deliveries shall be made only during daytime hours between 8 AM and 3 PM. (Section 13. Pipeline Construction, Condition 10)
- In order to reduce visual impacts and possible safety hazards, storage of pipes and other materials, as well as construction equipment, shall not be permitted on any street during non-construction hours. (Section 13. Pipeline Construction, Condition 11)
- Area residents within 300' shall be notified about the pipeline construction operation prior to commencement of construction. (Section 13. Pipeline Construction, Condition 12)
- Detour signs on pipeline construction routes shall be placed at appropriate locations. (Section 13. Pipeline Construction, Condition 13)
- Steel plates covering pipeline excavation trenches shall be placed to permit traffic movement during non-construction hours. (Section 13. Pipeline Construction, Condition 14)
- Pipeline construction along Valley Drive shall be approved by the Director of Public Works prior to issuance of a permit. (Section 13. Pipeline Construction, Condition 18)
- Trenches shall be covered during non-working hours to minimize traffic circulation problems. (Section 13. Pipeline Construction, Condition 21)

Phase 4

Design Features and Operational Practices

During Phase 4 of the Proposed Project, the remaining wells would be drilled utilizing an electric drill rig and production equipment would be used to process the extracted oil, gas, and water. Phase 4 of the Proposed Project has been designed to incorporate the following design features and operational practices to address transportation and traffic during drilling activities and ongoing production:

- The electric automated drill rig, with an approximately 87-foot high rig mist, and its associated equipment will be brought to the project site on large trucks with trailers permitted by the City and the California Highway Patrol. The permitted loads will be assisted by signage, flagmen, and other traffic control measures as required by the City.
- The temporary production equipment will be brought to the project site by large trucks with trailers. If determined by the Applicant to be needed, signage, flagmen, and other traffic control measures will be provided to assist in entering the project site.
- During the ongoing operation of the Proposed Project, the active wells will require periodic routine service. These maintenance activities will typically be

accomplished by utilizing a service rig or "workover" rig. The maximum number of days that the workover rig would be operated on the project site would be 90 days per year. The use of the workover rig would occur between the hours of 8:00 AM and 6:00 PM on weekdays only (excluding holidays).

1993 Conditional Use Permit Conditions of Approval

The drilling activities and operations in Phase 4 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- Parking shall be provided on the site consistent with the submitted parking plan to provide adequate parking facilities for all workers involved in oil recovery operations, including exploratory and production phases. (Section 2. Land Use Development, Condition 9)
- All truck deliveries shall be limited to daylight hours (9:00 AM – 3:00 PM), Monday through Friday, except for an emergency situation, as defined by this C.U.P. and reported to the City in accordance with the notification requirement, which have been reported to the Director of Public Works in advance of the delivery. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 1)
- Equipment deliveries shall be made only during daytime hours between 9 AM and 3 PM. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 3)
- Project related truck travel shall be restricted to specific truck routes and access points as approved by the Public Works Department. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 4)
- The number of truck trips shall be limited to a maximum of 18 rounds trips per day, except in an emergency, as defined by this C.U.P. and reported to the City in accordance with the notification requirement. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 6)
- The City Council may restrict the use of certain street, alleys, or roadways in connection with the permittee's operations. In the event any street, alley, or roadway is damaged by the permittee's operations, such damages shall be paid for by the permittee upon demand by the City, and the failure to pay such damages, being the reasonable cost of the repair of any such damaged portions, shall be grounds for the revocation of the permit and the collection of such damages. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 13)

NOISE
DESIGN FEATURES, OPERATIONAL PRACTICES, AND 1993 CONDITIONS OF APPROVAL

Phase 1

Design Features and Operational Practices

During Phase 1 of the Proposed Project, there would be demolition and construction activities with various combinations of construction equipment working on the project site. Phase 1 has been designed to incorporate the following noise reduction features and operational practices during the demolition and construction activities:

- A 16-foot-high temporary acoustical barrier will be erected around the perimeter of the project site. The temporary barrier will have a sound transmission class (STC) rating of at least 25.
- No construction activities at the project site will be conducted outside the hours of 8 AM to 6 PM from Monday to Friday and 9 AM to 5 PM on Saturdays. No construction activities will be conducted on Sundays or federal holidays.
- All construction equipment will be regularly serviced, in proper working order, and will not create excessive noise. Any equipment that is not compliant will be immediately reported to the site manager and removed from service. Maintenance will be performed only during the hours of 8 AM to 6 PM from Monday to Friday and 9 am to 5 pm on Saturdays.
- All personnel working on the project site will be given Employee Noise Awareness Training to include all noise control procedures and the importance of strict compliance.
- Horns, whistles, or other loud devices will not be used.
- Yelling will be avoided. All personnel communications, outside of emergencies, will be over walkie-talkies or other communication devices.
- No radios or other loud speaking devices will be allowed to be operated/played.
- All mechanical equipment, including mobile equipment will be switched off when not in use. Vehicles will not be left idling.
- Where work requires construction equipment to operate closer to the property line than permitted in Table 7-16 [page 65, Noise Impact Study, November 9, 2012], alternative demolition or construction equipment or methods will be used. Such methods may include the use of a crusher instead of a hydraulic concrete buster and reduction of the amplitude vibration of the vibratory roller.

1993 Conditional Use Permit Conditions of Approval

The demolition and construction activities for Phase 1 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- All truck deliveries shall be limited to daylight hours (9:00 AM – 3:00 PM), Monday through Friday, except for an emergency situation, as defined by this C.U.P. and reported to the City in accordance with the notification requirement, which have been reported to the Director of Public Works in advance of the delivery. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 1)
- Operation of earthmoving equipment shall be limited to daytime hours between 8 AM and 6 PM. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 2)
- Equipment deliveries shall be made only during daytime hours between 9 AM and 3 PM. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 3)
- Project related truck travel shall be restricted to specific truck routes and access points as approved by the Public Works Department. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 4)
- The number of truck trips shall be limited to a maximum of 18 rounds trips per day, except in an emergency, as defined by this C.U.P. and reported to the City in accordance with the notification requirement. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 6)
- Loudspeaker paging systems shall be prohibited. (Section 8. Noise/Vibration, Condition 6)

Phase 2

Design Features and Operational Practices

During Phase 2 of the Proposed Project, four wells would be drilled utilizing an electric drill rig and temporary production equipment would be used to process the extracted oil, gas, and water. The processed oil would be removed from the project site by truck and delivered to an off-site location for sale. Phase 2 of the Proposed Project has been designed to incorporate the following noise reduction features and operational practices for the drilling activities:

- A 32-foot-high acoustical barrier wall will be erected around the perimeter of the project site during all drilling activities. The wall will have a sound transmission class (STC) rating of at least 32.

- An electric automated drill rig, with an approximately 87-foot high rig mast, will be used to drill the wells.
- The air inlets and vents of the hydraulic power unit will be fitted with silencers having an insertion loss of at least that provided in the table below:

Octave Band Center Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Insertion Loss (dB)	4	8	18	31	38	38	31	18

- An acoustical shroud will enclose three sides of the rig mast to reduce the top drive noise.
- The mud pumps will be enclosed with acoustical barriers having a sound transmission class (STC) rating of at least 25.
- An 8-foot high acoustical barrier with an STC rating of at least 25 will be installed around the shaker tables.
- In order to reduce the possibility of noise disturbances during the nighttime hours to the nearby residents, the 'Drilling Quiet Mode Plan', provided in Appendix C of this report [Noise Impact Study, November 9, 2012], will be implemented at the drill site during the nighttime hours. This plan provides engineering noise control measures to reduce the possibility of metal-on-metal impact sounds associated with the rig as well as administrative noise control measures to help the rig workers minimize noise at the project site.

Phase 2 of the Proposed Project has been designed to incorporate the following noise reduction features for the temporary production equipment:

- Each well pump will produce a sound power level no greater than 83 dBA. This may be achieved by fitting sound attenuating enclosures that provide an insertion loss of at least 15 dB.
- The produced oil pumps, produced water pumps, water booster pumps and VFD cabinets will produce a sound power level no greater than 77 dBA.
- The water injection pumps will produce a sound power level no greater than 83 dBA.
- The vapor recovery compressors will produce a sound power level no greater than 83 dBA. The cooler for the compressors will produce a sound power level no greater than 85 dBA.

1993 Conditional Use Permit Conditions of Approval

The drilling activities and operations in Phase 2 of the Proposed Project would comply with the following conditions of approval:

- The maximum number of days the workover rigs or any other rig that is to be used on-site shall be 90 days per year, and shall be operated weekdays 8:00 A.M. to 6:00 P.M. excluding holidays. (Section 1. General, Condition 4)

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- All truck deliveries shall be limited to daylight hours (9:00 AM – 3:00 PM), Monday through Friday, except for an emergency situation, as defined by this C.U.P. and reported to the City in accordance with the notification requirement, which have been reported to the Director of Public Works in advance of the delivery. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 1)
- Equipment deliveries shall be made only during daytime hours between 9 AM and 3 PM. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 3)
- Project related truck travel shall be restricted to specific truck routes and access points as approved by the Public Works Department. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 4)
- The number of truck trips shall be limited to a maximum of 18 rounds trips per day, except in an emergency, as defined by this C.U.P. and reported to the City in accordance with the notification requirement. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 6)
- The entire drilling operation shall be equipped with acoustical treatment for noise to be within the standards set forth in the City's Oil Ordinance.
    a) A sound attenuation wall of 30-feet in height shall be provided along the perimeter of site as shown on plans during oil drilling phases. (Section 8. Noise/Vibration, Condition 1)
- Heavy/large reciprocating equipment shall be mounted on vibration isolators. (Section 8. Noise/Vibration, Condition 2)
- Pumping unit shall be maintained to eliminate noise from worn parts. (Section 8. Noise/Vibration, Condition 3)
- The drilling rig shall be acoustically wrapped and/or paneled including the ancillary and support equipment to meet the requirements of the noise ordinance. (Section 8. Noise/Vibration, Condition 4)
- Tripping will be restricted to daylight hours only. (Section 8. Noise/Vibration, Condition 5)
- Loudspeaker paging systems shall be prohibited. (Section 8. Noise/Vibration, Condition 6)
- Well workover rigs or any other rig that is used shall be operated only between the hours of 8:00 AM and 6:00 PM during daytime weekday hours only, excluding holidays, except in an emergency, as defined by this C.U.P. and reported to the City in accordance with the notification requirement. The exhaust and intake of the diesel engine (if used on the workover rig) shall be muffled to

reduce noise to an acceptable limit. The operator shall use whatever means necessary, including but not limited to, enclosing the diesel engine and rig in acoustic blankets or housing. (Section 8. Noise/Vibration, Condition 7)

- All oil maintenance equipment, vehicles and non-electrical motors shall be equipped with manufacturer approved mufflers or housed in a sound-proofing device. (Section 8. Noise/Vibration, Condition 8)
- Noise monitoring shall be conducted under the supervision of an independent certified acoustical engineer paid for by the permittee. Reports shall be submitted to the Planning Director within three working days after the completion of each phase of the monitoring. The monitoring shall include the following:

  a) Pre-drilling phase monitoring. Prior to the start of the drilling phase, noise measurements shall be obtained during the operation of the specific drilling rig which has been selected and the measurements shall be related to those experienced at the nearest residential boundaries to the drilling site. In addition, the noise control measures which have been (or will be) applied to the rig as needed for compliance with the City of Hermosa Beach noise ordinance shall be identified.

  b) Start of Drilling. Noise measurements shall be obtained during the nighttime hours (10:00 PM to 7:00 AM) for at least six hours on each of the three nights within the five day period from the start of the drilling phase. Monitoring is to occur at the nearest residential boundary to the actual drilling operation.

  c) During the drilling phase. Noise monitoring shall occur during a six-hour period between the hours from 10:00 PM to 7:00 AM at least once each month during the drilling phase of the project. The noise level data obtained shall be compared to the City of Hermosa Beach Noise Ordinance standards by the Planning Department. Where an exceedence of the standards is identified, noise control measures shall be required.

  d) Production phase. Noise measurements shall be obtained during a six-hour period between the hours from 10:00 PM to 7:00 AM at least once each year during the production and completion phase. (Section 8. Noise/Vibration, Condition 9)

- All derricks hereafter erected for drilling, re-drilling or remedial operations or for use in production operations shall be removed within 45 days after completion of the work unless otherwise ordered by the Division of Oil and Gas of the state. (Section 10. Aesthetics, Condition 13)

Phase 3

Design Features and Operational Practices

During Phase 3 of the Proposed Project, there would be construction activities with various combinations of construction equipment working on the project site and off-site related to the construction of the oil and gas pipelines. Phase 3 has been designed to

incorporate the following noise reduction features and operational practices during the construction activities associated with the project site:

- A 16-foot-high temporary acoustical barrier will be erected around the perimeter of the project site. The temporary barrier will have a sound transmission class (STC) rating of at least 25.
- No construction activities at the project site will be conducted outside the hours of 8 AM to 6 PM from Monday to Friday and 9 AM to 5 PM on Saturdays. No construction activities will be conducted on Sundays or federal holidays.
- All construction equipment will be regularly serviced, in proper working order, and will not create excessive noise. Any equipment that is not compliant will be immediately reported to the site manager and removed from service. Maintenance will be performed only during the hours of 8 AM to 6 PM from Monday to Friday and 9 am to 5 pm on Saturdays.
- All personnel working on the project site will be given Employee Noise Awareness Training to include all noise control procedures and the importance of strict compliance.
- Horns, whistles, or other loud devices will not be used.
- Yelling will be avoided. All personnel communications, outside of emergencies, will be over walkie-talkies or other communication devices.
- No radios or other loud speaking devices will be allowed to be operated/played.
- All mechanical equipment, including mobile equipment will be switched off when not in use. Vehicles will not be left idling.
- Temporary portable barriers at least 8 feet in height will be positioned around the concrete truck engine, welders, and crane engine when these pieces of equipment are in use. The barriers will be positioned as close to the equipment as possible.
- Where work requires construction equipment to operate closer to the property line than permitted in Table 7-16 [page 65, Noise Impact Study, November 9, 2012], alternative demolition or construction equipment or methods will be used. Such methods may include the use of a crusher instead of a hydraulic concrete buster and reduction of the amplitude vibration of the vibratory roller.

Phase 3 of the Proposed Project has been designed to incorporate the following noise reduction feature and operational practice during the pipeline construction activities:

- Temporary portable acoustical barriers at least 12 feet in height will be positioned on either side of the pavers and trenchers. The barriers will have an STC rating of at least 25 and will be long enough to block the line-of-sight to the nearest receptors. The barriers will be moved alongside the equipment as the machinery progresses along the pipeline route.

- Pipeline construction will be limited to daylight hours between 8:00 AM and 3:00PM Monday through Friday in the City of Hermosa Beach and Torrance. No construction will take place on holidays.

1993 Conditional Use Permit Conditions of Approval

The construction activities associated with the project site that would occur in Phase 3 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- All truck deliveries shall be limited to daylight hours (9:00 AM – 3:00 PM), Monday through Friday, except for an emergency situation, as defined by this C.U.P. and reported to the City in accordance with the notification requirement, which have been reported to the Director of Public Works in advance of the delivery. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 1)
- Operation of earthmoving equipment shall be limited to daytime hours between 8 AM and 6 PM. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 2)
- Equipment deliveries shall be made only during daytime hours between 9 AM and 3 PM. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 3)
- Project related truck travel shall be restricted to specific truck routes and access points as approved by the Public Works Department. . (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 4)
- The number of truck trips shall be limited to a maximum of 18 rounds trips per day, except in an emergency, as defined by this C.U.P. and reported to the City in accordance with the notification requirement. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 6)
- Area residents shall be notified of pipeline construction prior to commencement. Signs shall be installed to direct detour traffic. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 9)
- Loudspeaker paging systems shall be prohibited. (Section 8. Noise/Vibration, Condition 6)

The construction activities associated with the off-site pipelines that would occur in Phase 3 of the Proposed Project would comply with the following conditions of approval:

- Pipeline construction and operation of earth moving equipment shall be limited to daylight hours between 8:00 AM and 3:00 PM and shall not be permitted during weekend periods. Additionally, construction-related trucks should not be operated during peak traffic hours of 7 to 9 AM and 3 to 7 PM. Pipeline construction at major intersections shall be limited to daylight hours between 9:00

AM and 3:00 PM to avoid peak traffic periods. (Section 13. Pipeline Construction, Condition 9)

- Equipment deliveries shall be made only during daytime hours between 8 AM and 3 PM. (Section 13. Pipeline Construction, Condition 10)
- Area residents within 300' shall be notified about the pipeline construction operation prior to commencement of construction. (Section 13. Pipeline Construction, Condition 12)
- Pipeline construction along Valley Drive shall be approved by the Director of Public Works prior to issuance of a permit. (Section 13. Pipeline Construction, Condition 18)

Phase 4

Design Features and Operational Practices

During Phase 4 of the Proposed Project, the remaining wells would be drilled utilizing an electric drill rig and production equipment would be used to process the extracted oil, gas, and water. The processed oil and gas would be transported off-site for sale via the pipelines constructed in Phase 3. Phase 4 of the Proposed Project has been designed to incorporate the following noise reduction features and operational practices for the drilling activities:

- A 32-foot-high acoustical barrier wall will be erected around the perimeter of the project site during all drilling activities. The wall will have a sound transmission class (STC) rating of at least 32.
- An electric automated drill rig, with an approximately 87-foot high rig mast, will be used to drill the wells.
- The air inlets and vents of the hydraulic power unit will be fitted with silencers having an insertion loss of at least that provided in the table below:

Octave Band Center Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Insertion Loss (dB)	4	8	18	31	38	38	31	18

- An acoustical shroud will enclose three sides of the rig mast to reduce the top drive noise.
- The mud pumps will be enclosed with acoustical barriers having a sound transmission class (STC) rating of at least 25.
- An 8-foot high acoustical barrier with an STC rating of at least 25 will be installed around the shaker tables.
- In order to reduce the possibility of noise disturbances during the nighttime hours to the nearby residents, the 'Drilling Quiet Mode Plan', provided in Appendix C of this report [Noise Impact Study, November 9, 2012], will be implemented at the drill site during the nighttime hours. This plan provides engineering noise

control measures to reduce the possibility of metal-on-metal impact sounds associated with the rig as well as administrative noise control measures to help the rig workers minimize noise at the project site.

Phase 4 of the Proposed Project has been designed to incorporate the following noise reduction features for the production equipment:

- Each well pump will produce a sound power level no greater than 73 dBA. This may be achieved by fitting sound attenuating enclosures that provide an insertion loss of at least 25 dB.
- The amine cooler will be located no higher than 10 feet above the containment area ground level. The cooler will not produce a sound power level greater than 82 dBA.
- Each variable frequency drive cabinet will produce a sound power level no greater than 63 dBA.
- The compressor motors will produce a sound power level no greater than 81 dBA. This may be achieved by fitting the compressor motors with an acoustically rated enclosure providing at least 15 dB of sound reduction. The sound power level of the compressor fans will not exceed 75 dBA. This level may be achieved by fitting the fans with silencers having an insertion loss of at least that provided in the table below:

Octave Band Center Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Insertion Loss (dB)	8	14	29	41	40	41	32	17

- The produced oil pumps, produced water pumps, water booster pumps, DEA charge pumps and regenerator reflux pumps will produce a sound power level no greater than 67 dBA.
- The shipping pumps will produce a sound power level no greater than 73 dBA.
- The water injection pumps will produce a sound power level no greater than 83 dBA.
- The vapor recovery compressors will produce a sound power level no greater than 67 dBA. The cooler for the compressors will not produce a sound power level greater than 85 dBA.
- The chiller will produce a sound power level no greater than 65 dBA.
- The glycol regenerator will produce a sound power level no greater than 73 dBA.
- The micro-turbines will produce a sound power level no greater than 67 dBA. This may be achieved with an acoustically rated enclosure providing at least 20 dB of sound reduction. The micro-turbine exhausts will be silenced and will not produce a sound power level greater than 73 dBA.

1993 Conditional Use Permit Conditions of Approval

The drilling activities and ongoing operations that would occur in Phase 4 of the Proposed Project would comply with the following conditions of approval:

- The maximum number of days the workover rigs or any other rig that is to be used on-site shall be 90 days per year, and shall be operated weekdays 8:00 A.M. to 6:00 P.M. excluding holidays. (Section 1. General, Condition 4)
- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- The site shall be enclosed by a solid masonry or concrete wall with solid gates during all operations, protecting both against public entry, observation and attraction. A chain link fence to provide security is acceptable only through the exploratory phase. (Section 3. Public Safety, Condition 1)
- All truck deliveries shall be limited to daylight hours (9:00 AM – 3:00 PM), Monday through Friday, except for an emergency situation, as defined by this C.U.P. and reported to the City in accordance with the notification requirement, which have been reported to the Director of Public Works in advance of the delivery. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 1)
- Equipment deliveries shall be made only during daytime hours between 9 AM and 3 PM. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 3)
- Project related truck travel shall be restricted to specific truck routes and access points as approved by the Public Works Department. . (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 4)
- The number of truck trips shall be limited to a maximum of 18 rounds trips per day, except in an emergency, as defined by this C.U.P. and reported to the City in accordance with the notification requirement. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 6)
- The entire drilling operation shall be equipped with acoustical treatment for noise to be within the standards set forth inn the City's Oil Ordinance.
- A sound attenuation wall of 30-feet in height shall be provided along the perimeter of site as shown on plans during oil drilling phases. (Section 8. Noise/Vibration, Condition 1)
- Heavy/large reciprocating equipment shall be mounted on vibration isolators. (Section 8. Noise/Vibration, Condition 2)
- Heavy/large reciprocating equipment shall be mounted on vibration isolators. (Section 8. Noise/Vibration, Condition 2)
- Pumping unit shall be maintained to eliminate noise from worn parts. (Section 8. Noise/Vibration, Condition 3)

- The drilling rig shall be acoustically wrapped and/or paneled including the ancillary and support equipment to meet the requirements of the noise ordinance. (Section 8. Noise/Vibration, Condition 4)
- Tripping will be restricted to daylight hours only. (Section 8. Noise/Vibration, Condition 5)
- Loudspeaker paging systems shall be prohibited. (Section 8. Noise/Vibration, Condition 6)
- Well workover rigs or any other rig that is used shall be operated only between the hours of 8:00 AM and 6:00 PM during daytime weekday hours only, excluding holidays, except in an emergency, as defined by this C.U.P. and reported to the City in accordance with the notification requirement. The exhaust and intake of the diesel engine (if used on the workover rig) shall be muffled to reduce noise to an acceptable limit. The operator shall use whatever means necessary, including but not limited to, enclosing the diesel engine and rig in acoustic blankets or housing. (Section 8. Noise/Vibration, Condition 7)
- All oil maintenance equipment, vehicles and non-electrical motors shall be equipped with manufacturer approved mufflers or housed in a sound-proofing device. (Section 8. Noise/Vibration, Condition 8)
- Noise monitoring shall be conducted under the supervision of an independent certified acoustical engineer paid for by the permittee. Reports shall be submitted to the Planning Director within three working days after the completion of each phase of the monitoring. The monitoring shall include the following:

  a) Pre-drilling phase monitoring. Prior to the start of the drilling phase, noise measurements shall be obtained during the operation of the specific drilling rig which has been selected and the measurements shall be related to those experienced at the nearest residential boundaries to the drilling site. In addition, the noise control measures which have been (or will be) applied to the rig as needed for compliance with the City of Hermosa Beach noise ordinance shall be identified.

  b) Start of Drilling. Noise measurements shall be obtained during the nighttime hours (10:00 PM to 7:00 AM) for at least six hours on each of the three nights within the five day period from the start of the drilling phase. Monitoring is to occur at the nearest residential boundary to the actual drilling operation.

  c) During the drilling phase. Noise monitoring shall occur during a six-hour period between the hours from 10:00 PM to 7:00 AM at least once each month during the drilling phase of the project. The noise level data obtained shall be compared to the City of Hermosa Beach Noise Ordinance standards by the Planning Department. Where an exceedence of the standards is identified, noise control measures shall be required.

d) Production phase. Noise measurements shall be obtained during a six-hour period between the hours from 10:00 PM to 7:00 AM at least once each year during the production and completion phase. (Section 8. Noise/Vibration, Condition 9)

- The tanks, acoustical wrap and wall, and production facility shall be painted a neutral color to blend in with the surroundings; color shall be reviewed and approved by the Planning Commission. (Section 10. Aesthetics, Condition 1)
- The site for drilling equipment and the storage facilities shall be depressed in combination with walls so that the visual impact is minimized. (Section 10. Aesthetics, Condition 3)
- All derricks hereafter erected for drilling, re-drilling or remedial operations or for use in production operations shall be removed within 45 days after completion of the work unless otherwise ordered by the Division of Oil and Gas of the state. (Section 10. Aesthetics, Condition 13)

10/28/13

AESTHETICS
DESIGN FEATURES, OPERATIONAL PRACTICES, AND 1993 CONDITIONS OF APPROVAL

Phase 1

Design Features and Operational Practices

During Phase 1 of the Proposed Project, there would be demolition and construction activities with various combinations of construction equipment working on the project site. Phase 1 demolition and construction activities would incorporate the following operational practices related to aesthetics:

- Prior to the initiation of site clearance activities, temporary 16-foot high sound attenuation walls (acoustical barrier) would be erected around the perimeter of the Project site, thereby reducing the views of the on-site demolition and construction activities. The walls are designed to be moveable depending on the location of the on-site activities.
- Demolition or construction activities would occur on the Project site between the hours of 8 AM to 6 PM Monday to Friday and 9 AM to 5PM on Saturdays consistent with the requirements of the City Municipal Code. Therefore, no nighttime lighting would be provided on the Project site. The perimeter of the Project site would be illuminated by the existing street lights on Valley Drive and 6th Street.
- The Proposed Project would underground the existing overhead power lines and communication lines on poles that run through the existing trees along Valley Drive. The lines would be located underground adjacent to the Project site at a location determined by the utility companies and the City.
- The electrical service for the Proposed Project would require the installation of underground conduit in Valley Drive from 8th Street to the northeast corner of the Project site. The location of the underground conduit would be determined by Southern California Edison (SCE) and the City. The areas disturbed would be returned to their existing condition to the satisfaction of the City.
- Reclaimed water for use in irrigation of the landscape areas and drilling would be extended from an existing reclaimed waterline in the Veterans Parkway via a six-inch lateral water line brought across Valley Drive to a location south of the project entrance driveway to be constructed in Phase 3. The areas disturbed would be returned to their existing condition to the satisfaction of the City.
- Three of the four existing mature trees along the Project frontage on Valley Drive would be retained to help screen construction activities. The three remaining trees would be trimmed to keep branches from hanging over the on-site equipment and avoid trespass activities.
- After the completion of the site clearance, construction of retaining walls, and rough grading, the Project site would be enclosed with a six-foot temporary perimeter chain link fence covered in green fabric material. The fence would

include secured gates for the entrance off Valley Drive and the exit to 6th Street. The appropriate signage would be provided consistent with the requirements of the City.

- Phase 1 would include the construction of a well cellar for the first three oil wells and the first water injection well. The cement well cellar would be eight feet wide and 12 feet deep. The below ground well cellar would have stairs at one end that lead down into the cellar and the top of the well cellar would be covered by metal grating.
- The surface of the Project site would be covered with crushed aggregate base material to serve as a dust inhibitor and driving surface.
- Temporary landscaping, including three large trees along 6th Street, would be provided along the eastern and southern perimeter of the Project site within the 10-foot landscape area. A rolled asphalt curb would line the landscape area on 6th Street. The plant materials and irrigation would be consistent with the requirements of the City.
- The Proposed Project would include the construction of improvements to the intersection of 6th Street/Valley Drive to provide the necessary turning radius for the project-related trucks turning southbound on Valley Drive from 6th Street. As a part of the intersection improvements, the overhead power lines and utility poles on the corner of 6th Street and Valley Drive would be located underground at a location determined by the utility companies and the City. The landscape area would be redesigned to allow for the improvements.
- At the completion of the improvements in Phase 1, a 32-foot sound attenuation wall would be erected inside the chain link construction fence.

1993 Conditional Use Permit Conditions of Approval

The demolition and construction activities for Phase 1 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- The site shall be enclosed by a solid masonry or concrete wall with solid gates during all operations, protecting both against public entry, observation and attraction. A chain link fence to provide security is acceptable only through the exploratory phase. (Section 3. Public Services, Condition 1)
- The entire drilling operation shall be equipped with acoustical treatment for noise to be within the standards set forth in the City's Oil Ordinance.
    a) A sound attenuation wall of 30-feet in height shall be provided along the perimeter of site as shown on plans during oil drilling phases. (Section 8. Noise/Vibration, Condition 1)

- A Detailed Landscape Plan for Phase I (exploratory and testing) and Phase II, indicating the type, size and quantity of plant materials shall be submitted to the Planning Director for review and approval, and it shall be consistent with the conceptual landscape plan reviewed by the Planning Commission, and shall comply with Section 21A-2.9 of the Oil Code. (Section 9. Landscaping, Condition 1)
- During Phase I, test facility, landscaping consisting of 24" box, or larger size trees may be installed without permanent planting. (Section 9. Landscaping, Condition 2)
- Minimum 24" boxed trees for Phase I and II shall be adequate in size to create a buffer effect to obscure visibility of oil production activity. Permanent trees planted around the perimeter of the site for Phase II shall be a minimum sixteen (16) feet high at planting. (Section 9. Landscaping, Condition 3)
- Trees along the lot perimeter shall be provided to create a dense landscape buffer to the satisfaction and field review of the Planning Director. (Section 9. Landscaping, Condition 4)
- Landscaping shall be maintained in a neat and clean condition. (Section 9. Landscaping, Condition 6)
- A complete automatic sprinkler system shall be provided prior to commencement of Phase II. (Section 9. Landscaping, Condition 7)
- All outdoor lighting shall be shielded and directed inward of the site. (Section 10. Aesthetics, Condition 4)
- Lighting shall be limited solely to the amount and intensities necessary for safety and security purposes. (Section 10. Aesthetics, Condition 5)
- Certain activities which might involve unshielded lighting (i.e., site preparation and restoration) activities shall be limited to daylight hours and thus not require nighttime lighting. (Section 10. Aesthetics, Condition 6)
- A spilt-face block wall maintained graffiti free of a minimum of 12 feet in height shall be provided; wall materials shall be reviewed and approved by Planning Director. During test drilling minimum 6' high fencing shall be provided. (Section 10. Aesthetics, Condition 7)
- On-site signs shall be limited to those needed for public health and safety. (Section 10. Aesthetics, Condition 12)
- Graded surfaces shall be paved or landscaped per approved plan. (Section 12. Grading/Storm Water/Site Runoff, Condition 3)

Phase 2

Design Features and Operational Practices

During Phase 2 of the Proposed Project, four wells would be drilled utilizing an electric drill rig and temporary production equipment would be installed and used to process the extracted oil, gas, and water. The processed oil would be removed from the project site by truck and delivered to an off-site location for sale. Phase 2 of the Proposed Project would incorporate the following design features and operational practices related to aesthetics during drilling activities and temporary production:

- For the entire duration of Phase 2, the 32-foot sound attenuation wall along the perimeter of the Project site and the temporary landscaping along 6th Street and Valley Drive installed in Phase 1, along with the three existing mature trees, would be in place.
- The drilling of the wells would be conducted by an electric automated drill rig with an approximately 87-foot high rig mast. An acoustical shroud would enclose three sides of the drill rig mast. The shroud would be a neutral color to blend in with the surroundings. The color would be reviewed and approved by the Planning Commission.
- After the drilling of the wells for Phase 2, the drill rig would immediately be removed from the Project site.
- The temporary construction trailer, temporary production equipment, and storage tanks brought to the Project site would not be visible above the surrounding 32-foot noise attenuation wall.
- The Proposed Project would provide temporary nighttime lighting to address site security and worker safety consistent with the requirements of the City. This would include the following:
  - To address site security, temporary lighting would be provided by light fixtures at the project site entrance and exit. The lighting would consist of a light fixture that would be pole-mounted at a height of approximately 10 feet. The fixture would have low energy lights that would be shielded/hooded and downcast so that it would not create light spill or glare beyond the property line.
  - To address site security, lighting would be provided for the temporary construction trailer. The light would consist of two approximately 150-watt light fixtures at each end of the trailer. The fixtures would be shielded/hooded and downcast so that it would not create light spill or glare. In addition, the lights on the temporary construction trailer would be located behind the 32-foot sound attenuation wall, which would block any light spill or glare from leaving the project site.
  - To address worker safety, lighting would be provided for the drill rig. The drill rig would have pole-mounted lights on the rig platform (approximately 15 feet above the ground surface) and on the drill rig mast (starting at a height of approximately 19 feet above the ground surface and up to the top of

the mast at a height of approximately 87 feet). The drill rig mast would be enclosed within an acoustical cover on three sides. Within the acoustical cover, there would be LED lights that run along one side of the mast structure at intervals of approximately 4 feet and on the other side there would be two lights, one located on the top of the mast and the other where the drill rig "function" would be occurring. These LED lights, which face towards the inside of the acoustical cover, are for the purpose of creating an ambient glow within the acoustical cover to provide visibility for the safety of the workers. Since the lights would be facing inward within the acoustical cover, the light bulbs would not be visible and no light spill or glare would be created. In addition, the lights on the rig platform at the base of the drill rig mast would be shielded/hooded and downcast. The lights on the rig platform and the lower portion of the drill rig mast would be located behind the 32-foot sound attenuation wall, which would block any light spills or glare from leaving the project site.

- To address worker safety, lighting would be provided for the drill rig equipment, the temporary production equipment, and the shipping tanks. The drill rig equipment would have pole-mounted lights along a walk platform approximately 19 feet above the ground surface. These lights would be facing downward towards the drill rig equipment. The lighting for the temporary production equipment and shipping tanks would consist of an approximately 150-watt hooded and downward cast flood lights hung where needed to provide visibility for the safety of workers. The lights for the drill rig equipment, the temporary production equipment, and the shipping tanks would be located behind the 32-foot sound attenuation wall, which would block any light spills or glare from leaving the project site.

1993 Conditional Use Permit Conditions of Approval

The drilling activities and operations in Phase 2 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- Except for the drill rig and drawworks, no equipment or appurtenant structures shall exceed 16 feet in height from grade as defined by the Oil Code. (Section 2. Land Use Development, Condition 5)
- The entire drilling operation shall be equipped with acoustical treatment for noise to be within the standards set forth in the City's Oil Ordinance.
  a) A sound attenuation wall of 30-feet in height shall be provided along the perimeter of site as shown on plans during oil drilling phases. (Section 8. Noise/Vibration, Condition 1)
- Landscaping shall be maintained in a neat and clean condition. (Section 9. Landscaping, Condition 6)

- The use of architectural lighting beyond safety and security requirements shall be prohibited. (Section 10. Aesthetics, Condition 2)
- All outdoor lighting shall be shielded and directed inward of the site. (Section 10. Aesthetics, Condition 4)
- Lighting shall be limited solely to the amount and intensities necessary for safety and security purposes. (Section 10. Aesthetics, Condition 5)
- On-site signs shall be limited to those needed for public health and safety. (Section 10. Aesthetics, Condition 12)
- All derricks hereafter erected for drilling, re-drilling or remedial operations or for use in production operations shall be removed within 45 days after completion of the work unless otherwise ordered by the Division of Oil and Gas of the state. (Section 10. Aesthetics, Condition 13)

Phase 3

Design Features and Operational Practices

During Phase 3 of the Proposed Project, there would be construction activities resulting in various vehicles traveling to and from the project site, including trucks used in the export of soil during the implementation of the remedial action plan for the Proposed Project. In addition, there would be construction activities associated with the installation of off-site pipelines resulting in short-term road closures in the Cities of Hermosa Beach, Redondo Beach, and Torrance. Phase 3 construction activities would incorporate the following design features and operational practices related to aesthetics:

- The 32-foot sound attenuation wall and the six-foot temporary perimeter chain link fence would be removed and 16-foot sound attenuation walls (acoustical barrier) would be used on the Project site during soil remediation, grading, and construction activities. The walls are designed to be movable depending on the location of the on-site activity.
- Grading and construction activities would occur on the Project site between the hours of 8 AM to 6 PM Monday to Friday and 9 AM to 5PM on Saturdays consistent with the requirements of the City Municipal Code. Therefore, no nighttime lighting would be provided on the Project site. The perimeter of the Project site would be illuminated by the existing street lights on Valley Drive and 6th Street.
- The temporary oil, water, and gas production equipment installed on the Project site during Phase 2 would be removed from the Project site. In addition, the three remaining mature trees along Valley Drive and the temporary landscaping installed in Phase 2 would be removed from the Project site.
- The Remedial Action Plan (RAP) would be implemented to remove the contaminated soil within the former landfill area on the northeastern portion of the Project site. It is anticipated that approximately 9,000 cubic yards of contaminated soil would be removed from the Project site and hauled to a Class 1

landfill. In addition, total petroleum hydrocarbon (TPH) contaminated soil would be treated on-site via vapor extraction. The vapor extraction would be conducted by two to four extraction wells on the northern portion of the Project site. The only visible indication that the wells are present would be a grade level metal cover on the ground.

- Following the completion of the RAP, the construction of the remaining retaining walls and the final grading of the Project site would occur. The final grading would not require the import and export of fill material.
- Phase 3 would include the completion of the first well cellar and the construction of a second well cellar for the remaining oil wells and water injection wells. The cement well cellars would be eight feet wide and 12 feet deep. The below ground well cellar would have stairs at both ends that lead down into the cellar and the top of the well cellar would be covered by metal grating.
- A 16-foot split-faced block wall would be installed around the perimeter of project site. The wall would be set back 10 feet from the Valley Drive and 6th Street property lines to allow for a permanent landscape area. The wall would have a gated entrance off of Valley Drive and a gated exit to 6th Street. The gates would be metal and motor operated. The wall and gate colors would be reviewed and approved by the Planning Director. The appropriate signage would be provided consistent with the requirements of the City.
- After the completion of the RAP, final grading, and construction of the well cellars and perimeter wall, the 16-foot temporary sound attenuation wall would be removed from the Project site.
- A small office building consisting of approximately 650 square feet would be constructed on the northeast portion of the Project site. The building would be a neutral color to blend with the surroundings.
- The permanent oil, gas, and water production equipment would be installed on the eastern portion of the project site. This would include storage tanks with a maximum height of 16 feet. The area on the Project site with the tanks would have a finished grade of 6 to 7 feet below the ground surface and be surrounded by a 6 to 7-foot retaining wall in the interior of the Project site and the 16-foot split-face block wall around the perimeter of the Project site. The storage tanks and any piping for the vapor recovery system would be below the height of the 16-foot perimeter wall.
- The ground surface of the Project site would be paved with concrete or asphaltic concrete. In addition, the construction of final street improvements along the frontage of the Project site along 6th Street and Valley Drive would occur. This would include the installation of new curbs, gutters, and sidewalks.
- The permanent landscaping, including nine large trees, would be provided within the 10-foot landscape area along the eastern and southern perimeter of the Project site. In addition, landscaping consisting of vines would be provided on the visible portion of the western-facing perimeter wall. The plant materials and irrigation

would be consistent with the requirements of the City. To the extent feasible, the landscaping from Phase 2 would be reused.

- A 32-foot sound attenuation wall would be installed behind the 16-foot split-faced block wall to encompass the Project site.
- During Phase 3, off-site gas and oil pipelines would be construction to transport product for sale. The pipelines would be constructed underground within road right-of-ways and/or within the SCE utility corridor within the Cities of Hermosa Beach, Redondo Beach, and Torrance. Temporary portable acoustical barriers would be positioned on either side of the pavers and trenchers, blocking the line-of-sight of the construction area from the nearest sensitive locations. The barriers would be moved alongside the equipment as it progresses along the pipeline route.

1993 Conditional Use Permit Conditions of Approval

The construction activities that would occur in Phase 3 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- The maximum size for any storage tank of any type shall be forty feet in diameter and sixteen feet in height, appurtenances not included. (Section 2. Land Use Development, Condition 1)
- The entire drilling operation shall be equipped with acoustical treatment for noise to be within the standards set forth in the City's Oil Ordinance.
    a) A sound attenuation wall of 30-feet in height shall be provided along the perimeter of site as shown on plans during oil drilling phases. (Section 8. Noise/Vibration, Condition 1)
- A Detailed Landscape Plan for Phase I (exploratory and testing) and Phase II, indicating the type, size and quantity of plant materials shall be submitted to the Planning Director for review and approval, and it shall be consistent with the conceptual landscape plan reviewed by the Planning Commission, and shall comply with Section 21A-2.9 of the Oil Code. (Section 9. Landscaping, Condition 1)
- Minimum 24" boxed trees for Phase I and II shall be adequate in size to create a buffer effect to obscure visibility of oil production activity. Permanent trees planted around the perimeter of the site for Phase II shall be a minimum sixteen (16) feet high at planting. (Section 9. Landscaping, Condition 3)
- Trees along the lot perimeter shall be provided to create a dense landscape buffer to the satisfaction and field review of the Planning Director. (Section 9. Landscaping, Condition 4)

- The aesthetic impact of the exposed masonry walls on the west and northern sides shall be soften with the planting of climbing vines to the satisfaction and field review of the Planning Director. (Section 9. Landscaping, Condition 5)
- Landscaping shall be maintained in a neat and clean condition. (Section 9. Landscaping, Condition 6)
- The tanks, acoustical wrap and wall, and production facility shall be painted a neutral color to blend in with the surroundings; color shall be reviewed and approved by the Planning Commission. (Section 10. Aesthetics, Condition 1)
- The use of architectural lighting beyond safety and security requirements shall be prohibited. (Section 10. Aesthetics, Condition 2)
- The site for drilling equipment and the storage facilities shall be depressed in combination with walls so that the visual impact is minimized. (Section 10. Aesthetics, Condition 3)
- All outdoor lighting shall be shielded and directed inward of the site. (Section 10. Aesthetics, Condition 4)
- Lighting shall be limited solely to the amount and intensities necessary for safety and security purposes. (Section 10. Aesthetics, Condition 5)
- Certain activities which might involve unshielded lighting (i.e., site preparation and restoration) activities shall be limited to daylight hours and thus not require nighttime lighting. (Section 10. Aesthetics, Condition 6)
- A spilt-face block wall maintained graffiti free of a minimum of 12 feet in height shall be provided; wall materials shall be reviewed and approved by Planning Director. During test drilling minimum 6' high fencing shall be provided. (Section 10. Aesthetics, Condition 7)
- The height of the site's perimeter wall shall be increased to at least 16 feet if beam pumping units taller than 12 feet are installed, or if perimeter trees, when planted for Phase II, are not a minimum of sixteen (16) feet in height when installed. (Section 10. Aesthetics, Condition 8)
- Tanks shall be submerged 6 to 8 feet or more below grade and will be adjacent to the 12-foot high privacy wall. (Section 10. Aesthetics, Condition 9)
- All production equipment and structures shall be painted to blend with the surrounding environment with review and approval by the Planning Director. (Section 10. Aesthetics, Condition 11)
- On-site signs shall be limited to those needed for public health and safety. (Section 10. Aesthetics, Condition 12)
- Graded surfaces shall be paved or landscaped per approved plan. (Section 12. Grading/Storm Water/Site Runoff, Condition 3)

- In order to reduce visual impacts and possible safety hazards [during pipeline construction], storage of pipes and other materials, as well as construction equipment, shall not be permitted on any street during non-construction hours. (Section 13. Pipeline Construction 11)

Phase 4

Design Features and Operational Practices

During Phase 4 of the Proposed Project, remaining wells would be drilled utilizing an electric drill rig and production equipment would be installed and used to process the extracted oil, gas, and water. Phase 4 of the Proposed Project has been designed to incorporate the following design features and operational practices to address aesthetics:

- During the drilling activities in Phase 4, the 32-foot sound attenuation wall installed in Phase 3 would be along the perimeter of the project site. In addition, during all of Phase 4, the 16-foot block wall and landscaping installed in Phase 3 would remain in place.
- The drilling of the wells would be conducted by an electric automated drill rig with an approximately 87-foot high rig mast. An acoustical shroud would enclose three sides of the drill rig mast. The shroud would be a neutral color to blend in with the surroundings. The color would be reviewed and approved by the Planning Commission.
- After the drilling of the wells for Phase 4, the drill rig would immediately be removed from the Project site.
- The Proposed Project would provide nighttime lighting to address site security and worker safety consistent with the requirements of the City. This would include the following:
  - To address site security, light fixtures would be provided at the project site entrance and exit. The lights would consist of an approximately 150-watt light fixture adjacent to the gate that would be mounted on the perimeter wall at a height of approximately 15 feet. The light fixtures would be shielded/hooded and downcast so that they would not create light spill or glare beyond the property line.
  - To address site security, lighting would be provided for the small office building. The light would consist of an approximately 150-watt light fixture wall-mounted at a height of approximately 10 feet at the building entrance. The fixture would be shielded/hooded and downcast so that it would not create light spill or glare. In addition, the light on the office building would be located behind the 16-foot split-faced block wall, which would block any light spill or glare from leaving the project site.
  - To address worker safety, lighting would be provided for the drill rig and drill rig platform as discussed above for Phase 2. The lights on the rig platform and the lower portion of the drill rig mast would be located behind the 32-foot

sound attenuation wall, which would block any light spills or glare from leaving the project site.

- To address worker safety, lighting would be provided for along the interior of the 16-foot perimeter split-faced block wall and incorporated into the pipe rack and equipment design. The lighting would be shielded/hooded and downcast so that it would not create light spill or glare. In addition, this lighting would be located behind the 16-foot split-faced block wall, which would block any light spill or glare from leaving the project site.
- The maintenance activities on the project site that would require the use of a workover rig would occur between the hours of 8:00 A.M. and 6:00 P.M. Therefore, no nighttime lighting would be required.

1993 Conditional Use Permit Conditions of Approval

The drilling and ongoing operations that would occur in Phase 4 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- Except for the drill rig and drawworks, no equipment or appurtenant structures shall exceed 16 feet in height from grade as defined by the Oil Code. (Section 2. Land Use Development, Condition 5)
- The site shall be enclosed by a solid masonry or concrete wall with solid gates during all operations, protecting both against public entry, observation and attraction. A chain link fence to provide security is acceptable only through the exploratory phase. (Section 3. Public Services, Condition 1)
- The entire drilling operation shall be equipped with acoustical treatment for noise to be within the standards set forth in the City's Oil Ordinance.
  a) A sound attenuation wall of 30-feet in height shall be provided along the perimeter of site as shown on plans during oil drilling phases. (Section 8. Noise/Vibration, Condition 1)
- Landscaping shall be maintained in a neat and clean condition. (Section 9. Landscaping, Condition 6)
- The tanks, acoustical wrap and wall, and production facility shall be painted a neutral color to blend in with the surroundings; color shall be reviewed and approved by the Planning Commission. (Section 10. Aesthetics, Condition 1)
- The use of architectural lighting beyond safety and security requirements shall be prohibited. (Section 10. Aesthetics, Condition 2)
- All outdoor lighting shall be shielded and directed inward of the site. (Section 10. Aesthetics, Condition 4)

- Lighting shall be limited solely to the amount and intensities necessary for safety and security purposes. (Section 10. Aesthetics, Condition 5)
- If the drill derrick remains idle for more than one year, review and approval by the City Planning Commission or City Council shall be required, or the derrick with review and approval by the Planning Director. (Section 10. Aesthetics, Condition 10)
- On-site signs shall be limited to those needed for public health and safety. (Section 10. Aesthetics, Condition 12)
- All derricks hereafter erected for drilling, re-drilling or remedial operations or for use in production operations shall be removed within 45 days after completion of the work unless otherwise ordered by the Division of Oil and Gas of the state. (Section 10. Aesthetics, Condition 13)
- The operator shall diligently and continuously pursue drilling operations until the all 30 oil wells and all five (5) water disposal wells are completed or abandoned to the satisfaction of the Division of Oil and Fas of the states and upon completion or abandonment shall remove all drilling equipment from the drill site within 45 days following ordered by the Division of Oil and Gas. (Section 10. Aesthetics, Condition 14)

GEOLOGY AND SOILS
DESIGN FEATURES, OPERATIONAL PRACTICES, AND 1993 CONDITIONS OF APPROVAL

Phase 1

Design Features and Operational Practices

During Phase 1 of the Proposed Project, there would be demolition and construction activities with various combinations of construction equipment working on the project site. Phase 1 demolition and construction activities would incorporate the following operational practices related to geology and soils:

- A Geotechnical Exploration and Design Report, prepared by NMG Geotechnical, Inc., dated October 19, 2013 has been completed for the Proposed Project and submitted to the City for review. The Geotechnical Exploration and Design Report includes the assessment of the geologic setting, faulting and seismicity, site specific seismic analysis, liquefaction, and settlement potential.
- Prior to grading, grading plans would be reviewed by the Geotechnical Consultant to determine if additional recommendations are needed. A detailed geotechnical report would be prepared by a registered Civil Engineer specializing in geotechnical engineering and submitted with engineered grading plans to provide a design and/or construction level recommendations for the Proposed Project. Geotechnical rough grading plan review reports would be prepared in accordance with the County of Los Angeles Department of Public Works, Geotechnical and Materials Engineering Division, Manual for Preparation of Geotechnical Reports.
- Grading and earthwork would be performed under the observation of a Registered Civil Engineer and Certified Engineering Geologist to ensure proper sub-grade preparation, selection of satisfactory fill materials, and placement and compaction of structural fill and to provide professional review and written approval.
- Prior to the issuance of grading permits, grading level details of the proposed temporary removal excavation slopes would be evaluated for stability and necessary shoring to protect the adjacent property and improvements. The detailed geotechnical report would provide design parameters for shoring.
- Once the Project site is cleared, retaining walls would be constructed along the western boundary of the Project site and, set back 10 feet, along the western portion of the southern property boundary.
- A minimal amount of rough grading would occur in the western and southwestern portions of the Project site to allow for: the construction of a well cellar for three exploratory oil wells and a water injection well; a change in grade to provide surface drainage towards the well cellar in the event of an oil spillage or rainfall; the set up and movement of the drill rig; and the installation of temporary production equipment. In addition, the trenches for the existing utilities and the basement under the existing maintenance building would need to be filled in. It is

not anticipated that the rough grading would require the import or export of fill material.

- The surface of the Project site would be covered with crushed aggregate base material to serve as a dust inhibitor and driving surface. The grading would ensure storm water from up to a 100-year event would not leave the Project site and soil erosion would not occur.
- Excavation and grading would occur off-site to implement the following improvements which would be provided as a part of the Proposed Project:
  - Undergrounding of the existing overhead power lines and communication lines on poles that run through the existing trees along Valley Drive to a location in the right-of-way adjacent to the Project site;
  - To provide electrical service to the Proposed Project, installation of underground conduit in the right-of-way in Valley Drive from 8th Street to the northeast corner of the Project site;
  - Installation of a six-inch lateral water line from an existing reclaimed waterline in the Veterans Parkway, across Valley Drive, to a location south of the Project entrance driveway to provide reclaimed water for irrigation of the landscape areas and drilling in Phases 2 and 4; and
  - The construction of improvements at the southwestern corner of 6th Street and Valley Drive, including the undergrounding of power lines.

  The specific locations of the improvements would be determined by the respective utilities and the City. As appropriate, the areas disturbed would be returned to their existing condition to the satisfaction of the City.

1993 Conditional Use Permit Conditions of Approval

The demolition and construction activities for Phase 1 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- Prior to construction and prior to obtaining building permits for oil production, a complete soil analysis shall be performed and approved by all applicable governing agencies having jurisdiction over the project. (Section 2. Land Use Development, Condition 2)
- A soils engineering report and engineering geology report prepared by a licensed geologist and engineer shall be prepared and reviewed in conjunction with the plans for all physical improvements. Said report shall address potential seismic hazards, such as liquefaction, due to soils or geologic conditions. All recommendations contained in said reports shall be incorporated in the construction documents. (Section 3. Public Safety, Condition 10)

- An evaluation of the structural condition of the existing pavement shall be performed by a soils engineer on all access streets and the proposed truck routes prior to commencing any site preparation or construction and prior to the issuance of any necessary permits. The evaluation shall include as a minimum:

  a) the number, type, size, and weight of trucks for export of materials or product,

  b) the number, type, size and weight of truck deliveries of building supplies, drilling supplies, etc.

  c) the number, type, size and weight of equipment transported to the site,

  d) other associated transportation items,

  e) other anticipated loading.

  The evaluation shall contain recommendations as to actions required to maintain said streets and routes in their current condition throughout the planned development phase, planned production phase, and in the close out phase. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 11)

- The operator shall perform the actions on the existing pavement as recommended by the soils or highway engineer, the operator will hire a licensed contractor and provide street profiles, drawings, and engineering to the satisfaction of the Public Works Department prior to work commencing. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 12)

Phase 2

Design Features and Operational Practices

During Phase 2 of the Proposed Project, four wells would be drilled utilizing an electric drill rig and temporary production equipment would be installed and used to process the extracted oil, gas, and water. The processed oil would be removed from the project site by truck and delivered to an off-site location for sale. No additional grading would occur in Phase 2. The construction trailer, temporary production equipment, and tanks would be trailer mounted and the temporary piping would be above ground.

1993 Conditional Use Permit Conditions of Approval

The drilling activities and operations in Phase 2 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)

- All wells shall be drilled and cemented in accordance with State Division of Oil and Gas regulations to protect underground aquifers. (Section 2. Land Use Development, Condition 4)

- Drillsite and production facilities shall be constructed in accordance with the State seismic standards, and designed in accordance with U.B.C. seismic requirements for hazardous facilities. (Section 3. Public Safety, Condition 9)
- Analysis [of subsidence] shall be reviewed by an independent reservoir engineer hired by the City of Hermosa Beach and paid for by the oil driller. (Section 5. Subsidence, Condition 1)
- The engineer's focus shall deal with the issue of settlement of land within the limits of the oil field and area outside the limit of the oil field and as a result of the driller's operation. (Section 5. Subsidence, Condition 2)
- The engineer shall determine and submit a plan showing the potential zone of influence for all soil settlement. Settlement readings shall be measured to 0.01 feet at any control point. (Section 5. Subsidence, Condition 3)
- The adjacent area shall be surveyed a minimum of 1,000 feet from the zone of influence boundary as determined above. To determine the existing ground surface elevations, an elevation control survey shall be done before the drilling begins and shall be used as a base of reference. (Section 5. Subsidence, Condition 4)
- The operator shall prepare a plan outlining the method to monitor subsidence as well as any corrective measures for settlements in excess of 0.10 feet. The plan shall be approved by and independent engineer and approved y the Director of Public works. (Section 5. Subsidence, Condition 5)
- There shall be an annual elevation survey for the project area to monitor and evaluate any potential settlement. If the survey data indicates subsidence, then the driller shall take such action as provided in the subsidence control plan as approved by the Director of Public Works, which shall include a program for more frequent monitoring, and shall include monitoring subsidence along the pipeline route. (Section 5. Subsidence, Condition 6)
- The City Council may restrict the use of certain street, alleys, or roadways in connection with the permittee's operations. In the event any street, alley, or roadway is damaged by the permittee's operations, such damages shall be paid for by the permittee upon demand by the City, and the failure to pay such damages, being the reasonable cost of the repair of any such damaged portions, shall be grounds for the revocation of the permit and the collection of such damages. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 13)

Phase 3

Design Features and Operational Practices

During Phase 3 of the Proposed Project, there would be construction activities resulting in various vehicles traveling to and from the project site, including trucks used in the export of soil during the implementation of the remedial action plan for the Proposed Project. In addition, there would be construction activities associated with the installation of off-site pipelines resulting in short-term road closures in the Cities of Hermosa Beach,

Redondo Beach, and Torrance. Phase 3 construction activities would incorporate the following design features and operational practices related geology and soils:

- The Remedial Action Plan (RAP) would be implemented to remove the lead contaminated soil within the former landfill area on the northeastern portion of the Project site. The impacted soil would be removed to a depth of 15 feet below ground surface (bgs) within the former landfill area. Upon confirmation that the lead contaminated soil has been removed to the extent identified in the RAP, the excavations would be backfilled with a minimum of 5 feet of clean soil. It is anticipated that approximately 9,000 cubic yards of contaminated soil would be removed from the Project site and hauled to a Class 1 landfill. During the grading for the remediation activities, shoring may be required.
- The RAP would be implemented to address the total petroleum hydrocarbon (TPH) contaminated soil in the northeastern portion of the Project site. The TPH contaminated soil would be treated on-site via vapor extraction conducted by two to four extraction wells on the northern portion of the Project site. The only visible indication that the wells are present would be a grade level metal cover on the ground.
- Following the completion of the RAP, the construction of the remaining retaining walls and the final grading of the Project site would occur. The Phase 3 grading plan requires the removal of 9,000 cubic yards of material from the Project site consistent with the RAP to obtain the grades needed, including the depressed containment area for the tanks. The soil balance was engineered to accommodate the need to remove the 9,000 cubic yards of lead contaminated soil without requiring any import of clean fill. Fill would be placed in accordance with the Geotechnical Exploration and Design Report as engineered fill.
- Prior to grading, grading plans would be reviewed by the Geotechnical Consultant to determine if additional recommendations are needed. A detailed geotechnical report would be prepared by a registered Civil Engineer specializing in geotechnical engineering and submitted with engineered grading plans to provide a design and/or construction level recommendations for the Proposed Project. Geotechnical rough grading plan review reports would be prepared in accordance with the County of Los Angeles Department of Public Works, Geotechnical and Materials Engineering Division, Manual for Preparation of Geotechnical Reports.
- Grading and earthwork would be performed under the observation of a Registered Civil Engineer and Certified Engineering Geologist to ensure proper sub-grade preparation, selection of satisfactory fill materials, and placement and compaction of structural fill and to provide professional review and written approval.
- Prior to the issuance of grading permits, grading level details of the proposed temporary removal excavation slopes would be evaluated for stability and necessary shoring to protect the adjacent property and improvements. The detailed geotechnical report would provide design parameters for shoring. Shoring would be designed by a shoring engineer and the reviewed by the geotechnical engineer and the City for approval prior to installation.

- Structures would be designed to the most recent version of the California Building Code and the findings stated in the Geotechnical Exploration and Design Report.
- The grading of the project site that would occur during Phase 3 would result in the construction of retaining walls along Valley Drive, the remainder of the retaining wall along 6th Street, and retaining walls within the project site for the containment area. After completion of the retaining walls, the final grading of the Project site would occur to allow for: the completion of the wells cellars; the completion of the final drainage facilities; the installation of the permanent production equipment, storage tanks, the small office building, and electrical equipment; and the construction of the perimeter block wall as well as other site improvements.
- The grading would not be anticipated to come in contact with the existing oil well (Sinnett Oil Well #1) that was drilled in the western portion of the Project site in 1931. The well was abandoned in 2005 to the current standards of the California Division of Oil, Gas, and Geothermal Resources (DOGGR).
- There are two 550-gallon underground storage tanks that were abandoned in place by filling with concrete in the southerly portion of the Project site. In April 1989, the County of Los Angeles issued a closure letter with no further action. The exact location of these tanks are not known and they may be encountered during grading at the Project site and may require removal if they are in the way of grading or improvements.
- The permanent oil, gas, and water production equipment would be installed on the eastern portion of the Project site. This would include storage tanks with a maximum height of 16 feet. The area on the Project site with the tanks would have a finished grade of 6 to 7 feet below the ground surface and be surrounded by a 6 to 7-foot retaining wall in the interior of the Project site and the 16-foot split-face block wall around the perimeter of the Project site. The storage tanks and any piping for the vapor recovery system would be below the height of the 16-foot perimeter wall.
- Some of the tanks, equipment, and walls in the northern and northeastern portions of the Project site would be located where the former landfill had occurred and the contaminated soil would be remediated with the implementation of the RAP. This area would have the potential to have seismic settlements of up to 3.5 inches as a result of the landfill material left in place. To address this, the Proposed Project would implement one of the two following feasible options to address these settlements for proposed structures that cannot tolerate settlements of 3.5 inches or significant differential settlement: ground improvements and/or deep foundations including drilled-in-place, grouted pipe piles; or cast-in-drilled hole piles. The final design and selection of the most appropriate option to address potential settlement would be required once site plans and structural plans are finalized.

- The ground surface of the Project site would be paved with concrete or asphaltic concrete. In addition, the construction of final street improvements along the frontage of the Project site along 6th Street and Valley Drive would occur. This would include the installation of new curbs, gutters, and sidewalks.

1993 Conditional Use Permit Conditions of Approval

The construction activities that would occur in Phase 3 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- Prior to construction and prior to obtaining building permits for oil production, a complete soil analysis shall be performed and approved by all applicable governing agencies having jurisdiction over the project. ((Section 2. Land Use Development, Condition 2)
- Drillsite and production facilities shall be constructed in accordance with the State seismic standards, and designed in accordance with U.B.C. seismic requirements for hazardous facilities. (Section 3. Public Safety, Condition 9)
- A soils engineering report and engineering geology report prepared by a licensed geologist and engineer shall be prepared and reviewed in conjunction with the plans for all physical improvements. Said report shall address potential seismic hazards, such as liquefaction, due to soils or geologic conditions. All recommendations contained in said reports shall be incorporated in the construction documents. (Section 3. Public Safety, Condition 10)

Phase 4

Design Features and Operational Practices

During Phase 4 of the Proposed Project, remaining wells would be drilled utilizing an electric drill rig and production equipment would be installed and used to process the extracted oil, gas, and water. Phase 4 of the Proposed Project would incorporate the following design features and operational practices related to geology and soils:

- No additional grading would occur in Phase 4 as all of the improvements on the Project site needed for drilling and ongoing Project operations would be completed in Phase 3.
- A comprehensive Subsidence Monitoring Program would be implemented as a part of the Proposed Project in order to monitor seismic activity in the area during oil extraction and water injection. The Program would include land surface monitoring using Global Positioning Survey (GPS) and InSAR technology. The purpose of the Program would be to facilitate the early identification of potential subsidence caused by oil extraction. The primary objective of the Program would be to measure if it occurs, potential vertical ground movement (either up or

down), collect information that could definitively distinguish between measurable subsidence caused by oil extraction operations and subsidence attributable to other human activity or natural processes, and implement defined action level requirements thus minimizing or eliminating the potential for damaging subsidence. The Program would ensure that subsidence would not occur to the degree that it could endanger the facility, surrounding properties and structures, and the shoreline.

- A comprehensive Induced Seismicity Monitoring Program would be implemented as a part of the Proposed Project in order to monitor seismic activity in the area during oil extraction and water injection. The Program would monitor seismic activity using the Southern California Seismic Network (SCSN). The primary objective of the Program would be to measure, if it occurs, potentially induced seismicity that might result from drilling activities and water injection, collect information that would allow for a determination of the causes of any measurable seismicity, and implement defined action level requirements thus minimizing the potential for continued induced seismicity. If activity is detected and the overseeing agencies consider it necessary, the Project operations would be modified or ceased.

1993 Conditional Use Permit Conditions of Approval

The drilling and ongoing operations that would occur in Phase 4 of the Proposed Project would comply with the following conditions of approval:

- Pursuant to Assembly Bill 3180 the operation shall be monitored for all conditions of the approval of which the City has responsibility which includes (but not limited to) noise monitoring and inspection of the site for proper maintenance. (Section 1. General, Condition 6)
- All wells shall be drilled and cemented in accordance with State Division of Oil and Gas regulations to protect underground aquifers. (Section 2. Land Use Development, Condition 4)
- Drillsite and production facilities shall be constructed in accordance with the State seismic standards, and designed in accordance with U.B.C. seismic requirements for hazardous facilities. (Section 3. Public Safety, Condition 9)
- Analysis [of subsidence] shall be reviewed by an independent reservoir engineer hired by the City of Hermosa Beach and paid for by the oil driller. (Section 5. Subsidence, Condition 1)
- The engineer's focus shall deal with the issue of settlement of land within the limits of the oil field and area outside the limit of the oil field and as a result of the driller's operation. (Section 5. Subsidence, Condition 2)
- The engineer shall determine and submit a plan showing the potential zone of influence for all soil settlement. Settlement readings shall be measured to 0.01 feet at any control point. (Section 5. Subsidence, Condition 3)
- The adjacent area shall be surveyed a minimum of 1,000 feet from the zone of influence boundary as determined above. To determine the existing ground

surface elevations, an elevation control survey shall be done before the drilling begins and shall be used as a base of reference. (Section 5. Subsidence, Condition 4)

- The operator shall prepare a plan outlining the method to monitor subsidence as well as any corrective measures for settlements in excess of 0.10 feet. The plan shall be approved by and independent engineer and approved y the Director of Public works. (Section 5. Subsidence, Condition 5)
- There shall be an annual elevation survey for the project area to monitor and evaluate any potential settlement. If the survey data indicates subsidence, then the driller shall take such action as provided in the subsidence control plan as approved by the Director of Public Works, which shall include a program for more frequent monitoring, and shall include monitoring subsidence along the pipeline route. (Section 5. Subsidence, Condition 6)
- The City Council may restrict the use of certain street, alleys, or roadways in connection with the permittee's operations. In the event any street, alley, or roadway is damaged by the permittee's operations, such damages shall be paid for by the permittee upon demand by the City, and the failure to pay such damages, being the reasonable cost of the repair of any such damaged portions, shall be grounds for the revocation of the permit and the collection of such damages. (Section 6. Vehicle Traffic and Circulation On and Off Site, Condition 13)
- Groundwater level and land subsidence shall be monitored to insure that pipeline damage does not occur as a result of geologic and hydrologic phenomena. The annual subsidence survey shall include a report to the City on monitoring efforts to insure pipeline damage has not occurred. (Section 13. Pipeline Construction, Condition 17)