Notice of Preparation and Scoping Document for an Environmental Impact Report (EIR) for the Whittier Main Oil Field Development Project

California Environmental Quality Act (CEQA) Lead Agency
City of Whittier
Community Development Department

Contact
Jeffery Adams
Planning Services Manager
13230 Penn Street,
Whittier, CA 90602
jadams@cityofwhittier.org
(562) 464-3380

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1.0 Introduction

The City of Whittier will be the lead agency and will prepare an Environmental Impact Report (EIR) for the Project described herein. In compliance with the California Environmental Quality Act (CEQA) Guidelines Section 15082, the City of Whittier is sending this Notice of Preparation and Scoping Document (NOP) to responsible agencies, trustee agencies responsible for natural resources affected by the Project, federal agencies that may be involved in permitting or approving the Project, and interested persons. Within 30 days after receiving this NOP, each agency is requested to provide the City of Whittier with specific details about the scope and content of the environmental information to be contained in the EIR related to that agency's area of statutory responsibility. The NOP is also being sent to interested persons to solicit input from the public as to the scope of the EIR. Scoping hearings will be held to receive comments on the NOP from agencies and from interested members of the public. Agencies and members of the public can also comment in writing on the scope of the document.

CEQA Guidelines Section 15082 requires that the NOP provide a description of the Project, including the location, and a summary of the potential environmental effects. For the key issues, this NOP includes the Appendix G Checklist, which has been expanded to include brief summaries of how the potential environmental effects will be evaluated in the EIR.

The City owns approximately 1,290 acres of former oil fields in the hills north of the developed areas of the City. This area was commonly known as the Whittier Main Field, which produced oil for more than 100 years as an active oil field and drilled about 550 wells in that time until the early 1990s. The majority of the land encompassing the oil field was purchased from Chevron and Unocal with Measure A funds in order to preserve the land as open space and wildlife habitat. The land is currently managed for the City by the Puente Hills Landfill Native Habitat Preservation Authority (Authority), a joint powers agency whose members include the City of Whittier, County of Los Angeles, and Los Angeles County Sanitation Districts. On October 28, 2008, the City awarded a lease to Matrix Oil Corporation that could permit resumption of oil and gas extraction from the site. The agreement leases the City's mineral rights underlying the Whittier Main Field to Matrix and provides that subject to a conditional use permit and numerous contractual provisions, Matrix could have certain rights, including drilling exploratory oil wells and extracting oil, gas, and other hydrocarbons from the land. In exchange for these rights, the project could generate a substantial long-term income stream for the City and for the preservation and enhancement of the Preserve's ecological resources and native habitat. Matrix Oil Corp., the operator of the Whittier Main Oil Field and the Applicant, has submitted a Conditional Use Permit (CUP) application to the City of Whittier to drill for the purpose of exploration and production of remaining oil and gas reserves at the site.

In order to assist the City evaluate the suitability of the Matrix CUP application, the EIR will assess the environmental impacts of future drilling and operational activities in the area and, where appropriate, develop mitigation measures to reduce potential significant impacts. These mitigation measures can then be incorporated as conditions of approval for the CUP to be considered by the City.

This NOP includes the following sections:

- Section 2.0 provides a brief description of the Project, including the Project location and Project phasing.

- Section 3.0 discusses the potential environmental issue areas that may experience significant impacts as a result of the future drilling and operational activities that could occur over the life of the Project. These issue areas will be examined in the EIR. For each issue area, the CEQA Appendix G Checklist is included and potential significant environmental impacts are identified along with a summary of the approach that will be used to assess environmental impacts. In the cases where issue areas are found not to experience significant impacts, those are identified in the text for those issue areas and are not intended to be analyzed in the EIR.

- Section 4.0 identifies a preliminary list of alternatives to the Project to be considered in the EIR.

- Section 5.0 provides a table of potential permits that may be required for the Project.

- Section 6.0 lists the persons involved in preparing this NOP.

- Section 7.0 lists references used in preparing this NOP.

- Section 8.0 identifies the acronyms used in this NOP.

Table 1.1 Project Details

Project Information	
Project Title	Whittier Main Oil Field Project
Case Number	CUP09-004, DRP09-015
Lead Agency	City of Whittier, 13230 Penn Street, Whittier, California 90602-1772.
Contact Person	Jeff Adams, City of Whittier, Community Development Department, (562) 464-3380
Applicant	Matrix Oil Corporation, 104 W. Anapamu, Suite C, Santa Barbara, CA 93101, (805) 884-9000
General Plan Designation	Open Space
Zoning Designation	Open Space

Site Size	Project oil and gas production and processing operations are expected to be physically located at three different locations, referred to as "sites". These sites are the West Site, approximately 1.1 acres; the Central Site approximately 3.8 acres; and the East Site approximately 1.1 acres. In addition, a crude oil truck loading facility will be located directly east of the Central Site and accessed through a new road connecting to Colima Road. Roads, pipelines and electrical conduit corridors, called the "backbone", will be constructed to connect the production sites, the processing facility and the oil truck loading facility. Electrical and pipeline interconnections will be made to the Southern California Edison grid, the Southern California Gas Company pipeline and the Suburban Water District system. Oil and gas pipeline connections of approximately 2.8 miles will be constructed to connect the oil field to the existing Crimson Pipeline System at La Mirada Boulevard and Leffingwell Road and the Project to the Gas Company pipeline tie-in located at the intersection of Colima Road and Lambert Road. Of the 1,290 acres owned by the City of Whittier within the Preserve, the Whittier Main Oil Field Project will need a total of approximately 6.4 acres for pads to support the proposed oil and gas production and processing facilities and an additional 4.8 acres may have to be temporarily disturbed to construct the pads and pipelines.
Project Location	Located on City owned land within the Puente Hills Landfill Native Habitat Preservation Authority, generally located north of Mar Vista Street and west of Colima Road. (See Figure 2-1, Whittier Main Oil Field Vicinity Map).
Assessor Parcel Numbers	8137-028-900, 8137-021-907, 8137-021-902, 8137-021-908, 8139-021-909, 8289-007-908, 8138-033-914, 8138-033-915, 8138-033-913, 8289-007-909, 8289-007-907, 8138-032-901, 8289-021-904, 8289-021-903, 8291-005-900, 8291-004-900, 8289-020-900, 8291-003-901.
Access	Vehicular access is planned from north Catalina Street off of Mar Vista Avenue and from Colima Road through an expansion of an existing entrance north of Mar Vista Avenue.
Latitude and Longitude	33°56'54.82" N and 118°00'23.96"W

2.0 Proposed Project Description

2.1. Project Overview

As proposed, the fully developed Project will consist of wells, oil processing, gas plant, oil and gas pipelines, and oil truck loading facilities, to be located within portions of the 1,290-acre City owned Whittier Main Field, now part of the Authority Habitat Preserve. The oil and gas production and processing facilities will be physically located at three different sites within the Whittier Main Oil Field (see Figure 2-2). These sites are the West Well Site, approximately 1.1 acres; the Central Site, approximately 3.8 acres; and the East Well Site, approximately 1.1 acres. The acreage numbers represent the pad areas that will be developed at each site to support the proposed facilities. As shown on Figure 2-2, the Central Site is divided into two sub areas, the central well area (1.3 acres) and the central oil and gas processing area (2.5 acres).

All three of the sites will contain well cellars, well test stations, and liquid and gas separating equipment. In addition, the central site will contain the oil processing facility and gas plant. The total pad area required for the oil and gas production and processing will be approximately 6.0 acres. In order to construct these pad areas, an additional 4.4 acres may have to be temporarily disturbed to allow for construction and grading of the pads. In addition, Los Angeles County Fire Department may require a fuel modification zone (FMZ) around each pad area. A fuel modification zone is a strip of land where combustible native or ornamental vegetation has been modified and/or partially or totally replaced with drought-tolerant, low-fuel-volume plants.

In addition, roads, pipelines, and electrical conduit corridors, called the "backbone" will be constructed to connect these various site locations. Oil, gas and produced water pipelines will be constructed below ground under the existing or proposed road system where possible. Installation of these underground pipelines within the Project area will require temporary disturbance of approximately 0.4 acres. Electrical and pipeline interconnections will be made to the Southern California Edison (SCE) grid, the Southern California Gas Company pipeline, and the Suburban Water District system. Connection to the SCE system will be accomplished with underground conduits, and connections to water and sewage systems will be made by underground facilities. The Project will utilize approximately 1.1 miles of existing roads and 0.5 miles of new roads within the Preserve for access to the various sites for a total of 1.6 miles of existing and new roads onsite.

Matrix also proposes to construct 2.8 miles of oil pipeline from the oil field to connect with the existing Crimson Pipeline System, which would carry the oil to the ConocoPhillips refinery in Wilmington (See Figure 2-3). In addition to the pipeline, the project will include a truck loading area that will contain the oil loading facility. This facility will be used to load the produced oil onto trucks for transportation to an oil terminal. The oil will then be shipped from the oil terminal to local area refineries. The truck loading facility will be located directly east of the Central Well Pad area and will be accessed by a new road approximately 0.5 miles long and through an expansion of an existing entrance from Colima Road directly north of Mar Vista Street. The area required for the truck loading area will be approximately 1.1 acres. Once the oil pipeline is constructed, Matrix expects to use the truck loading facility as a back-up to the pipeline operation.

Of the 1,290 acres owned by the City of Whittier, a total of approximately 6.0 acres will be needed for sites to support the proposed oil and gas production and processing facilities, an additional 1.1 acres will be needed for the truck loading facility and an additional 4.8 acres may have to be temporarily disturbed to construct the sites and pipelines, exclusive of the fuel modification zone.

2.2. Project Location

The Project Site is located within property owned by the City of Whittier and is part of the Puente Hills Landfill Native Habitat Preserve. The Preserve is located at the eastern edge of Los Angeles County, bounded by the San Gabriel River on the west and the Chino Hills to the east. With 3,860 acres, the Preserve extends across the boundaries of three municipalities: the Cities of La Habra Heights, Whittier, and the communities of Rowland Heights and Hacienda Heights, both located in unincorporated Los Angeles County. Other public agencies with jurisdictional interests in the western Puente Hills include the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy and the Wildlife Corridor Conservation Authority (Puente Hills Landfill Natural Habitat Preservation Authority [PHLNHPA] 2007). The Project will occupy areas exclusively within lands owned by the City of Whittier.

The Preserve is almost completely surrounded by urban development except for undeveloped lands east of the Preserve and west of Chino Hills State Park and Whittier Narrows to the northwest (see Figure 2-1). Development consists primarily of suburban, single-family residential development associated with the surrounding communities of Whittier, La Habra Heights, Hacienda Heights, and Rowland Heights. Whittier College is located to the south near Worsham Canyon. Rose Hills Memorial Park owns a large area in the northwestern Puente Hills between the City of Whittier and Hacienda Heights. Some of this land has been developed as a cemetery, while other portions are undeveloped. The Puente Hills Landfill is located northeast of the Rose Hills Memorial Park and adjacent to the Preserve. Savage Canyon Landfill, owned by the City of Whittier, is located adjacent to the middle southern portion of the Preserve. Single family homes, Murphy Ranch Little League, and a portion of the Friendly Hills Country Club golf course in Whittier are adjacent to the Preserve as well. The portion of the Preserve located within the City of Whittier is zoned Open Space.

2.3. Project Phasing

As proposed, the Project consists of three phases: Drilling and Testing; Design and Construction; and Operations and Maintenance. The EIR Project Description will provide a much more detailed description of the possible future drilling and operational activities. Each of the major elements of exploratory drilling and testing, design and construction, and operations and maintenance activities activities is summarized below.

2.3.1. Drilling and Testing

The initial step of the Project will be the Drilling and Testing phase to determine the potential productivity and economic viability of the Project. During this phase, a total of three test wells will be drilled from the Central and West Sites to total vertical depths between 3,000 and 10,000 feet (see Figure 2-2). These wells will utilize “horizontal drilling” technology, which enables the wells to be drilled long distances laterally, such that the bottom-hole locations may be several thousand feet from the surface locations of each well.

Prior to start of the Drilling and Testing phase, portions of the Central and West well site areas will be graded to accommodate the drilling equipment, which include the drilling rig, temporary liquid storage tanks, pumps, pipe racks, etc. All this equipment will be delivered to the well sites by trucks designed to transport such equipment. Grading each site will require approximately 10 people operating earth moving and support equipment for eight hours a day, five days a week for three to four weeks. Access roads will also be improved during this phase to provide access for emergency firefighting equipment. Utility crews will also be working to bring water and electricity to the drill sites, necessary precursors to drilling activities. Water will be obtained from Suburban Water Systems via its existing hydrant at the entry gate at Catalina Avenue. Matrix will pipe the water from the existing hydrant to the Drill Sites. During the Drilling and Testing phase, SCE will provide a temporary service meter and poles will be installed to distribute power to the well sites as needed.

After the well pads are prepared, the drilling rig and associated equipment will be brought to the site and assembled. During set up, tear down and drilling operations, it is estimated that an average of 20 workers will be participating in the work. Each well is estimated to take 25 to 30 days to drill. Drilling will be conducted on a continuous schedule of 24 hours per day, seven days a week. While drilling is continuing, temporary oil, water and gas handling equipment, such as tanks, vessels, pumps, and compressors, will be installed on the well pad. The three test wells will be drilled one after another, utilizing the same rig and support equipment, which will remain on the property for approximately 90 days. When drilling of the third well is complete, the rig and associated equipment will be moved off of the property while monitoring/sampling of the test wells will continue. Continuous monitoring will be performed round the clock for up to 120 days. There will be an average of five workers, working eight hour shifts, present during the testing, consisting of pipefitters, electricians and others. In addition, transfer trucks will transport the produced liquid off site approximately four times per day during daylight hours only.

The drilling of test wells will require the use of a large drilling rig (approximately 130 feet tall) that will drill round the clock until planned depths and bottom-hole locations have been reached. It is anticipated that diesel fueled generators will power the drilling rig and other needed equipment. The surface equipment will be screened from view, and noise reduction will be accomplished using appropriate temporary fencing and soundproofing.

Approximately 0.4 acre-ft. (130,000 gallons) of water will be consumed during drilling of each well. A fire hydrant will be installed at each well site to provide water for fire protection. As a byproduct of drilling operations, a liquid slurry of drilling "mud" will be collected on site within bermed basins which are protected by impermeable membranes. Approximately 1,800 barrels of this mud will be collected for each well drilled and properly disposed offsite at an appropriate landfill.

During the Drilling and Testing Phase, a 15-foot high noise blanket will be installed around the perimeter of the drill sites to minimize noise and shield views into the sites. Additional wells drilled before construction is completed will also be shielded by perimeter noise blankets.

Once test well drilling is complete, the wells will be cased off, wellheads will be installed, and all the drilling equipment will be removed. A down-hole pump will be installed on each

productive well for the purpose of pumping oil and water to the surface for testing. Volumes of liquids will be measured and samples taken to determine composition. These liquids will be temporarily stored in onsite tanks and then transported offsite by trucks. The gas encountered also will be measured and tested and will be clean-burned adjacent to the wells. Gas flaring will continue until the gas plant and gas pipeline are constructed as part of the construction phase of the Project.

The information obtained from the test wells will provide valuable data which will enable Matrix to determine the economic viability of the Project. If deemed economic, the information will also be used to determine the quantity and depths of wells required to maximize oil and gas recovery and also to optimize the capacity of oil processing, gas plant, and oil loading facilities.

2.3.2. Design and Construction

If the Drilling and Testing Phase confirms the economic viability of one or more of the sites, Matrix will construct permanent production and processing facilities, including underground well cellars, oil and gas pipelines, the truck loading facility and a new access road from Colima Road to the Central Processing Facility.

The new access road will be constructed at the beginning of the Construction Phase to accommodate construction equipment, heavy trucks, future drilling rigs and equipment, etc., and to alleviate the need to send such traffic into the property via Mar Vista Avenue using the Catalina Avenue entrance. The "backbone system" connecting the East Site to the Central Facilities, as well as the crude oil and natural gas sales pipelines, will be buried under the new road. All vehicles accessing the property, other than standard autos and pick-up trucks, will use the new road.

Matrix may decide to drill up to three development wells to further define the geology and confirm the economics of the project prior to the completion of all construction activities. However, no additional wells will be drilled prior to the completion of the new access road described above.

The drilling and production sites will first be leveled and adjacent areas stabilized, after which the area required for the well cellars will be excavated and reinforced concrete will be poured. The total grading for the three drilling and production sites is estimated to be 52,670 cubic yards of cut and 30,500 cubic yards of fill.

During grading and earth moving activities, a temporary 12,000 gallon elevated water tank will be provided and located on the sites. This water will be used to moisten soil during compaction and for dust suppression. It is anticipated that earth-moving activities will last approximately one month at each site and that the water tank will be refilled up to five times during the month. After the earth moving activities are concluded, water will be used for concrete curing, hydro testing of pipes and general construction activities. It is anticipated that an average of 1,000 gallons of water will be used each month during the well site and facilities construction activities.

There will be one well cellar at each of the sites. The cellars will be approximately 12 feet wide and 8 feet deep with metal stairs at each end, and will be covered with expanded metal grating

for safety. The distance between wells will be approximately 8 feet; accordingly, the length of each cellar will be determined by the potential maximum number of wells to be accommodated. Matrix preliminarily estimates they may require up to 20 wells per site, for a total of up to 60 wells for the Project. All wells at the West and East Sites and up to 12 wells at the Central Site will be oil and gas producers. They will vary in depth from 3,000 to 10,000 feet. The Central Site will also house up to eight produced water injection wells with varying depths from 3,000 to 10,000 feet. Reinjection of produced water is expected to enhance oil and gas recovery. Drilling of subsequent wells will involve the same activities as those undertaken during the test well phase.

The liquid pumped to the surface will be an emulsion of oil and water. A well test station located at each of the sites will separate the emulsion and measure the respective quantities of oil and water produced by each well. One or more vessels will also be required at each site for liquids handling. The liquids will be pumped to the oil processing facility at the Central Site. Gas produced will be collected and piped to the gas plant, which will also be constructed at the Central Site.

Each site will have a comprehensive fire protection system as required by the County of Los Angeles (LA) Fire Department. Automated alarm systems will also be included in each site's design. As noted above, fire hydrants will be provided at each site as required by LA Fire Department. Access roads and emergency site access will be designed in accordance with LA Fire Department requirements.

The "backbone" pipelines that will deliver oil, water and gas from the sites to the Central Site processing facility will be constructed under the roads. Pipe bridges will be built to cross streams where necessary. Electrical power will be routed underground inside conduits from the electrical meters provided by SCE.

The oil processing facility will be located at the Central Site across the road and north of the Central well cellar. This facility will include tanks and vessels for oil/water separation, air compressors for control purposes, pumps for moving oil and water, tanks for temporary storage of oil and water, and supporting vessels, controls and metering equipment. Spill prevention containment around all vessels, tanks and critical equipment will be built into the design. The oil processing facility will separate water and solids from the oil, after which the oil will be temporarily stored in tanks prior to shipment. The separated water will be accumulated in tanks, filtered, and then pumped back into subsurface oil producing sands by high-pressure injection pumps. The Project proposes no interference with the fresh water table, which is located at shallower depths and will be protected from the injection fluids by steel casing. At peak projected production rates, it is anticipated that eight water injection wells will pump a maximum of 7,200 barrels per day of produced water into these deep zones. Any wastewater generated will be stored on site within bermed basins, which are protected by an impermeable membrane. This will include water from washing down trucks, equipment, and concrete construction pads. All wastewater will be stored in temporary basins and periodically hauled away from the site by vacuum trucks and deposited into an appropriate landfill. Solids will also be shipped off site by trucks to an appropriate landfill.

The gas plant will also be located at the Central Site adjacent to the oil processing facility. All sites will send produced gas via pipeline to the gas plant where liquids and impurities will be removed. The gas plant will have compressors, pumps, vessels, tanks, a metering system, an odorizing system, a fire protection system, an automatic emergency shutdown system and an emergency clean-burning flare. Some of the produced gas will be used on site and most will be sold directly to Southern California Gas Company via a connecting pipeline from the site to the nearest Southern California Gas Company connection on Colima Road.

Two methods for transporting the marketable crude oil are proposed by Matrix. One method will convey the oil via pipeline to the Truck Loading Facility directly east of the Central Well Pad area, where the oil will be loaded onto oil tanker trucks and transported to Southern California refineries. This oil transportation method will be used during the exploratory phase of the project until the oil pipeline is constructed and during emergencies in the rare event that the pipeline system is shutdown. The second oil transportation method will transfer the marketable crude oil via pipeline from the Central Site to the existing Crimson Pipeline System via a new 2.8 mile pipeline connection to a tie in at Leffingwell Road and La Mirada Boulevard. The Crimson Pipeline System would transport the crude to the ConocoPhillips Refinery in Wilmington. The connection line will be constructed at the same time and in the same trench as the natural gas sales line, which will follow the same route to tie into the Southern California Gas Company line at the intersection of Colima and Lambert Roads. The connecting oil pipeline would then continue from that point to the Crimson Pipeline connection at the intersection of Leffingwell Road and La Mirada Boulevard. Oil transportation via pipeline will occur for the duration of the project unless emergencies occur that require temporary transportation via truck.

Electrical service will be required for all sites, and will be obtained from SCE. During the Design and Construction Phase, underground conduits will be constructed to distribute the electric power. For the Central Site, including the truck loading facility and the West Site, electric power will be provided close to the Central well cellar. Electric power to the East Site will be provided from Colima Road. Clean water will be obtained from the Suburban Water District and distributed to the sites via the backbone system.

Matrix plans to provide sufficient well cellar and supporting oil and gas processing capacity to handle daily production volumes of 10,000 barrels of crude oil and 6,000 thousand cubic feet (MCF) of natural gas. Matrix anticipates building its sites and processing facilities in a modular fashion that could support additional capacity as needed.

2.3.3. Operations and Maintenance

Once constructed, the Project will be operated and maintained as an oil and gas field, designed to the current oil field technology standards, including automated alarms and shut downs for abnormal conditions. Operations will include automated equipment for emergency shutdowns of major equipment or system malfunctions, as well as for earthquakes or fires. Matrix will employ oil field operators who will visit each site on a regular basis to monitor activity and check for safety and security of operations. During on-going operations, water will be required for personnel in Matrix's field office, for landscaping, for general cleaning and equipment wash downs, and when maintenance is performed on the wells. It is anticipated that the monthly water requirement will be 0.12 acre-ft. (39,000 gals). Any water or other liquids generated, including

from the periodic cleaning of concrete pads and well cellars will be collected at low point sumps and hauled off site by vacuum trucks and deposited into an appropriate landfill.

Upon completion of construction, a permanent masonry block or concrete wall will be constructed surrounding each site. Native plants will be planted outside the wall for decorative and screening purposes. Subsequent wells will be drilled within the perimeter walls, and additional soundproofing and shielding will be provided as necessary.

A field office will be located near the Central Well site which will house the operating and maintenance supervisors, office staff and others. It is anticipated that a staff of up to 15 to 20 operators and maintenance technicians will man the facility 24 hours per day, 7 days per week. Non-routine or emergency maintenance of major equipment and systems, including well pumps, will be performed by contract maintenance personnel on an as needed basis. The Operations Phase will include appropriate shielded lighting at night, and round-the-clock security cameras will patrol the perimeter and the interior of the sites.

Periodically, some active wells will require service to correct a variety of potential issues below the surface of the well pad areas. These might include replacement of down-hole pumps, worn piping, or any number of other circumstances. Well work will generally be accomplished by contracting for a service rig, or "work-over" rig. Service rigs are significantly smaller than drilling rigs and do not require the accompanying equipment. There will also be the occasional need for other services such as facilities repair, road maintenance, vacuum truck liquids and solids removal, etc. Any such equipment will access the property via the new road from Colima Road.

Figure 2-1 Whittier Main Oil Field Vicinity Map

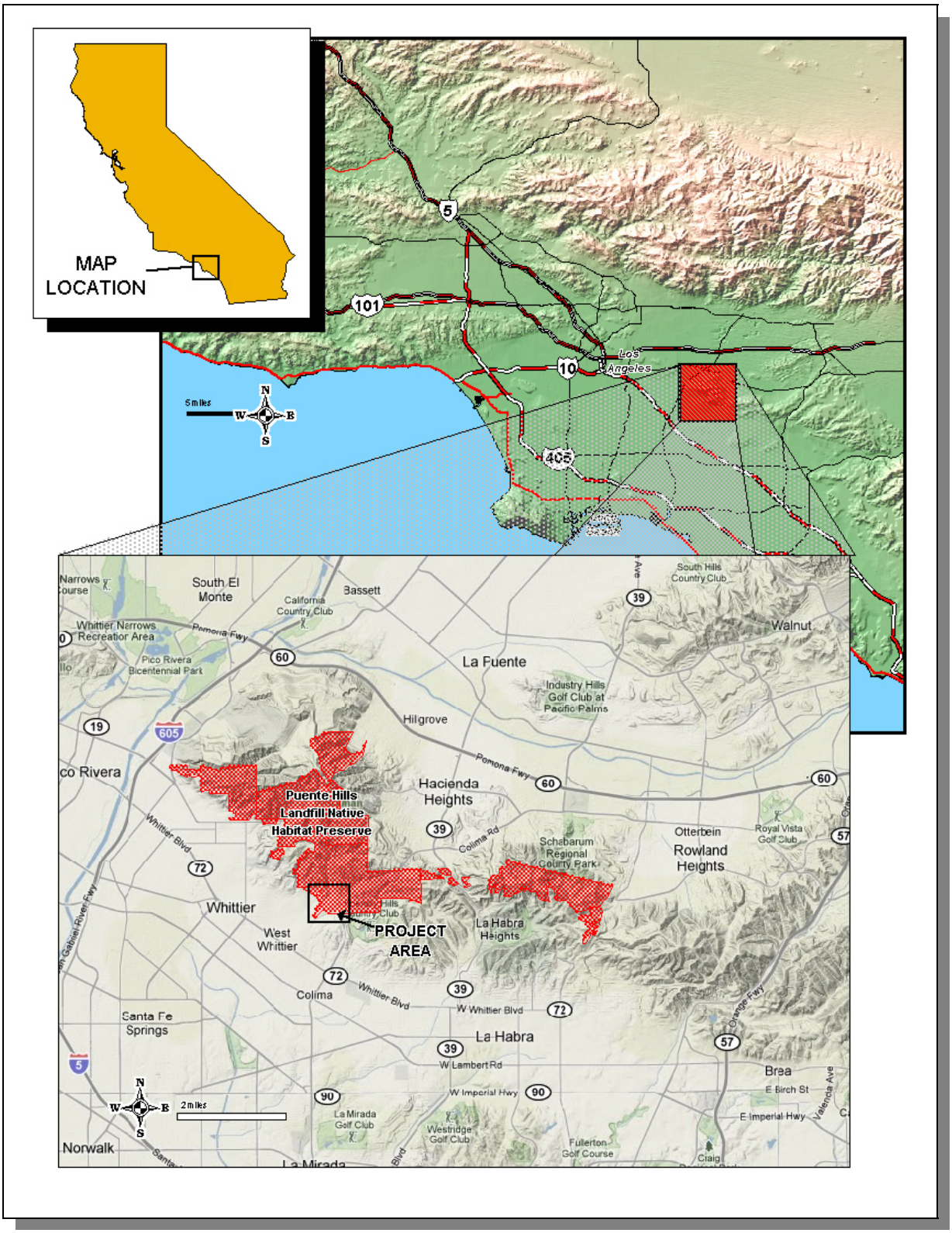


Figure 2-2 Proposed Project Site Locations

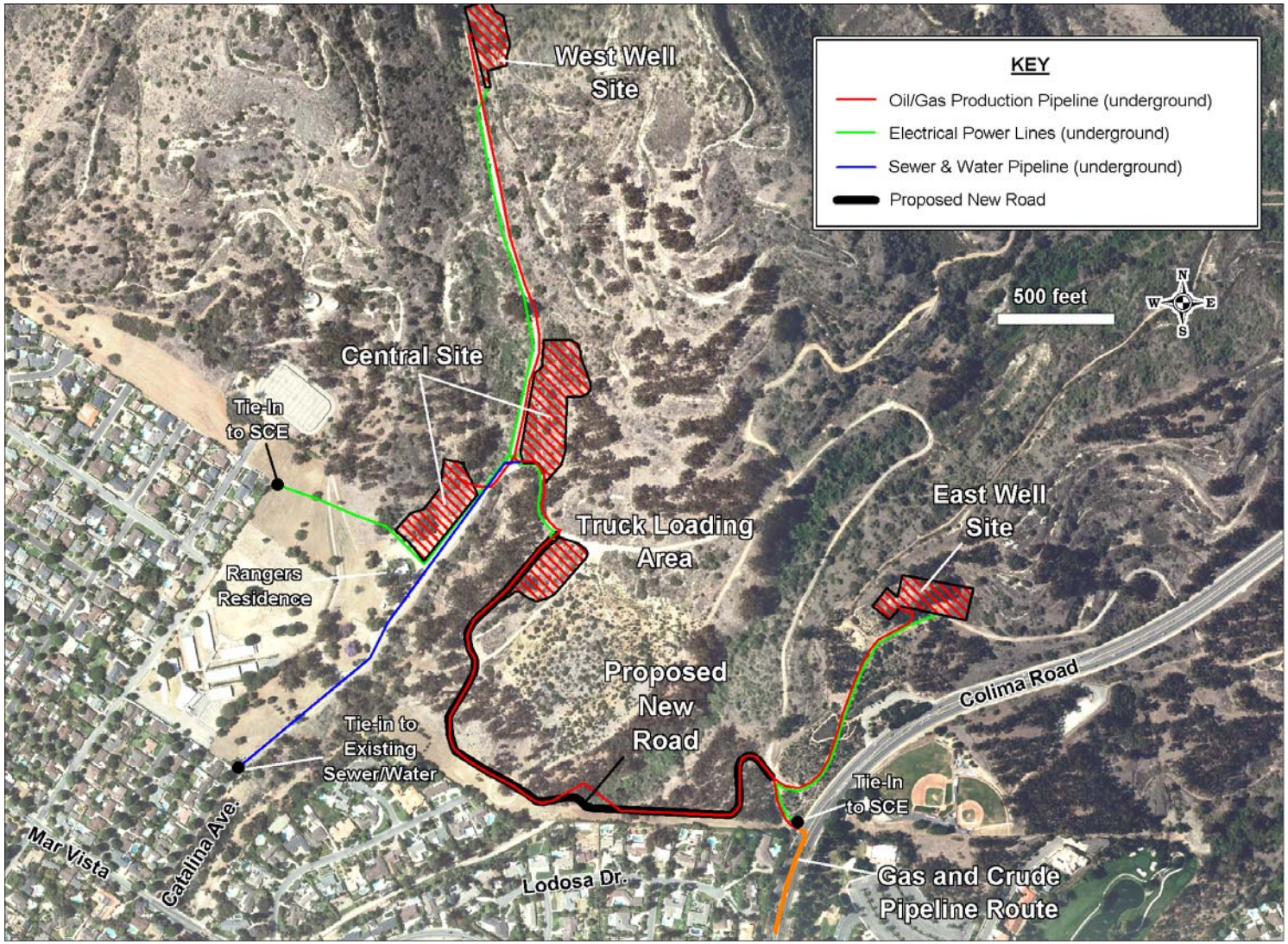
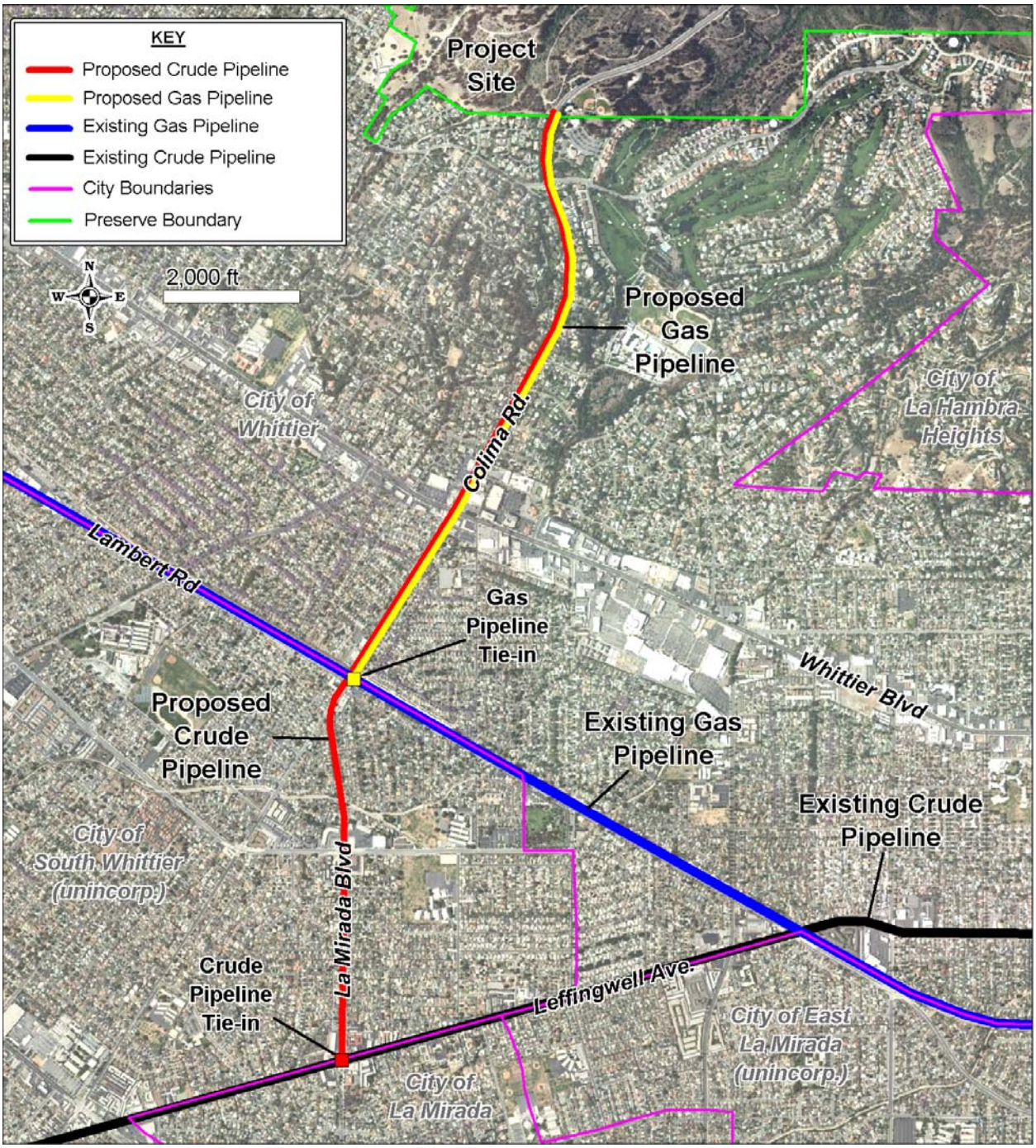


Figure 2-3 Proposed Pipeline Routes



3.0 Scope of the Environmental Impact Report

Matrix Oil Corporation, the applicant for the Whittier Main Oil Field, has submitted an application to the City of Whittier for a CUP and Development Review Permit (DRP). As such, these applications are the discretionary actions required to permit the proposed Project as defined by CEQA.

The EIR will assess the impacts of exploratory and production drilling and operational activities in the Whittier Main Oil Field and, where appropriate, develop mitigation measures to reduce significant impacts. These mitigation measures will then be used in developing the conditions of approval and requirements that would be part of the discretionary action the City could take on the Project.

The environmental issue areas that will be addressed in the EIR are presented below in accordance with the CEQA Guidelines Appendix G Initial Study Checklist. These are the issue areas where significant impacts could occur with future drilling and operational activities as part of the Whittier Main Oil Field Project.

Additional issues may be identified at the public scoping meeting and in written comments on the NOP that will also be addressed in the EIR. Issue areas that were determined not to experience significant impacts are identified in the individual discussions for those issue areas.

3.1. Issue Areas with Potentially Significant Impacts

As part of a preliminary scoping analysis conducted by the City of Whittier and the EIR consultant, a number of environmental issue areas have been identified that could have significant impacts as a result of oil and gas development activities. The analysis in the EIR for each of these issue areas will address the environmental baseline, the impacts associated with the exploratory and possible production drilling and operational activities, cumulative impacts, and mitigation monitoring. The mitigation monitoring plan will include the requirements, the responsible agencies and the timelines for each mitigation measure. The preliminary checklist for each issue area and scope of the EIR analysis is discussed below.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒ Aesthetics	☐ Agriculture Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology /Soils
☒ Risk Of Upset, Hazards & Hazardous Materials	☒ Hydrology / Water Quality	☒ Land Use / Planning
☒ Energy/Mineral Resources	☒ Noise	☐ Population / Housing
☒ Public Services	☒ Recreation	☒ Transportation/Traffic
☒ Utilities / Service Systems Wastewater	☒ Mandatory Findings of Significance	

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

Signature:		Date:	1-20-2010
Printed Name:	**Jeffrey W. Collier**	Title:	**Director of Community Development**

EVALUATION OF ENVIRONMENTAL IMPACTS:

An Environmental Checklist Form (Form) has been used to evaluate the potential environmental impacts associated with the proposed Project. The Form has been prepared by the Resources Agency of California to assist local governmental agencies, such as the City of Whittier, in complying with the requirements of the Statutes and Guidelines for implementing the California Environmental Quality Act. In the Form, environmental effects are evaluated as follows:

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in its response. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the Project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project will not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is “Potentially Significant”, “Less Than Significant With Mitigation”, or “Less Than Significant”. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from an "Earlier Analyses," as described in #5 below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. In this case, a brief discussion should identify the following:

   (a) Earlier Analysis Used. Identify and state where they are available for review.

   (b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   (c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures that were incorporated or

refined from the earlier document and the extent to which they address site-specific conditions for the Project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances).

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. The explanation of each issue should identify:
   (a) The significance criteria or threshold, if any, used to evaluate each question.
   (b) The mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL IMPACTS:

I. AESTHETICS -- Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☒	☐	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☒	☐	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☒	☐	☐	☐

Discussion:

a,c. Potentially Significant Impact. The Project area currently functions as a Habitat Preserve and is widely used for recreational purposes. The Project site is located in the Puente Hills in a scenic area that affords views of the hills and mountains to area residences and recreational users of trails in the Puente Hills

The EIR will review the proposed Project for impacts to aesthetics resources. The new facilities would be constructed within the Whittier Main Field. They could be visible from a variety of locations, including the Friendly Hills Country Club, the William Penn Park, Whittier College,

trails in Puente Hills, nearby residential areas and public roads. In addition, there may also be impacts to distal views of the Puente Hills. The proposed drilling rig could be as high as 130 feet (typical large scale drilling rig size from ground level) and highly visible from a number of public viewing locations. The EIR will include a viewshed analysis to determine the locations from which processing equipment, tanks and drilling rigs might be visible. This analysis utilizes digital elevation files in combination with GIS programs to assess the shielding of terrain on equipment placement and the effectiveness and required heights of landscaping to hide equipment from various viewing locations. To present this analysis, the EIR will use photo simulations from critical viewing locations showing the drilling rig and processing equipment.

b. Potentially Significant Impact. The Preserve represents a significant visual and scenic resource within the region offering panoramic views of the Los Angeles Basin with mountains, the ocean, and the downtown Los Angeles skyline in the distance. The viewshed from within the Preserve contributes to the overall quality of visitors' experience and enjoyment of the Preserve. Situated in the midst of a highly developed region, the Preserve includes a variety of landscapes. The Project as proposed could require removal of some trees. Removal of trees would likely change the general look of the site from surrounding areas. The three sites dedicated to oil and gas production and processing are to be spread around the area and operational wells will be placed in underground concrete cellars. Further evaluation of potential impacts associated with damage to scenic resources, including trees and other natural landscape features, will be provided in the EIR.

d. Potentially Significant Impact. Increased night lighting due to the proposed Project may have significant night time impacts. The EIR will estimate the extent of illumination generated by the Project facilities on the surrounding area. While the safety lighting required for night operations is mandatory and would be shielded, the increased light glare could also generate impacts. Potential impacts of lighting to wildlife will also be addressed in the Biological Resources section of the EIR.

II. AGRICULTURE RESOURCES – Would the Project: *(In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland.)*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

Discussion:

a,b,c. No Impact. The Project site is currently zoned open space. No agricultural activities presently occur on-site or adjacent to the site. The site is not classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. There are no Williamson Act contracts applicable to the Project site. Thus, the proposed Project would not convert farmland to non-agricultural uses. Further analysis of this issue is not necessary as part of an EIR.

III. AIR QUALITY -- Would the Project: *(Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.)*	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☒	☐	☐	☐

Discussion:

a. Less Than Significant Impact. The Project is located in the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). A Project is deemed inconsistent with air quality plans if it results in population and/or employment growth that exceeds growth estimates in the applicable air quality plan. The Air Quality Management Plan (AQMP) is SCAQMD's ongoing program for meeting federal and

state air quality standards within the SCAB. The most recent comprehensive plan is the 2007 Air Quality Management Plan adopted June 2007. Projects that do not involve growth-inducing impacts or cause local or regional population/growth projections to be exceeded are generally considered consistent with the AQMP.

The Project is not expected to result in population growth. Employment generated from the Project would include approximately 10 to 25 on-site jobs during Drilling and Testing; 40-65 jobs during Design and Construction; and approximately 20 jobs during Operation and Maintenance. In total, these new jobs represent less than one percent of total jobs in Whittier, which according to the 2002 United States Economic Census totaled approximately 19,000. A less than one percent growth in jobs is not considered substantial employment growth, and consequently, the proposed Project is not expected to conflict with or obstruct implementation of the AQMP. However, because the AQMP is a critical plan for the air quality in the Los Angeles Basin, the EIR will evaluate Project consistency with the AQMP.

b,c. Potentially Significant Impact. The SCAQMD has established standards for air quality constituents generated by construction and by operational activities for such pollutants as ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and particulate matter (PM_{10}). The SCAQMD maintains an extensive air quality monitoring network to measure criteria pollutant concentrations throughout the SCAB. The SCAB is designated a non-attainment area for O_3, PM_{10}, and particulate matter smaller than or equal to 2.5 microns in diameter ($PM_{2.5}$). The construction and operation of the proposed Project would contribute to an increase in air quality emissions for which the region is in non-attainment. As such, air quality impacts from construction and operation of the new facilities will be evaluated using the thresholds of significance established by the SCAQMD. Short-term emissions would result from the use of drilling, grading and construction equipment, gas flaring, and trips generated by construction workers and haul/material delivery trucks. Long-term emissions would result predominately from the drilling and facility operations and truck transport, as well as from employees travelling to and from the site. These emissions could result in the violation of air quality standards or the exceedance of air quality thresholds of significance, which may contribute to an existing or projected air quality violation. Therefore, air quality impacts will be evaluated in the EIR to determine the level of significance of the short- and long-term impacts. Regional toxic air contaminant concentrations and trends will also be characterized based on available data from the SCAQMD, specifically the MATES III study. These various sources will be aggregated into a comprehensive database to characterize site-specific background conditions for pollutants.

The EIR will also assess emissions of greenhouse gasses (GHG) for all construction activities and operations. GHG emissions will be quantified in the same manner as criteria pollutants, with emission factors and tabulated in columns next to the criteria pollutants. Regulatory requirements will address recent GHG emission regulation, such as AB 32 and SCAQMD applicable programs and policies. The EIR will evaluate GHGs including carbon dioxide (from combustion), methane (from combustion and fugitive emissions), nitrous oxide, and hydrofluorocarbons. The EIR will also assess GHG emissions from both direct (located on-site) and indirect (from mobile sources and electricity generation) sources and will address life-cycle issues such as transportation. The URBEMIS model will be utilized for estimated CO_2 emissions from vehicles and the CARB compendium of GHG emissions factors will be utilized

for non-CO_2 GHG pollutants. Electrical generation GHG emissions will utilize an EPA analysis on power plant emissions in the eGRID program, updated to address the most recent status of power plants that feed electricity to Southern California.

d. Potentially Significant Impact. Sensitive receptors, including nearby residences to the south and west are located in the immediate vicinity of the Project site. Construction of the proposed Project may expose these sensitive receptors to increased pollutant concentrations. This issue will be analyzed in the EIR.

e. Potentially Significant Impact. Some objectionable odors may be temporarily created during construction activities, such as paving, tar, or diesel exhaust. These odors would likely occur in localized areas during Project construction. Some odors may occur as part of the oil and gas production at the site, but could be significantly diminished by the proposed underground concrete cellars for the oil wells. Other odors generated by the Project include exhaust from trucks travelling to and from the site. The EIR will include an assessment of odor generated by the Project, an assessment of violations and complaints at other oil fields, and an analysis of the potential sources of odors and their frequencies.

IV. BIOLOGICAL RESOURCES -- Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☒	☐	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐
d) Interfere substantially with the				

IV. BIOLOGICAL RESOURCES -- Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☒	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☒	☐	☐	☐

Discussion:

a. Potentially Significant Impact. Various biological surveys have been conducted in the Project area by LSA in 2008 and 2009.[1] General assessments of the biota in the Project area were also previously conducted as part of the Resource Management Plan (PHLNHPA 2007).

Plant and animal diversity in the Project area has been documented by focused plant surveys and protocol wildlife surveys detailed below.

Vegetation

Surveys were conducted in accordance with the current CNPS Botanical Survey Guidelines dated June 2001. Surveys were conducted by walking transects averaging approximately 50 feet wide, depending on visibility and habitat quality. Surveys were conducted during the flowering season to facilitate detection of these species. These surveys did not identify federal or state listed or otherwise sensitive plants within the areas slated for Project development (PHLNHPA 2009.)

Wildlife

The general Project area is known to contain California gnatcatchers (*Polioptila californica*). The California gnatcatcher is a federally and state listed species. In 2005, at least three gnatcatcher pairs were present in a restoration area within the Preserve, east of Colima Road and one pair was found in lower Sycamore Canyon; scattered single birds observed late in the season are best considered wandering juveniles. However, protocol surveys of the areas slated for Project development found no nesting of gnatcatchers (PHLNHPA 2009).

[1] Summary of Focused Plant, Incidental, and Protocol Survey Results.

Coastal cactus wren (*Campylorhynchus brunneicapillus couesi*), although not currently listed as a federally or state protected species, are becoming of conservation concern due to loss, fragmentation, and degradation of their required habitat. This specie was not observed during the LSA surveys. Least Bell's vireo, a federally and state listed species, was also not observed.

Three non-listed special status animals were detected by LSA during focused surveys, including the yellow warbler (*Dendroica peteicha*), yellow breasted chat (*Icteria virens*), and San Diego dessert woodrat (*Neotoma lepida intermedia*) (PHLNHPA 2009).

The proposed Project has the potential to temporarily impact the California gnatcatcher, yellow warbler, yellow breasted chat and San Diego dessert woodrat and their critical habitat during the construction and development activities. Therefore, further analysis of potential impacts to these species and their critical habitat will be included in the EIR.

b,c. Potentially Significant Impact. Development of the site could impact waters that are within the jurisdiction of the U.S. Army Corps of Engineers, Fish and Game and Regional Water Quality Control Board, including wetlands and riparian habitats. Additional reconnaissance-level evaluations will be conducted as part of the EIR process to determine if impacts could occur.

Development of the site could also impact coastal sage scrub, which has been designated critical habitat for the California gnatcatcher. Equally, potential oil spills from Project related activities could cause impacts to riparian habitats. These impacts could be significant and therefore, will be evaluated in the EIR.

d. Potentially Significant Impact. Although the Habitat Preserve area is surrounded on most sides by urban development, the Preserve is considered essential to wildlife migratory corridors. The Preserve is an integral part of the Puente-Chino Hills Wildlife Corridor, an unbroken zone of natural habitat extending nearly 31 miles from the Cleveland National Forest in Orange County to the west end of the Puente Hills above Whittier Narrows (PHLNHPA 2007). Development of the area could interfere with the movement of wildlife species at the site such as resident birds and other small mammals. The development footprint could restrict resident wildlife from moving through the various portions of the permanent open space areas. Therefore, this issue will be analyzed in the EIR.

e,f. Potentially Significant Impact. The Puente Hills Landfill Native Habitat Preservation Authority adopted a Resource Management Plan (RMP) for the Habitat Preserve in July of 2007. The RMP provides a comprehensive, long-term management plan for the Preserve. The RMP serves as a clear and realistic blueprint for how the Preserve will be managed for the next several decades and will guide the Habitat Authority on future policy, land use, budget, and capital improvement decisions relating to the Preserve. The fundamental objective for the RMP is to identify the best framework to manage, protect, and enhance the natural resource values of the Preserve while providing safe recreational and educational opportunities to the public. The RMP considers the natural and cultural resources present in the Preserve. The major plan objectives are to enhance wildlife habitats, develop vegetation management practices, and provide safe, low-impact recreational opportunities and public access. The proposed Project could conflict with the provisions of the RMP, and the EIR will include analysis of potential impacts that may

occur as a result of conflicts with the RMP and the Environmental Resource Management Element of the City of Whittier General Plan.

V. CULTURAL RESOURCES -- Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☒	☐	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

Discussion:

a. No Impact. The Project area does not contain any historical resources that are listed in the California Register of Historical Resources or that would qualify for listing in this registry. As part of the RMP, LSA conducted a search and found that 12 historic properties have been recorded within 0.5 mile of the Habitat Authority jurisdiction boundary, but that no historical resources as defined by §15064.5 of the CEQA Guidelines were recorded within the Preserve itself. Consequently, no potential impacts to historical resources are expected to occur; and no further analysis of historical resources will be provided in the EIR.

b. Potentially Significant Impact. The EIR will include a Phase 1 Cultural Resources Survey for all three proposed Project sites, in addition to other areas that may involve below ground disturbance as a result of Project development. In particular, the area referred to as the "backbone" where roads, pipelines, and electrical conduit corridors are needed to connect the three Project sites, will be investigated. Based on maps provided, it is assumed that the survey area will cover the 6 to 7 acres scheduled for development in addition to approximately a 1.6-mile corridor along the "backbone" where subsurface disturbance is likely to occur. Steep slopes will not be surveyed as they are frequently too dangerous to climb and are considered to have low sensitivity for cultural resources. It is possible that during construction archeological sites could be uncovered that were not found during the Phase I survey. Accordingly, a records search, site survey, and cultural resources technical report will be included in the EIR. Mitigation measures will be provided to address potential impacts to unknown cultural resources if such resources are found during the construction activities.

c. Potentially Significant Impact. Paleontological resources are remains of plants and animals, fossilized and predating human occupation. Paleontological resources are generally found in sedimentary rocks that have been uplifted, eroded or otherwise exposed. Because the geology of the Project site is not expected to contain this rock form, the Project site is expected to have a low probability of containing paleontological resources due to the geology of the site. However, because excavation to depths of 3,000 to 10,000 feet have not previously occurred on the Project site, there is some probability that paleontological resources could be found on the site. The EIR will include an assessment of potential Project impacts relative to paleontological resources.

d. Potentially Significant Impact. No known human remains are known to exist within the Project area and the area is not designated nor has it been designated for use as a cemetery. However, because excavation to depths of 3,000 to 10,000 feet have not previously occurred on the Project site, there is some probability that human remains could be found on the site. Consequently the EIR will include an assessment of potential Project impacts relative to human remains.

VI. GEOLOGY AND SOILS -- Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☒	☐	☐	☐
ii) Strong seismic ground shaking?	☒	☐	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☒	☐	☐	☐
iv) Landslides?	☒	☐	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☒	☐	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and	☒	☐	☐	☐

VI. GEOLOGY AND SOILS -- Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☒	☐	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Discussion:

a(i). Potentially Significant Impact. Fault rupture is defined as the displacement that occurs at the ground surface along a seismically active fault during an earthquake event. Based on criteria established by the California Geological Survey (CGS), faults can be classified as active, potentially active, or inactive. Active faults are those having historically produced earthquakes or shown evidence of movement within the past 11,000 years (during the Holocene Epoch). The seismically active southern California region is crossed by numerous active and potentially active faults and is underlain by several blind thrust faults (i.e., low angle reverse faults with no surface exposure). Alquist-Priolo Earthquake Fault Zones (formerly Special Study Zones) have been established throughout California by CGS. These zones identify areas where potential surface rupture along an active fault could prove hazardous and identify where special studies are required to characterize the fault rupture hazard potential to habitable structures (California Division of Mines and Geology [CDMG] 72).

Uplifting of the Puente Hills occurred along the Whittier-Elsinore Fault and the Puente Hills Blind Thrust Fault. This fault is considered blind because it is buried deep beneath alluvium and does not rupture all the way up to the ground surface (CDMG 2007). Other faults with potential significance to the Project are the San Andreas Fault, the Elysian Park Thrust and the San Jose Fault. Within the last 60 years at least 60 events of magnitude 5.0 or greater have occurred in the Southern California Region. There is a high probability that other significant events will occur in this century. The Whittier Main Oil Field is part of a larger oil producing trend that lies along the Whittier Fault Complex that runs southeast from Monterey Park through Montebello, Whittier, La Habra, Brea and Yorba Linda. The seismically active nature of these faults could be a potentially significant impact to the Project due to ground shaking, fault rupture, liquefaction, lateral spreading and seismic settlement. Therefore, further analysis of potential impacts associated with earthquake faults, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, will be included in the EIR.

a(ii). Potentially Significant Impact. There are a number of regionally active faults and buried thrust faults that could produce strong seismic ground shaking at the Project site. These faults include the Puente Hills Blind Thrust, Upper Elysian Park Blind Thrust, Whittier, Raymond, Verdugo, and the Sierra Madre, among others (Blake 2000a). According to the computer program EQFAULT, the Puente Hills Blind Thrust and the Upper Elysian Park Blind Thrust Faults would probably generate the most severe Project site ground motions with an anticipated maximum moment magnitudes of 7.1 and 6.7, respectively. The proximity of the Project site to these active faults will likely result in ground shaking during moderate to severe seismic events. Based on probabilistic seismic evaluation, ground accelerations within the Project site based on the design earthquake (10% exceedance in 50 years) can be expected in the range of 0.4 to 0.6 g (Blake 2000a).

The Whittier Narrows Earthquake of October 1, 1987 had a magnitude of 5.9 and the epicenter was mapped approximately 5 to 10 miles north of the Project site. This earthquake reportedly occurred at a depth of about 14 km beneath a structurally complex region of faults and folds (Hauksson and Jones 1989). It is believed to have occurred on a north dipping thrust fault, either the "Elysian Park Thrust Fault" or the "Puente Hills Thrust Fault". This event occurred near the subsurface intersection of the west-northwest striking Whittier fault extension and the east-west striking thrust faults of the Transverse Ranges. Ground shaking at the Project site as a result of this event has been estimated at 0.37 g (Blake 2000a).

The seismically active faults in the region could be a potentially significant impact to the Project due to seismic ground shaking. Therefore, further analysis of potential impacts associated with seismic ground shaking will be included in the EIR.

a(iii). Potentially Significant Impact. Liquefaction is a form of earthquake-induced ground failure that occurs primarily in relatively shallow, loose, granular, water-saturated soils. Liquefaction can occur when these types of soils lose their inherent shear strength due to excess water pressure that builds up during repeated movement from seismic activity. Shallow groundwater table, the presence of loose to medium dense sand and silty sand, and a long duration and high acceleration of seismic shaking are factors that contribute to the potential for liquefaction. Liquefaction usually results in horizontal and vertical movements from lateral spreading of liquefied materials and post-earthquake settlement of liquefied materials.

Also during an earthquake event, the seismic shaking forces applied to native hillside areas can result in "seismically induced landslides". Seismically induced landslides typically occur in areas of steeper hillsides, near the tops of ridges, where weathered surficial and bedrock materials are exposed on slopes, and in areas of prior landslides.

The CGS published Seismic Hazard Zones maps (Plate 1.5) for the subject area shows that the sites, with the exception of the East Site, are located within an area of earthquake induced landslides. Further analysis of potential impacts associated with seismic-related ground failure including liquefaction and seismically induced landslides will be included in the EIR (CDMG 1999).

a(iv). Potentially Significant Impact. The State has mapped a few large ancient landslides at the Project site. Potential landslides areas would need to be investigated by drilling several borings in each landslide to depths of 90 feet (Matrix Oil Corporation 2009).

Several smaller landslides have been mapped at the Project site as part of recent geotechnical investigations. These landslides are typically shallow features on steeper hillsides that involve weathered surficial and bedrock materials. These shallow unsuitable materials are recommended for removal prior to placement of compacted fill. In addition, numerous borings and field site exposures have been mapped for evaluation of stability of the hillsides and proposed cut slopes. Slope stability analysis will be performed for the Project and buttresses, shear keys and stabilization fills will be designed and constructed to provide a stable site. Further analysis of potential impacts associated with landslides and slope instability will be included in the EIR.

b. Potentially Significant Impact. The Project site is underlain primarily by sandstone, siltstone and conglomerate bedrock of the Fernando Formation. The soils that form on this bedrock are typically silty and have a slight potential for erosion. The site will be excavated and exposed to soil erosion due to wind and water during Project grading and construction, but will be protected with erosion control techniques such as providing sand bags, hay bales, and silt fences for the temporary control of surface water and sediment onsite. Further evaluation of potential impacts associated with soil erosion would need to be conducted as part of the EIR.

c. Potentially Significant Impact. The Project site is underlain by relatively dense bedrock of the Fernando Formation. However, there are occasional clay beds and siltstone beds that are subject to slope instability. The potential for liquefaction and lateral spread in this area should be investigated and evaluated. Regional subsidence has historically been associated with withdrawal of oil and water in and near oil fields. Whether subsidence has occurred at the Project site due to historic oil operations is not known. Differential settlement can occur at the transition/contact between materials of substantially different engineering properties, thus the potential for this condition may exist in the steep sided canyons after they are filled (between the bedrock and fill materials).

Overall, the Project site does not exhibit characteristics that would result in a high potential for geotechnical hazards**.** However, given the potential for these geotechnical issues and potential hazards that could affect Project development, further analysis of these potential impacts will be included in an EIR.

d. Potentially Significant Impact. Expansive soils are typically associated with fine-grained clayey soils that have the potential to shrink and swell with repeated cycles of wetting and drying. Expansion Index testing was performed on a representative sample of site earth materials in general accordance with Table 18-1-B of the Uniform Building Code (UBC). Preliminary test results for expansion index (EI) are reported as medium expansion soils (Matrix Oil Corporation 2009). Additional EI testing should be performed after grading and during development to verify conditions encountered during preliminary subsurface investigations. Therefore, further analysis of potential impacts associated with expansive soil will be included in the EIR.

e. No Impact. The Project will be served by new sewer infrastructure improvements at the central office location during the operations phase and portable toilets would be provided during the testing phase and at various locations during operations. Development of the Project does not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, an analysis of the ability of the on-site soils to support the use of septic tanks is not required. As such, no impacts would occur. Further analysis of this issue is not necessary as part of the EIR.

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

VII. RISK, HAZARDS AND HAZARDOUS MATERIALS -- Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☒	☐	☐	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☒	☐	☐	☐

Discussion:

The Project as proposed would function as a producing oil field, containing active wells, and other facilities ancillary to oil and gas development, including tanks, a gas plant, oil and gas pipelines and a truck loading facility. The operational wells will be placed in underground concrete cellars.

a,b,c. Potentially Significant Impact. The proposed Project will include the development and production of oil and gas. These oil and gas operations will include oil and gas production wells, oil and gas processing facilities, produced water injection wells, pipelines and a truck loading facility. As part of these operations a number of hazardous materials are used and transported such as diesel fuel. An upset condition at any of these facilities could create a significant hazard to the public since the oil and gas operations will be in proximity to areas accessible to the public such as trails and other recreational areas. Residences are approximately 500 feet away from the closest well pad location. Therefore, further analysis of potential impacts associated with accidental releases from the oil and gas operations will be included in the EIR.

The potential for accidental releases of hazardous materials could result from construction practices including equipment fuel leaks, e.g. hydraulic fluid, fuel spills, and other events. A Spill Prevention, Control and Countermeasure Plan (SPCCP) would be prepared for the proposed Project and include action measures to minimize the potential for accidental releases of hazardous materials into the environment. The SPCCP would provide Project-specific measures, which includes steps to minimize the potential for a hazardous material release and would require cleanup and containment supplies, such as straw waddles, silt fencing, and absorbent pads, to be kept on-site. This issue will be evaluated further in the EIR.

A hazardous materials/risk of upset analysis will be included in the EIR to evaluate the potential changes in risk associated with the proposed activities and alternatives. The analysis will utilize established risk guidelines to evaluate the significance of potential incremental risk increases/decreases associated with the proposed Project and alternatives. The analysis will

focus on evaluating the proposed production, processing, and storage, use and transportation of hazardous materials.

The significance of potential impacts will be quantified using significance criteria for public safety. These criteria would be used for potential toxic exposure, fires, and explosions as well as transportation risk. If potentially significant impacts are identified, mitigation measures will be proposed, where possible, to reduce the impact to a level of insignificance. The risk of upset section would be split in two parts: the first part would address the risks associated with the proposed facility and the impact of upset scenarios on nearby sensitive receptors (e.g., residences); the second part would address increases in risks due to crude oil transportation.

The proposed Project will result in the truck transportation and/or pipeline transportation of crude oil from the Whittier Field to area refineries. Transportation risk is composed of two areas: the risk of spills and exposure to the public of hazardous materials and the increased risk due to the increased traffic on area roadways. The Project would increase the number of truck trips per day during drilling and construction, which would increase truck traffic on area roadways, and concomitantly, increase the risks of truck accidents and consequent injuries and fatalities. These increases will be quantified in the EIR by examining accident rates on area roadways and developing risk profiles for the resulting increases in truck traffic.

The facility will also have truck traffic related to the use of natural gas odorant at the odorant station and potential truck trips of propane if that is required by the gas plant. These trips will be added by the EIR to the truck trips associated with crude oil transportation.

The EIR will evaluate the proposed Project to determine if natural gas liquids (NGL) truck transportation will be necessary. The risk of upset analysis will build upon existing NGL transportation studies, and the analysis will quantify the risk associated with NGL transportation, if it is necessary. Should increases in NGL transportation risk be considered significant, alternative transportation routes and equipment will be evaluated to identify potential risk reduction measures.

If the produced gas associated with the proposed Project contains hazardous levels of hydrogen sulfide, then additional analysis will be performed. This will include assessing any hydrogen sulfide contingency plans, as required by the Department of Oil, Gas, and Geothermal Resources (DOGGR), and assessing the risks to nearby populations from sour gas exposure. The historical levels of hydrogen sulfide encountered in the Whittier Field will be examined in order to assess the likelihood of encountering sour gas. Additional mitigation measures to address sour gas issues will be included.

Lad and Lassie Preschool is located approximate 400 feet from the proposed Central Site. The EIR will evaluate potential Project impacts associated with hazardous emissions, materials, substances, or waste within one-quarter mile of an existing school.

d. No Impact. The Project area is not located on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 (CDTSC 2008). Consequently, no potential Project impacts relative to location on a listed hazardous materials site are expected to occur; and no further analysis of this issue will be provided in the EIR.

e. Potentially Significant Impact. The Project area is not located within an airport land use plan or within two miles of a public airport or public use airport. The nearest airport, Fullerton Municipal Airport, is located approximately seven miles from the Project site. Consequently, no potential Project impacts relative to airport proximity are expected to occur. However, the Project site lies under a flight path for the Los Angeles International Airport (LAX). Frequent airplane traffic has been observed crossing over the Project site (observed during site visits by City of Whittier staff, inclusive of visits on January 27, 2009 and September 3, 2009). Although these flights cross the site at high elevations, there is some probability that an airplane crash could occur over or on the Project site. Such an occurrence could create a fire and the potential release of petrochemical contaminants. The EIR will evaluate potential risks of hazards that would be created should an airplane crash on the Project site.

f. No Impact. The Project area is not located with the vicinity of a private airstrip. Consequently, the Project would not result in a private airstrip related safety hazard for people residing or working in the Project area. No further analysis of this issue will be provided in the EIR.

g. Potentially Significant Impact. The proposed Project will require the preparation of an emergency response plan. The plan would need to include adequate access for emergency response and firefighting equipment to the various development sites. All of the roads within the development would need to be evaluated to ensure they would allow for emergency vehicle access. Further evaluation of potential impacts associated with emergency response will be included in the EIR.

h. Potentially Significant Impact. The Project site is within the Puente Hills Preserve, which is subject to wildland fires. The Puente Hills have burned repeatedly in historic times, and the frequency and intervals between fires are likely reflected by the current vegetation on site. Burn data from Los Angeles County Fire Department indicates that since 1928, over 50 fires larger than 2 acres have occurred in and adjacent to the Puente Hills. The biggest of these, the Fullerton fire, burned over 3,000 acres of land to the east of the Preserve. Over the years, several other large (over 800 acres) fires have occurred within the Preserve boundaries, most notably Hacienda No. 162 fire (1945), the Catalina fire (1979), and the Turnbull fire (1989). Fires larger than 2 acres have not occurred in the Preserve since 1995. Exploratory drilling, construction and oil operation activities could spark a wildland fire that could impact portions of the surrounding residential developments. This issue will be evaluated in the EIR, and applicable mitigations measures to reduce the likelihood of wildland fires resulting from the oil and gas operations will be identified.

VIII. HYDROLOGY AND WATER QUALITY -- Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☒	☐	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☒	☐	☐	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☒	☐	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☒	☐	☐	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☒	☐	☐	☐
f) Otherwise substantially degrade water quality?	☒	☐	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance	☐	☐	☐	☒

VIII. HYDROLOGY AND WATER QUALITY -- Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
Rate Map or other flood hazard delineation map?				
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☒	☐	☐	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☒	☐	☐	☐

Discussion:

a. Potentially Significant Impact. The Project will increase the amount of runoff generated from the site compared to existing conditions because there will be an increase in the amount of impervious surfaces. This increase in runoff could impact water quality. The EIR will evaluate the potential for the Project to violate any water quality standards or waste discharge requirements

b. Potentially Significant Impact. The proposed development intends to use existing water services of the Whittier/La Mirada district of Suburban Water Systems. Suburban Water Systems derives 80 percent of its water supply from company-owned wells that pump local groundwater from the Main San Gabriel and Central Basins. The other 20 percent is purchased from several wholesale agencies including the Metropolitan Water District of Southern California. The Project site lies on the northeastern portion of the Central Basin.

The Central Subbasin occupies a large portion of the southeastern part of the Coastal Plain of Los Angeles Groundwater Basin. This subbasin is commonly referred to as the "Central Basin" and is bounded on the north by a surface divide called the La Brea High, and on the northeast and east by emergent less permeable Tertiary rocks of the Elysian, Repetto, Merced and Puente Hills. The southeast boundary between Central Basin and Orange County Groundwater Basin roughly follows Coyote Creek, which is a regional drainage province boundary. The southwest boundary is formed by the Newport Inglewood fault system and the associated folded rocks of the Newport Inglewood uplift. The Los Angeles and San Gabriel Rivers drain inland basins and pass across the surface of the Central Basin on their way to the Pacific Ocean. Average precipitation throughout the subbasin ranges from 11 to 13 inches with an average of around 12 inches.

The Central Basin pressure area contains many aquifers of permeable sands and gravels separated by semi-permeable to impermeable sandy clay to clay that extend to about 2,200 feet

below the surface (Division of Water Resources [DWR] 2006). The estimated average specific yield of these sediments is around 18 percent. Throughout much of the subbasin, the aquifers are confined, but areas with semi-permeable aquifers allow some interaction between the aquifers (DWR 2006). The main productive freshwater-bearing sediments are contained within Holocene alluvium and the Pleistocene Lakewood and San Pedro Formations (DWR 2006). Many faults, folds and uplifted basement areas affect the water-bearing rocks in the Central Basin. Most of these structures form minor restrictions to groundwater flow in the subbasin. The existence of fissures within the Puente Hills has allowed groundwater to rise to the surface, resulting in natural springs. Areas in Sycamore Canyon and Worsham Canyon still yield surface water today. Due to the local geology, other natural springs are likely to exist in the Preserve.

The presence of water in these streams and creek courses keeps soils moist and supports a vegetation makeup different from the surrounding drier upland areas.

Project development and operation could impact groundwater conditions. The EIR will evaluate these impacts and include consultation with the City Community Development Department, City Public Works Department, Environmental Health Division, and the Regional Water Quality Control Board.

c. Potentially Significant Impact. The existing drainage pattern on the Project site will be altered to grade the site for development of drilling pads, processing facilities, truck loading area and roads. The Project will incorporate manufactured slopes with downdrains discharging into open space areas. Water drainage could potentially impact erosion or siltation on or off-site. Although the Project will include the construction of erosion control and siltation control devices, the evaluation of the grading plan and effectiveness of proposed erosion control improvements planned for incorporation into the Project will be evaluated in the EIR.

d. Potentially Significant Impact. The Project will change the drainage pattern within the Project site and increase the amount of surface runoff generated by the Project site. This change could result in localized flooding. Given the concern regarding site runoff, this issue will be addressed as part of the EIR.

e. Potentially Significant Impact. The Project will change drainage patterns and discharge drainage from most of the proposed development area to the surrounding areas. The Project will, however, result in an increase in surface runoff due to an increase in impervious surfaces resulting from the construction of well pads, roads, and other improvements. The runoff from the site could have a potentially significant impact to drainage areas surrounding the Project site. Therefore, further analysis of potential impacts associated with water runoff will be included in a Project EIR.

f. Potentially Significant Impact. The proposed Project could introduce additional sources of polluted runoff as a result of potential oil spills or other upset conditions. As a standard condition of Project development, a Storm Water Pollution Prevention Plan (SWPPP) will be required prior to grading and construction under the National Pollution Discharge Elimination System (NPDES). The adequacy of this requirement relative to protection of water quality will be evaluated in the EIR.

g. No Impact. The proposed Project will not place any housing within the 100-year flood hazard boundary per Flood Insurance Rate Maps. Consequently, no potential Project impacts relative to placement of houses within the 100 year flood hazard boundary are expected to occur; and no further analysis of this issue will be provided in the EIR.

h. Potentially Significant Impact. The proposed Project will redirect the runoff within the Project site. Storm runoff from the development will be conveyed from the development to an adequate drainage facility in a manner that is expected to comply with City, state and federal standards depending on the points of discharge. However, an analysis of the 100-year flood hazard area is required to determine if Project structures would be placed within this area. This issue will be evaluated in the EIR.

i. Potentially Significant Impact. The Project is located near the Whittier Narrows Dam. This facility is owned and operated by the US Army Corps of Engineers. Although the proposed Project is not expected to impact the dam or water flows into the dam area, an analysis of the 100-year flood hazard area is required.

j. Potentially Significant Impact. There are no substantial bodies of water such as lakes or ponds on-site that could result in the seiche (seismically induced waves). The site is located inland and far from any ocean so there is no potential for tsunami occurring at the Project site. Although no potential Project impacts relative to inundation by seiche or tsunami are expected to occur, there is a potential for mudflow on the hillsides surrounding the development area of the Project site. The hillsides will require stabilization as part of rough grading of the Project site. Further, during drilling operations, a liquid slurry of drilling "mud" will be collected on site within bermed basins which would be protected by impermeable membrane. Failure of these basins could result in mudflow inundation. Potential Project impacts relative to mudflow inundation will be evaluated in the EIR.

IX. LAND USE AND PLANNING - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐

IX. LAND USE AND PLANNING - Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☒	☐	☐	☐

Discussion:

a. No Impact. The Project site is an existing Preserve located within an established urban area. Residential development abuts the Project site on the south and west. Public recreational areas and public facilities are part of the existing Habitat Preserve. The Project will not physically divide an established residential community. Consequently, no potential Project impacts relative to physical division of a residential community are expected to occur; and no further analysis of this issue will be provided in the EIR.

b. Potentially Significant Impact. The existing General Plan (City of Whittier 1993) land use map designates the Project site for Open Space. As proposed, the Project would place an oil and gas production operation within an Open Space designated site. Oil and gas production is allowed by the City of Whittier within all zone districts with a conditional use permit. The Habitat Preserve RMP provides a blueprint for the management and use of the Preserve.

A land use and policy consistency analysis of the Project relative to the City General Plan and Habitat Preserve RMP will be included in the EIR to determine direct and indirect impacts associated with the Project activities in terms of effects on existing, planned, and future land uses in the Project vicinity. This section would build on the impact analysis from other issue areas to determine consistency with governing land use policies and to identify potential incompatibilities with surrounding land uses.

Several land use concerns are closely related to or result from impacts arising in other issue areas, such as public safety, air quality, biological resources, visual resources, and noise. Impacts identified in other issue areas would be combined and translated into land use conflicts and constraints through close consultation with other issue area specialists and agency representatives. This comprehensive analysis would provide the necessary basis for evaluating the short- and long-term conflicts of the Project with nearby uses and for assessing policy compliance.

The EIR will establish the baseline setting and governing land use policies and ordinances. The EIR will then assess the proposed Project's potential impacts and compatibility with the existing and potential future land uses in the area.

c. Potentially Significant Impact. The Puente Hills Landfill Native Habitat Preservation Authority adopted a RMP for the Habitat Preserve in July of 2007. The RMP provides a comprehensive, long-term management plan for the Preserve. The RMP serves as a clear and realistic blueprint for how the Preserve will be managed for the next several decades and will guide the Habitat Authority on future policy, land use, budget, and capital improvement

decisions relating to the Preserve. The fundamental objective for the RMP is to identify the best framework to manage, protect, and enhance the natural resource values of the Preserve while providing safe recreational and educational opportunities to the public. The RMP considers the natural and cultural resources present in the Preserve. The major plan objectives are to enhance wildlife habitats, develop vegetation management practices, and provide safe, low-impact recreational opportunities and public access. The proposed Project could conflict with the provisions of the RMP and the EIR will include analysis of potential impacts that may occur as a result of conflicts with the RMP.

X. ENERGY/MINERAL RESOURCES -- Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☒	☐	☐	☐
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☒	☐	☐	☐

Discussion:

a,b. Potentially Significant Impact. The Project as proposed includes exploration and production of oil and gas from the Project area. With the development of any oil and gas resource, a large amount of energy is consumed and produced. Drilling operations, processing, and transportation require electricity and diesel fuel. Energy is produced in the form of natural gas and oil, which is refined to produce gasoline, diesel fuel, jet fuel, and other fuels. The EIR will assess these impacts focusing both on mineral consumption, and energy use and production. The overall approach to this section will be to determine the amount of existing oil and gas supplies expected to be consumed by the Project, the increased consumption of energy that be required for the proposed Project, and the amount of energy from natural gas and crude oil that would be produced by the Project.

This section will provide a discussion of the current crude and natural gas balance in California and how the proposed Project production could affect this balance.

XI. NOISE -- Would the Project Result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☒	☐	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	☒	☐	☐	☐
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒
f) For a Project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?	☐	☐	☐	☒

Discussion:

a,b,c,d. Potentially Significant Impact. Noise is typically defined as unwanted sound. Typically, noise in any environment consists of a base of steady "background" noise made up of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to virtually continuous noise from traffic on a major highway.

Construction and operation activities for the proposed Project and alternatives would potentially increase noise levels in the vicinity of the site and along transportation corridors. A noise study will be prepared as part of the EIR to determine expected Project construction and operation noise levels. The noise impact analysis will focus on construction, drilling, operations, and transportation related noise impacts to communities located near the construction sites and along transportation routes between the construction site and area freeways. The EIR will calculate construction and operation activity noise levels based on the construction schedules and equipment lists developed in the Project description. The impact analysis will be based on the relationship between projected noise levels (and the duration of these levels) and applicable policies of the City of Whittier and Los Angeles County. Impact criteria will include the noise and land use compatibility guidelines supplemented by annoyance and sleep disturbance criteria as appropriate.

In addition, as truck and vehicle traffic levels would increase along the transportation routes, the consequential increases in noise will be assessed. The EIR will assess this level of traffic increase for noise impacts.

The EIR will use Federal Highway Administration models for estimating traffic noise to assess increased traffic impacts. Community populations with potential exposure to traffic noise will be identified and mapped including recreational areas, such as the Murphy Ranch Little League fields along Colima Avenue, and residential areas near the proposed site. Also, existing planning documents and past impact assessments will be used in this analysis.

The impact discussion for this Project will identify any noticeable change in the existing noise levels that would result from construction and operation activities and the significance of that change. A change of 3 dBA is generally regarded as the threshold of noticeable change in an ambient noise environment.

The EIR will estimate noise generated by equipment using existing databases on noise levels as available from the EPA and other sources.

e,f. No Impact. The Project area is not located within an airport land use plan or within two miles of a public airport or public use airport. The Project area is not in the vicinity of a private airstrip. The nearest airport, Fullerton Airport, is located approximately seven miles from the Project site. Flights approaching LAX that cross the Project area are audible from the site and surrounding areas and will be taken into account as part of the baseline. Consequently, no potential Project impacts relative to airport or airstrip noise are expected to occur; and no further analysis of this issue will be provided in the EIR.

XII. POPULATION AND HOUSING -- Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion:

The proposed Project will not result in the inducement of population growth, it will not displace existing housing or people, and it will not create for substantial new housing in the area.

a,b,c. No Impact. The proposed Project will not displace any existing housing or people and would not necessitate the construction of housing elsewhere. Consequently, no further analysis of this issue will be provided in the EIR.

XIII. PUBLIC SERVICES-- Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☒	☐	☐	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

Discussion:

Fire Protection. Potentially Significant Impact: Given the nature of the Project, fire protection and emergency response services will be addressed in the risk of upset section of the EIR. The risk of upset analysis, discussed in Section VII, will be used in the EIR to evaluate potential scenarios that could require the use of fire suppression equipment, or impact processing equipment, and ultimately place additional demands on fire protection or emergency services. The results from the risk of upset analysis will provide an estimate of the increased risk of a fire, explosion, oil spill, or other emergency that could result from facility operations.

Specific to fire protection services, the EIR will address compliance with API guidelines and National Fire Protection Association (NFPA) requirements, with a particular focus on the adequacy of the fire suppression systems, including adequate firewater supplies. Particular emphasis will be placed on the potential for fires during drilling operations. The significance of potential impacts will be qualified using significance criteria that focus on compliance with NFPA requirements and API guidelines and the ability to adequately respond to an emergency.

Police, Schools, Parks, Other Public Facilities. Less Than Significant Impact: The proposed Project is not expected to increase the population of Whittier; therefore, the population-driven public services (i.e., schools, parks, libraries, police protection) would not be expected to experience significant impacts. Because California Law allows children to be enrolled in the district where a child "resides" or where the parent of a child "works," there could be an increase in student population from the employees working at the proposed sites. However, because the Project would result in a less than one percent growth in jobs, this increase would be less than significant. Consequently, no further analysis of this issue will be provided in the EIR. If, however, the results of the Scoping process indicate that there may be impacts to these services, the EIR will include them in the analysis.

XIV. RECREATION	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☒	☐	☐	☐
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion:

a. Potentially Significant Impact. The Project site is located in a natural preserve area that provides outdoor recreational opportunities. The proposed Project may negatively impact the Habitat Preserve's recreational resources, including interference with trail access. The EIR will examine potential Project recreational impacts. It will establish the baseline setting and governing policies relative to recreational facilities in the Preserve. The EIR will then assess the proposed Project's potential impacts and compatibility with the existing and potential future recreational uses in the area. Recreational opportunities could be impacted by Project noise, odors, visual obtrusions, traffic, physical obstructions, and accidental oil spills precluding use of resources and visually soiling the affected areas. Further, an oil spill, even when cleaned up, can result in a negative public perception of the recreational resources.

b. No Impact. The Project does not propose to construct recreational areas, and is not expected to require the construction or expansion of recreational facilities. Consequently, no further analysis of this issue will be provided in the EIR.

XV. TRANSPORTATION/TRAFFIC -- Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☒	☐	☐	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☒	☐	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐
e) Result in inadequate emergency access?	☒	☐	☐	☐
f) Result in inadequate parking capacity?	☒	☐	☐	☐
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☒	☐

Discussion:

a. Potentially Significant Impact. Traffic generated by the Project would be from worker-related commuter traffic, trucks used for delivering construction equipment, trucks used for delivering and hauling construction materials and wastes, and trucks used to transport the crude oil to refineries during exploratory drilling and pipeline construction. The EIR will assess traffic related impacts from these vehicular trips. Although construction impacts may be relatively short-term, the workers' vehicles and trucks hauling equipment and material traveling to and from the site could have an adverse effect on traffic flow and safety. The effect of workers' vehicles parked in the Project vicinity is another temporary but potentially significant impact.

A traffic study will be prepared as part of the EIR to determine expected Project construction and operation traffic levels, which would include potential impacts related to the construction of the oil and gas pipeline connection through existing streets. The study will be prepared consistent with City of Whittier guidelines. The format of the study will display baseline environmental setting, Project conditions (including potential vehicle trip generation of work related commuter trips, trucks for construction, truck trips for transport of product, and trucks for transport of worker supplies potentially including such items as drinking water, office supplies and cleaning products), cumulative setting with no Project conditions, cumulative setting with Project conditions, access and circulation, parking assessment, and construction evaluation.

The EIR will evaluate the three Project phases, Drilling and Testing; Design and Construction; and Operations and Maintenance, in the analysis.

b. Potentially Significant Impact. The Congestion Management Program (CMP) is a state-mandated program enacted by the State legislature to address the impacts that urban congestion has on local communities and the region as a whole. The Los Angeles CMP would be consulted to determine intersections that may be impacted by the Project. Responses to this NOP and added information from the applicant on truck routes for oil transportations would contribute to ascertaining new traffic count data information at up to 12 intersections.

Project generated traffic could have a potentially significant impact to the level of service standard established by the County CMP for various locations. Project impacts to traffic at identified CMP locations will be analyzed as part of an EIR to determine if there is a significant Project impact under CMP guidelines.

c. No Impact. The nearest airport, Fullerton Municipal Airport, is located approximately seven miles from the Project site. The Project would have no impact on air traffic patterns at this airport. Flights approaching LAX cross the site at a high elevation and would not be affected by Project activities. The Project will not create a substantial safety risk or interfere with air traffic patterns at an airport. Consequently, no further analysis of this issue will be provided in the EIR.

d. Potentially Significant Impact. The Project is required to comply with the City of Whittier's roadway safety design standards. However, proposed Project truck loading area ingress and egress and truck transportation routes could create roadway hazards, including sharp curves and intersection hazards. To assess impacts relative to road design hazards, the EIR will evaluate this issue.

e. Potentially Significant Impact. Emergency services could be required for persons working on the site. Fires or accidental spills caused by Project activities also could require emergency services. All of the roads within the development would need to be evaluated to ensure they would allow for emergency vehicle access. Further evaluation of potential impacts associated with emergency access will be included in the EIR.

f. Potentially Significant Impact. Employees travelling to the site during both construction and operation will require a place to park. Appropriate parking facilities for the Project will need to be identified and will be assessed in the EIR.

g. Less Than Significant Impact. The Project is not anticipated to conflict with any transportation policies, plans, or programs supporting alternative transportation. The Project will be required to incorporate all forms of alternative transportation as required by the City's General Plan (City of Whittier 1993). The Project is not expected to conflict with adopted alternative transportation policies, plans, or programs. Consequently, no further analysis of this issue will be provided in the EIR.

XVI. UTILITIES AND SERVICE SYSTEMS /WASTEWATER-- Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☒	☐	☐	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	☒	☐	☐	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the providers existing commitments?	☒	☐	☐	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	☒	☐	☐	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☒	☐	☐	☐

Discussion:

a,b,c,e. Potentially Significant Impact. During drilling operations, a liquid slurry of drilling "mud" will be collected on site within bermed basins which would be protected by impermeable membrane. Matrix estimates that approximately 1,800 barrels of this mud will be collected and disposed off site for each well drilled. Similarly, during production activities the wastewater and drilling muds would be collected and disposed off site by vacuum trucks. The EIR will describe how sanitation service will be provided at the field office at the central site, which could include portable toilets, septic or sewer. The EIR will assess impacts related to sanitation service on site, including potential impacts to traffic associated with pumping operations. The EIR also will assess the Project's wastewater collection and treatment plans, including their efficiency, capacity, compliance with the Regional Water Quality Control Board and other regulatory agencies, and environmental effects.

d. Potentially Significant Impact. Water for drilling, construction, operations, fire protection and domestic consumption will be provided by Suburban Water Systems. For activities on the West and Central Sites, water will be provided from a main located on Mar Vista St. at Catalina Ave. For the East Site, water will be provided from the water main located on Colima Rd. just adjacent to the loading facility. Matrix estimates that approximately 0.4 acre-ft. 130,000 gallons of water will be consumed during drilling of each well. A fire hydrant at each well site will provide water for fire protection. During on-going operations, water will be for vegetation recovery and vegetation used for screening, for general cleaning and equipment wash downs, and when maintenance is performed on the wells. On-going operations also will require potable water for personnel in Matrix's field office. It is anticipated that the monthly water requirement will be 0.12 acre-ft. (39,000 gal). The EIR will evaluate whether available water supplies are adequate to meet Project requirements.

f. Potentially Significant Impact. Construction of the proposed Project would generate solid waste both from construction and from solid waste generated by the drilling and production activities. The EIR will identify the landfill(s) that would serve the Project and if there is adequate capacity to serve Project requirements.

g. Potentially Significant Impact. Project solid waste plans will be required to comply with governmental regulations. The EIR will identify the appropriate regulations and evaluate Project compliance, including compliance with requirements for recycling and transport and disposal of hazardous solid waste.

XVII. ENVIRONMENTAL JUSTICE	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
Does it affect areas of high minority populations and low income communities?	☒	☐	☐	☐

Discussion:

The Appendix G Checklist does not include Environmental Justice as one of the issue areas that needs to be addressed as part of an Initial Study. However, the EIR will include an analysis of potential Environmental Justice impacts that could occur as a result of the Project. This section will analyze the distributional patterns of high-minority and low-income populations on a regional basis and characterizes the distribution of such populations adjacent to the Whittier Oil Field and the potential future development activities. This analysis will primarily focus on whether the potential future development impacts would affect areas of high-minority populations and low-income communities disproportionately and thus create an adverse environmental justice impact.

The EIR will review and document whether communities or groups exist within the potential "hazard" or "impact footprint" of the proposed Project. The EIR will further evaluate whether such identified communities or activities carried on by individuals of such communities may be disproportionately impacted by the proposed Project.

Potential environmental justice impacts will be quantified. This information will be used to evaluate whether the proposed Project would unduly burden the affected communities and industries.

XVII. MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐

XVII. MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Discussion:

a. Potentially Significant Impact. As discussed in item IV above, there are potentially significant biological resources on the Project site. As discussed under item V, above, potentially significant archaeological or paleontological resources or human remains could occur in or around the Project site. Therefore, the Project has potential to substantially degrade the quality of the environment relative to species habitat or populations, or cultural resources. The EIR will assess this issue.

b. Potentially Significant Impact. The Project could result in potentially significant cumulative impacts relative to each of the environmental topics to be discussed in the EIR. For each topic, the EIR will evaluate potential Project generated cumulative impacts.

c. Potentially Significant Impact. The Project could result in potential direct and indirect traffic, air quality and noise impacts. Further, the Project could result in direct and indirect risks related to hazard spills or fires. The EIR will evaluate these potential impacts.

4.0 Alternatives to the Proposed Project

The California Environmental Quality Act, Section 15126.6, requires an EIR to describe a reasonable range of alternatives to a Project or to the location of a Project which could feasibly attain its basic objectives and evaluate the comparative merits of the alternatives. CEQA Guidelines Section 15126.6 provides direction for the discussion of alternatives to the proposed Project. This section requires:

- A description of *"...a range of reasonable alternatives to the project, or to the location of a project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives."* [15126.6(a)]
- A setting forth of alternatives that *"...shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project."* [15126.6(f)]
- A discussion of the "No Project" alternative, and *"...If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."* [15126.6(e)(2)]
- A discussion and analysis of alternative locations *"[o]nly locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR."* [15126.6(f)(2)(A)]

In addition, CEQA states that alternatives should "… *attain most of the basic objectives of the project* ..." (Section 15126.6(a)). If an alternative is found to not obtain the basic objective, then it can be eliminated from further consideration.

The proposed Project is to conduct exploratory drilling and if successful, continue oil and gas production at the Whittier Main Oil Field. Proposed alternatives would include:

No Project Alternative
Under the No Project Alternative, the Project would not move forward and the area envisioned for development would continue as part of the existing Habitat Preserve.

Consolidation Alternative
With this alternative, the Project would be limited to one consolidated site for drilling and production of oil and gas. It is envisioned that the truck loading facility would still need to be constructed for oil transportation.

Alternate Sites Alternative
With this alternative, alternate locations for the proposed drilling sites are analyzed for potential reduction of environmental impacts. Alternative locations are also analyzed for the location of the truck loading facility.

Alternate Roads Alternative
With this alternative, alternate locations for the proposed internal road leading to the truck loading facility, including ingress and egress, are analyzed for potential reduction of environmental impacts.

Pipeline Alternative Routes
Another possible alternative is for Matrix to construct a pipeline connection down Colima Road to Lambert Road and onto the railroad right-of-way along Lambert Road to a tie-in to the Crimson Pipeline at the intersection of Lambert Road and Leffingwell Road. Other potentially suitable alternative routes would also be considered and analyzed as appropriate.

Other alternatives may be identified as part of the scoping process for the EIR.

5.0 List of Potential Project Permits

Table 5.1 Whittier Main Oil Field Project Permits/Approvals

Responsible Agency	Applicable Permit/Clearance
Local Agencies	
City of Whittier Community Development Department	• Lead CEQA Agency/EIR Certification • Conditional Use Permit • Building Permits • Department of Public Works Permits related to Grading Permits, any pipelines in the public rights of way, and oversized/overweight loads to be transported on City streets.
Los Angeles County Fire Department	• Business Plan Approval • Compliance with NFPA Requirements • Hot Work Permits
South Coast Air Quality Management District	• Authority to Construct • Permit to Operate
City of Whittier Department of Public Works	• Onshore Site Work Approvals and Permits • Excavation Permit
Los Angeles County Office of Emergency Services	• Community Action Emergency Response Plan
State Agencies	
Division of Oil, Gas, and Geothermal Resources	• Permits to Drill • Permit to Conduct Well Operations • Class II Underground Injection Control Permit
Regional Water Quality Control Board	• Wastewater Discharge Requirements • SWPPP Permit
Fish and Game	• Stream Alteration Agreements
Federal Agencies	
U.S. Fish and Wildlife Service	• If necessary.
U.S. Army Corps of Engineers	• Section 404: Dredge and Fill Permit • Section 10: Activity in a Waterway • Pipeline Structure Permit

6.0 List of Preparers

Table 6.1 List of Preparers

Name	Company	Issue Areas	Education	Years of Experience
Greg Chittick	MRS	Air Quality, Safety and Risk, Fire Protection	B.S. in Mechanical Engineering M.S. in Mechanical Engineering	19
John Peirson	MRS	Project Management,	B.A. in Mathematics	26
Luis Perez	MRS	Project Management, Project Description, Energy and Mineral Resources, QA/QC, Recreation, Land Use, Aesthetics	B.A. in Environmental Science and Public Relations M.A. in Organizational Management	20
Steve Radis	MRS	Air Quality, Safety and Risk, Health Risk Assessment	B.A. in Climatology M.A. in Climatology	25
Jennifer McDevitt	MRS	Document Production	B.A English	2
Ted Mullen	MRS	Biology	B.S. Biology M.A. Ecology/Biology	18
Jeff Adams	City of Whittier			
Jeff Collier	City of Whittier		B.S. Urban & Regional Planning MPA Public Administration	28
Joann Lombardo	CPS for City of Whittier	Quality Assurance/ Quality Control, Project Management	B.A. American Studies/Economics M.A. City and Regional Planning	25

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Information Sources

X	Field work	X	Ag Preserve maps
X	Calculations	X	Flood Control maps
X	Project plans	X	Other technical references
X	Traffic studies		(reports, survey, etc.)
X	Records	X	Planning files, maps, reports
X	Grading plans	X	Zoning maps
X	Elevation, architectural renderings	X	Soils maps/reports
X	Published geological map/reports	X	Plant maps
X	Topographical maps	X	Archaeological maps and reports

8.0 List of Acronyms

AAQS	Ambient Air Quality Standards
API	American Petroleum Institute
AQMP	Air Quality Management Plan
ARB	Air Resources Board
CAPCOA	California Air Pollution Control Officers Association
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CSFM	California State Fire Marshall
CUP	Conditional Use Permit
DOGGR	California Division of Oil, Gas and Geothermal Resources
DRP	Development Review Permit
EI	Expansion Index
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FMZ	Fuel Modification Zone
FTA	Fault Tree Analysis
GHG	greenhouse gases
HRA	Health Risk Assessment
ITE	Institute of Transportation Engineers
LA	Los Angeles
Leq	Equivalent steady sound level that provides an equal amount of acoustical energy as the time-varying sound
LOS	Level of Service
MCF	Thousand Cubic Feet
NFPA	National Fire Protection Association
NGL	natural gas liquids
NOP	Notice of Preparation
NOx	Nitrogen Oxide
NPDES	National Pollution Discharge Elimination System
PXP	Plains Exploration and Production Company
RMP	Resource Management Plan
ROC	Reactive Organic Compounds
RWQCB	Regional Water Quality Control Board
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SPCCP	Spill Prevention, Control and Countermeasure Plan
SWPPP	Storm Water Pollution Prevention Plan
UBC	Uniform Business Code