EXECUTIVE SUMMARY

INTRODUCTION

This Draft Environmental Impact Report (EIR) has been prepared to identify the potential environmental effects associated with the adoption of the proposed Inglewood Oil Field Specific Plan Project ("Specific Plan" or "Project"), as required under the California Environmental Quality Act (CEQA) of 1970, as amended (*California Public Resources Code,* Section 21000 et seq.) and the State CEQA Guidelines (Title 14, *California Code of Regulations* [CCR]*,* Chapter 3, Sections 15000 et seq.). The Specific Plan is a set of oil drilling regulations designed to help protect the environment as well as the public health, safety, and welfare of the City of Culver City and surrounding communities. As the adoption of the Specific Plan has the potential to cause physical changes in the environment, it is considered a "Project", as defined by Section 21065 of CEQA and Section 15378 of the State CEQA Guidelines, and thus is subject to CEQA's requirements.

The City of Culver City is the Lead Agency pursuant to CEQA and is responsible for ensuring that the Draft EIR is prepared in accordance with its independent judgment, for complying with CEQA and the requisite environmental review process for the Project, and for considering the approval, denial, or revision of the proposed Project.

This Draft EIR (1) discloses the potentially significant adverse environmental impacts of the Project; (2) identifies measures that will be effective in reducing or avoiding any identified significant adverse impacts; (3) analyzes feasible alternatives to the Project; and (4) facilitates interagency coordination and public review. The Draft EIR concludes that, even with the implementation of the mitigation measures described in this document, the Project will result in significant and unavoidable environmental impacts, as discussed below.

PROJECT LOCATION AND SETTING SUMMARY

The City of Culver City is located in the western portion of Los Angeles County, southwest of downtown Los Angeles. The Inglewood Oil Field is approximately 1,000 acres in size, with the majority of the Oil Field within the unincorporated County of Los Angeles (County IOF), and approximately 77.8 acres of the northwestern portion of the Inglewood Oil Field within Culver City's jurisdiction (City IOF or Project Site). The City IOF consists of 4 non-contiguous areas that are subject to active oil and gas production.

The Project Site is located at the northern end of the Inglewood Oil Field (in the eastern section of Culver City), and is generally bound by La Cienega Boulevard to the east; the City of Culver City/Los Angeles County line to the south; Culver City Park and College Boulevard to the west; and the Baldwin Hills Scenic Overlook and the Blair Hills residential area in Culver City to the north. Regional access to the Project Site is provided by Interstate (I) 10, approximately 1.5 miles to the north and I-405, approximately 2.0 miles to the south.

As an operating oil and gas production field, on-site facilities within the City IOF include petroleum extraction wells and Class II injection wells; storage tanks and pumps; graded well pads; pipelines to convey oil, produced water, and natural gas to the larger processing facilities within the County IOF; and internal dirt and paved access roads. At the time of the issuance of the Project's Notice of Preparation (NOP) in 2015, according to the California Department of Conservation Division of Oil, Gas, and Geothermal Resources (DOGGR) records, there are 69 wells identified as having top-hole locations within the City IOF, of which 41 are active/potentially active wells (including 26 production wells, 10 injection wells, and 5 idle wells). Additionally, 28 wells are plugged or abandoned (DOGGR 2015).

The Project Site includes an Alquist-Priolo Earthquake Fault Zone (i.e., the Newport-Inglewood Fault Zone); this fault is seismically active and a part of the San Andreas Fault System. Approximately one to two miles northwest and west of the Project Site are two faults not associated with the Newport-Inglewood Fault. They are the Overland Avenue and the Charnock Faults, which are considered potentially active (Kleinfelder 2016).

The City of Culver City is located within the approximately 130-square-mile Ballona Creek Watershed. The Inglewood Oil Field contains six retention basins ultimately drain to Ballona Creek, which is located approximately 1,600 feet west of the Project Site. One retention basin is located on the Project Site, the Dabney Lloyd Basin (Basin 002). This Basin discharges to the Los Angeles County storm drain system and ultimately discharges to Ballona Creek (LACDRP 2008).

OIL FIELD OPERATOR

In 2014, Freeport McMoRan Oil & Gas (FM O&G) purchased Plains Exploration and Production Company (PXP) and became the Oil Field Operator, and was the Operator at the time of the issuance of the NOP for this Draft EIR. As of July 1, 2016, Freeport McMoRan Inc. sold its onshore California oil and gas properties (including the Inglewood Oil Field) to Sentinel Peak Resources California LLC. Sentinel Peak Resources is a private energy company focused on acquisitions and development primarily in California (FM O&G 2016). As such, Sentinel Peak Resources is the current Oil Field Operator for the Inglewood Oil Field, as of the preparation of this Draft EIR.

PROJECT DESCRIPTION SUMMARY

The primary entitlement action associated with the Project includes the adoption of the proposed Specific Plan. A Specific Plan is a comprehensive planning and zoning document for a defined geographical area. In the case of the Inglewood Oil Field, a Specific Plan is particularly suitable because oil field operations require specialized regulations that differ from those applicable to typical commercial and industrial uses. The Specific Plan would update and supersede the City's existing oil drilling regulations; it is intended to address the changes that have occurred in the last decade in oil production-related technology and legislation, with the purpose of establishing safeguards and controls for activities related to drilling for and production of oil, gas, and other hydrocarbon substances within the City IOF.

Culver City's current oil drilling regulations were last updated in 2003, and they regulate oil and gas drilling activities within the City limits. In April 2013, Culver City released to the public the *Discussion Draft Oil Drilling Regulations for the Culver City Portion of the Inglewood Oil Field* (Discussion Draft Regulations) for public review and comment (City of Culver City 2013). The City received several comment letters from the public and private industry. In June 2014, Culver City's City Council adopted a resolution declaring its intention to initiate preparation of a Specific Plan for the City IOF. The draft *Inglewood Oil Field Specific Plan* is included as Appendix B-1 of this Draft EIR, and is summarized in Section 3.0, Project Description. The Specific Plan is based on the Discussion Draft Regulations, but has been modified in response to comments received to date. The following is a summary of discretionary actions the City of Culver City will consider:

- Certification of Environmental Impact Report (EIR), P2015-0086-EIR;
- Adoption of the Inglewood Oil Field Specific Plan (SP), P2015-0086-SP;
- Adoption of Culver City Zoning Code Amendment (ZCA), P2015-0086-ZCA, which would (1) amend Zoning Code Section 17.610.010.D to specify that the Specific Plan regulations will apply to oil and gas production uses in the City IOF and (2) amend

Zoning Code Section 17.570 to add new Section 17.570.030, which would identify the Inglewood Oil Field Specific Plan as an adopted and established specific plan; and

- Adoption of the following CCMC Amendments: (1) Repeal CCMC Chapter 11.12, Oil, Gas and Hydrocarbons which will be updated and superseded by the "Drilling Regulations for the Culver City Portion of the Inglewood Oil Field" contained in the Inglewood Oil Field Specific Plan; and (2) Amend the CCMC Chapter 9.07.060 (Noise Regulations, Exemption from Provisions) to add that oil operations within the City IOF are exempt from the provisions of the Chapter 9.07 Noise Regulations, and instead shall comply with the provisions of the Inglewood Oil Field Specific Plan.

In general, typical activities that would be allowed in the City IOF under the Specific Plan include the following:

- Well pad grading and other earth-moving activities
- New oil well drilling (up to 30 wells)
- Well completion (including hydraulic fracturing and gravel packing)[1]
- Oil/gas production wells and Class II wells for injection (i.e., waterflooding)
- Well rework and routine maintenance (repair or replacement of wearable parts, downhole device maintenance to ensure efficiency, pipeline maintenance)
- Well plugging and abandonment
- New tank construction and operation/maintenance
- New pipeline construction and operation/maintenance
- Landscape irrigation and maintenance
- Worker vehicular traffic and equipment transport, storage, and use

The provisions in the Specific Plan establish safeguards and controls for activities related to drilling for and production of oil, gas, and other hydrocarbon substances within the Oil Field. Consistent with the proposed Inglewood Oil Field Specific Plan, the City of Culver City has identified the following objectives for the proposed Project:

1. To maximize the potential for Oil Operations are conducted in a comprehensively coordinated manner consistent with a programmatic plan for a defined physical and in harmony with adjacent land uses and in a manner that protects the public health, safety and welfare, and the environment;
2. To facilitate cooperation with affected and adjacent government agencies in implementing all reasonable measures to reduce impacts to the surrounding communities;
3. To facilitate cooperation and coordination for multi-agency response to Oil Field emergency situations;
4. To minimize or eliminate potential adverse environmental, public health and safety impacts of Oil Operations by the implementation of area-specific regulations and mitigation measures;
5. To ensure, that existing Oil Field facilities are in compliance with the requirements of this Specific Plan before any new Oil Field drilling activities are permitted;

[1] No high-volume hydraulic fracturing or high-rate gravel packing have previously occurred in the City IOF.

6. To minimize Oil Field emergencies and ensure that appropriate regulations are in place to assist affected and adjacent government agencies in identifying all reasonable measures to reduce impacts to surrounding communities in the event that an emergency occurs;
7. To enhance the appearance of the Oil Field site is enhanced with landscaping and other property maintenance requirements in order to preserve and improve the visual character and quality of the surrounding uses; and
8. To ensure that new applications for oil and gas Drilling Use Permits address the consolidation of Oil Field facilities to reduce odor, visual, noise, safety, health, and environmental impacts from Oil Operations to surrounding land uses and City residents.

Development of the Oil Field in accordance with the Specific Plan would occur over the course of many years (no fewer than 11 years—in 2028—but not past 2032) based on future market conditions and other factors as determined by the holder(s) of the Oil Field lease. Because the Project would allow for activities within the Oil Field to occur over time at an unknown rate of implementation through 2032, construction, maintenance, and operation activities would likely overlap. This Draft EIR includes impact analyses that are based on a "Maximum Buildout Scenario", rather than the procedures of a specific leaseholder or Oil Field Operator, as this may change over time. The Maximum Buildout Scenario sets forth a conservative scenario for a combination of activities (e.g., construction, maintenance, and operation) within the City IOF for the purposes of assessing environmental impacts of oil field development in the context of the requirements and restrictions set forth in the Specific Plan.

PROJECT ALTERNATIVES

In accordance with Section 15126.6 of the State CEQA Guidelines, Section 5.0 of this Draft EIR, Alternatives, includes a discussion of feasible alternatives that meet most of the Project Objectives and the comparative merits of the alternatives; it also summarizes potential alternatives that were considered and rejected during the Project's scoping and planning process. This Draft EIR includes an evaluation of the following alternatives:

- **Alternative 1, No Project:** Alternative 1 discusses the environmental effects of the property continuing to operate under the existing City of Culver City Zoning Code requirements. The Zoning Code is contained in Culver City Municipal Code (CCMC) Title 17, Zoning (Zoning Code). The Project Site is zoned R1 (Residential Single Family), OS (Open Space), and IG (Industrial General). While oil and gas production is not a permitted use in these zoning districts, oil and gas production is allowed in the City IOF as a continuing nonconforming use per Section 17.610.010.D of the Zoning Code. With this alternative, the comprehensive, updated program provided by the Specific Plan—which specifies areawide setbacks, annual restrictions on the amount of drilling activities, limits on simultaneous activities, and coordination with other agencies for the entirety of the Specific Plan area—would not be implemented, and the continuation of the piecemeal consideration of oil field activities and the CEQA review of individual applications under the current regulations would continue.
- **Alternative 2, Prohibit Deep Wastewater Disposal Injection:** Alternative 2 allows for the comparative environmental effects of the prohibition of deep well wastewater disposal to be evaluated. As set forth in mitigation measure (MM) GEO-2, the construction and operation of deep wastewater injection wells within the Project Site for disposing of wastewater (e.g., flowback) into a non-hydrocarbon zone in the deeper strata beneath the Inglewood Oil Field shall be prohibited indefinitely. Under this alternative hydraulic fracturing would be allowed but any wastewater generated by this well stimulation

treatment would be transported via pipeline for treatment at the processing facility located on the County IOF, and treated water would be disposed of consistent with general non-deep well injection disposal methods used in the Inglewood Oil Field (e.g., through waterflooding). MM GEO-2 allows for the possibility for deep well injection at some time in the future if adequate scientific evidence is available to indicate it is safe. However, Alternative 2 would simply prohibit it out-right for the life of activities in the City portion of the Inglewood Oil Field. Under Alternative 2, all requirements and standards set forth in the Specific Plan would remain applicable, as the Specific Plan does not directly address deep well wastewater disposal.

- **Alternative 3, Prohibit All Well Stimulation Treatments, including Hydraulic Fracturing:** Alternative 3 would prohibit all well stimulation treatments, including hydraulic fracturing, within the City IOF. Because Alternative 3 would out-right prohibit hydraulic fracturing, wastewater generated by such activities would be avoided and thus the need for deep well injection disposal of wastewater generated from hydraulic fracturing activities would similarly be avoided in the City IOF. However, because activities that are prohibited in the City IOF would not necessarily be prohibited in the County IOF, this Alternative assumes that any prohibition of well stimulation treatments or coincidental avoidance of deep well wastewater disposal within the City IOF (see Alternative 2) would not be true of other non-City portions of the Inglewood Oil Field. Under Alternative 3, Class II well injection of other (non-hydraulic fracturing) produced wastewater, as well as injection of flowback water from hydraulic fracturing that has been treated at the County IOF, would be allowed for waterflooding into the hydrocarbon-bearing strata, consistent with DOGGR requirements for the UIC Program, in order to address subsidence. Under Alternative 3, all requirements and standards set forth in the Specific Plan would remain applicable, with the exception of those requirements that directly address well stimulation treatments (e.g., Drilling Regulations Section 13; Section 21; Section 26; and Section 32,).
- **Alternative 4, Mandatory Use of Electricity to Power Drill Rig and Hydraulic Fracturing Equipment:** Alternative 4 would mandate the use of electricity to power the drill rigs for all new wells and redrilled wells, and hydraulic fracturing (if permitted) pumps and equipment. Alternative 4 assumes that if upgrades to the utility facilities that serve the Inglewood Oil Field were made to accommodate the substantial electric demand from well drilling, redrilling, and hydraulic fracturing, then the infrastructure could feasibly be used for other diesel-powered engines that are used during "Other City IOF Activities." The use of electricity from the power grid would require more on-site equipment; diesel-powered back-up generators would be used in the event of a power failure (Bernard 2017).
- **Alternative 5, No Net Increase in Wells:** Alternative 5 would seek to maintain the status quo in oil and gas production operations while also allowing for new well drilling and redrilling. With this alternative, the drilling of any new well or redrilling of any existing well would require that at least one existing well be permanently removed from operation, thus maintaining a no net increase in the number of wells in the City IOF. The proposed Project does not mandate the abandonment of any wells. As such, the Maximum Buildout Scenario set forth in Section 3.2, Oil Field Construction and Operational Assumptions, assumes that no existing wells in the City IOF are abandoned or plugged in order to provide the most conservative consideration of long-term operations at the City IOF.

ISSUES TO BE RESOLVED

Section 15123(b)(3) of the State CEQA Guidelines requires that an EIR contain a discussion of issues to be resolved. With respect to the proposed Project, the key issue to be resolved is whether the alternatives to the Project would be preferable to the City and would lessen any of the significant impacts while still achieving most of the Project Objectives.

AREAS OF KNOWN CONTROVERSY

Section 15123(b)(2) of the State CEQA Guidelines indicates that an EIR summary should identify areas of controversy known to the Lead Agency, including issues raised by other agencies and the public.

During the scoping process for the Draft EIR, the City received comments that identified environmental issues of concern. This Draft EIR has taken into consideration the comments received from the public, various agencies, and interested parties in response to the Initial Study (IS) and Notice of Preparation (NOP) that was circulated for a public review period that began on October 12, 2015, and ended on November 12, 2015 (Scoping Period). These comment letters are listed in Table 1-1 in Section 1.3.2, Summary of Written Comments on the Initial Study/Notice of Preparation Received During the Scoping Period, of this Draft EIR. The City hosted one Scoping Meeting held on Thursday, October 22, 2015, from 6:00 PM to 8:00 PM at City Hall, Council Chambers, at 9770 Culver Boulevard, in Culver City, California 90232. The City received two comment letters with specific environmental concerns at the Scoping Meeting, which are summarized in Table 1-2, Summary of Written Comments from the Scoping Meeting. The IS/NOP is located in Appendix A-1 of this Draft EIR, and comments received during the Scoping Period are provided in Appendix A-2. Environmental issues that were raised in these comments are addressed in Section 4.0, Environmental Analysis, of this Draft EIR.

When considering comments received during the Scoping Period from agencies and individuals, including via the Scoping Meeting, the primary areas of known controversy related to environmental concerns at the time of the issuance of Notice of Availability (NOA) for the Draft EIR include, but are not limited to, the following:

- Public health, air quality, and water quality concerns associated with both general oil and gas production activities and hydraulic fracturing;
- Migration and/or explosion of methane gas;
- Seismic activity and location proximate to fault lines;
- Use of hazardous materials and spills on the oil field;
- Aging infrastructure and associated risks;
- Greenhouse gas emissions;
- Noise and odors; and
- Subsidence.

SUMMARY OF ENVIRONMENTAL IMPACTS

The Project's Initial Study determined that most environmental factors, or issue areas, in the State CEQA Guidelines Appendix G environmental checklist should be addressed in the Draft EIR, except for Agriculture and Forestry Resources, Mineral Resources, and Population and Housing. It was determined that the proposed Project would have no impacts related to these issues, and no further analysis is required in the Draft EIR. However, due to comments received during the Notice of Preparation (NOP) public review and Scoping Period, it was decided to provide further analysis of the potential impacts related to Mineral Resources; as such, Section 4.10 of the Draft EIR addresses this topic.

The analysis presented in Sections 4.1 through 4.15 of this Draft EIR evaluates the impacts associated with Project implementation, with consideration of Specific Plan requirements and Regulatory Requirements (RRs). RRs are summaries of applicable local, State, or federal regulations and are listed in Table ES-1. Implementation of the Specific Plan requirements and compliance with RRs will result in the Project having no impact or less than significant impacts on Aesthetics, Cultural Resources, Land Use and Planning, Mineral Resources, Public Services, Recreation, and Transportation and Traffic.

Prior to mitigation, Project implementation would result in potentially significant impacts to Air Quality; Biological Resources; Geology, Soils, and Seismicity; Greenhouse Gas Emissions; Hazards, Hazardous Materials, and Risk of Upset; Hydrology and Water Quality; Noise; and Utilities. However, MMs have been developed to avoid or reduce these impacts to levels considered less than significant except for:

- Air Quality (localized significance thresholds [LST] emissions of nitrogen oxides [NOx], respirable particulate matter with a diameter of 10 microns or less [PM10], and respirable matriculate matter with a diameter of 2.5 microns or less [PM2.5]);
- Geology, Soils, and Seismicity (induced seismicity from well stimulation treatments);
- Hazards, Hazardous Materials, and Risk of Upset (accidental conditions from induced seismicity); and
- Noise (overnight drilling).

Table ES-1 provides a list of the Regulatory Requirements (RRs) and mitigation measures (MMs) for the Project. The potentially significant environmental effects of the Project are summarized in the first column for the corresponding MMs, which is listed in the second column. The level of significance after implementation of the MM is provided in the third column.

Requirements listed in Table ES-1 will be included in the Mitigation Monitoring and Reporting Program (MMRP), which is required under Section 21081.6 of CEQA and Section 15097 of the State CEQA Guidelines. The MMRP for the Project will be developed prior to the approval of the Project, for consideration of approval by the City as part of Project. Specific reporting and/or monitoring requirements in the MMRP will be enforced during implementation of the Specific Plan.

TABLE ES-1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
Section 4.1 Aesthetics		
RR AES-1. Exterior lighting at the Project Site shall comply with Chapter 17.300.040 of the Culver City Municipal Code.		
Section 4.2 Air Quality		
RR AIR-1. Activities within the City IOF will be conducted in compliance with all applicable SCAQMD rules and regulations, including but not limited to the following: • **Rule 212:** Standards for Approving Permits and Issuing Public Notice • **Rule 401:** Visible Emissions • **Rule 402:** Nuisance • **Rule 403:** Fugitive Dust • **Rule 407:** Liquid and Gaseous Air Contaminants • **Rule 408:** Circumvention • **Rule 409:** Combustion Contaminants • **Rule 429:** Start-Up and Shutdown Exemption Provisions for Oxides of Nitrogen • **Rule 430:** Breakdown Provisions • **Rule 431.1:** Sulfur Content of Gaseous Fuels • **Rule 431.2:** Sulfur Content of Liquid Fuels • **Rule 442:** Usage of Solvents • **Rule 461:** Gasoline Transfer and Dispensing • **Rule 462:** Organic Liquid Loading • **Rule 463:** Storage of Organic Liquids • **Rule 464:** Wastewater Separators • **Rule 466:** Pumps and Compressors • **Rule 466.1:** Valves and Flanges • **Rule 476:** Steam Generating Equipment • **Rule 1110.2:** Emissions from Gaseous- and Liquid-Fueled Internal Combustion Engines • **Rule 1122:** Solvent Degreasers • **Rule 1148:** Thermally Enhanced Oil Recovery Wells • **Rule 1148.1:** Oil and Gas Production Wells • **Rule 1148.2:** Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers (Amended September 4, 2015) • **Rule 1149:** Storage Tank and Pipeline Cleaning and Degassing • **Rule 1166:** Volatile Organic Compound Emissions from Decontamination of Soil • **Rule 1173:** Control of Volatile Organic Compound Leaks from Components at Petroleum Facilities and Chemical Plants • **Rule 1176:** Sumps and Wastewater Separators • **Rule 1303:** New Source Review Requirements • **Rule 1401:** New Source Review of Toxic Air Contaminants • **Rule 1470:** Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines • **Regulation XX:** Regional Clean Air Incentives Market (RECLAIM) • **Rule 2100:** Registration of Portable Equipment • **Regulations XXX:** Title V Permits	

TABLE ES-1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
The Project would exceed the SCAQMD CEQA mass emissions significance criteria for NOx and CO, and the LST significance criteria for NOx, PM10, and PM2.5 during well construction and stimulation activities. The Project would exceed the cancer risk criterion at the nearest residential receptor.	**MM AQ-1** The Oil Field Operator shall provide the City with documentation prior to any drilling, re-drilling, reworking, well stimulation, and maintenance activities, and confirmation afterwards, that such activities that use rig diesel engines, except rigs powered by on-road engines, comply with the following provisions: a. Utilize CARB/EPA Tier 4 Certified engines or other methods approved by CARB as meeting or exceeding the Tier 4 standard, and b. Utilize second generation heavy duty diesel catalysts capable of achieving 90 percent reductions for hydrocarbons and for PM10. **MM AQ-2** The Oil Field Operator shall not conduct well drilling concurrent with well stimulation activities with the City IOF. **MM AQ-3** The Oil Field Operator shall demonstrate that the activities included in the Annual Drilling Plan will be conducted in compliance with the following performance standards: • Mitigated VOCs emissions shall not exceed 55 pounds per highest day; • Mitigated CO emissions shall not exceed 550 pounds per highest day; • Mitigated NOx emissions shall not exceed 55 pounds per highest day; • Mitigated SOx emissions shall not exceed 150 pounds per highest day; • Mitigated PM10 emissions shall not exceed 150 pounds per highest day; • Mitigated PM2.5 emissions shall not exceed 55 pounds per highest day; and • PM10 and PM2.5 24-hour average shall not exceed 2.5 µg/m3 at the City IOF boundary. • Health risk impacts shall not exceed the following thresholds: o Cancer Risk: 10 per million, o Chronic, non-cancer risk: 1.0 Hazard Index, and o Acute risk: 1.0 Hazard Index. Compliance with the above standards shall be demonstrated through a quantified analysis using a SCAQMD-approved methodology that includes a description of the anticipated activities, equipment, duration/schedule, locations, and distances to the nearest sensitive receptors. Any changes to the planned activities and/or equipment assumed in the Annual Drilling Plan shall be subject to the same quantified analysis not less than 30 days prior to the start of the activities. All activities within 500 feet of City IOF southern boundary (i.e., City/County boundary) that may overlap planned City IOF activities and potentially effect a peak day analysis must be considered in the Annual Drilling Plan and well-specific drilling plan for comparison to the emissions and impact thresholds established by this mitigation measure.	Significant and unavoidable (direct and cumulative) for NOx, PM10, and PM2.5 LST emissions Less than significant (direct and cumulative) for all mass emissions and for CO LST emissions. Less than significant health (cancer) risk impacts at the nearest residential receptor.

TABLE ES-1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
	If emission offsets are proposed to mitigate any excess emissions, the Oil Field Operator shall provide a minimum of 20 percent of those offsets from local sources, specifically within the Inglewood Oil Field as a whole. If offsets totaling 20 percent of the offset requirement are not available, the Oil Field Operator shall document that a good-faith effort was made to obtain local offsets.	
Section 4.3 Biological Resources		
Project implementation has the potential for the removal/demolition of potentially occupied bat maternity roosts.	**MM BIO-1.** Prior to any disturbance of a tree or a structure, a qualified Biologist, approved by the Community Development Director, shall conduct a pre-disturbance bat habitat assessment of any tree or other suitable structures (e.g. dark, enclosed or partially enclosed, undisturbed spaces with appropriate roosting substrate such as wood or concrete) marked for potential removal or repair. Potential for roosting shall be categorized by (1) potential for solitary roost sites and (2) potential for colonial roost sites (i.e., ten bats or more). If the potential for colonial roosting is determined, a focused survey for roosting bats shall be conducted by a qualified bat biologist, approved by the Community Development Director, during the maternity season (March 1 – July 31) within the year prior to removal/repair activities. The survey shall cover all trees and suitable structures (as described above) proposed for removal/repair with potential day-roosting habitat. If an active day-roosting colony is observed, then passive acoustic surveys and acoustical monitoring methods shall be used to identify the species and population size(s) present. If active bat day-roosts occur within structures proposed for removal/repair, then exclusionary measures, such as barriers with one-way doors, shall be installed outside of the bat maternity and bat hibernation season (i.e., September to November) under the supervision of the qualified bat biologist. If active bat day-roosts occur within trees/structures proposed for removal/repair, then removal/repair should be conducted between September and November to avoid the bat maternity and the bat hibernation season. If avoidance of bat hibernation and bat maternity season is not feasible, then exclusionary measures, such as netting or phased tree trimming, shall be implemented after the evening roost emergence under the supervision of the qualified bat biologist. Once bats have been excluded from the trees/structures to be removed, then tree/structure removal/repair can proceed.	Less than significant
Project implementation has the potential to indirectly impact California sagebrush scrub and California sagebrush-California buckwheat scrub.	**MM BIO-2.** The Habitat Restoration Plan (HRP) component of the Special Status Species and Habitat Protection Plan required in Section 29 of the Specific Plan, shall include the following: a. **Responsibilities and Qualifications.** The responsibilities and qualifications of the restoration specialists and restoration (landscape) contracting personnel who will implement the HRP shall be specified. At a minimum, the HRP shall specify that the restoration specialists and contractors have performed successful installation and long-term monitoring and maintenance of southern California native habitat mitigation/restoration programs. If/when restored habitat is associated with conditions of regulatory permits, a successful program shall be defined as one that has been signed off on by the permitting agency.	Less than significant

TABLE ES-1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
	b. **Performance Criteria.** Mitigation performance criteria to be specified in the HRP shall conform to standard expectations of resource agencies such as USACE and CDFW. c. **Seed Materials Procurement.** At least one year prior to mitigation implementation, the Oil Field Operator or its consultants/contractors shall initiate collection of the native seed materials specified in the HRP. All seed mixes shall be of local origin; i.e., collected within 30 miles, and within the same Watershed, as the selected restoration/enhancement site(s), to ensure genetic integrity. No seed materials of unknown or non-local geographic origin shall be used. Seed collection shall be prioritized according to habitat area, in the following order: (a) project impact areas (highest priority); (b) other on-site habitat areas; and (c) off-site habitat areas (lowest priority), assuming availability of seed species in multiple locations. d. **Site Preparation and Plant Materials Installation.** Mitigation site preparation shall include (a) protection of existing native species and habitats (including compliance with seasonal restrictions, if any); (b) installation of protective fencing and/or signage (as needed); (c) initial trash and weed removal (outside the nesting bird season) and methods; (d) soil treatments, as needed (i.e., imprinting, de-compacting); (e) installation of erosion-control measures (i.e., fully natural/bio-degradable [not 'photo-degradable'] fiber roll); (f) application of salvaged native plant materials (i.e., coarse woody debris), as available and supervised by a biological monitor; (g) temporary irrigation installation; (h) a minimum one-year preliminary weed abatement program (prior to the installation of native plant and seed materials)—including specification of approved herbicides; (i) planting of container plant and cutting species; and (j) seed mix application. e. **Schedule.** An implementation schedule shall be developed that includes planting and seeding to occur in late fall and early winter (i.e., between November 1 and February 15) and the frequency of long-term maintenance and monitoring activities (including the dates of annual quantitative surveys, as described below). f. **Maintenance Program.** The Maintenance Program shall include (a) protection of existing native species and habitats (including compliance with seasonal restrictions, if any); (b) maintenance of protective fencing and/or signage; (c) trash and weed removal—including specification of approved herbicides; (d) maintenance of erosion-control measures; (e) inspection/repairs of irrigation components; (f) replacement of dead container plant and cuttings (as needed); (g) application of remedial seed mixes (as needed); (h) herbivory control; and (i) removal of all non-vegetative materials (i.e., fencing, signage, irrigation components) upon project completion. The mitigation site shall be maintained for a period of five years to ensure the successful habitat establishment within the restored/enhanced sites. g. **Monitoring Program.** The Monitoring Program shall include (a) qualitative monitoring (i.e., general habitat conditions, photo-documentation from established photo stations); (b) quantitative monitoring; and (c) annual monitoring reports, which shall be submitted to the CDFW for five years or until project completion; and (d) wildlife surveys and monitoring as required	

TABLE ES-1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
	per Section 29 of the Specific Plan. The annual monitoring reports shall include a detailed discussion of mitigation site performance (e.g., measured vegetation coverage and diversity) and compliance with required performance criteria, a discussion of wildlife species' use of the restored and/or enhanced habitat area(s), and a list of proposed remedial measures to address non-compliance with any performance criteria. The site shall be monitored for five years. h. **Long-term preservation.** Long-term preservation of the sites shall be outlined in the HRP to ensure that the mitigation sites are not impacted by future activities. A conservation easement and a performance bond shall be secured prior to implementation of the mitigation program. i. **Invasive Species Management.** Methods to minimize or avoid invasive species establishment within project disturbed areas or habitat restoration areas shall be described in detail.	
Section 4.5 Geology, Soils, Seismicity		
RR GEO-1. Oilfield operations at the Project site must be constructed, maintained, monitored, operated, and decommissioned in compliance with all applicable federal, State, and local regulations, including but not limited to the California Building Code; Hazardous Liquid Pipeline Safety Act, Hazardous Materials Transportation Act, Hazardous Waste Control Law, California Pipeline Safety Act, Oil Pipeline Environmental Responsibility Act, and other pertinent regulations of the U.S. Environmental Protection Agency (USEPA)/California Environmental Protection Agency (CalEPA), the U.S. Department of Transportation (USDOT)/California Department of Transportation (Caltrans), the U.S. Occupational Safety and Health Administration (OSHA)/California Occupational Safety and Health Administration (CalOSHA), the Department of Toxic Substances Control (DTSC), the DOGGR, the State Water Resources Control Board (SWRCB)/Regional Water Quality Control Board (RWQCB), the South Coast Air Quality Management District (SCAQMD), the California Office of Emergency Services (CalOES), the State Fire Marshall, the Los Angeles County Fire Department as the Certified Unified Program Agency (CUPA), the Culver City Fire Department, and other Culver City Municipal Code requirements.		
SB4 GEO-1a. Avoid Active Faults if Necessary. DOGGR shall require, as part of the application for a well stimulation treatment permit, that the applicant provide documentation to DOGGR and demonstrate to DOGGR's satisfaction that the location and trend of the proposed well will not be within or enter into an active earthquake fault, unless the applicant can show to DOGGR's satisfaction that established or proposed well control and well shut-in procedures will adequately address the consequences of a rupture of a known fault, seismically induced ground shaking, and/or ground failure occurring during the well stimulation process. These procedures shall be included within the Spill Contingency Plan for the affected well required by Section 1722.9 of Title 14 of the California Code of Regulations.		
SB4 GEO-1b. Implement an Appropriate Setback if Necessary. In approving a well stimulation treatment permit, DOGGR shall impose a condition that prohibits the applicant from conducting well stimulation treatments within an appropriate setback of a known active fault as established by the Department of Conservation (DOC), unless the applicant can show to DOGGR's satisfaction that established or proposed well control and well shut-in procedures will adequately address the consequences of a rupture of a known fault, seismically induced ground shaking, and/or ground failure occurring during the well stimulation process. These procedures shall be included within the Spill Contingency Plan for the affected well required by Section 1722.9 of Title 14 of the California Code of Regulations.		
SB4 GEO-1e. Include an Earthquake Response Plan within the Spill Contingency Plan. In approving a well stimulation treatment permit, DOGGR shall impose a condition requiring the applicant to demonstrate to for DOGGR's satisfaction that the spill contingency plan required by Section 1722.9 of Title 14 of the California Code of Regulations adequately addresses the consequences of an earthquake occurring during the well stimulation process, for however many		

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Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
well stimulation treatments are proposed to occur simultaneously at any given time. The Spill Contingency Plan shall include requirements for adequate on-site personnel and equipment that may be necessary to conduct post-earthquake inspection and repair plans to evaluate any damage that has occurred. The Spill Contingency Plan shall include spill prevention, control and countermeasure plans to address the hazardous substances associated with well stimulation activities. The inspection procedures shall ensure the integrity of the mechanical systems and well integrity of wells used for stimulation or wastewater injection and idle wells that might have become conduits for escaping fluids or gases. The plan shall include procedures describing the necessary steps to be taken after service is disrupted in order to make the facilities secure, operational and safe as soon as possible.		
Project implementation has the potential to result in induced seismicity as a result of well stimulation treatments.	**MM GEO-1.** Prior to the issuance of any Drilling Use Permit for the construction of a new well that may be completed with well stimulation treatment, or for a permit to conduct a well stimulation treatment on an existing well, the Oil Field Operator shall develop an Induced Seismicity Avoidance, Monitoring, Evaluation, and Mitigation Protocol to be submitted to the City for review. The Mitigation Protocol shall be modeled after the "traffic light" system recommended by the National Research Council. The minimum requirements for this Mitigation Protocol include: • Establish a dense high-resolution microseismic network to map microseismic events at appropriate locations to accurately monitor seismicity at and near the well location subject to well stimulation treatments. • Develop a traffic light threshold system where GREEN allows for seismicity of M<1.9; YELLOW requires that operation-specific measures be immediately taken to reduce the risks of a larger seismic event, including options such as reduced injected volumes, reduced pumping rates, reduced proppant concentrations, eliminating stages of the stimulation event, and/or flowing back the fracture fluids, for seismic events between M2.0 and M2.6; and RED requiring the cessation of all well stimulation activities/operations including oil/gas extraction, waterflooding, and well stimulation for seismic events of M2.7 or larger. The purpose of the traffic light system is to prevent the occurrence of an earthquake that could be felt at the surface. • For seismic events in the YELLOW or RED, conduct an evaluation to determine if the well stimulation event is correlated in any way to the seismic event. • Establish a notification protocol for informing the City of Culver City and the DOGGR about seismic event for review and evaluation. Resumption of activity can only resume at the explicit direction, based on approval of the evaluation, from the DOGGR and the City of Culver City.	Significant and unavoidable (direct and cumulative)

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Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
Project implementation has the potential to result in induced seismicity as a result of deep well injection for wastewater disposal.	**MM GEO-2.** The construction and operation of deep wells within the Project Site for disposing wastewater (e.g., flowback) through injection into a non-hydrocarbon zone in the deeper strata beneath the Inglewood Oil Field shall be prohibited indefinitely, subject to the discretion of the City of Culver City. The prohibition may be lifted in total or partially with the provision of a site-specific geotechnical investigation prepared by a qualified engineer that demonstrates the feasibility of deep wastewater disposal well(s) on the Project Site while adequately mitigating for hazards associated with induced seismicity, to the satisfaction of the City of Culver City.	No impact
Project implementation has the potential to result in induced seismicity as a result of well stimulation treatments.	**MM GEO-3.** The following measure is an interim MM to be implemented and enforced by the City until such time as DOGGR adopts the equivalent measure listed as a Regulatory Requirement in this Draft EIR (SB4 GEO-1a Avoid Active Faults if Necessary). This MM shall become inapplicable when DOGGR enacts this measure as a formal regulation; the regulation shall then become applicable as part of approving a well stimulation treatment permit. The City shall require, as part of the application for a well stimulation treatment permit, that the Oil Field Operator provide documentation to the DOGGR and demonstrate to the DOGGR's satisfaction that the location and trend of the proposed well will not be within or enter into an active earthquake fault, unless the Oil Field Operator can show to the DOGGR's satisfaction that established or proposed well control and well shut-in procedures will adequately address the consequences of a rupture of a known fault, seismically induced ground shaking, and/or ground failure occurring during the well stimulation process. These procedures shall be included within the Spill Contingency Plan for the affected well required by Section 1722.9 of Title 14 of the California Code of Regulations. Prior to approving an Annual Drilling Plan, the Oil Field Operator shall provide evidence to the City that the actions prescribed in this measure have been completed, including but not limited to an approved well stimulation permit from DOGGR for the well(s) addressed in the proposed Annual Drilling Plan.	Significant and unavoidable (direct and cumulative)
Project implementation has the potential to result in induced seismicity as a result of well stimulation treatments.	**MM GEO-4.** The following measure is an interim MM to be implemented and enforced by the City until such time as DOGGR adopts the equivalent measure listed as a Regulatory Requirement in this Draft EIR (SB4 GEO-1b Implement an Appropriate Setback if Necessary). This MM shall become inapplicable when DOGGR enacts this measure as a formal regulation; the regulation shall then become applicable as part of approving a well stimulation treatment permit. The City shall impose a condition that prohibits the Oil Field Operator from conducting well stimulation treatments within an appropriate setback of a known active fault as established by the California Department of Conservation, unless the Oil Field Operator can show to the DOGGR's satisfaction that established or proposed well control and well shut-in procedures will adequately address the consequences of a rupture of a known fault, seismically induced ground shaking, and/or ground failure occurring during the well stimulation process. These procedures shall be included within the Spill Contingency Plan for the affected well required by Section 1722.9 of Title 14 of the California Code of Regulations. Prior to approving an Annual Drilling Plan, the Oil Field Operator shall provide evidence to the City that the actions prescribed in this measure have been completed, including but not limited to an	Significant and unavoidable (direct and cumulative)

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Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
	approved well stimulation permit from DOGGR for the well(s) addressed in the proposed Annual Drilling Plan.	
Project implementation has the potential to result in induced seismicity as a result of well stimulation treatments.	**MM GEO-5.** The following measure is an interim MM to be implemented and enforced by the City until such time as DOGGR adopts the equivalent measure listed as a Regulatory Requirement in this Draft EIR (SB4 GEO-1e Include an Earthquake Response Plan within the Spill Contingency Plan). This MM shall become inapplicable when DOGGR enacts this measure as a formal regulation; the regulation shall then become applicable as part of approving a well stimulation treatment permit. The City shall impose a condition requiring the Oil Field Operator to demonstrate to the DOGGR's satisfaction that the spill contingency plan required by Section 1722.9 of Title 14 of the California Code of Regulations adequately addresses the consequences of an earthquake occurring during the well stimulation process, for however many well stimulation treatments are proposed to occur simultaneously at any given time. The Spill Contingency Plan shall include requirements for adequate on-site personnel and equipment that may be necessary to conduct post-earthquake inspection and repair plans to evaluate any damage that has occurred. The Spill Contingency Plan shall include spill prevention, control and countermeasure plans to address the hazardous substances associated with well stimulation activities. The inspection procedures shall ensure the integrity of the mechanical systems and well integrity of wells used for stimulation or wastewater injection and idle wells that might have become conduits for escaping fluids or gases. The plan shall include procedures describing the necessary steps to be taken after service is disrupted in order to make the facilities secure, operational and safe as soon as possible. Prior to approving an Annual Drilling Plan, the Oil Field Operator shall provide evidence to the City that the actions prescribed in this measure have been completed, including but not limited to an approved well stimulation permit from DOGGR for the well(s) addressed in the proposed Annual Drilling Plan.	Significant and unavoidable (direct and cumulative)
4.6 Greenhouse Gas Emissions		
Project implementation would contribute greenhouse gas emissions.	**MM GHG-1 (see SB4 AQ-2a).** Prior to the commencement of any well stimulation activities, , the Oil Field Operator shall demonstrate to the City of Culver City a plan for the implementation of reduced emissions completions ("green completions") or completion combustion devices, during oil and gas well completions. The Oil Field Operator shall prepare a proposal for the best feasible strategy to reduce hydrocarbon and GHG emissions, subject to review and approval by the City of Culver City and South Coast Air Quality Management District (SCAQMD). Documentation of the coordination with the City and SCAQMD and documentation of the completion methodology shall be submitted to the Community Development Director. Products of combustion would include NOx and other pollutants that may require a permit through the local air district. Potential hydrocarbon emission control strategies for completions are named in the USEPA April 15, 2014 White Paper: "*Oil and Natural Gas Sector Hydraulically Fractured Oil Well Completions and Associated Gas during Ongoing Production*" (USEPA 2014), and defined as follows: Reduced emission completions are a well completion following fracturing or refracturing where gas flowback that is otherwise vented is captured, cleaned, and routed to the flow	Less than significant

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Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
	line or collection system, re-injected into the well or another well, used as an on-site fuel source, or used for other useful purpose that a purchased fuel or raw material would serve, with no direct release to the atmosphere. Site-specific feasibility of implementing a reduced emission completion depends on: proximity of nearby sales line; sufficient pressure in produced gas; and inert gas makeup of the flowback being suitable to meet specifications of line. The recovered liquids should be routed into one or more storage vessels or re-injected the recovered liquids into the well or another well. Completion combustion is a high-temperature oxidation process to burn combustible components, mostly hydrocarbons, found in gas streams. Completion combustion devices are can be as simple as a pipe with a basic ignition mechanism and discharge over a pit near the wellhead. However, the flow directed to a completion combustion device may or may not be combustible depending on the inert gas composition of flowback gas, which would require a continuous ignition source. Completion combustion devices provide a means of minimizing vented gas during a well completion and are generally preferable to venting, due to reduced air emissions. This mitigation measure and its requirements shall cease to have effect as soon as requirements established by the California Air Resources Board (CARB) or the local air district to address the impacts that cause an increase in criteria pollutants or precursor pollutants to levels that violate an air quality standard or contribute substantially to an existing or projected air quality violation become effective. If the new requirements only address one or some of the pollutants then this measure will continue to apply to those pollutants not covered by CARB or local air district requirements.	
Project implementation has the potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.	**MM GHG-2 (see SB4 GHG-1a).** Prior to the commencement of any well stimulation activities, the Oil Field Operator shall demonstrate to the City of Culver City a plan for the implementation of "Gold-level" protocols established by the EPA Natural Gas STAR Program (EPA 2017c) to recover for reuse or destroy CH_4 in associated gas and casinghead gas as follows: • Recover for beneficial use all associated gas produced from the reservoir, regardless of well type, except for gas produced from wildcat and delineation wells or as a result of system failures and emergencies. Beneficial use does not include flaring. Recovery for beneficial use includes capture for resale or reuse of the gas as a fuel or feedstock. • For each well with annual average emissions of casinghead gas greater than or equal to 60 grams per hour or a mass emissions equivalent of a 10,000 ppm leak of natural gas, levels targeted by the EPA Natural Gas STAR Program, capture casinghead gas for beneficial reuse or route casinghead gas to a flare if on a CO_2-equivalent basis the amount of gas for maintaining the pilot is less than the amount of vented casinghead gas.	Less than significant

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Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
	Documentation of the beneficial reuse shall be submitted to the Community Development Director. This mitigation measure and its requirements shall cease to have effect as soon as requirements established by the Air Resources Board (ARB) or the local air district to address the generation of greenhouse gas emissions become effective.	
Project implementation has the potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.	**MM GHG-3 (see SB4 GHG-1b).** Prior to the commencement of any well stimulation activities, the Oil Field Operator shall demonstrate to the City of Culver City a plan for the implementation of the following emission control strategies defined by UNFCCC "Approved Methodologies" for projects in the Clean Development Mechanism (CDM) program, as follows: - Recovery and utilization of gas from oil fields that would otherwise be flared or vented. (AM0009. Version 7.0 (11/8/2013).) - Leak detection and repair in gas production, processing, transmission, storage and distribution systems and in refinery facilities. (AM0023. Version 4.0.0 (9/29/2011).) - Flare (or vent) reduction and utilization of gas from oil wells as a feedstock. (AM0037.Version 2.1 (3/28/2008).) - Recovery of gas from oil wells that would otherwise be vented or flared and its delivery to specific end-users. (AM0077. Version 1.0 (2/12/2009).) Documentation of the implemented emission control strategies shall be submitted to the Community Development Director. This mitigation measure and its requirements shall cease to have effect as soon as requirements established by the Air Resources Board (ARB) or the local air district to address the generation of greenhouse gas emissions become effective.	Less than significant
Project implementation has the potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.	**MM GHG-4 (see SB4 GHG-1c).** Prior to the commencement of any well stimulation activities, the Oil Field Operator shall demonstrate to the City of Culver City a plan for the installation of methane and carbon dioxide sensors at existing wells and new wells within the radius of influence of a planned well stimulation in order to monitor possible leaks or venting of methane gas. The radius of influence shall be determined by the Oil Field Operator, subject to review and approval by the City of Culver City and the SCAQMD. The CARB Draft Test Protocol: "Detection and Quantification of Fugitive and Vented Methane, Carbon Dioxide, and Volatile Organic Compounds from Crude Oil and Natural Gas Facilities" (December 2010) may be used as a means of complying with this measure. Documentation of the installation of the sensors shall be submitted to the Community Development Director. When an alarm for a leak or venting of methane is received, the Oil Field Operator shall immediately notify and provide access and the right to investigate the event as necessary to all agencies with jurisdiction over the Oil Field, including; the Culver City Fire Department, the Los Angeles County Fire Department – Health Hazardous Materials Division, the DOGGR, and the SCAQMD.	

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Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
	This mitigation measure and its requirements shall cease to have effect as soon as requirements established by CARB or the local air district to address the impact of greenhouse gas emissions from well stimulation activities become effective, as determined by the Community Development Director.	
Section 4.7 Hazards, Hazardous Materials, and Risk of Upset		
RR HAZ-1. Oilfield operations at the Project Site must be constructed, maintained, monitored, operated, and decommissioned in compliance with all applicable federal, state, and local regulations, including but not limited to the Hazardous Liquid Pipeline Safety Act, Hazardous Materials Transportation Act, Hazardous Waste Control Law, California Pipeline Safety Act, Oil Pipeline Environmental Responsibility Act, and other pertinent regulations of the USEPA/CalEPA, USDOT/Caltrans, OSHA/CalOSHA, DTSC, DOGGR, SWRCB/RWQCB, SCAQMD, CalOES, State Fire Marshall, Los Angeles County Fire Department as CUPA, Culver City Fire Department, and other Culver City Municipal Code requirements.		
SB4 HAZ-1a. Ensure that Spill Contingency Plan Provides Adequate Protection Against Leaks or Discharges of Dangerous Fluids and Other Potentially Dangerous Materials. In approving a well stimulation treatment permit, DOGGR shall require as a condition of permit approval that the applicant demonstrate to DOGGR's satisfaction that the spill contingency plan required by Section 1722.9 of Title 14 of the California Code of Regulations is sufficient to prevent any leaks, spills or other discharges of well stimulation fluids, flowback fluids, produced water, hazardous chemicals, contaminated surface water runoff, oil, or other potentially dangerous materials that might occur before, during, and after the well stimulation process from reaching the soil at all site pads. Potentially viable options for achieving such a result, which shall be considered on a case by case basis, may be the installation of a physical barrier between the pad and the ground or the use of plastic sheets under equipment with the potential to leak or discharge pollutants. The use of barriers or other control devices shall not interfere with safety protocols during well stimulation operations.		
Project implementation has the potential to cause hazards to the public (including construction workers) or the environment related to hazardous materials used during well stimulation activities.	**MM HAZ-1 (see SB4 RSK-2a).** Prior to the commencement of any well stimulation activities, the Oil Field Operator shall implement a strategy for reducing the inventory of the hazardous materials with the aim to reduce the total mass of potential accidental releases, and thus, also the consequences and effects for workers and public in the surroundings. This Inventory Reduction Plan shall include documentation of anticipated chemical use and a clear articulation of how the reductions will be realized, subject to the review and approval of the City of Culver City and DOGGR. Upon completion of the well stimulation activity, the Oil Field Operator shall provide an accounting of the chemicals actually used to the City of Culver City, with a comparison to the quantities set forth in the Inventory Reduction Plan.	Less than significant with the exception of potential accident conditions associated with induced seismicity from well stimulation treatments, resulting in significant and unavoidable (direct and cumulative) impacts.
	MM HAZ-2 (see SB4 RSK-2b). Prior to the commencement of any well stimulation activities, the Oil Field Operator shall conduct a Facility Siting Study or Quantitative Risk Assessment using the accepted industry standards, including API 753 Management of Hazards Associated With Location of Process Plant Portable Buildings, to select the best location of all well stimulation equipment and to ensure the proper features to confine and minimize any surface spills. If any increase in pipeline and/or vessel operating pressure and/or hydrogen sulfide concentration is proposed, the Facility Siting Study or Quantitative Risk Assessment shall identify effective isolation systems that demonstrate to satisfaction of the City of Culver City and DOGGR that such increase would not generate an incremental risk. In order to be able to assess the risk, the Oil Field Operator shall have a risk matrix (which depicts likelihood and consequences) that reflects established risk assessment standards and sets forth tolerability criteria (e.g., HSE UK standards) that are acceptable to the City of Culver City and DOGGR.	

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Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
	MM HAZ-3 (see SB4 RSK-4a). Prior to the commencement of any well stimulation activities, the Oil Field Operator shall conduct a Process Hazard Analysis (PHA) followed by a Layer of Protection Analysis (LOPA) to determine if the proposed safeguards for the well stimulation event allow result in a residual risk is as low as reasonably practicable (ALARP). The PHA and LOPA shall be submitted to the City of Culver City and DOGGR for review and approval. If the PHA shows an unacceptable level of risk, the well stimulation event shall not proceed until such risks are shown to be reduced to acceptable levels to the satisfaction of the City of Culver City and DOGGR. In order to be able to assess the risk, the Oil Field Operator shall have a risk matrix (which depicts likelihood and consequences) that reflects established risk assessment standards and sets forth tolerability criteria that are acceptable to the City of Culver City and DOGGR.	
	MM HAZ-4 (see SB4 RSK-5a). Prior to the commencement of any well stimulation activities, the Oil Field Operator shall prepare an Operating Procedures Plan for the planned well stimulation activities, subject to the review and approval of the City of Culver City and DOGGR. The Operating Procedures Plan shall include the volumes, rates, and pressures of fluids used during stimulation, shall address the steps of each operation, shall address pump cavitation, and shall discuss the potential the hazards for each operation. The Plan shall include the consequence of deviation and the steps to correct in case of deviation.	
	MM HAZ-5 (see SB4 RSK-5b). Prior to the commencement of any well stimulation activities, the Oil Field Operator shall evaluate the need for installation of flame arrestors on the tank vents in accordance with the guidance set forth in National Fire Protection Association (NFPA) 30 Flammable and Combustible Liquids Code, API recommended Practice 2210 and API recommended Practice 2028. The evaluation and results shall be provided to the City of Culver City and DOGGR for review and approval. If a need is identified in the evaluation, the Oil Field Operator shall install flame arrestors on the tank vents.	
	MM HAZ-6 (see SB4 RSK-5c). Prior to the commencement of any well stimulation activities, the Oil Field Operator shall prepare and implement a Control of Ignition Sources Plan following NFPA 30. The Plan shall articulate how the well stimulation activity will avoid the presence of an ignition source during the installation, and shall be provided to the City of Culver City and DOGGR for review and approval.	
	MM HAZ-7 (see SB4 RSK-7a). Prior to the commencement of any well stimulation activities that would use a proppant, the Oil Field Operator shall notify the City Fire Department and DOGGR in writing about the anticipated proppant(s) to be used at the City IOF. If the Oil Field Operator requests to use silica as a proppant, the City shall require that alternative proppants are adequately considered and determined to be infeasible by the Oil Field Operator, subject to the City's review and concurrence. Before authorizing the use of any proppants, the Oil Field Operator shall conduct a hazard evaluation of the proppant(s). The use of the proppant(s) shall only be approved if the hazard evaluation demonstrates its safety to on-site workers and adjacent sensitive receptors to the satisfaction of the City of Culver City and DOGGR. Additionally, the Oil Field Operator shall be required to ensure that the proppant delivery system is a closed system and that incorporates the best available feasible technology to reduce dust and truck traffic	

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Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
	when compared to traditional methods. The proppant delivery system shall prohibit pneumatic conveying of sand from the bulk truck trailers into silos, and belt conveying from the silos to the blender.	
	MM HAZ-8 (see SB4 RSK-7b). Prior to the commencement of any well stimulation activities, the Fugitive Dust Control Plan prepared in compliance with Section 21 of the Specific Plan shall incorporate safety measures to address well stimulation activities. The Fugitive Dust Plan shall address emissions of fugitive dust during all stages of well stimulation treatment and shall prohibit the release of particulate matter (PM10) levels to exceed 50 µg/m3. Particulate matter consists of solid particles and liquid droplets suspended in the air. Compliance with this restriction on PM10 shall be monitored and the results of monitoring shall be provided to the City at the completion of each well stimulation event.	
Project implementation has the potential to cause hazards to the public and the environment related to failure of equipment used during well stimulation activities.	**MM HAZ-9 (see SB4 HAZ-1b).** Prior to approval of the Annual Drilling Plan, the City of Culver City shall mandate that the Oil Field Operator conduct an annual inventory of the oil field equipment, well stimulation equipment and supporting infrastructure, and well stimulation fluids with hazardous materials, and provide the report to the City of Culver City and DOGGR for review and approval. The inventory shall include information regarding the integrity of aged equipment and infrastructure (e.g., cathodic protection, pipeline metal thickness), and the steps that will be taken to guard against failure of older infrastructure. The inventory shall demonstrate compliance with relevant State and local regulations such as the Hazardous Liquid Pipeline Safety Act (California Government Code, Sections 51010-51019.1).	Less than significant with the exception potential accident conditions associated with induced seismicity from well stimulation treatments (see MM GEO-1)
	MM HAZ-10 (see SB4 RSK-2c). Prior to the commencement of any well stimulation activities, the Oil Field Operator shall establish a Mechanical Integrity Testing And Maintenance Program for all equipment used in well stimulation treatments, consistent with Section 1782, General Hydraulic Fracturing Requirements, of the DOGGR regulations. The program shall identify the frequency of testing and inspection of process equipment, and shall provide for testing before the commencement of well stimulation activities, subject to the review and approval of the City of Culver City and DOGGR.	
Project implementation has the potential to encounter unknown soil contamination.	**MM HAZ-11.** If stained, discolored or odorous soils are encountered during earthmoving and excavation activities on the City IOF, work in the immediate area shall cease and the soils shall be tested to determine if contamination is present. The Oil Field Operator shall notify the City of Culver City and the California Department of Toxic Substances Control and/or the Regional Water Quality Control Board of the soil testing results and shall coordinate with these agencies on the appropriate means to address any identified contaminated soils in accordance with applicable regulations. All environmental investigation and/or remediation shall be conducted under a Workplan to be prepared by the Oil Field Operator and approved by agency having jurisdiction to remediate the contamination to achieve the cleanup objectives and associated risk levels and/or the removal of the contamination in accordance with applicable regulations, subject to approval and oversight of the remedial efforts by the applicable regulatory agency.	Less than significant

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Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
Project implementation has the potential to cause hazards to the public due to risk of tank rupture oil fires.	**MM HAZ-12.** To decrease the probability and/or potential impacts of tank rupture oil fires, future storage tanks shall be located at least 907 feet from developed areas, or the size of the diked area could be reduced to 15,228 square feet to reduce the threat zone distance, resulting in a minimum of 655 feet of distance between the tank site and developed areas. Alternately, the Oil Field Operator may conduct a Facility Siting Study or Quantitative Risk Assessment using accepted industry standards, to select the best location future tanks and identify the proper features to confine and minimize any risks of surface spills that could result in oil fires. In order to be able to assess the risk, the Oil Field Operator shall have a risk matrix (which depicts likelihood and consequences) that reflects established risk assessment standards and sets forth tolerability criteria that are acceptable to the City of Culver City.	Less than significant
Project implementation has the potential to cause hazards to the public due to risk of methane gas explosions.	**MM HAZ-13.** As a part of the site specific geotechnical investigation required by Section 24 of the Specific Plan, the Oil Field Operator shall test the local soils to determine soil methane levels, to establish a baseline condition within the City IOF, and to confirm that soil methane levels do not pose an explosive hazard to buildings. Based on the results of this evaluation, the Oil Field Operator shall periodically monitor, as needed but no less than one time per year, and shall document on-site soil gas levels to determine whether changed conditions are re-pressurizing the soil gas at the Project Site. If soil gas levels are found to substantially increase or to approach explosive levels, immediate action shall be taken to prevent further re-pressurization of soils, and to alleviate the cause of the pressurized soil gas, in consultation with a qualified geotechnical engineer, to the satisfaction of the City of Culver City.	Less than significant
Project implementation has the potential to cause hazards to the public (including construction workers) or the environment related to accidental release (i.e., spills) of hazardous materials used during well stimulation activities.	**MM HAZ-14.** The following measure is an interim MM to be implemented and enforced by the City until such time as DOGGR adopts the equivalent measure listed as a Regulatory Requirement in this Draft EIR (SB4 HAZ-1a Ensure that Spill Contingency Plan Provides Adequate Protection Against Leaks or Discharges of Dangerous Fluids and Other Potentially Dangerous Materials). This MM shall become inapplicable when DOGGR enacts this measure as a formal regulation; the regulation shall then become applicable as part of approving a well stimulation treatment permit. The Oil Field Operator shall demonstrate that the spill contingency plan required by Section 1722.9 of Title 14 of the California Code of Regulations and provided to DOGGR is sufficient to prevent any leaks, spills or other discharges of well stimulation fluids, flowback fluids, produced water, hazardous chemicals, contaminated surface water runoff, oil, or other potentially dangerous materials that might occur before, during, and after the well stimulation process from reaching the soil at all site pads. The use of barriers or other control devices shall not interfere with safety protocols during well stimulation operations. Prior to approving an Annual Drilling Plan, the Oil Field Operator shall provide evidence to the City that the actions prescribed in this measure have been completed, including but not limited to an approved well stimulation permit from DOGGR for the well(s) addressed in the proposed Annual Drilling Plan.	Less than significant with the exception potential accident conditions associated with induced seismicity from well stimulation treatments (see MM GEO-1)

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Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
Section 4.8 Hydrology and Water Quality		
RR HYD-1. As per 5.05.035, Requirements for Industrial/Commercial and Construction Activities, of the Culver City Municipal Code: A. Each industrial discharger, discharger associated with construction activity, or other discharger described in any general storm water permit addressing such discharges, as may be granted by the U.S. Environmental Protection Agency, the State Water Resources Control Board, or the Regional Board shall comply with all requirements of such permit. 1. Each discharger identified in an individual National Pollutant Discharge Elimination System (NPDES) permit shall comply with and undertake all activities required by such permit. 2. Proof of compliance with any such permit may be required in a form acceptable to the Director, prior to the issuance of any grading or building permit, or any other type of permit or license issued by the City. B. Storm water runoff containing sediment, construction materials or other pollutants from the construction site and any adjacent staging, storage or parking areas shall be reduced to the maximum extent practicable (MEP). The following requirements shall apply to all construction projects within the City and shall be required from the time of land clearing, demolition or commencement of construction until receipt of a Final Inspection or Certificate of Occupancy, whichever is the last required City approval: 1. Sediment, construction waste, trash and other pollutants from construction activities shall be reduced to the MEP. 2. Structural controls, such as sediment barriers, plastic sheeting, retention ponds, filters, berms and similar controls, shall be utilized to the MEP in order to minimize the escape of sediment and other pollutants from the site. 3. Between October 1st and April 15th of each year, all excavated soil shall be located on-site in a manner that minimizes the amount of sediment running onto the street, drainage facilities or adjacent properties. Soil piles shall be bermed or covered with plastic or similar materials until the soil is either used or removed from the site. 4. No washing of construction or other vehicles is permitted adjacent to a construction site. No water from the washing of construction vehicles or equipment on the construction site is permitted to run off the construction site and enter the municipal storm drain system. 5. Trash receptacles must be situated at convenient locations on construction sites, and must be maintained in such a manner that trash and litter does not accumulate on-site nor migrate off site. 6. Erosion from slopes and channels must be controlled through an effective use of Best Management Practices (BMPs). C. The property owner or his/her authorized representative must certify, in a form acceptable to the Director, that BMPs to control runoff from construction activities will be implemented to the MEP prior to the issuance of any building or grading permit. D. A Local Storm Water Pollution Prevention Plan (LSWPPP) and Wet Weather Erosion Control Plan for construction activities shall be submitted to the Director consistent with the Municipal NPDES Permit. Such plans must be reviewed and approved by the Director prior to the issuance of any building or grading permit.		

TABLE ES-1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
RR HYD-2. As per 5.05.040, Standard Urban Stormwater Mitigation Plan (SUSMP) Requirements for New Development and Redevelopment Projects, of the Culver City Municipal Code: A. **Requirement for Storm Water Mitigation Plan.** The following categories of development or redevelopment projects shall require a storm water mitigation plan that complies with the most recent Regional Board-approved SUSMP: (2) Commercial/industrial development in excess of one acre of disturbed area. B. **Post-Development Storm Water Mitigation.** A site-specific plan to mitigate post-development storm water pollution for new development and redevelopment projects not requiring a SUSMP, but which may potentially have adverse impacts on post-development storm water quality shall be required where one or more of the following project characteristics exist: (d) outdoor handling or storage of hazardous materials.		
SB4 GW-4b. **Install a Well Seal across Protected Groundwater for New Wells Subject to Well Stimulation Treatments.** DOGGR shall require as a condition of permit approval that the applicant demonstrate to DOGGR's satisfaction that a well used for well stimulation treatments contains an annular 500-foot cement seal extending across the base of protected groundwater and that the integrity of the seal will prevent unintended migration of fluid. This applies to all new wells that will be subjected to well stimulation. For new shallow wells drilled in areas where protected groundwater is present, this requirement is amended to require cementing the entire casing string from the bottom of the well to the surface. DOGGR will determine the proper casing and cementing depth for the protection of protected groundwater. In no event will this requirement conflict with existing DOGGR regulations requiring casing depth limits for the adequate anchorage of blow-out prevention equipment and safe drilling operations. DOGGR must approve the method for determining the base of protected groundwater, but will consider best management practices using available data on produced water quality and/or industry-accepted interpretation methods of geophysical (electric) logs. Current well construction requirements found in DOGGR's regulations (see CCR Title 14, Sections 1722.2 through 1722.6) require cement placement in surface casing from the base of the casing to the surface and preferably through the freshwater zone (3,000 mg/L TDS). Furthermore, DOGGR regulations require the use of a second string of casing if the surface casing does not extend through the base of freshwater (3,000 mg/L TDS). However, the depth of subsequent casing strings might not extend through the zone of protected groundwater. This mitigation measure (MM GW-4b) will result in a seal across the base of protected groundwater (<10,000 mg/L TDS) for all new wells subject to well stimulation treatment. Requiring a 500-foot seal across the base of protected groundwater would protect groundwater resources in deeper wells.		
SB4 SWR-1b. Surface Water Protection. The applicant for a well stimulation treatment permit shall submit to DOGGR maps, photographs, and other information, prepared by a qualified hydrologist acceptable to DOGGR, that describe or show any perennial, intermittent or ephemeral streams or other water bodies within 300 feet of the proposed well stimulation treatment and of any surface disturbance associated with the proposed stimulation treatment. Information provided shall include, as a minimum: (a) water body name, if applicable; (b) characteristics (stream, pond, lake, wetland); (c) whether the water body is perennial, intermittent or ephemeral; (d) normal summer and winter flow rate, if available, or estimated; (e) habitat characteristics (required in MM BIO-1a); (f) distance and ground slope between the well pad and water body; (g) contributing watershed area; and (h) expected drainage patterns at the location of the proposed well stimulation treatment. DOGGR shall consider this information in determining whether to approve the proposed well stimulation treatment permit, and shall require that protection and minimization of potential impacts to identified surface water be addressed in the site layout design, Stormwater Pollution Prevention Plan, worker training, spill contingency and response plans, and site restoration plans. DOGGR shall not approve applications for well stimulation where the well pad will be less than 100 feet from a perennial water body, or an intermittent or ephemeral water body, if DOGGR determines, based on the qualified hydrologist's evaluation, that open surface water or flow is normally present at that location and season at the scheduled time for well stimulation. Normally present means day-to-day perennial or seasonal base flow or presence of surface water.		

TABLE ES-1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
Exceptions to the 100-foot setback from surface waters may be granted at DOGGR's discretion if the applicant can demonstrate to DOGGR's satisfaction that a setback of 100 feet from these surface water resources cannot feasibly be achieved and/or is unnecessary to avoid significant effects on potentially affected water bodies (e.g., because construction of a temporary or permanent berm is an adequate substitute for a setback or that existing structures at the well site will operate as a de facto berm). The applicant shall submit a written justification for a proposed narrower setback, along with any proposed substitute mitigation intended to avoid significant effects on surface water resources. The justification shall explain why the proposed narrower setback is as wide as is feasible and/or is unnecessary under the circumstances. DOGGR shall not issue a well stimulation treatment permit for a proposal with a setback of less than 100 feet unless DOGGR independently determines, based on substantial evidence, that a 100-foot setback is infeasible or unnecessary, and that the proposed well stimulation, with or without any relevant mitigation measure(s) or condition(s) of approval, will not cause a significant effect to the potentially affected water bodies. In making its own determination regarding whether a 100-foot setback or a relevant potential lesser setback is infeasible, DOGGR shall consider, at a minimum, information relating to the contributing watershed area, local climate, past disturbance in the affected area, existing protections and controls, ground slope, relevant economic, legal, social, and technological factors, any RWQCB recommendations, habitat conditions, or any other information deemed appropriate by the applicant and accepted as such by DOGGR, consistent with the concept of "feasibility" as it occurs in CEQA, the State CEQA Guidelines, and CEQA case law. In assessing the feasibility of, and need for, a 100-foot setback, DOGGR may, at its discretion, consider groups of permit applications, even for an area as large as an entire established oil or gas field. In doing so, DOGGR may consider maps, photographs, and other relevant information supplied by the applicant(s) or DOGGR. Such a comprehensive evaluation, if approved by DOGGR and at DOGGR's discretion, may result in compliance with this mitigation measure for more than one proposed permit, provided that practical assurance is given that all individual permits within any larger group of permits will comply with the requirements of this measure. After the issuance of a well stimulation treatment permit and within 60 days after the cessation of a well stimulation treatment, the operator shall submit to DOGGR a map and other information depicting or describing surface water resources and the actual surface disturbance areas to document the actual setback or the extent of disturbance, if any, in surface waters. Where the surface disturbance has encroached into the minimum setback required by the condition(s) of approval, DOGGR shall determine whether the extent and effect of the disturbance are sufficient to require the applicant to undertake some sort of environmental restitution or remediation that could achieve indirectly the practical equivalent of the level of surface water protection that the setback area in the permit condition(s) was intended to achieve. In deciding what kind of restitution or remediation, if any, is appropriate, DOGGR may consult with the State Water Resources Control Board, a Regional Water Quality Control Board, or the Department of Fish and Wildlife.		
Project implementation has the potential to cause surface water impacts due to spills and/or leaks of drilling muds and fluids.	**MM HYD-1**. The Oil Field Operator shall conduct all well drilling activities through a closed-loop drilling and containment system of temporary or permanent tanks in order to avoid potential spillage of drilling muds and fluids.	Less than significant
Project implementation has the potential to cause impacts due to migration of contaminants into protected groundwater.	**MM HYD-2**. The Groundwater Monitoring Plan that must be prepared by the Oil Field Operator in order to comply with the DOGGR and the RWQCB requirements shall be augmented to include the following requirements: • The Oil Field Operator shall prepare a Project-specific Groundwater Monitoring Program to supplement the program conducted as part of the Groundwater Monitoring Program Community Standards District (CSD) Section E.19. The Project-specific Groundwater Monitoring Program shall	Less than significant

TABLE ES-1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
	be operational prior to commencement of any new well drilling or well stimulation activities to establish baseline conditions. • A licensed groundwater and surface hydrologist shall prepare and certify the Project-specific Groundwater Monitoring Program. • Existing groundwater monitoring well MW-9 within the City IOF, which is not currently in the CSD monitoring program, shall be evaluated and rehabilitated, if necessary, to include in the Project-specific Groundwater Monitoring Program. If feasible, also incorporate MW-13 that is located within the County IOF into the Project-specific Groundwater Monitoring Program. • A deep groundwater well within the City IOF shall be installed and included within the Project-specific Groundwater Monitoring Program. This new well, and well MW-13 (if feasible) shall establish baseline deep groundwater conditions beneath the City IOF. • Additional shallow and deep groundwater monitoring wells (within the fresh zone) shall be installed, based on the recommendations of the licensed groundwater and surface hydrologist, adjacent to the vertical portions of horizontal wells to establish baseline groundwater conditions. • Prior to well stimulation activities, shallow and deep groundwater monitoring wells shall be installed above the proposed horizontal stimulation transect and collect groundwater samples to establish baseline groundwater conditions. • The Annual Drilling Plan shall be reviewed for planned well stimulation and directional drilling activities, so appropriate modifications can be made to the Project-specific Groundwater Monitoring Program for resultant well stimulation techniques. • Continuous logging of new boreholes for groundwater wells is required to provide better subsurface understanding needed to evaluate saturated conditions or perched intervals. • Monitor groundwater wells on a regular (e.g., quarterly) basis to identify potential impacts to groundwater that may occur due to deep well injection and/or well stimulation activities. If contamination is detected, the Oil Field Operator shall notify the City, the County of Los Angeles, and the RWQCB, as well as other appropriate local, state, and regional agencies, depending on the nature of the contamination.	

TABLE ES-1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
Project implementation has the potential to cause impacts related to migration of well stimulation fluids or formation fluids, including gas, into protected groundwater.	**MM HYD-3 (see SB4 GW-4a).** Prior to the commencement of any well stimulation activities, the Oil Field Operator shall monitor certain DOGGR-selected wells within the Axial Dimensional Stimulation Area (ADSA) during a well stimulation treatment to demonstrate that the wells are not serving as a conduit for upward migration of formation fluids or gas, either through the annular space, well bore, or the well casing, into the protected groundwater zone. As part of the well stimulation permit application process, the DOGGR shall select which wells within the ADSA are required for monitoring, but at a minimum, these wells will include (1) wells that have been stimulated previously; (2) idle wells; and (3) other accessible wells if deemed necessary by the DOGGR. Plugged and abandoned wells are often inaccessible due to being sealed below grade.	Less than significant
	MM HYD-4 (see SB4 GW-4c). Prior to the commencement of any well stimulation activities, the Oil Field Operator shall install a methane sensor to monitor potential leaks or venting of methane gas. In order to provide additional monitoring for potential migration up ineffective well seals, wells shall be equipped with a device approved by the DOGGR to allow for continuous monitoring at the wellhead for methane migration up the well annular space. As part of the permit application, the applicant shall propose a monitoring program for the City and the DOGGR approval that provides details on sensor manufacturer, installation, calibration, settings/units, and measurements. Gas detectors shall be operated (1) before the test to determine variability in baseline readings; (2) for the complete duration of the test; and (3) for a specified time period after the test has been completed, as specified by the DOGGR.	
	MM HYD-5 (see SB4 GW-5a). Prior to the commencement of any well stimulation activities, the Oil Field Operator shall demonstrate to the City's and the DOGGR's satisfaction that a record review has been conducted and, if warranted, require a surface geophysical survey or use other suitable field methods to locate any improperly abandoned wells within the ADSA of the well to be stimulated. If records exist with sufficient data to determine the condition of the well, the City and the DOGGR will require, as a condition of the stimulation permit, that the operator ensure that the well has hydrologic and geologic isolation. If conduit wells are located, the applicant shall mitigate the potential pathway in a manner approved by the City and the DOGGR. Site-specific mitigation measures shall be considered, including modifying the design of the well stimulation treatment or moving the location of a proposed treatment to another well. If pathways cannot be mitigated, the DOGGR shall require modifications to the stimulation design or not approve the permit.	
	MM HYD-6 (see SB4 GW-7a). After consultation with the Los Angeles Regional Water Quality Board, and prior to the commencement of any well stimulation activities, the Oil Field Operator shall provide for a tracer or some other reasonable method to allow well stimulation fluids to be distinguished from other fluids or chemicals. This could consist of an added tracer using an inert constituent that could be used to identify the presence of well stimulation fluids. Alternatively, it could be an intrinsic tracer, or some naturally occurring component that makes the well stimulation fluids chemically unique. Potential geochemical changes in the subsurface during injection or migration shall be considered. Use of a tracer shall be required to be disclosed to the public consistent with the permanent Senate Bill (SB) 4 regulations.	

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SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
	The regulations specifically require that the applicant require the composition and disposition of all well stimulation treatment fluids other than water, including "any radiological components or tracers injected into the well as part of the well stimulation treatment, a description of the recovery method, if any, for those components or tracers, the recovery rate, and specific disposal information for the recovered components or tracers a radiological component or tracer injected".	
Project implementation has the potential to cause impacts related to migration of well stimulation fluids or formation fluids, including gas, into protected groundwater.	**MM HYD-7.** The following measure is an interim MM to be implemented and enforced by the City until such time as DOGGR adopts the equivalent measure listed as a Regulatory Requirement in this Draft EIR (SB4 GW-4b Install a Well Seal across Protected Groundwater for New Wells Subject to Well Stimulation Treatments). This MM shall become inapplicable when DOGGR enacts this measure as a formal regulation; the regulation shall then become applicable as part of approving a well stimulation treatment permit. The City and DOGGR shall require as a condition of permit approval that the Oil Field Operator demonstrate to DOGGR's satisfaction that a well used for well stimulation treatments contains an annular 500-foot cement seal extending across the base of protected groundwater and that the integrity of the seal will prevent unintended migration of fluid. This applies to all new wells that will be subjected to well stimulation. For new shallow wells drilled in areas where protected groundwater is present, this requirement is amended to require cementing the entire casing string from the bottom of the well to the surface. DOGGR will determine the proper casing and cementing depth for the protection of protected groundwater. In no event will this requirement conflict with existing DOGGR regulations requiring casing depth limits for the adequate anchorage of blow-out prevention equipment and safe drilling operations. DOGGR must approve the method for determining the base of protected groundwater, but will consider best management practices using available data on produced water quality and/or industry-accepted interpretation methods of geophysical (electric) logs. Current well construction requirements found in DOGGR's regulations (see CCR Title 14, Sections 1722.2 through 1722.6) require cement placement in surface casing from the base of the casing to the surface and preferably through the freshwater zone (3,000 mg/L total dissolved solids [TDS]). Furthermore, DOGGR regulations require the use of a second string of casing if the surface casing does not extend through the base of freshwater (3,000 mg/L TDS). However, the depth of subsequent casing strings might not extend through the zone of protected groundwater. This mitigation measure (SB4 GW-4b) will result in a seal across the base of protected groundwater (<10,000 mg/L TDS) for all new wells subject to well stimulation treatment. Requiring a 500-foot seal across the base of protected groundwater would protect groundwater resources in deeper wells. Prior to approving an Annual Drilling Plan, the Oil Field Operator shall provide evidence to the City that the actions prescribed in this measure have been completed, including but not limited to an approved well stimulation permit from DOGGR for the well(s) addressed in the proposed Annual Drilling Plan.	

TABLE ES-1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
Project implementation has the potential to cause surface water impacts due to spills and/or leaks of fluids related to well stimulation activities.	**MM HYD-8.** City until such time as DOGGR adopts the equivalent measure listed as a Regulatory Requirement in this Draft EIR (SB4 SWR-1b Surface Water Protection). This MM shall become inapplicable when DOGGR enacts this measure as a formal regulation; the regulation shall then become applicable as part of approving a well stimulation treatment permit. The Oil Field Operator for a well stimulation treatment permit shall submit to the City and DOGGR maps, photographs, and other information, prepared by a qualified hydrologist acceptable to the City and DOGGR, that describe or show any perennial, intermittent or ephemeral streams or other water bodies within 300 feet of the proposed well stimulation treatment and of any surface disturbance associated with the proposed stimulation treatment. Information provided shall include, as a minimum: (a) water body name, if applicable; (b) characteristics (stream, pond, lake, wetland); (c) whether the water body is perennial, intermittent or ephemeral; (d) normal summer and winter flow rate, if available, or estimated; (e) habitat characteristics (required in SB4 MM BIOT-1a); (f) distance and ground slope between the well pad and water body; (g) contributing watershed area; and (h) expected drainage patterns at the location of the proposed well stimulation treatment. DOGGR shall consider this information in determining whether to approve the proposed well stimulation treatment permit, and shall require that protection and minimization of potential impacts to identified surface water be addressed in the site layout design, Storm Water Pollution Prevention Plan, worker training, spill contingency and response plans, and site restoration plans. DOGGR shall not approve applications for well stimulation where the well pad will be less than 100 feet from a perennial water body, or an intermittent or ephemeral water body, if DOGGR determines, based on the qualified hydrologist's evaluation, that open surface water or flow is normally present at that location and season at the scheduled time for well stimulation. Normally present means day-to-day perennial or seasonal base flow or presence of surface water. Exceptions to the 100-foot setback from surface waters may be granted at DOGGR's discretion if the Oil Field Operator can demonstrate to DOGGR's satisfaction that a setback of 100 feet from these surface water resources cannot feasibly be achieved and/or is unnecessary to avoid significant effects on potentially affected water bodies (e.g., because construction of a temporary or permanent berm is an adequate substitute for a setback or that existing structures at the well site will operate as a de facto berm). The Oil Field Operator shall submit a written justification for a proposed narrower setback, along with any proposed substitute mitigation intended to avoid significant effects on surface water resources. The justification shall explain why the proposed narrower setback is as wide as is feasible and/or is unnecessary under the circumstances. DOGGR shall not issue a well stimulation treatment permit for a proposal with a setback of less than 100 feet unless DOGGR independently determines, based on substantial evidence, that a 100-foot setback is infeasible or unnecessary, and that the proposed well stimulation, with or without any relevant mitigation measure(s) or condition(s) of approval, will not cause a significant effect to the potentially affected water bodies. In making its own determination regarding whether a 100-foot setback or a relevant potential lesser setback is infeasible, DOGGR shall consider, at a minimum, information relating to the contributing watershed area, local climate, past disturbance in the	Less than significant

TABLE ES-1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
	affected area, existing protections and controls, ground slope, relevant economic, legal, social, and technological factors, any Los Angeles RWQCB recommendations, habitat conditions, or any other information deemed appropriate by the Oil Field Operator and accepted as such by DOGGR, consistent with the concept of "feasibility" as it occurs in CEQA, the State CEQA Guidelines, and CEQA case law. In assessing the feasibility of, and need for, a 100-foot setback, DOGGR may, at its discretion, consider groups of permit applications, even for an area as large as an entire established oil or gas field. In doing so, DOGGR may consider maps, photographs, and other relevant information supplied by the Oil Field Operator(s) or DOGGR. Such a comprehensive evaluation, if approved by DOGGR and at DOGGR's discretion, may result in compliance with this mitigation measure for more than one proposed permit, provided that practical assurance is given that all individual permits within any larger group of permits will comply with the requirements of this measure. After the issuance of a well stimulation treatment permit and within 60 days after the cessation of a well stimulation treatment, the operator shall submit to the City and DOGGR a map and other information depicting or describing surface water resources and the actual surface disturbance areas to document the actual setback or the extent of disturbance, if any, in surface waters. Where the surface disturbance has encroached into the minimum setback required by the condition(s) of approval, DOGGR shall determine whether the extent and effect of the disturbance are sufficient to require the Oil Field Operator to undertake some sort of environmental restitution or remediation that could achieve indirectly the practical equivalent of the level of surface water protection that the setback area in the permit condition(s) was intended to achieve. In deciding what kind of restitution or remediation, if any, is appropriate, DOGGR may consult with the SWRCB, the Los Angeles RWQCB, or the California Department of Fish and Wildlife. Prior to approving an Annual Drilling Plan, the Oil Field Operator shall provide evidence to the City that the actions prescribed in this measure have been completed, including but not limited to an approved well stimulation permit from DOGGR for the well(s) addressed in the proposed Annual Drilling Plan.	
Section 4.9 Land Use and Planning		
RR USE-1. Section 17.610.010.D, Nonconforming Oil Use, of the Culver City Municipal Code (CCMC) states that "Land that has been used for the drilling, production, or processing of oil, gas, or other hydrocarbons, may continue in that use, regardless of the applicable zoning district. The provisions of this Subsection shall not apply to gasoline service stations or other like uses, or to any oil well, oil well structures, or equipment that has been abandoned, or the use has been discontinued, for a period of at least one year".		
Section 4.10 Mineral Resources		
RR MIN-1. All oil and gas drilling, extraction and related activities at the City IOF shall comply with pertinent State regulations, as enforced by DOGGR.		
RR MIN-2. All oil and gas drilling, extraction and related activities at the City IOF shall comply with pertinent City regulations, as contained in the Culver City Municipal Code, as may be amended by the proposed Inglewood Oil Field Specific Plan.		

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SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
Section 4.11 Noise		
RR NOI-1. Except where more restricted by the Specific Plan, the Project will be constructed in accordance with Section 9.07.035 of the Culver City Municipal Code, which prohibits construction activities except between the hours of 8:00 AM and 8:00 PM Monday through Fridays, 9:00 AM and 7:00 PM on Saturdays, 10:00 AM and 7:00 AM on Sundays. The Culver City Municipal Code prohibits any person from operating any radio, disc player or cassette player or similar device at a construction site in a manner that results in noise levels that are audible beyond the construction site property line. In the case of an emergency, the Building Official may issue a permit for construction activity for periods during which construction activity is prohibited by Subsection A of this Section. Such permit shall be issued for only the period of the emergency. The City Council retains the right to impose more restrictive hours of construction upon any project.		
Project implementation has the potential to generate short-term noise levels during well drilling (including 24-hour drilling), well rework, and well stimulation activities that would impact nearby sensitive receptors.	**MM NOI-1.** Prior to the commencement of well rework, well stimulation activities, or well pad grading work, the Oil Field Operator shall implement noise-abatement measures as deemed appropriate on a case-by-case basis based on the site-specific factors at the site of activity. One option would be to install temporary 20-foot-high noise barriers adjacent to the work site facing sensitive receptors (i.e., as single-family and multi-family homes; hotels and motels; long-term medical or mental care facilities; schools; libraries; business and professional office buildings; places of worship; concert halls; and restaurants). The barrier shall be solid from the ground to the top and shall block the line of sight to the receptors. The barrier may be constructed of acoustical blankets, plywood, or other material with a transmission loss of at least 20 A-weighted decibels (dBA). The Oil Field Operator may demonstrate by noise analysis that alternate noise abatement measures other than 20-foot-high barriers would limit the activity-generated noise level increase at sensitive receptors, considering concurrent activities when applicable, to 5 dBA L_{eq} or less, and that the noise level at sensitive receptors would not exceed 65 dBA Community Noise Equivalent Level (CNEL). The noise abatement measures and proof of compliance with noise level restrictions set forth in the Specific Plan shall be included within the Annual Drilling Plan and shall be subject to review and approval by the City of Culver City.	Significant and unavoidable (direct and cumulative) impacts from nighttime well drilling. Less than significant for all other noise impacts.
	MM NOI-2. Prior to the issuance of a Drilling Use Permit, the Oil Field Operator shall demonstrate by noise analysis that the proposed noise abatement, including but not limited to noise barriers and/or increasing distance from sensitive receptors, would limit nighttime noise level increases at sensitive receptors to three dBA or less. If these noise levels are not achievable, the Oil Field Operator shall demonstrate to the satisfaction of the Community Development Director that the maximum reasonable and feasible noise abatement measures shall be used for the drilling operation.	
	MM NOI-3. At least 30 days but no more than 45 days prior to the start of well drilling, well redrilling, well rework, or well stimulation activities, all property owners and occupants within 500 feet of the event activity shall be notified of the pending work. The notification shall include the construction start date, days and hours of work, and estimated completion date. The notification shall also state that the activities will include typical and sometimes loud noise and provide phone and email contact information for reporting of noise complaints.	

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Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
4.12 Public Services		
RR PUB-1. Oil and gas exploration, production storage and associated activities on the site must comply with the California Fire Code and pertinent regulations and guidelines of the NFPA, American Petroleum Institute (API), Industrial Risk Insurers (IRI), and the Center for Chemical Process Safety (CCPS).		
RR PUB-2. There are several Culver City Municipal Codes that would continue to apply after adoption of the Project: • Land use and development in the City must comply with the City's Fire Code, as contained in Chapter 9.02, Fire Prevention, of the City's Municipal Code. • Oil and gas exploration, production storage and associated activities on the site must comply with the CCFD's brush clearance requirements.		
4.14 Transportation and Traffic		
RR TRA-1. Culver City Municipal Code, Section 7.02.210, Truck Routes Designated, requires any commercial vehicle, the laden or unladen weight of which exceeds 6,000 pounds, to use specific designated truck routes. Jefferson Boulevard, La Cienega Boulevard, and Fairfax Avenue are included on this list.		
Section 4.15 Utilities		
RR UTIL 15-1. The Oil Field Operator must comply with pertinent regulations in the California Green Building Standards Code (CalGreen), including standards for construction waste diversion.		
RR UTIL 15-2. The Oil Field Operator must ensure that all applicable facilities are designed, constructed and operated in accordance with the County of Los Angeles Sanitation District's (LACSD's) Wastewater Ordinance, all wastewater discharges into LACSD facilities shall be required to comply with the discharge standards set forth to protect the public sewage system.		
SB4 GW-1a Use Alternative Water Sources to the Extent Feasible. Prior to issuance of a well stimulation treatment permit for stimulation proposed inside or outside of existing oil and gas fields, DOGGR shall work with the applicant to determine the quantity of water to be used, and the source and supplier(s) of the water. DOGGR shall in general consider recycled water and saline water to be the preferred water sources for well stimulation treatments, and shall require an applicant for a well stimulation permit to conduct a feasibility study to determine if recycled water or alternative water sources (including produced water, flowback water, or saline groundwater) may effectively be used for well stimulation. The feasibility study shall be incorporated into the applicant's proposed Water Management Plan, as required by CCR Title 14, Section 1783.1(a)(23)). Based on the results of the final version of the feasibility study, prepared to DOGGR's satisfaction, the well owner/operator/service provider shall be required, through the final version of the Water Management Plan, to use recycled or saline water to the maximum extent feasible, as determined by DOGGR. The source of water for the well stimulation treatment permit, including groundwater, shall also be included in the Water Management Plan. The primary objective of the draft study on the feasibility of using recycled water or saline water submitted with the permit application is to demonstrate all of the following: that the applicant has made good faith efforts to identify any produced water, flowback water, saline groundwater, or other source of recycled water potentially available for use in well stimulation treatment; that the proposed well stimulation treatment will use any such available source(s) to the maximum extent feasible; and that the proposed strategy would not cause adverse effects on drinking water sources, protected groundwater, or the environment. At a minimum, the draft Study must identify: (1) the amount of produced water, flowback water, saline groundwater, or other source of recycled water that the applicant has		

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SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
determined could be feasible to use for well stimulation; (2) whether the produced water, flowback water, saline groundwater, or other source of recycled water under consideration would likely be used for future drinking water supplies; and (3) whether any saline groundwater aquifer being considered as a source is connected to freshwater aquifers. The draft Study shall be integrated into the proposed Water Management Plan, which is required by DOGGR's permanent regulations for well stimulation treatments under CCR Title 14, Section 1783.1(a)(23). The Study shall be finalized after review and input by DOGGR as part of the process by which DOGGR considers issuance of a well stimulation treatment permit. In making its own determinations regarding how much recycled or saline groundwater may feasibly be used for well stimulation, and the availability of any non-recycled water intended to be used for the well stimulation, DOGGR shall consider all relevant economic, legal, social, and technological factors, consistent with the concept of "feasibility" as it occurs in CEQA, the State CEQA Guidelines, and CEQA case law. DOGGR may also consider such information as: adopted urban water management plans; an assessment of whether the intended water supply system has projected water supplies available during the intended period of use that will meet the demand associated with the well stimulation project in addition to the water system's existing and planned uses, including municipal, agricultural and manufacturing uses; written contracts or other proof of entitlement to an identified water supply; and any capital outlay program for financing the delivery of a water supply. In the event that DOGGR receives well stimulation treatment permit applications for which recycled water, saline water, or an assured non-recycled supply as described above cannot be feasibly obtained, DOGGR shall either deny the permit or require the applicant to identify a feasible alternative means of obtaining a substitute water supply. After the issuance of a well stimulation treatment permit and completion of well stimulation treatment, the permittee shall document and report the actual amount of recycled water or saline groundwater used and the reasons for any deviation from the conditions of approval derived from the final Study. The permittee shall integrate this information into the Post-well Stimulation Treatment Report, as required by CCR Title 14, Section 1789 et seq.		
Project implementation would have cumulative impacts to water supplies associated with well stimulation activities.	**MM UTIL-1 (see SB4 SWR-3a).** Prior to the commencement of any well stimulation activities, the Oil Field Operator shall determine the quantity of water to be used, and to identify the source and specific supplier(s) of the water. The Oil Field Operator shall provide written assurance that the identified supplier(s) have a sufficient supply throughout the duration of the proposed well stimulation treatment. In the event that an assured supply cannot be obtained, alternate feasible means of obtaining a water supply, including recycled water that meets all applicable federal, State, and local water quality standards, may be considered, subject to the review and approval of the City of Culver City.	Less than significant
	MM UTIL-2. The following measure is an interim MM to be implemented and enforced by the City until such time as DOGGR adopts the equivalent measure listed as a Regulatory Requirement in this Draft EIR (SB4 GW-1a Use Alternative Water Sources to the Extent Feasible). This MM shall become inapplicable when DOGGR enacts this measure as a formal regulation; the regulation shall then become applicable as part of approving a well stimulation treatment permit. The City and DOGGR shall work with the applicant to determine the quantity of water to be used, and the source and supplier(s) of the water. DOGGR shall in general consider recycled water and saline water to be the preferred water sources for well stimulation treatments, and shall require an applicant for a well stimulation permit to conduct a feasibility study to determine if recycled water or alternative water sources (including produced water, flowback water, or saline groundwater) may effectively be used for well	

TABLE ES-1
SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
	stimulation. The feasibility study shall be incorporated into the applicant's proposed Water Management Plan, as required by Title 14, Section 1783.1(a)(23) of the California Code of Regulations. Based on the results of the final version of the feasibility study, prepared to DOGGR's satisfaction, the well owner/operator/service provider shall be required, through the final version of the Water Management Plan, to use recycled or saline water to the maximum extent feasible, as determined by DOGGR. The source of water for the well stimulation treatment permit, including groundwater, shall also be included in the Water Management Plan. The primary objective of the draft study on the feasibility of using recycled water or saline water submitted with the permit application is to demonstrate all of the following: that the applicant has made good faith efforts to identify any produced water, flowback water, saline groundwater, or other source of recycled water potentially available for use in well stimulation treatment; that the proposed well stimulation treatment will use any such available source(s) to the maximum extent feasible; and that the proposed strategy would not cause adverse effects on drinking water sources, protected groundwater, or the environment. At a minimum, the draft Study must identify: (1) the amount of produced water, flowback water, saline groundwater, or other source of recycled water that the applicant has determined could be feasible to use for well stimulation; (2) whether the produced water, flowback water, saline groundwater, or other source of recycled water under consideration would likely be used for future drinking water supplies; and (3) whether any saline groundwater aquifer being considered as a source is connected to freshwater aquifers. The draft Study shall be integrated into the proposed Water Management Plan, which is required by DOGGR's permanent regulations for well stimulation treatments under Title 14, Section 1783.1(a)(23) of the California Code of Regulations. The Study shall be finalized after review and input by DOGGR as part of the process by which DOGGR considers issuance of a well stimulation treatment permit. In making its own determinations regarding how much recycled or saline groundwater may feasibly be used for well stimulation, and the availability of any non-recycled water intended to be used for the well stimulation, DOGGR shall consider all relevant economic, legal, social, and technological factors, consistent with the concept of "feasibility" as it occurs in CEQA, the State CEQA Guidelines, and CEQA case law. DOGGR may also consider such information as: adopted urban water management plans; an assessment of whether the intended water supply system has projected water supplies available during the intended period of use that will meet the demand associated with the well stimulation project in addition to the water system's existing and planned uses, including municipal, agricultural and manufacturing uses; written contracts or other proof of entitlement to an identified water supply; and any capital outlay program for financing the delivery of a water supply. In the event that DOGGR receives well stimulation treatment permit applications for which recycled water, saline water, or an assured non-recycled supply as described above cannot be feasibly obtained, DOGGR	

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Potentially Significant Impact	Regulatory Requirements and Mitigation Measures	Level of Significance After Mitigation
	shall either deny the permit or require the Oil Field Operator to identify a feasible alternative means of obtaining a substitute water supply. After the issuance of a well stimulation treatment permit and completion of well stimulation treatment, the permittee shall document and report the actual amount of recycled water or saline groundwater used and the reasons for any deviation from the conditions of approval derived from the final Study. The permittee shall integrate this information into the Post-well Stimulation Treatment Report, as required by Title 14, Section 1789 et. seq. of the California Code of Regulations. Prior to approving an Annual Drilling Plan, the Oil Field Operator shall provide evidence to the City that the actions prescribed in this measure have been completed, including but not limited to an approved well stimulation permit from DOGGR for the well(s) addressed in the proposed Annual Drilling Plan.	

IOF: Inglewood Oil Field; SCAQMD: South Coast Air Quality Management District; CEQA: California Environmental Quality Act; NOx: nitrogen oxides; CO: carbon monoxide; LST: localized significance threshold; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; CARB: California Air Resources Board; EPA: Environmental Protection Agency; VOC: volatile organic compound; SOx: sulfur oxides; HRP: Habitat Restoration Plan; USACE: U.S. Army Corps of Engineers; CDFW: California Department of Fish and Wildlife; USEPA: U.S. Environmental Protection Agency; CalEPA: California Environmental Protection Agency; USDOT: U.S. Department of Transportation; Caltrans: California Department of Transportation; OSHA: Occupational Safety and Health Administration; CalOSHA: California Occupational Safety and Health Administration; DTSC: California Department of Toxic Substances Control; DOGGR: California Department of Conservation, Division of Oil, Gas, and Geothermal Resources; SWRCB: State Water Resources Control Board; RWQCB: Regional Water Quality Control Board; CalOES: California Office of Emergency Services; CUPA: Certified Unified Program Agency; SB: Senate Bill; CARB: California Air Resources Board; CH_4: methane; ppm: parts per million; CO_2: carbon dioxide; ARB: Air Resources Board; UNFCCC: United Nations Framework Convention on Climate Change; CDM: Clean Development Mechanism; PHA: Process Hazard Analysis; LOPA: Layer of Protection Analysis; ALARP: as low as reasonably practicable; NFPA: National Fire Protection Association; $\mu g/m^3$: micrograms per cubic meter; NPDES: National Pollutant Discharge Elimination System; MEP: maximum extent practicable; BMP: Best Management Practice; LSWPPP: Local Storm Water Pollution Prevention Plan; SUSMP: Standard Urban Stormwater Mitigation Plan; CCR: California Code of Regulations; mg/L: milligrams per liter; TDS: total dissolved solids; CSD: Community Standards District; ADSA: Axial Dimensional Stimulation Area; CCMC: Culver City Municipal Code; dBA: A-weighted decibels; L_{eq}: average sound level; CNEL: Community Noise Equivalent Level; API: American Petroleum Institute; IRI: Initial Risk Insurers; CCPS: Center for Chemical Process Safety; CalGreen: California Green Building Standards Code; LACSD: Los Angeles County Sanitation Districts.

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