Draft Initial Study/Mitigated Negative Declaration

Burbank Operable Unit (BOU) Remediation System Upgrades Project

City of Burbank
275 East Olive Avenue
Burbank, CA 91510

with assistance from:

CDM Smith
46 Discovery, Suite 250
Irvine, CA 92618

April 2021

This page left intentionally blank

Table of Contents **Page**

List of Figures

List of Tables

Appendices

1.0 Introduction

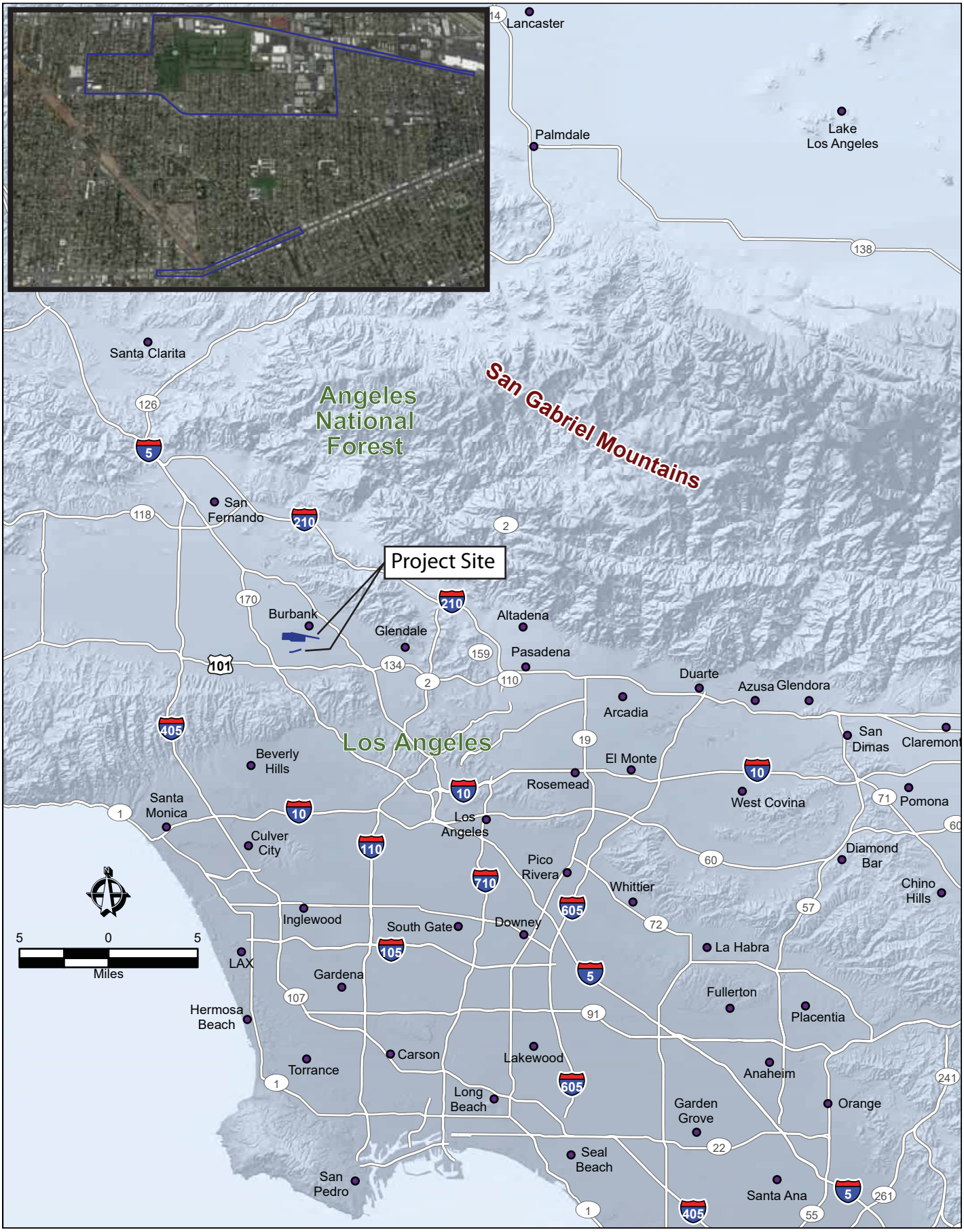
City of Burbank (Burbank) has prepared this Initial Study (IS)/Mitigated Negative Declaration (MND) or IS/MND to address the environmental effects of the proposed Burbank Operable Unit (BOU) Remediation System Upgrades Project (proposed Project), located in the San Fernando Valley east of the Sepulveda Basin Recreational Area between the State Route 170 (SR-170) and the Interstate 5 (I-5) freeways as shown on Figure 1. The proposed Project is located south of the Hollywood Burbank Airport within the cities of Los Angeles and Burbank. Burbank is the lead agency under the California Environmental Quality Act.

The components of the proposed Project are to (1) construct a new groundwater extraction well (BNH-2) and two replacement groundwater extraction wells (NHE-7R and NHE-8R) to capture the eastern plume of chlorinated solvents within the North Hollywood Operable Unit (NHOU); (2) construct conveyance pipelines connecting the new and replacement wells to the existing Burbank Operable Unit Treatment Plant (BOU Plant); (3) install two piezometers (groundwater level monitoring wells) to monitor groundwater elevations in the vicinity of the replacement and new extraction wells; (4) construct the Permanent Intertie Pipeline (intertie pipeline) and two associated underground vaults to deliver treated water from the BOU Plant by connecting the existing Burbank Water and Power (BWP) potable water distribution system at Burbank Boulevard and North Hollywood Way to the Los Angeles Department of Water and Power's (LADWP)'s River Supply Conduit; (5) modify eight existing BOU remediation system extraction wells with the installation of variable frequency drives (VFDs) and upgrades to the wells' electrical and control systems; and (6) install additional treatment units within the BOU Plant for advanced oxidation process (AOP) unit with hydrogen peroxide, hydrogen peroxide storage, additional liquid-phase granular active carbon (LPGAC) vessels and supporting features. The purpose of the project is to enhance the operation of the BOU remediation system in the mass removal of contaminants from the San Fernando Basin, enhance the BWP potable water distribution system, and deliver additional treated groundwater to LADWP. The proposed Project construction activities would occur in public rights-of-way, lots that are currently occupied by existing wells, parking lots, and within the existing BOU Plant. Construction activities are anticipated to be initiated in the summer of 2021 and be completed by mid-2023. Operations would primarily occur underground with the exception of aboveground well equipment at the new and replacement well sites and treatment facilities within the existing BOU Plant.

1.1 CEQA Process

This document was prepared in accordance with the California Environmental Quality Act (CEQA), the California Public Resources Code (PRC) Section 21000 et seq. and the CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). One of the main objectives of CEQA is to disclose the potential environmental effects of proposed activities to the public and decision-makers. CEQA requires that the potential environmental effects of a project be evaluated prior to implementation. This IS/MND includes a discussion of the proposed Project's effects on the existing environment. This document is an IS/MND because there are impacts associated with the proposed Project that must be mitigated to be below significance thresholds.

Under CEQA, the lead agency is the public agency with primary responsibility over approval of a proposed Project. Pursuant to Section 15367 of the CEQA Guidelines (14 CCR 15000 et seq.), Burbank is the lead agency for the proposed Project. Burbank has directed the preparation of an environmental document that complies with CEQA. Burbank will consider the information in this document when determining whether to carry out the proposed Project. The California State Water Resources Control Board Division of Drinking Water and the City of Los Angeles are responsible agencies.



Source: https://dpw.lacounty.gov/

Figure 1
Regional Location Map

The preparation of an IS is guided by Section 15063 of the CEQA Guidelines, while Sections 15070–15075 of the CEQA Guidelines direct the process for the preparation of a negative declaration or mitigated negative declaration (14 CCR 15000, et seq.). Where appropriate and supportive, references will be made to CEQA, the CEQA Guidelines, or appropriate case law.

This IS/MND meets CEQA content requirements by including a project description; a description of the environmental setting, potential environmental impacts, and mitigation measures for any significant effects; discussion of consistency with plans and policies; and names of the document preparers.

In accordance with CEQA and the CEQA Guidelines, this IS/MND will be circulated for a period of 30 days for public review and comment. The public review period for this IS/MND is scheduled to begin on **April 7, 2021** and will conclude on **May 6, 2021**. This IS/MND has specifically been distributed to interested or involved public agencies, organizations, and private individuals for review. The Draft IS/MND will be made available for public review at the following location:

- Burbank Water and Power offices (164 W Magnolia Boulevard, Burbank, California 91502)
- City of Burbank City Clerk's Office (275 E Olive Avenue, Burbank, California 91502)
- City of Burbank Community Development Department (150 N 3rd Street #242, Burbank, California 91502)
- Burbank Central Library (110 N Glenoaks Boulevard, Burbank, California 91502)
- Buena Vista Branch Library (300 N Buena Vista Street, Burbank, California 91505)
- Northwest Branch Library (3323 W Victory Boulevard, Burbank, California 91505)

The document is also available online at https://burbankwaterandpower.com/bou-remediation-ceqa.

During the 30-day public review period, the public has an opportunity to provide written comments on the information contained within this IS/MND. The public comments on the IS/MND and responses to public comments will be included in the record and considered by City Council of the City of Burbank during determination of carrying out the proposed Project. A project will only be approved when Burbank finds "that there is no substantial evidence that the proposed Project will have a significant effect on the environment and that the negative declaration or mitigated negative declaration reflects the lead agency's independent judgment and analysis" (14 CCR 15070). Responses to all public comments on the Draft IS/MND will be included in the Final IS/MND.

In reviewing the IS/MND, affected public agencies and interested members of the public should focus on the sufficiency of the document in identifying and analyzing potential project impacts on the environment. Written comments regarding the Mitigated Negative Declaration and Initial Study must be submitted to the City of Burbank **prior to 5:00 pm on the last day of the public review/comment period (May 6, 2021).**

Please submit written comments to:

Michael Thompson
Burbank Water and Power - Water Division
164 W Magnolia Boulevard
Burbank, California 91502

Written comments may also be sent via email to **mthompson@burbankca.gov**. All correspondence, through mail or email, should include the project title "BOU Remediation System Upgrades Project" in the subject line.

For additional information, please contact BWP at (818) 238-3500.

1.2 Document Format

This IS/MND contains the following sections:

Section 1. Introduction. This section provides an overview of the proposed Project and the CEQA environmental documentation process.

Section 2. Project Description. This section provides a detailed description of the proposed Project's components.

Section 3. Initial Study Checklist. This section presents the CEQA checklist for all impact areas and mandatory findings of significance.

Section 4. Environmental Impacts. This section presents the environmental analysis for each issue area identified on the environmental checklist. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts and the appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less-than-significant level. A proposed finding regarding environmental impacts is made at the conclusion of this section.

Section 5. Preparers and Contributors. This section provides a list of key personnel involved in the preparation of the IS/MND.

Section 6. Acronyms and Abbreviations. This section provides a list of acronyms and abbreviations used throughout the IS/MND.

Section 7. References. This section provides a list of reference materials used during the preparation of the IS/MND.

The environmental analysis included in Section 4, Environmental Impacts, is consistent with the CEQA Initial Study format presented in Section 3, Initial Study Checklist. Impacts are separated into the following categories:

Potentially Significant Impact. This category is only applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less-than-significant level. Given that this is an IS/MND, no impacts were identified that fall into this category.

Less-than-Significant Impact After Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less-than-Significant Impact." The lead agency must describe the mitigation measure(s) and briefly explain how they would reduce the effect to a less-than-significant level (mitigation measures from earlier analyses may be cross-referenced).

Less-than-Significant Impact. This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a proposed Project would not create an impact in the specific environmental issue area. "No Impact" answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency that show that the impact does not apply to the specific project. A "No Impact" answer should be explained where it is based on project-specific factors and general standards.

This page intentionally left blank

2.0 Project Description

2.1 Project Overview

This IS/MND is being prepared to evaluate the potential environmental impacts that may result from the proposed Project. The proposed Project consists of the construction and operation of one new extraction well (BNH-2) and two replacement extraction wells (NHE-7R and NHE-8R) to be connected to new conveyance pipelines, conveyance pipelines connecting the new and replacement extraction wells to the existing BOU Plant, and the intertie pipeline, connecting the existing BWP potable water distribution system to LADWP's River Supply Conduit. Additional components include installation of additional treatment units in the existing BOU Plant, installation of piezometers (groundwater level monitoring wells) to monitor groundwater elevations in the vicinity of the replacement and new extraction wells, and minor modifications and upgrades to eight existing BOU remediation system extraction wells. The proposed Project components and project vicinity are shown on Figure 2.

This section discusses the location, description, and background of the proposed Project. This document has been prepared in accordance with CEQA (California PRC, Section 21000 et seq.) and the State CEQA Guidelines (14 CCR 15000 et seq.).

2.1.1 Project Location

Regional Setting

The proposed Project is located in the San Fernando Valley east of the Sepulveda Basin Recreational Area between the State Route 170 (SR-170) and the Interstate 5 (I-5) freeways as shown on Figure 1. The proposed Project is located south of the Hollywood Burbank Airport within the cities of Los Angeles and Burbank.

Project Setting

As shown on Figure 2, the conveyance pipelines and the intertie pipeline would be located within the public right-of-way. The primary portion of the conveyance pipelines would be located along Kittridge Street, Clybourn Avenue, Victory Boulevard, and Ontario Boulevard, and the intertie pipeline would be located along West Burbank Boulevard. The proposed new extraction well BNH-2 would be located within the public right-of-way at the intersection of Dubnoff Way and Clybourn Avenue. The replacement well NHE-7R is located at the southeast corner of Kittridge Street and Cleon Avenue in a site currently occupied by the existing well to be replaced. The proposed replacement well NHE-8R is located at the intersection of Kittridge Street and Clybourn Avenue in a site currently occupied by the existing well to be replaced. The proposed replacement wells NHE-7R and NHE-8R and proposed new well BNH-2 are located in the City of Los Angeles, while the BOU Plant is located in the City of Burbank. The piezometers associated with the new extraction well (BNH-2) would be located between 20 to 50 feet away in the public right-of-way, the piezometers associated with the replacement extraction well (NHE-8R) would be located either within the public right-of-way or on the same lot with the extraction well, from 20 to 50 feet away in the City of Los Angeles. Existing wells to be modified/upgraded are located in the parking area of the Empire Shopping Center east of Buena Vista Street and north of the railroad tracks, along Vanowen Street, and along North Ontario Street in the City of Burbank.

Source: https://googlemaps.com
Not to scale

Figure 2
Project Vicinity Map

Land Use and Zoning

The conveyance pipelines for proposed new well BNH-2, intertie pipeline, piezometers, and several of the existing wells to be modified and upgraded are located within the public right-of-way. Public streets do not have general plan designations or zoning classifications. Land uses along the conveyance and intertie pipeline alignments are primarily residential, commercial, and open space (park and memorial park). The replacement wells NHE-7R and NHE-8R are located in lots with existing extraction wells that have a R-1 (Single-Family Residential) zoning classification and a general plan designation of Single-Family Residential. The BOU Plant has a zoning classification of M-1 (Limited Industrial) and a General Plan designation of Open Space. The vaults associated with the intertie pipeline would be installed within Whitnall Highway Park North which is a LADWP transmission line right-of-way that does not have a zoning classification. Several of the existing wells to be modified are located in parking lots in areas designated as M-1 Limited Industrial and Planned Development.

2.1.2 Existing Conditions

The proposed Project is located in an urbanized area of City of Los Angeles and the City of Burbank, within the San Fernando Valley Basin (SFVB). The surrounding land uses primarily consist of residential uses (including generally a mix of single-family and multi-family along the arterials and single-family along local streets), and commercial uses along major arterials and major intersections. Light manufacturing is located at the northern edge of project area and near the BOU Plant. There are also several areas of open space located adjacent to the conveyance pipeline alignments consisting of Ralph Foy Park and Valhalla Memorial Cemetery, and at the site the vaults associated with the intertie pipeline consisting of Whitnall Highway Park North, which is a LADWP transmission line right-of-way.

2.1.3 Project Background

Groundwater impacts due to chlorinated solvents were first recognized in the San Fernando Valley groundwater basin in the late 1970s. Known and suspected sources of the chlorinated solvents include active and closed landfills, residue from former agricultural activities within the basin, and active and closed commercial or industrial facilities. The United States Environmental Protection Agency (EPA) issued the "North Hollywood Operable Unit Second Interim Remedy Record of Decision" (2IR ROD) dated September 2009, specifying the requirement to upgrade and expand the existing NHOU groundwater remediation system to improve hydraulic containment of solvent-impacted groundwater, protect nearby production well fields, and address emerging contaminants. Lockheed Martin Corporation (Lockheed Martin) and Honeywell International, Inc. (Honeywell) entered an "Administrative Settlement Agreement and Order on Consent for Remedial Design" (AOC) with EPA dated February 21, 2011.

The NHOU 2IR ROD was modified by EPA with the "Explanation of Significant Differences to the 2009 Interim Action Record of Decision" (ESD) dated February 27, 2018. The ESD explicitly established that the end use for a portion of the NHOU groundwater supply (defined as the "NHOU Eastern Plume") would be treatment at the neighboring BOU Plant. Consistent with the requirements of the ESD, Lockheed Martin entered into a Remedial Design/Remedial Action (RD/RA) Unilateral Administrative Order (UAO) with a statement of work dated June 1, 2018, specifying the design of additional extraction wells in the NHOU Eastern Plume area and the conveyance required to transport this supply to the BOU Plant. The proposed new and replacement wells would be consistent with and compliant with this order.

An agreement between BWP and LADWP stipulates that BWP deliver 4,670 acre feet per year (AFY) of treated groundwater on a fixed two-year average to LADWP. The intertie pipeline is proposed to meet these delivery requirements.

2.1.4 Proposed Project

The proposed Project consists of the following:

- Construction of a new extraction well (BNH-2) and two replacement extraction wells (NHE-7R and NHE-8R) to capture the eastern plume of chlorinated solvents within the NHOU.
- Construction of conveyance pipelines connecting the new and replacement wells to the existing BOU Plant.
- Installation of two clusters of piezometers associated with BHN-2 and NHE-8E. Each cluster would consist of two piezometers, one set in the shallow water table (A zone), and one set in the deeper zone (B zone) to measure groundwater levels. The piezometers would then be part of the Site Wide Monitoring and Compliance Plan.
- Construction of additional treatment units within the BOU Plant including an ultraviolet advanced oxidation process (UVAOP) unit, hydrogen peroxide storage, liquid-phase granular active carbon (LPGAC) vessels and supporting features.
- Construction of a proposed permanent intertie potable water pipeline, extending from the existing BWP potable water distribution system at Burbank Boulevard and Hollywood Way to tie-in with LADWP's new River Supply Conduit.
- Operation, maintenance, and monitoring (OMM) activities of extraction wells BNH-2, NHE-7R, and NHE-8R, consistent with those currently in place for the BOU Plant.
- OMM of the new treatment infrastructure, including periodic delivery of hydrogen peroxide, consistent with the existing treatment capacity at the BOU Plant.
- Modifications to the existing BOU remediation system extraction wells with the installation of variable frequency drives (VFDs) and upgrades to the wells' electrical and control systems.

The proposed Project is located within the cities of Los Angeles and Burbank. The replacement wells NHE-7R and NHE-8R, and the proposed new well BNH-2 are located in the City of Los Angeles, while the BOU Plant is located in the City of Burbank. The conveyance pipelines connecting the extraction wells to the BOU Plant would extend through both cities. Water from the extraction wells would flow east through the pipelines along Victory Avenue to the BOU Plant for treatment, storage, and distribution. The proposed intertie pipeline would connect to the existing BWP potable water distribution system in the City of Burbank and extend along Burbank Boulevard. At approximately Clybourn Avenue, just east of the connection point with the River Supply Conduit, the intertie pipeline crosses from the City of Burbank to the City of Los Angeles. The BOU Plant is located in the City of Burbank. Figure 2 depicts the locations of the proposed Project components.

2.2 Project Components

As shown in Figure 3, an approximately 1,145 feet long, 8-inch diameter pipeline along the proposed well property and Denny Avenue would connect BNH-2 to the existing NHOU collector line on

Kittridge Street. The replacement extraction well NHE -7R located at the southeast corner of Kittridge Street and Cleon Avenue would be connected to the proposed Project. The existing well would be decommissioned and replaced by new well NHE-7R. NHE-7R would be connected to the existing NHOU collector line on Kittridge Street for operation. The replacement well NHE-8R is located on the eastern end of the existing NHOU collector line, at the intersection of Kittridge Street and Clybourn Avenue. The existing well, located on the same lot, would be abandoned in place, consistent with standards developed by the Department of Water Resources pursuant to Section 13800 of the California Water Code for the abandonment or destruction of groundwater wells.

From the existing NHOU collector line at the intersection of Kittridge Street and Clybourn Avenue, a new connecting 12-inch diameter pipeline would be constructed that extends south for approximately 1,275 feet along Clybourn Avenue to Victory Boulevard.

At the intersection of Clybourn Avenue and Victory Boulevard west of Cahuenga Boulevard[1], the new 12-inch diameter conveyance pipeline would extend southeast along Victory Boulevard for approximately 1,436 feet until reaching Clybourn Avenue east of Cahuenga Avenue, where the pipeline would intersect a new lateral from proposed well BNH-2. The new lateral would be an 8-inch diameter pipe that extends from the proposed well BNH-2, located in the public right-of-way near the intersection of Dubnoff Way and Clybourn Avenue. The 8-inch lateral would extend from well BNH-2 690 feet south along Clybourn Avenue, where it would join the 12-inch diameter pipe. At this connection, the pipeline would transition to a 14-inch diameter pipeline and extend east along Victory Boulevard. The conveyance pipeline would cross the boundary between the City of Los Angeles and the City of Burbank on Clybourn Avenue east of Cahuenga Boulevard, and would continue to extend east along Victory Boulevard for 4,495 feet to Ontario Street before turning north towards the BOU Plant. The 14-inch diameter pipeline would extend along Ontario Street for approximately 804 feet, where it would join the existing BOU 30-inch high density polyethylene raw water pipeline at the intersection of Ontario Street and Monterey Avenue. The existing BOU 30-inch pipeline would convey the water from the proposed Project's existing, replacement and new extraction wells to the BOU Plant.

The piezometer clusters would be constructed within 20 to 50 feet of the new extraction well (BNH-2) and the replacement extraction wells (NHE-7R and NHE-8R). The piezometer clusters at the new extraction well (BNH-2) would be located within the public right-of-way, and the piezometer cluster at the replacement extraction wells (NHE-7R and NHE-8R) would be located within the public right-of-way or on the same lot as the extraction well.

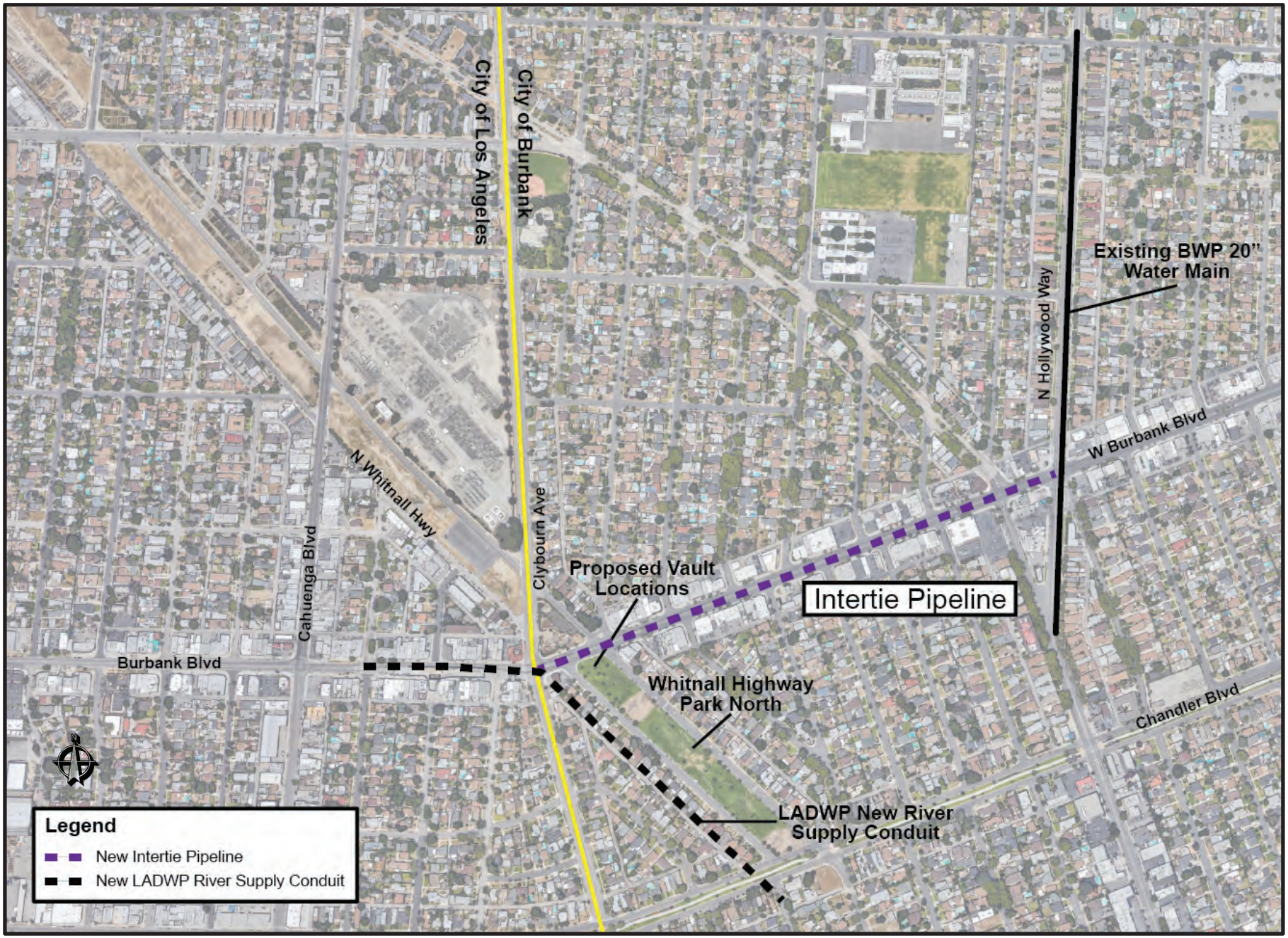
As shown on Figure 4, the intertie pipeline would connect to the LADWP River Supply Conduit currently under construction to convey potable water treated at the BOU Plant to LADWP. The intertie pipeline would consist of approximately 3,000 linear feet of 18-inch potable water pipeline in Burbank Boulevard, extending from the BWP's existing 20-inch water main at North Hollywood Way and Burbank Avenue to the tie-in point just west of the intersection of Biloxi Avenue and West Burbank Boulevard with LADWP's future 16-inch turn out at Biloxi Avenue. At approximately Clybourn Avenue, the pipeline crosses from the City of Burbank to the City of Los Angeles. Construction of the intertie pipeline would also include two underground vaults containing flow

[1] As shown on Figure 1, Clybourn Avenue intersects with Victory Boulevard in two places, west of Cahuenga Boulevard, and again east of Cahuenga Boulevard.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, USDA, USGS, AeroGRID, and the GIS User Community

Figure 3

New, Replacement, and Existing Groundwater Extraction Wells and Conveyance Pipelines



Source: Lockhead Martin, 2018
Not to scale

Figure 4
Intertie Pipeline

monitoring, flow control, and pressure reducing equipment in Whitnall Highway Park North, the greenspace at the intersection of Clybourn Avenue, Whitnall Highway, and Burbank Avenue within the City of Burbank. A fire hydrant and line valve would be provided close to the middle of the alignment, near Maple Street. The hydrant would be used to facilitate flushing and draining of the intertie pipeline; an adjacent storm drain inlet is available for discharge when draining the line.

The new treatment infrastructure at the BOU Plant would be constructed completely within its existing boundaries. Figure 5 shows the existing BOU Plant. The BOU Plant upgrades for the proposed Project consist of:

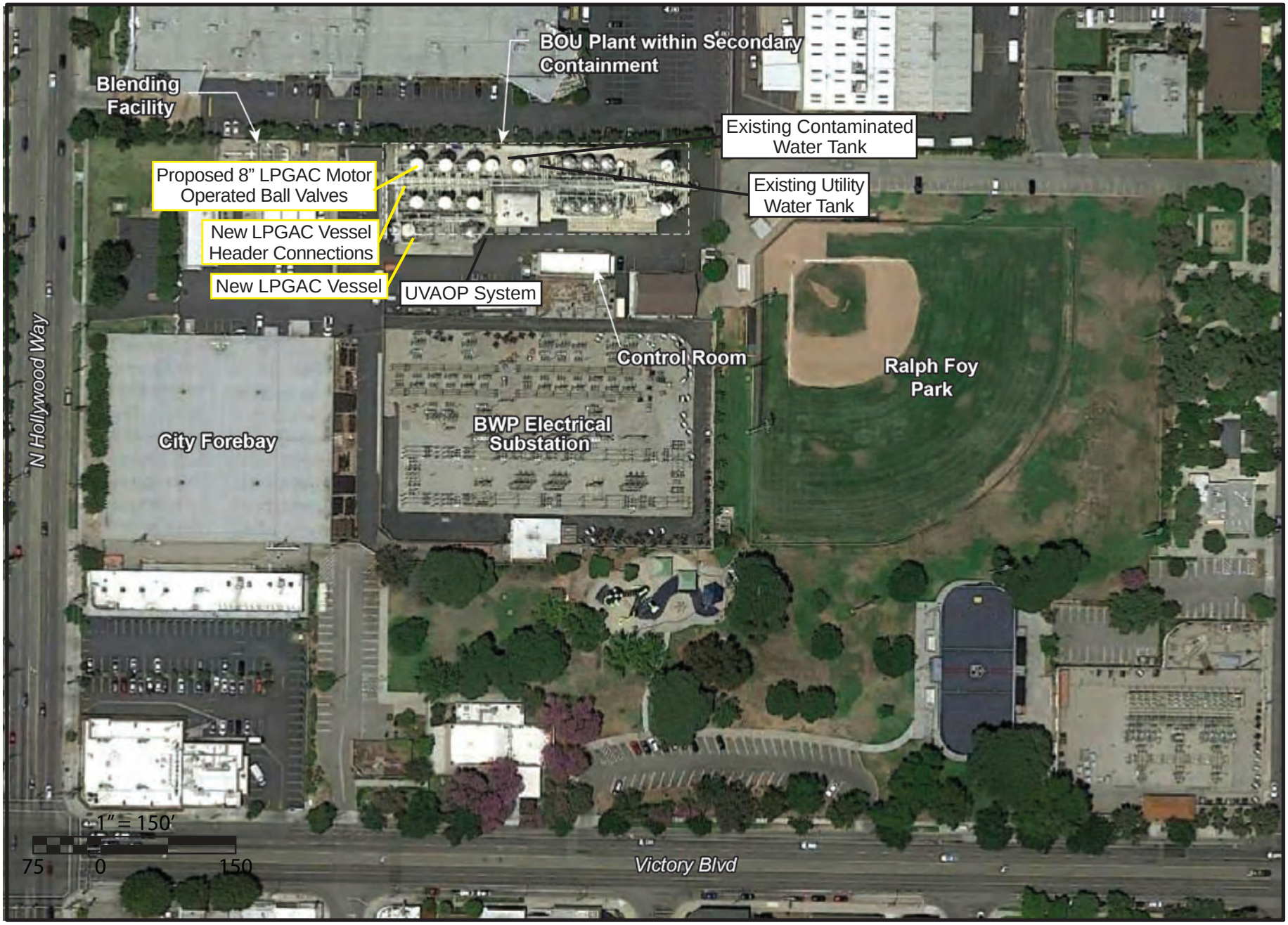
- Two liquid phase granular activated carbon (LPGAC) treatment vessels with approximately 1,500 gallons per minute (gpm) of backup capacity (the BOU Plant capacity would remain 9,000 gpm).
- New motorized valves to control flow to the existing and new LPGAC vessels.
- AOP treatment, to treat volatile organic compounds (VOCs) and 1,4-Dioxane in water from the new and existing extraction wells, with 9,000 gpm of capacity.
- Hydrogen peroxide storage for the AOP treatment with a 6,000-gallon, double-walled tank with leak monitoring.
- Improvements to the Supervisory Control and Data Acquisition (SCADA) system and automation of the BOU Plant

The existing BOU Remediation System consists of eight groundwater extraction wells, referred to as VO-1 through VO-8, which supply the BOU treatment plant with groundwater. The existing wells are located in the City of Burbank within public rights-of-way and parking lots north of the BOU Plant. Specifically, as depicted on Figure 6, V0-1 through V0-4 are located in the parking of the Empire Shopping Center just north of the rail road tracks, V0-5 through V0-7 are located on Vanowen Street between North Hollywood Way to Buena Vista Street, and V0-8 is located on North Ontario Street south of West Pacific Avenue. The modifications to these existing wells consist of the installation of VFDs on the pump motors to enhance the efficiency of the power usage. Upgrades would include the addition of electrical components associated with the VFDs and improvements to the existing motor control centers for each of the wells. All construction activities associated with this work would occur at the well sites.

2.2.1 Construction

Conveyance and Intertie Pipeline Construction

The conveyance pipelines for the proposed Project would occur within public right-of-way along Denny Avenue, Clybourn Avenue, Dubnoff Way, Victory Boulevard, and Ontario Street. The total length of proposed pipeline is approximately 9,851 feet. The pipeline would be made of high-density polyethylene pipes that range from 8-inch to 14-inch diameter. The open-cut excavation method would be used for pipeline installation throughout the length of the pipeline except for three locations (the initial crossing of Victory Boulevard at Clybourn Avenue, the intersection of Victory Boulevard and Hollywood Way, and intersection of Victory Boulevard and Ontario Street). Open-cut excavation is the traditional method of construction for pipelines. The existing soil is removed by trenching, pipe bedding is placed at the bottom of the trench, followed by installation of the pipe, and backfilling with a certified fill material.



Source: Lockhead Martin, 2020

Figure 5
Existing Burbank Operable Unit Water Treatment Plant

Not to scale

Figure 6
Existing Extraction Wells to be Modified

For Victory Boulevard and the intersection of Victory Boulevard and Hollywood Way, a horizontal auger boring would be used instead of open-cut excavation to reduce disruptions to traffic on Victory Boulevard. Horizontal auger boring uses a rotating cutting head to form a bore from the launching pit (estimated 12 feet by 24 feet) to a receiving pit (estimated 12 feet by 12 feet). The pipe segments are installed (pushed) immediately behind the tunnel boring machine and this process continues until the pipe reaches the receiving pit.

At the intersection of Victory Boulevard and Ontario Street, horizontal directional drilling would be used to avoid existing utilities beneath Ontario Street north of Victory Boulevard. Horizontal directional drilling is a trenchless method of installing underground utilities such as pipes in a relatively shallow arc or radius along a prescribed underground path using a surface-launched drilling rig. The proposed pit sizes are 12 feet by 16 feet for the launching pit and 12 feet by 20 feet for the insertion pit.

The intertie pipeline would consist of approximately 3,000 linear feet of 18-inch ductile iron and steel potable water pipeline located within the southern half of Burbank Boulevard (the eastbound lanes) using open cut trench construction described above. Seven connections would be made between the intertie pipeline and existing BWP distribution laterals. The portion of intertie pipeline to be operated and maintained by BWP would be constructed of ductile iron pipe; and the portion to be operated and maintained by LADWP would be constructed of steel pipe. The transition, just west of the intersection of Biloxi Avenue and West Burbank Boulevard, would occur at the coupling between the flow monitoring vault and the pressure/flow control vault. Construction of the intertie pipeline would also include underground vaults and appurtenances. It is anticipated that there will be two 14-foot by 10-foot vaults: a flow metering vault and a pressure reducing station vault. Both vaults would be located underground to an approximate depth of six to eight feet. A line valve and fire hydrant would also be included near the middle of the alignment, near Maple Street.

Well Construction

BNH-2, NHE-7R, and NHE-8R would be designed in accordance with the requirements of the California Water Well Standard, California Department of Water Resources, and California State Water Resources Control Board Division of Drinking Water. The wells would be drilled using the reverse circulation drilling method in which the borehole is drilled with water as the drilling fluid. This method generally does not cause clogging of the deposits adjacent to the boring; therefore, less development time is needed to complete the well. During drilling, mud tanks would be required.

At each new/replacement water well (BNH-2, NHE-7R, and NHE-8R), an approximately 40-inch diameter borehole would be drilled using bucket auger equipment to a depth of approximately 50 feet below ground surface (bgs) for setting a 30-inch diameter low carbon steel conductor casing in the ground. The conductor casing would be cemented in place in accordance with state and local requirements. A pilot boring approximately 18 inches in diameter would be drilled within the conductor casing to the anticipated total depth of approximately 500 feet bgs. The final reamed borehole would be 26-inch diameter to approximately 500 feet bgs. A stainless steel 16-inch diameter casing and well screen would be installed in the reamed borehole. Gravel pack and grout materials would be installed in the annulus between the borehole wall and the casing based on the final well design. After the well is installed, the well would be developed and tested. Well development and aquifer testing water would be stored in on-site tanks and transported to the Burbank Water Reclamation Plant for treatment and discharge under the Burbank Water and Power National Pollutant Discharge Elimination System (NPDES) permit.

Construction of the piezometers would be similar to described above for the extraction wells. However, the wells would have a smaller diameter, shallower depth, and would be flush to the ground and have no aboveground equipment. The piezometers would be constructed using 4-inch diameter schedule 80 polyvinyl chloride (PVC) well casing and well screen. The base of each piezometer would be completed with a schedule 80 PVC end cap. Filter pack sand would be placed into the borehole annulus from the total depth of each boring to a level of approximately three feet above the top of the well screen.

Two feet of transition sand would be placed above the filter pack followed by approximately ten feet of cement-bentonite grout. A sanitary seal consisting of a cement bentonite grout would be placed from above the bentonite chips to a level of approximately 4 feet below ground surface. The piezometers would be finished with a flush mounted well box set in concrete.

Three clusters of two piezometers would be installed at BHN-2, NHE-7R, and NHE-8E. At each location, one piezometer would be set in the shallow water table (A zone) which is generally 350 feet below ground surface or shallower, and the other would be set in the deeper zone (B zone) which is generally deeper than 350 feet.

BOU Plant Construction

The BOU Plant upgrade for the proposed Project would occur entirely within the existing BOU Plant footprint. Major construction activities consist of placing the new treatment vessels associated with the LPGAC and UVAOP treatment processes, retrofitting existing valves with automated controls, and tying in the new infrastructure to the existing facilities. Construction will be planned and sequenced to minimize the operational downtime of the BOU Plant.

Upgrades on Existing BOU Water Well Construction

Construction activities at the existing water supply wells include the installation of the VFDs and the ancillary electrical infrastructure required to operate the VFDs. All of the construction operations would occur aboveground utilizing one or two pickup track or panel van sized construction vehicles. The work entails connecting the new drives and controls to the existing well motors and the motor control centers. Construction activities would occur over a five to eight-day period at each of the existing well sites.

Construction Schedule

Construction of the proposed Project is estimated to require approximately two years, consisting of management and control of construction work, site mobilization, well installation, development and testing, well head construction, pipeline installation and pressure testing, tie-in construction, electrical service for system, system integration, BOU Plant upgrades construction, and system testing and start-up. The proposed pipeline component would be constructed in a sequential manner and construction of each section would last for several months before construction activities are moved to the next section of the pipeline. The BOU Plant construction would be sequenced to maintain plant operations to the extent possible and would occur simultaneously with the installation of the new wells and conveyance pipelines. Plant start-up will occur after the demonstration testing is completed and receipt of approval from the State Water Resources Control Board's Division of Drinking Water (DDW).

2.2.2 Operation, Maintenance, and Monitoring

Once constructed, the extraction wells would require OMM services on a regular basis. Periodic checks for noise, vibration, flow rate, pumps, and fluids would be necessary. The conveyance and intertie pipelines would operate belowground as closed systems. If maintenance is required, it is assumed to be infrequently and to occur at the vaults on the flow monitoring and control equipment. The piezometers would be monitored regularly to check groundwater levels at the new wells and the replacement well.

The OMM services for the BOU Plant upgrades would be integrated into its existing OMM services. Except for periodic delivery of treatment media and hydrogen peroxide to the BOU Plant, BOU Plant OMM services would occur completely within the BOU Plant. Hydrogen peroxide delivery would occur, through use of a tanker truck, at an approximate frequency of every two weeks.

2.3 Project Permits and Approvals

Under CEQA, the lead agency is the public agency with primary responsibility over approval of a proposed Project. Pursuant to the State CEQA Guidelines (14 CCR 15367), the CEQA lead agency for the proposed Project is Burbank. The California State Water Resources Control Board Division of Drinking Water and the City of Los Angeles are responsible agencies.

Anticipated permits and approvals that may be required to implement the proposed Project are listed below:

- City of Burbank
    - Public Works Encroachment Permit
    - Public Works Excavation Permits
    - Public Works Street Use Permit
    - Water Discharge Permit
    - Public Works Large Non-Commercial Vehicle Permit
- City of Los Angeles
    - Bureau of Engineering “U” Permit for in-street utility work
    - Traffic Control Plan/Lane Closure Permit
    - Department of Building and Safety Building Permit (including demolition and paving permits)
    - Department of Building and Safety Electrical Permit
    - Department of Building and Safety Grading Permit
    - Noise Variance
    - General Construction Permit
    - Well Permits
    - Excavation Permits
- County of Los Angeles
    - Department of Health Services Well Permit

- State of California
    - Occupational Safety and Health Administration Permits
    - State Water Resources Control Board – Division of Drinking Water approval of the 97-005 permit and a drinking water source assessment and protection plan
    - State Water Resources Control Board – issuance for coverage under General Permit for Stormwater Associated with Construction and Land Disturbance Activities

3.0 Initial Study Checklist

1	**Project Title:**	Burbank Operable Unit Remediation System Upgrades Project
2	**Lead Agency Name and Address:**	City of Burbank 275 East Olive, Burbank, CA 91510
3	**Contact Person and Phone Number:**	Michael Thompson (818) 238-3500
4	**Project Location:**	The proposed Project is located in the San Fernando Valley east of the Sepulveda Basin Recreational Area between the State Route 170 (SR-170) and the Interstate 5 (I-5) freeways. The proposed Project is located south of the Hollywood Burbank Airport within the cities of Los Angeles and Burbank.
5	**General Plan Designation:**	The proposed Project is located in areas designated as residential, commercial, light manufacturing, and open space in the Burbank and Los Angeles General Plans.
6	**Zoning:**	The proposed Project is located in areas with zoning classifications that that allow residential, parking, and limited industrial uses in the Burbank and Los Angeles zoning codes.
7	**Description of Project:**	Construction and operation of one new extraction well (BNH -2), two replacement extraction wells (NHE-7R and NHE-8R), and conveyance pipelines connecting the new and replacement extraction wells to the existing BOU Plant, piezometers associated with the new and replacement extraction wells, an intertie pipeline connecting the BWP potable water distribution system and the proposed LADWP New River Supply Conduit, installation of additional treatment units in the existing BOU Plant, and minor modifications and upgrades to eight existing BOU remediation system extraction wells.
8	**Surrounding Land Uses/Setting**	Surrounding land uses primarily consist of residential uses (including a mix of single-family and multi-family along the arterials and single-family along local streets), commercial uses along major arterials and major intersections, light manufacturing at the northern edge of project area, and open space adjacent to the pipeline alignments (Ralph Foy Park, Valhalla Memorial Cemetery, and Whitnall Highway Park North).
9	**Other Public Agencies Whose Approval Is Required**	City of Los Angeles- Bureau of Engineering County of Los Angeles State Water Resources Control Board – Division of Drinking Water

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

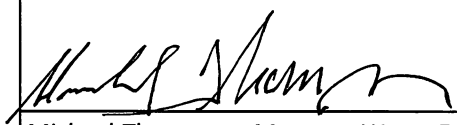
The environmental factors checked below will be potentially affected by this proposed Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Greenhouse Gas Emissions	☐ Public Services
☐ Agriculture and Forestry Resources	☐ Hazards and Hazardous Materials	☐ Recreation
☐ Air Quality	☐ Hydrology and Water Quality	☐ Transportation
☐ Biological Resources	☐ Land Use and Planning	☒ Tribal Cultural Resources
☒ Cultural Resources	☐ Mineral Resources	☐ Utilities/Service Systems
☐ Energy	☐ Noise	☐ Wildfire
☒ Geology and Soils	☐ Population and Housing	☐ Mandatory Findings of Significance

Determination:

On the basis of this initial evaluation:

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



Michael Thompson, Manager Water Engineering/Planning of the City of Burbank	April 1, 2021

Evaluation of Environmental Impacts:

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

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

3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially significant impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "potentially significant impact" entries when the determination is made, an EIR is required.

4. "Negative declaration: less than significant with mitigation incorporated" applies when the incorporation of mitigation measures has reduced an effect from a "potentially significant impact" to a "less than significant impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.

5. Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063[c][3][D]). In this case, a brief discussion should identify the following:

   (a) Earlier analysis used. Identify and state where earlier analyses are available for review.

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

   (c) Mitigation measures. For effects that are "less than significant with mitigation incorporated," describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.

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

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:

   (a) the significance criteria or threshold, if any, used to evaluate each question, and

   (b) the mitigation measure identified, if any, to reduce the impact to a less than significant level.

10. The evaluations with this Initial Study assume compliance with all applicable federal, state, and local laws, regulations, rules, and codes. In addition, the evaluation assumes that all conditions in applicable agency permits are complied with, including but not limited to local permits, air quality district permits, water quality permits and certifications, United States Army Corps of Engineers permits, and other agency permits, as applicable.

ENVIRONMENTAL IMPACTS		(Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)			
		Potentially Significant Impact	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
I.	**AESTHETICS.** Except as provided in Public Resources Code Section 21099, would the project:				
a.	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, or other locally recognized desirable aesthetic natural feature within a state or city-designated scenic highway?	☐	☐	☐	☒
c.	In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d.	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II.	**AGRICULTURE AND FORESTRY RESOURCES.** Would the project:				
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b.	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d.	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
III.	**AIR QUALITY.** Would the project:				
a.	Conflict with or obstruct implementation of the applicable South Coast Air Quality Management District plans?	☐	☐	☒	☐
b.	Result in a cumulatively considerable net increase of any criteria pollutant for which the air basin is non-attainment (PM10, PM2.5, and O3 precursors [NOX and VOC]) under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d.	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐
IV.	**BIOLOGICAL RESOURCES.** Would the project:				
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or	☐	☐	☒	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	regulations by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?				
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the City or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c.	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e.	Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?	☐	☐	☒	☐
f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
V.	**CULTURAL RESOURCES**. Would the project:				
a.	Cause a substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines §15064.5?	☐	☐	☐	☒
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines §15064.5?	☐	☒	☐	☐
c.	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐
VI.	**ENERGY**. Would the project:				
a.	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b.	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐
VII.	**GEOLOGY AND SOILS.** Would the project:				
a.	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury or death involving:				
	i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
	ii. Strong seismic ground shaking?	☐	☐	☒	☐
	iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
	iv. Landslides?	☐	☐	☐	☒
b.	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c.	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d.	Be located on expansive soil, as defined in Table 18-1-B of the Los Angeles Building Code (2002), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
VIII.	**GREENHOUSE GAS EMISSIONS.** Would the project:				
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b.	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐
IX.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d.	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☒	☐
f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g.	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒
X.	**HYDROLOGY AND WATER QUALITY.** Would the project:				
a.	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b.	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
	i. result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
	ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☐	☐	☒	☐
	iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
	iv. impede or redirect flood flows?	☐	☐	☒	☐
d.	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e.	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒
XI.	**LAND USE AND PLANNING.** Would the project:				
a.	Physically divide an established community?	☐	☐	☒	☐
b.	Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
XII.	**MINERAL RESOURCES.** Would the project:				
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b.	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒
XIII.	**NOISE.** Would the project result in:				
a.	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the	☐	☐	☒	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	local general plan or noise ordinance, or applicable standards of other agencies?				
b.	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c.	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
XIV.	**POPULATION AND HOUSING.** Would the project:				
a.	Induce substantial unplanned population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b.	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
XV.	PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a.	Fire protection?	☐	☐	☒	☐
b.	Police protection?	☐	☐	☒	☐
c.	Schools?	☐	☐	☐	☒
d.	Parks?	☐	☐	☒	☐
e.	Other public facilities?	☐	☐	☐	☒

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI.	**RECREATION.**				
a.	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b.	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
XVII.	**TRANSPORTATION**. Would the project:				
a.	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b.	Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐
c.	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d.	Result in inadequate emergency access?	☐	☐	☒	☐
XVIII.	**TRIBAL CULTURAL RESOURCES**. Would the project:				
a.	Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is: i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code §5020.1(k), or	☐	☒	☐	☐
	ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in	☐	☒	☐	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	subdivision (c) of Public Resource Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?				
XIX.	**UTILITIES AND SERVICE SYSTEMS.** Would the project:				
a.	Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b.	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c.	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d.	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e.	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐
XX.	**WILDFIRE.** If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a.	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b.	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c.	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may	☐	☐	☐	☒

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	result in temporary or ongoing impacts to the environment?				
d.	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒
XXI.	**MANDATORY FINDINGS OF SIGNIFICANCE.**				
a.	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b.	Does the project have impacts which are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).	☐	☐	☒	☐
c.	Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

4.0 Environmental Impacts

I. AESTHETICS.

Except as provided in PRC Section 21099, would the project:

a. Have a substantial adverse effect on a scenic vista?

No Impact. The Project site is located in a highly developed area, predominately consisting of residential and commercial uses, within the City of Los Angeles and the City of Burbank. While there are limited views of the San Gabriel Mountains to the north from some areas in the project vicinity, the project area is flat and views of the mountains are typically obscured by surrounding development. The proposed extraction wells, piezometers, and pipelines would be primarily located underground. The only new aboveground features associated with the wells and pipelines would be equipment associated with the new and replacement wells such as a motor, piping, valves, and transformer. The tallest element would be the motor, which could extend a maximum of 10-feet above ground and would be lower in profile than the surrounding buildings. These aboveground elements would not impact a scenic vista since the surrounding area is not considered scenic and there are no existing scenic vistas in the area. Similarly, the additional treatment facilities at the BOU Plant would result in minor new facilities at an existing plant and would not change views, and thus no impacts would occur. Therefore, the proposed Project would not alter the existing visual landscape, and no impacts to a scenic vista would result from the proposed Project. No mitigation is required.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. According to the California Department of Transportation (Caltrans), the Project site is not located near an eligible or designated state scenic highway (Caltrans 2020). In addition to Caltrans state scenic highways, the City of Los Angeles has city-designated scenic highways as identified in the City of Los Angeles General Plan – Mobility 2035 Element. The nearest scenic highway is La Tuna Canyon Road, located approximately 3 miles north of the Project site (City of Los Angeles 2016). The Project site is not visible from La Tuna Canyon Road. The City of Burbank does not designate any scenic roads. As discussed in Section I (a), operation of the proposed Project would be underground with the exception of the associated aboveground well equipment and new tanks at the existing BOU Plant. and the construction of the proposed Project would not damage any scenic resources. As such, there are no scenic resources, including but not limited to trees, rock outcroppings, or historic buildings, within a state scenic highway that could be substantially damaged by the Project. No impact would occur, and no mitigation is required.

c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant Impact. The proposed Project is located in an urbanized area with a wide variety of existing land uses. It involves construction, modification, and operation of extraction wells and pipelines and treatment improvements and would not conflict with applicable zoning and land use regulations governing the scenic quality. Construction activities associated with the proposed Project would temporarily change the visual character of the site due to the presence of construction

equipment and construction-related activities. Trenches, soils stockpiles, pipe, and other construction materials and equipment within the Project work area would be visible during construction. The proposed conveyance and intertie pipelines would be constructed in a sequential manner and construction of each section would last for several months before construction activities are moved to the next section of the pipeline. Although the visual character of the site would change during construction, the change would be temporary and would not substantially degrade the existing visual character or quality of the project site.

Post-construction, the proposed Project would be underground with the exception of aboveground well equipment and treatment facilities that would blend with the existing visual character of surrounding urban uses, including buildings and infrastructure. The replacement well NHE-8R is located on a lot in a residential area and would replace an existing well at this site. As with the existing conditions, existing trees and fencing at the NHE-8R site would provide visual screening of the equipment. The BNH-2 well is in a parking area along a public street near residential uses and other uses including Valhalla Memorial Cemetery. The presence of aboveground well equipment at this location would not degrade the visual character of the area, which includes other features that affect overall visual quality such as public parking, chain link fencing, block walls, and infrastructure including utility poles, fire hydrants. The presence of well equipment at this location would fit within this visual landscape and not degrade the overall visual character or quality. NHE-7R is also located within a lot surrounded by residential properties. Similarly, NHE-7R would replace the existing well at this site, so the presence of well equipment would fit within the existing visual landscape and no changes to the visual character and quality would occur. Because the pipelines would be placed underground, operation of the pipeline would not affect the visual character or quality of the community in the vicinity of the alignments, so no visual degradation would occur. The new treatment at the existing BOU Plant would be consistent with the existing facilities and would visually blend into the existing site. Therefore, the proposed Project would not degrade the existing visual character or quality of the site and its surroundings, and it would not conflict with applicable zoning and other regulations governing scenic quality. No impact would occur, and no mitigation is required.

d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant Impact. The majority of construction activities are anticipated to occur during daylight hours and, therefore, would not require lighting. However, 24-hour construction may be required for the new extraction wells which would necessitate nighttime lighting. This lighting would be temporary, the minimum necessary to provide light to the construction area for safety and security and would occur in an urbanized area with existing nighttime light (i.e., street and building lighting and traffic headlights). Additionally, nighttime construction of the new extraction wells would be performed in accordance with the Los Angeles Municipal Code (LAMC) requirements (under the City's Noise Ordinance), which requires an afterhours construction permit. Per the nighttime construction requirements, the construction lighting would be shielded and focused on the work area and not onto adjoining properties and would not generate direct glare onto exterior ground surfaces on residential properties. The construction lighting would be limited in duration (short-term) and only used as necessary, and thus it would not create a new source of substantial light that would adversely affect nighttime; hence, construction impacts would be less than significant.

Operation of the proposed Project would be located primarily underground, with the exception of the associated well equipment located aboveground and new treatment facilities at the existing BOU Plant. Operation of the proposed Project would not include any new lighting sources. As such, the

proposed Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. The impact is less than significant, and no mitigation is required.

II. AGRICULTURE AND FORESTRY RESOURCES.

Would the project:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The Project site does not contain any farmland and is located within an urbanized area. Although the California Department of Conservation's Farmland Mapping and Monitoring Program has not mapped the project area, the developed, urban character of the surrounding area suggests that the appropriate Farmland Mapping and Monitoring Program mapping designation would be Urban and Built-Up Land (California Department of Conservation 2018). Therefore, the proposed Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. No impacts would occur, and no mitigation is required.

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Williamson Act, also known as the California Land Conversion Act of 1969 (California Government Code Section 51200 et seq.), preserves agricultural and open space lands from the conversion to urban land uses by establishing a contract between local governments and private landowners to voluntarily restrict their land holdings to agricultural or open space use. The Project site is not located on any lands with Williamson Act contracts. The conveyance and intertie pipelines and proposed new well BNH-2, are located within the public right-of-way. The replacement wells NHE-7R and NHE-8R are located within lots with a R-1 (Single-Family Residential) zoning classification. The piezometers would be located in the public right-of-way or the same lot as NHE-8R, The BOU Plant has a zoning classification of M-1 Limited Industrial. The eight existing wells to be modified are located in public rights-of-way and parking lots with M-1 (Limited Industrial) and PD (Planned Development) zoning. These zoning classifications do not support agricultural uses. As such, the proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impacts would occur, and no mitigation is required.

c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. As discussed in (b) above, the conveyance and intertie pipeline alignments, proposed new well BNH-2 are located within the public right-of-way. The replacement wells NHE-7R NHE-8R are located within city-owned lots with a R-1 (Single-Family Residential) zoning classification. The piezometers would be located in the public right-of-way or the same lot as NHE-8R, The BOU Plant has a zoning classification of M-1 Limited Industrial. The eight existing wells to be modified are located in public rights-of-way and parking lots with M-1 (Limited Industrial) and PD (Planned Development) zoning. Therefore, the proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. No impact would occur, and no mitigation is required.

d. Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As discussed in (c) above, the Project site does not support forest land, nor is any forest land located in the vicinity. Therefore, the proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur, and no mitigation is required.

e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. As discussed in (a) through (d) above, the Project site is developed and does not currently support farmland or forest land, nor is any farmland or forest land located in the vicinity. Therefore, the proposed Project would not result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use. No impact would occur, and no mitigation is required.

III. AIR QUALITY.

Would the project:

a. Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. Following is the analysis of the applicable air quality plan under the South Coast Air Quality Management District:

2016 Air Quality Management Plan

The federal Clean Air Act (CAA) of 1969 and its subsequent amendments form the basis for the nation's air pollution control effort. The U.S. Environmental Protection Agency (EPA) is responsible for implementing most aspects of the CAA. A key element of the CAA is the national ambient air quality standards (NAAQS) for major air pollutants. The CAA delegates enforcement of the NAAQS in California to the California Air Resources Board (CARB). CARB, in turn, delegates to local air agencies the responsibility of regulating stationary emission sources.

The South Coast Air Quality Management District (SCAQMD) is responsible for attainment of the clean air standards within the South Coast Air Basin (SCAB), which includes Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The SCAB is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east; and the San Diego County line to the south. The SCAB currently does not attain the NAAQS for ozone, particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and lead.

For regions that do not attain the NAAQS, the CAA requires the preparation of a State Implementation Plan (SIP), detailing how the state will attain the NAAQS within mandated timeframes. In response to this requirement, SCAQMD develops an Air Quality Management Plan (AQMP), which is incorporated by CARB into the SIP. The AQMP is updated every few years in response to NAAQS revisions, EPA SIP disapprovals, and attainment demonstration changes. The AQMP is usually a collaborative effort between the SCAQMD, CARB, and the Southern California Association of Governments (SCAG).

The 2016 AQMP focuses on attainment of the ozone and $PM_{2.5}$ NAAQS through the reduction of ozone and $PM_{2.5}$ precursors (nitrogen oxides [NO_x], sulfur oxides [SO_X], ammonia, and VOCs), as well as through direct control of $PM_{2.5}$. The 2016 AQMP incorporates energy, transportation, goods

movement, infrastructure and other planning efforts that affect future air quality. The 2016 AQMP also identifies feasible measures towards the earliest practicable achievement of the California ambient air quality standards (CAAQS), which were established through the California Clean Air Act of 1988 and are generally more stringent than the NAAQS. The SCAB currently does not attain the CAAQS for ozone, $PM_{2.5}$, and particulate matter less than 10 microns (PM_{10}).

The 2016 AQMP proposes emission reduction measures that are designed to bring the SCAB into attainment of the national and state air quality standards. AQMP attainment strategies include mobile source control measures and clean fuel programs that are enforced at the state and federal levels on engine manufacturers and petroleum refiners and retailers. The SCAQMD adopts rules to implement portions of the AQMP. Several previously adopted rules are applicable to the construction of the proposed Project. SCAQMD Rule 403 requires the implementation of best available fugitive dust control measures during active construction activities capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads. SCAQMD Rule 1113 limits the amount of VOCs from architectural coatings in solvents, which lowers the emissions of odorous compounds.

The proposed Project would be required to comply with these any and all applicable rules and regulations currently in existence or promulgated as a result of this most current AQMP. Compliance with AQMP requirements would further ensure that the proposed Project's activities would not obstruct the plan's implementation. Therefore, the proposed Project would not conflict with or obstruct implementation of the AQMP, the SIP, and the CAA. Impacts would be less than significant and no mitigation is required.

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the air basin is non-attainment (PM_{10}, $PM_{2.5}$, and O_3 precursors [NO_X and VOC]) under an applicable federal or state ambient air quality standard?

Less than Significant Impact. The SCAB is designated as a federal nonattainment area for ozone and $PM_{2.5}$, and a state nonattainment area for ozone, PM_{10}, and $PM_{2.5}$. Portions of the SCAB are also nonattainment for lead, mainly due to the presence of two lead-acid battery recyclers in the region. The proposed Project would not produce substantial lead emissions; therefore, lead is not a pollutant of concern for the proposed Project.

SCAQMD, the local air quality regulatory agency, developed significance thresholds for use in CEQA documents. Table 1 presents SCAQMD's regional thresholds of significance for potential air quality impacts in the SCAB.

Table 1: SCAQMD Regional Air Quality Significance Thresholds

Air Pollutant [a]	Mass Daily Emission Threshold (lb/day)	
	Construction	Operation
NO_x	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_x	150	150
CO	550	550

Key: CO = carbon monoxide; lb/day = pounds per day; NO_x = oxides of nitrogen; PM_{10} = directly emitted particulate matter with an aerodynamic diameter less than 10 microns; $PM_{2.5}$ = directly emitted particulate matter with an aerodynamic diameter less than 2.5 microns; SCAQMD = South Coast Air Quality Management District; SO_x = oxides of sulfur; VOC = volatile organic compounds.

Notes:
a. SCAQMD also provides mass daily emission thresholds for lead of 3 lb/day for both construction and operation. However, lead is not a pollutant of concern in this study because the proposed Project would not produce substantial lead emissions.

Source: SCAQMD. South Coast AQMD Air Quality Significance Thresholds. http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf. April 2019.

Cumulative impacts may result from individually minor but collectively significant projects. CEQA Guidelines Section 15355 defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." CEQA Guidelines Section 15064(h)(4) also states that "the mere existence of cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed Project's incremental effects are cumulatively considerable."

SCAQMD has developed a policy to address the cumulative impacts of CEQA projects (SCAQMD 2003). The policy identifies the cumulative thresholds for mass daily emissions to be the same as the project-level thresholds and indicates that project impacts are cumulatively considerable if they exceed the project-specific air quality significance thresholds (shown in Table 1).

Construction

Construction of the proposed Project would involve multiple overlapping project components. Major construction activities would include:

- The installation of one new extraction well (BNH-2) and two replacement extraction wells (NHE-7R and NHE-8R). Well installation would include activities such as demolition and site clearing, well boring, well development, testing and pump installation;

- The installation of a conveyance pipeline to connect the new and replaced extraction wells to the existing BOU Plant. This conveyance pipeline installation would include activities such as trenching, pipe installation, and paving;

- The installation of an intertie pipeline to connect the BWP potable water main on West Burbank Boulevard to the LADWP New River Supply Conduit at Biloxi Avenue. The intertie pipeline installation would include activities such as trenching, pipe installation, and paving; and

- The installation of two subsurface vaults for pressure control of the new intertie pipeline. The vault installation would include activities such as demolition and site clearing, excavation, concrete pouring, pump installation, and paving.

- The installation of additional treatment units for advanced oxidation process (AOP) unit with hydrogen peroxide, installation of hydrogen peroxide storage vessels, and the installation of additional liquid-phase granular active carbon (LPGAC) vessels and supporting features.

These components would also include interspersed minor construction activities, such as the installation of piezometer clusters near the new and replacement extraction well sites, in addition to site mobilization, pipeline pressure testing, electrical service installation, and other systems testing. Emissions associated with these minor activities would not contribute to the overlapping construction emissions during the peak day. Additionally, existing wells VO-1 through VO-8, would be modified as part of the proposed Project. These upgrades would not require the use of heavy-duty construction equipment and would not result in appreciable air pollutant emissions. In total, construction is anticipated to take between 10 and 11 months. The earliest the proposed construction would begin is February 2021. Criteria air pollutant emissions from proposed construction activities would result from off-road construction equipment exhaust; fugitive dust from earth disturbance and soil handling; exhaust, tire wear, brake wear, and paved road dust from haul truck, vendor vehicle, and worker vehicle trips; and fugitive VOC emissions associated with asphalt paving and striping activities.

The California Emissions Estimator Model (CalEEMod), version 2016.3.2, was used to quantify peak day emissions from anticipated construction activities (CAPCOA 2017). CalEEMod is approved by the SCAQMD and is well suited to typical land development projects. The CalEEMod output is provided in Appendix A. CalEEMod inputs were determined based on the description of proposed Project construction provided in Section 2.2.1. Key assumptions include:

- The construction equipment fleet composition was obtained based on CalEEMod default equipment for each construction phase with input from the construction team.

- During the conveyance pipeline installation component, soil would be excavated to a depth of 9 feet with approximately 4,900 cubic yards of excavated material to be exported off-site. Backfill amounting to approximately 3,300 cubic yards would be reimported on-site.

- During the intertie pipeline installation component, soil would be excavated to a depth of 9 feet with approximately 1,500 cubic yards of excavated material to be exported off-site. Backfill amounting to approximately 1,000 cubic yards would be reimported on-site.

- During the subsurface vault installation component, soil would be excavated to a depth of 10 with an excavated area of 14 feet by 10 feet per vault. Approximately 50 cubic yards of excavated material would be exported off-site per vault.

- During the conveyance and intertie pipeline installation components, trenching and pipelaying activities would occur simultaneously; paving activities would occur after pipeline installation and below-ground work has been completed in a specific area. Pipeline installation would occur at a peak rate of 100 linear feet per day.

- Peak construction activities associated with installation of wells BNH-2, NHE-7R, and NHE-8R are not anticipated to overlap.

- The well installation component would occur in parallel with the conveyance pipeline, intertie pipeline, and subsurface vault components.

- Peak construction activity associated with the well installation component, could occur 24 hours per day, 7 days per week. All other construction would occur 8 hours per day, 5 days per week.

- Piezometer cluster installation, while utilizing similar equipment to extraction well installation, would be less intense, occurring 8 hours per day, 5 days per week. Additionally, construction would occur near each well site after the installation of the well has been completed and thus would not overlap with peak day emissions.

- Peak construction activity associated with upgrades to the BOU Plant would result in minimal peak daily construction emissions as compared to other activities. Peak activity would require the use of delivery trucks as well as forklifts and boom trucks to move and position treatment and storage vessels for installation at the plant.

Table 2 shows the peak daily regional emissions associated with proposed Project construction. The table shows that all pollutant emissions would be below the significance thresholds without mitigation.

Construction activities would not result in a cumulatively considerable contribution to the existing pollution burden in the SCAB. Impacts would be less than significant and no mitigation is required.

Table 2: Peak Daily Regional Construction Emissions

Project Component	Emission Rate (lb/day) [a,b,c]					
	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Conveyance Pipeline	1.97	16.68	18.25	0.03	1.37	1.01
Well Installation and testing	1.62	10.09	14.27	0.03	0.96	0.76
Intertie Pipeline	1.97	16.68	18.25	0.03	1.37	1.01
Vault Installation	1.27	11.30	11.73	0.02	0.78	0.60
BOU Plant Upgrade	0.25	2.47	2.60	<0.01	0.74	0.20
Peak Daily Emissions	**7**	**57**	**65**	**<1**	**5**	**4**
SCAQMD Significance Threshold	75	100	550	150	150	55
Significant Regional Impact?	**No**	**No**	**No**	**No**	**No**	**No**

Key: CO = carbon monoxide; lb/day = pounds per day; NO_x = oxides of nitrogen; PM_{10} = directly emitted particulate matter with an aerodynamic diameter less than 10 microns; $PM_{2.5}$ = directly emitted particulate matter with an aerodynamic diameter less than 2.5 microns; SCAQMD = South Coast Air Quality Management District; SO_x = oxides of sulfur; VOC = volatile organic compounds

Notes:

a. Construction of Conveyance Pipeline, Intertie Pipeline, Well Installation, and Vault Installation project components anticipated to overlap.

b. Construction of wells BNH-2, NHE-7R, and NHE-8R are not anticipated to overlap on a peak day; thus, peak daily emissions for the construction of a single well are presented.

c. The PM emissions assume twice-daily watering for fugitive dust control per SCAQMD Rule 403.

Source: CalEEMod v.2016.3.2. Emission calculations use 2021 emission factors. All construction emissions are assumed to occur in 2021 or later.

Operation

Project operations would consist of OMM at the extraction wells on a regular basis and bi-weekly deliveries of hydrogen peroxide to the BOU Plant. Monitoring of new and existing wells and piezometers, consistent with the new Site Wide Monitoring Plan, would occur once per month for the first three months of operation, and quarterly thereafter for the first year, after which monitoring of the wells would be transitioned into the existing BOU monitoring program. Additionally, electricity would be necessary to operate pumps installed at the wells, monitoring and pressure control equipment at the subsurface vaults, and to power motors and treatment equipment at the BOU Plant. Although air pollutant emissions would result from the operation of passenger vehicles of personnel driving to and from the extraction wells for maintenance and monitoring activities, and from the deliveries to the BOU Plant, these emissions would be negligible and overall operational emissions would be less than significant.

c. Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. SCAQMD developed CEQA significance thresholds for ambient criteria pollutant and toxic air contaminant (TAC) concentrations. These are referred to as the local significance thresholds because maximum off-site pollutant concentrations associated with a project typically occur locally, near the Project site. Table 3 presents SCAQMD's local air quality significance thresholds.

Table 3: SCAQMD Local Air Quality Significance Thresholds

Air Pollutant [a]	Ambient Concentration Threshold
NO_2 1-hour average Annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (339 µg/m^3) (state) 0.03 ppm (57 µg/m^3) (state)
PM_{10} 24-hour average 24-hour average Annual average	 10.4 µg/m^3 (construction) 2.5 µg/m^3 (operation) 1.0 µg/m^3
$PM_{2.5}$ 24-hour average 24-hour average	 10.4 µg/m^3 (construction) 2.5 µg/m^3 (operation)
SO_2 1-hour average 24-hour average	 0.25 ppm (state) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (23,000 µg/m^3) (state) and 35 ppm (federal) 9.0 ppm (10,000 µg/m^3) (state/federal)
Toxic Air Contaminant (TAC) Thresholds	
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)

Key: CO = carbon monoxide; lb/day = pounds per day; NO_2 = nitrogen dioxide; PM_{10} = directly emitted particulate matter with an aerodynamic diameter less than 10 microns; $PM_{2.5}$ = directly emitted particulate matter with an aerodynamic diameter less than 2.5 microns; ppm = parts per million; SCAQMD = South Coast Air Quality Management District; SO_2 = sulfur dioxide; TAC = toxic air contaminant; µg/m^3 = micrograms per cubic meter

Notes:
a. SCAQMD also provides ambient concentration thresholds for sulfates and lead. However, sulfates and lead are not pollutants of concern in this study because the proposed Project would not produce substantial emissions of those pollutants.

Source: SCAQMD. South Coast AQMD Air Quality Significance Thresholds. http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf. April 2019.

Localized Significance Threshold Analysis for Criteria Pollutants

SCAQMD developed a screening methodology whereby a CEQA lead agency can assess a relatively small project for local criteria pollutant impacts without the need for dispersion modeling and direct comparison to the thresholds in Table 3. SCAQMD's Localized Significance Thresholds (LSTs) methodology is based on peak daily on-site emissions, the area over which the on-site emissions are released, and the distance to the nearest exposed individual. The LSTs are provided in a series of look-up tables for emissions of NO_x, carbon monoxide (CO), PM_{10}, and $PM_{2.5}$. If a project's on-site emissions are below the LST look-up table emission levels, then the project is considered not to violate or substantially contribute to an existing or projected air quality standard.

The following assumptions were used for the LST analysis:

- The Project site is in Source-Receptor Area 7 (East San Fernando Valley), as defined in the SCAQMD's *Final Localized Significance Threshold Methodology* (SCAQMD 2008b).

- Because the LSTs for PM_{10} and $PM_{2.5}$ are based on 24-hour averaging times, the appropriate receptor distance is the distance to the nearest sensitive receptor (such as a residence, hospital, school, daycare facility, or convalescent facility) where an individual could be present for at least 24 consecutive hours (SCAQMD, 2008b). The closest sensitive receptors are the homes along North Clybourn Avenue, within 25 meters of the Project site boundary. Therefore, the minimum available receptor distance of 25 meters in the LST lookup tables (SCAQMD 2009) was used for PM_{10} and $PM_{2.5}$.

- Because the LSTs for NO_x and CO are based on shorter averaging times (1 hour for NO_x and 1 and 8 hours for CO), the appropriate receptor distance is the distance to the nearest sensitive or worker receptor where an individual could present for periods of one to eight hours (SCAQMD 2008b). Therefore, the minimum available receptor distance of 25 meters in the LST lookup tables was used for NO_x and CO.

- For Project construction, the overlapping Pipeline Construction activity and Well Installation phase of the Well Construction activity would produce the highest daily emissions of NO_x, CO, PM_{10}, and $PM_{2.5}$. The SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* (SCAQMD 2019) recommends an LST site acreage based on the amount of earth disturbance on the peak emissions day. This overlapping activity would use 3 backhoe/loaders. Assuming each backhoe/loader would disturb 0.5 acres per day (consistent with the Fact Sheet), the appropriate site acreage for the construction LST analysis is 1.5 acres (conservatively rounded down to 1 acre).

Table 4 presents the peak daily on-site emissions and corresponding LST analysis for proposed Project construction. The Project site is divided up into several major work areas: the intertie work area, which follows West Burbank Boulevard; the well work area, which primarily follows along Victory Boulevard, Clybourn Avenue, West Victory Boulevard, and North Ontario Street around the Pierce Brothers Valhalla Memorial Park; and the BOU Plant area. These work areas are separated by more than 3,500 feet at their closest points, with the conveyance pipeline component occurring in both the well and BOU Plant areas. Thus, for the purposes of the LST analysis, the on-site emissions from each work area are compared against the strictest relevant LST thresholds, corresponding to a daily disturbed site area of 1 acre and a receptor distance of 25 meters from the Project site. The table shows that all pollutant emissions would be below the LST significance thresholds without mitigation. Therefore, criteria pollutant emissions from proposed Project construction would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant and no mitigation is required.

Table 4: Localized Significance Threshold (LST) Analysis of Proposed Project Construction

Project Component	Phase	On-Site Emission Rate (lb/day) [a,b,c]			
		NO_x	CO	PM_{10}	$PM_{2.5}$
Conveyance Pipeline	Maximum On-Site [d]	10.47	10.91	0.66	0.62
	On-Site Trenching	8.45	8.54	0.54	0.51
	On-Site Pipelaying & Backfill	2.02	2.37	0.12	0.11
	On-Site Paving	5.52	5.86	0.30	0.28
Well Construction	Maximum On-Site [e]	9.74	13.39	0.72	0.69
	On-Site Demolition	4.46	5.37	0.35	0.27
	On-Site Well Installation	9.74	13.39	0.72	0.69
Peak Daily On-Site Emissions (Well Area)		**20**	**24**	**1**	**1**
LST Threshold [f]		80	498	4	3
Significant Local Impact?		**No**	**No**	**No**	**No**
Intertie Pipeline	Maximum On-Site [d]	10.47	10.91	0.66	0.62
	On-Site Trenching	8.45	8.54	0.54	0.51
	On-Site Pipelaying & Backfill	2.02	2.37	0.12	0.11
	On-Site Paving	5.52	5.86	0.30	0.28
Vault Construction (Two Vaults)	Maximum On-Site [g]	10.91	11.04	0.58	0.54
	On-Site Site Preparation	5.88	7.06	0.34	0.33
	On-Site Vault Installation	10.91	11.04	0.58	0.54
	On-Site Paving	6.17	6.63	0.33	0.31
Peak Daily On-Site Emissions (Intertie Area)		**21**	**22**	**1**	**1**
LST Threshold [f]		80	498	4	3
Significant Local Impact?		**No**	**No**	**No**	**No**
Conveyance Pipeline	Maximum On-Site [d]	10.47	10.91	0.66	0.62
	On-Site Trenching	8.45	8.54	0.54	0.51
	On-Site Pipelaying & Backfill	2.02	2.37	0.12	0.11
	On-Site Paving	5.52	5.86	0.30	0.28
BOU Plant Upgrade	Maximum On-Site	2.47	2.60	0.74	0.20
Peak Daily On-Site Emissions (BOU Plant Area)		**13**	**14**	**1**	**1**
LST Threshold [f]		80	498	4	3
Significant Local Impact?		**No**	**No**	**No**	**No**

Key: CO = carbon monoxide; lb/day = pounds per day; LST = localized significance threshold; NO_x = oxides of nitrogen; PM_{10} = directly emitted particulate matter with an aerodynamic diameter less than 10 microns; $PM_{2.5}$ = directly emitted particulate matter with an aerodynamic diameter less than 2.5 microns

Notes:

a. The LST analysis applies to on-site emissions only.
b. Emissions of PM_{10} and $PM_{2.5}$ assume twice-daily watering for fugitive dust control per SCAQMD Rule 403.
c. The project is divided up into two major work areas, based activities performed and the proximity to the nearest sensitive receptor. Each work area is compared against the strictest relevant LST thresholds, corresponding to a daily disturbed site area of 1 acre and a receptor distance of 25 meters.
d. Trenching and Pipelaying & Backfill phases anticipated to occur simultaneously; Paving phase would occur after Trenching and Pipelaying & Backfill phases have completed for any given area.
e. Construction of each well (BNH-2, NHE-7R, and NHE-8R) not anticipated to overlap. Demolition & Well Installation Phases would occur in series and would not overlap.
f. The LST thresholds reflect a peak day disturbed site area of 1 acre and receptor distances of 25 meters for NO_x, CO, PM_{10} and $PM_{2.5}$. The Project site is in Source-Receptor Area 7 (East San Fernando Valley).
g. Construction of vaults are anticipated to occur simultaneously. Site Preparation, Vault Installation, and Paving phases would occur in series and would not overlap.

Source: CalEEMod v.2016.3.2. Emission calculations use 2021 emission factors. All construction emissions are assumed to occur in 2021 or later.

Toxic Air Contaminants

The TAC with the greatest potential for human health impacts to be emitted during construction activities would be diesel particulate matter (DPM). DPM is the subset of project related PM_{10} and $PM_{2.5}$ emissions that is associated with the exhaust from the operation of diesel engines, such as those used in backhoes and other heavy-duty off-road equipment. While LSTs do not include a specific threshold for DPM, emissions of PM_{10} and $PM_{2.5}$ emissions would be below the respective LST thresholds as demonstrated in Table 4. Since DPM emissions are a component of PM_{10} and $PM_{2.5}$, DPM emissions would be similarly low. Furthermore, the health effects of DPM are chronic and carcinogenic in nature and are associated with long-term exposure; the short-term and highly mobile nature of the project construction would result in minimal, short-term exposure to project related DPM at any given receptor. Therefore, proposed Project construction activities would not expose sensitive receptors to substantial TAC concentrations. Impacts would be less than significant and no mitigation is required.

Project operations would be minimal and would result in negligible emissions of DPM or other TAC. Therefore, proposed Project operational activities would not expose sensitive receptors to substantial TAC concentrations. Impacts would be less than significant and no mitigation is required.

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. Construction activities of the proposed Project would increase air pollutants primarily due to the combustion of diesel fuel and short-term paving activities. Intermittent welding activities may also produce occasional emissions. Some individuals might find odors associated with such emissions to be objectionable in nature. Although project related construction activities would occur over a period of 10 to 11 months, many of those activities, such as electrical installation and system testing would not result in odorous emissions. Construction activities that would involve the use of heavy-duty diesel equipment would occur over a much shorter period. Additionally, the highly mobile nature of project construction would serve to further limit an individual's exposure to project-related odors. Operation of the proposed Project would be primarily underground and within an enclosed building, there would be no odors emanating from project components that could affect a substantial number of people in operations. Therefore, the proposed Project would not create objectionable odors affecting a substantial number of people. Impacts would be less than significant, and no mitigation is required.

IV. BIOLOGICAL RESOURCES.

Would the project:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?

Less than Significant Impact. The Project components are located in public rights-of-way, parcels with existing wells, parking lots, and within the existing BOU Plant in a developed area within a densely population urban area occupied by primarily residential and commercial uses. In general, open space in the area consists of Ralph Foy Park, Valhalla Memorial Park Cemetery, and Whitnall Highway Park North. Current and historical uses within the Project site have resulted in regular human disturbance. Wildlife at the Project site is limited to species adapted to urban settings with a

moderate level of human activity including noise, foot traffic, moderate vehicle traffic or other anthropogenic disturbances. Bird species that utilize the trees at and near the Project site are likely to include species such as the American crow, house finch, and house sparrow. Migratory birds, including the house finch and other common species that may utilize the trees and other vegetation at the site for nesting, are federally protected by the Migratory Bird Treaty Act.

None of the areas where project construction occur has or is near sensitive habitat that could support sensitive species. The lots are previously disturbed areas consisting of hardpacked dirt with ornamental and weedy vegetation primarily at the edges. Mature trees that could be used by nesting birds are also located at the edges of the lots, as well as along the pipeline alignment and within the parking lot. It is not anticipated that any trees would be removed or otherwise directly impacted during project construction. However, in the event that street tree removal/trimming is required, removal and trimming would be conducted in compliance with local tree trimming and tree removal ordinances and the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503, 3503.5, 3511, and 3513 to protect migratory or nesting birds or raptors.

Additionally, nesting birds could be indirectly impacted by temporary construction activities from the generation of dust, noise and vibration. All of the construction activities would be subject to the requirements of local tree trimming and tree removal ordinances and federal and state regulations related to the protection of migratory birds, including avoiding the direct destruction of active nests and avoiding disturbance of nesting birds due to noise, vibration, lighting, or human activity in proximity to active nests. With adherence to existing regulations, the proposed Project would not result in potentially significant direct and indirect impacts to protected nesting birds and/or raptors and their nests during the nesting season.

Operation of the proposed Project would be located underground with the exception of well equipment and treatment facilities at the existing BOU Plant. Operation of the proposed Project would not have an impact on biological resources.

As described above, the proposed Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Services. Impacts would be less than significant, and no mitigation is required.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the City or regional plans, policies, or regulations or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?

Less than Significant Impact. As described under (a) above, the Project site includes paved areas, hard packed dirt, and the existing BOU Plant in an urbanized area. Adjacent land uses include mostly residential and commercial, and some light industrial and open space. The proposed Project is not located near any riparian habitat and is not within any Los Angeles County-designated significant ecological areas (SEAs). The nearest SEA is the Verdugo Mountains and is approximately 2 miles northeast of BOU Plant. Construction of the proposed Project would not result in any substantial loss or removal of sensitive habitat.

Operation of the proposed Project would be located underground with the exception of well equipment and treatment facilities at the existing BOU Plant. Operation of the proposed Project would not have an impact on biological resources.

The proposed Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Impacts would be less than significant, and no mitigation is required.

c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. There are no wetlands within or near the Project site. Implementation of the proposed Project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. There would be no impact.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant Impact. Regional and local wildlife movements are expected to be concentrated near topographic or vegetative features that allow convenient passage, including roads, drainages and ridgelines, between areas of suitable habitat. The Project site and its surroundings are developed and disturbed, and the Project site does not connect two or more habitat areas. The proposed Project is in a highly developed urban area that restricts wildlife movement.

The proposed Project is not located near a SEA and there is no habitat linkage connecting the site to a SEA. The Project site is located within an urban area surrounded by developed properties and does not provide habitat that would be utilized as a wildlife corridor. The proposed Project construction and operation would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Impacts would be less than significant, and no mitigation is required.

e. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)?

Less than Significant Impact. The Project site is located within a highly developed urban area. Mature trees are also located in the vicinity of the project components, including at the edges of the lots with existing wells, along the pipeline alignment and within the parking lot. It is not anticipated that any trees would require removal or trimming as a result of the proposed Project. However, in the event that street tree removal/trimming is required, it would be performed in accordance to applicable local polices and ordinance, such as the City of Los Angeles's Protected Tree Ordinance and the City of Burbank's Municipal Code (BMC) Chapter 4 Trees and Vegetation Section 74-111 – Removal for the Purpose of Construction, such that the proposed Project would not conflict with any local policies or ordinances protecting biological resources.

Operation of the proposed Project would be located underground with the exception of minimal well equipment and the existing BOU Plant infrastructure that would be located aboveground. Operation

of the proposed Project would not have an impact on biological resources. The proposed Project would not conflict with any local policies and ordinances protecting biological resources and impacts would be less than significant, and no mitigation is required.

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The Project site is in a developed urban area and is not subject to any Habitat Conservation Plans, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, implementation of the proposed Project would not conflict with the policies of any conservation plans. There would be no impact.

V. CULTURAL RESOURCES.

Would the project:

a. Cause a substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines §15064.5?

No Impact. The proposed Project would not cause substantial adverse change or affect to a historical resource. Construction activities would occur in public rights-of-way, parcels occupied by existing wells, parking lots and at the existing BOU Plant that are located in a developed area that has been previously graded and disturbed. The locations where the proposed Project would be constructed are not considered historic properties, as defined in Section 106 of the National Historic Preservation Act of 1966, as amended, nor do they qualify as historical resources as defined by CEQA (PRC Section 5024.1 and Section 15064.5 of the State CEQA Guidelines). Further, no structure would be demolished under the proposed Project and the project components would not be constructed on properties that qualify for listing as a City of Los Angeles Historic-Cultural Monument, nor that would warrant consideration as a contributor to a Historic Property Overlay Zone. Operation of the proposed Project would be located underground, with only the associated well equipment and features, and treatment facilities at the existing BOU Plant would be located aboveground. Once construction has been completed, operation of the proposed Project would not cause a substantial adverse change in the significance of a historic resource. Therefore, construction and operation of the proposed Project would not result in an impact on historic resources.

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines §15064.5?

Less than Significant Impact with Mitigation Incorporation. Section 15064.5 of the CEQA Guidelines defines significant archaeological resources as resources that meet the criteria for historical resources, as discussed above, or resources that constitute unique archaeological resources. A project-related significant adverse effect could occur if a project were to affect archaeological resources that fall under either of these categories.

The Project site includes public rights-of-way, previously developed lots with existing wells, or parking lots, and the existing BOU Plant in a developed area that has been previously graded and disturbed. Although the Project site is currently developed, there is still the potential for buried and/or surface prehistoric and historic resources within the Project site. In the event that any evidence of cultural resources is encountered, all work within the vicinity of the find must stop until a qualified archaeologist can assess the find and determine whether it is a "unique cultural resource"

as defined in Section 21083.2 (g) of the CEQA statutes. If this determination is positive, the scientifically consequential information shall be fully recovered by the archaeologist. Work may continue outside the area of the find. However, no further work shall occur in the immediate location of the find until all information recovery has been completed and a report concerning the same has been filed with the City, South Central Coastal Information Center at California State University, Fullerton, and appropriate Native American representatives as identified by the Native American Heritage Commission (NAHC).

Although the potential of encountering intact archeological resources is unlikely given that the Project site has been previously graded and developed, the proposed Project involves grading, trenching, excavation, and well installation, which have a potential to encounter unknown subsurface archaeological material. To avoid potential impacts to unknown archaeological resources that may be buried beneath the Project site, the following mitigation measures would be implemented:

> **MM CUL-1.** Prior to start of ground-disturbing activities, a qualified archaeologist (who meets the Secretary of the Interior's Professional Qualifications Standards) shall be retained to conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains, and safety precautions to be taken when working with archaeological monitors. The construction contractor shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.
>
> **MM CUL-2.** In the event any archaeological materials or subsurface deposits are exposed during ground disturbance, the construction contractor shall cease activity in the affected area (e.g., redirect activities into another area within the site) until the discovery can be evaluated by a qualified archaeologist or historic resources specialist, as required, and appropriate treatment measures implemented. If the discovery proves to be significant pursuant to Section 15064.5(c) of CEQA Guidelines, additional work such as testing or data recovery shall be conducted as warranted. Methods during monitoring and/or recovery of archaeological resources shall be documented in a report of findings. If archaeological materials or subsurface deposits discovered during construction are identified by the qualified archaeologist or historic resources specialist as Native American in origin, the City shall notify the tribal representatives of the Fernandeño Tataviam Band of Mission Indians, and the treatment plan shall be developed and implemented in consultation with the tribal representatives.

Operation of the proposed Project would be located underground with the exception of well equipment and treatment facilities at the existing BOU Plant. Operation of the proposed Project would not have an impact on archaeological resources.

With incorporation of mitigation measures MM CUL-1 and MM CUL-2, impacts to archaeological resources during construction would be less than significant.

c. Disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant Impact. The Project site consists of public rights-of-way, lots with existing wells, parking lots and the existing BOU Plant in a developed area that has been previously graded and disturbed. No known cemeteries or burials are have occurred at the Project site. A formal cemetery, Valhalla Memorial Cemetery, is located adjacent to the conveyance pipeline alignment on

Victory Boulevard and Clybourn Avenue; no construction within or other disturbance of this site would occur. Additionally, the Project site is located in a highly urbanized area. Because the project area has already been previously disturbed and developed, it has been subject to construction and ground-disturbing activities. However, ground disturbing activities associated with the conveyance and intertie pipelines, vaults, and well installation have the potential to disturb previously undiscovered subsurface human remains. In the event that human remains are uncovered during ground-disturbing activities, there are regulatory provisions to address the handling of human remains in California Health and Safety Code Section 7050.5, Public Resource Code 5097.98, and CEQA Guidelines Section 15064.5(e). Pursuant to these codes, in the event that human remain are discovered, work on the portion of the Project site where remains have been uncovered would be suspended and the Department of Public Works in the City of Los Angeles or Burbank, as applicable, and the County Coroner would be immediately notified. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall consult with the Native American Heritage Commission (NAHC) by telephone within 24 hours, to designate a Most Likely Descendant (MLD) who shall recommend appropriate measures to the landowner regarding the treatment of the remains. If the owner does not accept the MLD's recommendations, the owner or the MLD may request mediation by the NAHC. With compliance with these requirements, no significant impact would occur during construction.

Operation of the proposed Project would be located underground, with only the associated well equipment and features, and treatment facilities at the existing BOU Plant located aboveground. Operation of the proposed Project would not result in disturbance of any human remains, and no significant impact would occur, and no mitigation is required.

VI. ENERGY.

Would the project:

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact. The proposed Project would not use non-renewable energy resources in a wasteful or inefficient manner during construction or operation. The proposed Project would require the use of small amounts of non-renewable energy resources, primarily in the form of diesel, gasoline, and propane fuels, to operate equipment during construction, and to operate worker automobiles during both construction and operation.

During construction, diesel fuel would be used to operate on-site construction equipment and off-site delivery and hauling vehicles. Gasoline fuel would be used to operate worker automobiles. The proposed Project would not result in substantial waste or inefficient use of energy, because the construction contractor would be contracted to conform with federal establishment of efficiency standards for cars, trucks, medium- and heavy-duty engines, and construction equipment, as well as idling limits for construction equipment required by the California Air Resources Board Regulation for In-Use Off-Road Diesel-Fueled Fleets.

Electricity and natural gas would also be used during construction, associated primarily with the use of electric power tools and compressed natural gas used in construction equipment. These energy expenditures would be relatively small and temporary in nature, lasting only the duration of project

construction. Additionally, substantial electricity use would not occur during construction activities because construction would occur during daylight hours, with the exception of well drilling which would involve minimal lighting for safety and security.

Operation of the proposed Project would primarily be automated and self-contained. Energy use, associated with vehicles and equipment used in maintenance activities, would be minimal. Additionally, during operation, electrical pumps, used to operate the groundwater extraction wells would consume only minimal amounts of electricity. Further, the installation of VFDs on the well motors of the existing wells VO-1 through VO-8 and the new and replacement extraction wells would improve their energy efficiency.

Lastly, the proposed Project would result in long-term benefits of supporting local water supplies by increasing the production and use of groundwater to be used in place of imported potable (drinking) water for industrial, landscape and recreational purposes in addition to other beneficial uses. Use of local groundwater in place of potable water has energy saving benefits because it reduces the need to import water over long distances (i.e., pumping water over the mountains to the Los Angeles Basin).

Therefore, the proposed Project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction, and the impact would be less than significant, and no mitigation is required.

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. The proposed Project would not conflict with adopted state or local renewable energy or energy plans. It would not increase dependence on fossil fuels and would not affect state, regional, or local efforts to increase use of renewable energy and improve energy efficiency. Additionally, the proposed Project would not conflict with any goals or policies contained in the City of Burbank General Plan or City of Los Angeles General Plan, and other plans supporting energy conservation such as the Burbank Sustainability Action Plan (City of Burbank 2008) and the Los Angeles LA's Green New Deal (City of Los Angeles 2019a). The proposed Project would not require the removal of or disrupt any existing renewable energy infrastructure, such as solar panels or wind turbines. The proposed Project would be required to comply with energy efficiency requirements under the California Green Building Code. Energy consumption during construction activities would be used efficiently and would represent a negligible portion of State-wide energy consumption. Additionally, the installation of VFDs on the well motors of the existing wells VO-1 through VO-8 and the new and replacement extraction wells would improve their energy efficiency. Therefore, these uses do not conflict with energy plans and impact would be less than significant, and no mitigation is required.

VII. GEOLOGY AND SOILS.

Would the project:

a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less than Significant Impact. The proposed Project is not located within the boundaries of an Alquist-Priolo Fault Zone. The Project site is located in a seismically active area, as is most of southern California. The proposed Project is approximately 6 miles south of the nearest Alquist-Priolo fault zone and no active faults are known to cross the Project site. Nonetheless, the proposed Project would be designed and constructed in conformance with applicable portions of building and seismic code requirements and industry standards, including the most recent edition of the Los Angeles and Burbank Building Codes and the California Building Code (CBC), which reduce potential impacts by ensuring that development is designed to withstand seismic or other geologic hazards. Such a design is considered to result in an acceptable level of risk for the Southern California region. Additionally, as a standard engineering practice, a geotechnical report would be prepared for the proposed Project that addresses seismic conditions and makes recommendations that would be incorporated into the Project design and construction specifications, as applicable. Further, the proposed Project would be primarily located underground, with only the associated well equipment, and the treatment facilities at the existing BOU Plant located aboveground, and no housing or building structures are proposed as part of the Project. As such, the construction and operation of the proposed Project would have a less than significant impact related to exposing people or structures to potential substantial adverse effects such as the potential rupture of a known earthquake fault, and no mitigation is required.

ii. Strong seismic ground shaking?

Less than Significant Impact. Like other projects located in the tectonically active Southern California region, the proposed Project would likely experience shaking effects from surrounding faults during seismic events. However, the proposed Project is not located within an Alquist-Priolo Earthquake Fault Zone, and the proposed Project would not be affected by ground shaking more than any other area in the seismically active region.

All proposed project components would be designed and built in accordance with all applicable seismic design provisions set forth by the Los Angeles and Burbank Building Codes, the current CBC, both cities' Standard Specifications for Public Works Construction, and the geotechnical report recommendations. Additionally, all facets of excavation, trenching, construction, and design would meet the standards established during final engineering design. Specifically, this would include measures such as the over-excavation of an identified unsuitable base soils and geologic units; the proper composition, placement, and compaction of all construction backfill; the use of additional foundation design techniques, as necessary; and the utilization of appropriate construction materials and methods. These standards would ensure that facilities and mechanical units would be able to withstand specified seismic forces. The Project would be required to comply with both cities' applicable construction regulations. Further, the proposed Project would be located underground, with only the associated well equipment and the treatment facilities at the existing BOU Plant located aboveground, and no housing or commercial building structures are proposed as part of the Project. Therefore, proposed Project impact associated with exposing people or structures to potential substantial adverse effects such as strong seismic ground shaking would be less than significant, and no mitigation is required.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction is the loss of soil strength or stiffness due to the buildup of pore-water pressure during cyclic loading conditions such as those induced by an earthquake. Liquefaction is associated primarily with loose (low density), saturated, fine-to-medium-grained, cohesionless soils. Liquefaction-related effects include loss of bearing strength, amplified ground oscillations, lateral spreading, and flow failures.

A portion of the conveyance pipelines, in the City of Burbank from Maple Avenue to Pepper Street, and the entire intertie pipeline is located within a liquefaction zone as delineated by the California Department of Conservation Geologic Hazards Map (California Department of Conservation 2020). However, the Project elements would be designed in accordance with all applicable design provisions set forth by the cities of Los Angeles and Burbank Building Codes, the current CBC, both cities' Standard Specifications for Public Works Construction, and the geotechnical report recommendations, which would ensure that facilities and mechanical units meet acceptable standards for assessing adverse soil conditions, including liquefaction and other seismic-related ground failure conditions. As such, implementation of the proposed Project would not expose people or structures to potential substantial adverse effects such as liquefaction or seismic ground failure, and Project impacts would be less than significant, and no mitigation is required.

iv. Landslides?

No Impact. The Project site is located within a predominantly flat area of Los Angeles and Burbank. According to the California Department of Conservation Earthquake Zones of Required Investigation maps, the Project site is not located within an area susceptible to, or affected by, landslides (California Department of Conservation 2020). Landslides and mudflows are most likely in the foothill and mountain areas where fractured and steep slopes are present (as in the San Gabriel Mountains). Therefore, there would be no potential risks associated with implementation of the proposed Project exposing people or structures to potential substantial adverse effects such as landslides. No impact would occur and no mitigation is required.

b. Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. Construction activities would include grading, excavation, trenching, well drilling, temporary staging, and construction on flat urbanized terrain. These activities could increase runoff loadings from the Project site and could result in additional water erosion, though soil exposure would be temporary and short-term in nature. The proposed Project is required to obtain a NPDES) permit issued by the Los Angeles Regional Water Quality Control Board (LARWQCB) to control soil erosion due to stormwater. In addition, implementation of best management practices (BMPs) and a Storm Water Pollution Prevention Plan (SWPPP) would minimize the potential for soil erosion and off-site sedimentation. Additionally, the proposed Project construction would comply with Section 91.7013 Erosion Control and Drainage Devices of the Los Angeles Building Code and Article 1 Grading, Fills, and Excavations of Section 7 of the Burbank Municipal Code as applicable, which would include best management practices to limit the potential for soil erosion. The final list of BMPs to be implemented would be determined by the cities of Los Angeles and Burbank, as applicable, in conjunction with the construction contractor and would be employed to address erosion, siltation, stormwater, drainage, and water quality issues. Additionally, upon completion of construction, all exposed areas would be returned to conditions similar to those prior to groundbreaking activities (i.e., hardscape areas would be repaved and landscaped areas would be

revegetated). Following completion of construction, the proposed Project would not increase the amount of exposed soils on the Project site. As such, construction or operation of the proposed Project would have a less than significant impact associated with exposing people or structures to potential substantial adverse effects such as erosion and loss of topsoil, and no mitigation is required.

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less than Significant Impact. As previously discussed, while a portion of the Project site is within a liquefaction zone, and thus may be susceptible to certain soil instability, the proposed Project would be designed, constructed and operated in accordance with all applicable provisions set forth by both the Los Angeles and Burbank Building Codes and CBC requirements, as well as both cities' Standard Specifications for Public Works Construction and the geotechnical report recommendations, which would ensure that the project components would meet acceptable standards for addressing adverse soil conditions, including instability. As such, the implementation of the proposed Project would have a less than significant impact associated with unstable geologic unit or soil that could potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse, and no mitigation is required.

d. Be located on expansive soil, as defined in Table 18-1-B of the Los Angeles Building Code (2002), creating substantial direct or indirect risks to life or property?

Less than Significant Impact. California Department of Conservation does not identify locations of expansive soils. Expansive soils have a significant amount of clay particles, which can shrink and swell with water, exerting stress on infrastructure within or above the surface. The occurrence of these soils is often associated with geologic units having marginal stability. The project area is underlain with alluvium, which generally consists of fine particles such as silt and clay along with larger particles like sand and gravel and could have localized areas of expansive soil.

The Project site is in an area where geologic conditions are generally suitable to support a substantial amount of development and land uses, including the existing residential and commercial uses and local roadways and subsurface infrastructure such as sewers, storm drains, water lines, and other subsurface utilities. In addition, the Project elements would be designed, constructed, and operated in accordance with all applicable provisions set forth by Los Angeles and Burbank Building Codes, the current CBC, both cities' Standard Specifications for Public Works Construction, and the geotechnical report recommendations, which would ensure that facilities and mechanical units meet acceptable standards for addressing adverse soil conditions, including expansive soils. Compliance with these applicable regulations would minimize the potential for hazards to occur as a result of expansive soils. Therefore, the implementation of the proposed Project would not increase exposure of people or structures or risks associated with expansive soils, impacts would be less than significant, and no mitigation is required.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed Project does not include the construction of septic tanks or alternative wastewater disposal systems. As such, the implementation of the proposed Project would have no

impact associated with soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact with Mitigation Incorporation. The proposed Project would not destroy a unique paleontological site. As discussed under Section V (a), Cultural Resources, construction activities for the proposed Project would occur in areas that have been previously developed with streets, paving, and utility connections in public rights-of-way, lots with existing wells, parking lots, and the existing BOU Plant located in a developed area that has been previously graded and disturbed.

Much of the Project site is located within public rights-of-way that have been previously disturbed with development of the streets, medians, and utility connections, and thus, surface grading or shallow excavations are unlikely to encounter paleontological materials. Given that the area is fully built-out and has been previously disturbed, the potential for any unique paleontological resources to be encountered or destroyed is negligible. However, excavations extending into undisturbed areas including pipeline trenching and installation of extraction wells and vaults, may expose fossilized remains. Destruction of any unique fossilized remains (i.e., vertebrate remains) would result in a significant impact. However, with implementation of mitigation measure MM GEO-1, impacts would be reduced to less than significant.

> **MM GEO-1.** In the event that paleontological resources are discovered during construction, the implementing agency shall notify a qualified paleontologist. The paleontologist would evaluate the potential resource, assess the significance of the find, and recommend further actions to protect the resource in accordance with current standards and guidelines.

Operation of the proposed Project would be located underground, with only the associated well equipment and the treatment facilities at the existing BOU Plant located aboveground. The site possesses no unique geologic features. Further, no paleontological resources are known to exist in or around the Project site. For these reasons, no impact is anticipated to paleontological resources during operation of the proposed Project, and no mitigation is required.

VIII. GREENHOUSE GAS EMISSIONS.

Would the project:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. This section summarizes potential greenhouse gas (GHG) emissions associated with construction and operation of the proposed Project.

As described above in Section 2.2, the proposed Project would construct and operate one new extraction wells (BHN-2) and two replacement extraction wells (NHE-7R and NHE-8R), piezometers, the intertie pipeline, and conveyance pipelines connecting the new and replacement extraction wells to the existing BOU Plant, as well as additional treatment facilities in the existing BOU Plant and modifications to existing wells. Operational activities would primarily consist of periodic OMM activities at the well locations as well as bi-weekly deliveries of hydrogen peroxide to the BOU Plant.

GHG emissions associated with proposed Project construction and operation were calculated as described in Section III (Air Quality).

CEQA Significance Thresholds

State CEQA Guidelines Section 15064.4(b) sets forth the factors that shall be considered by a lead agency when determining the significance of impacts from GHG emissions on the environment. These factors include:

- The extent to which a project may increase or reduce GHG emissions compared with the existing environmental setting;

- Whether project emissions exceed a threshold of significance that the lead agency determines applicable to a project; and

- The extent to which a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions.

The guidelines do not specify significance thresholds. They allow the lead agencies discretion in how to address and evaluate significance based on these criteria.

The SCAQMD has adopted an interim CEQA significance threshold of 10,000 metric tons per year (MT/yr) of carbon dioxide equivalent (CO_2e) for industrial projects where SCAQMD is the lead agency (SCAQMD 2008a). This IS/MND also used this threshold to evaluate the proposed Project's GHG emissions under CEQA. Estimated GHG emissions below this threshold would be considered to produce less than significant impacts to GHG levels and the effects of climate change.

Burbank Water and Power has determined the SCAQMD-adopted interim industrial threshold of 10,000 MT/yr CO_2e to be suitable for the proposed Project for the following reasons:

- The SCAQMD used Governor Schwarzenegger's June 1, 2005 Executive Order S-3-05 as the basis for its development. EO S-3-05 set targets of reducing GHG emissions to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050 (SCAQMD 2008a). The 2020 target is the core of the California Global Warming Solutions Act of 2006, widely known as Assembly Bill (AB) 32.

- The SCAQMD industrial source threshold is appropriate for projects with mobile emission sources, such as the proposed Project. CAPCOA guidance considers industrial projects to include substantial GHG emissions associated with mobile sources (CAPCOA 2008). SCAQMD, on industrial projects for which it is the lead agency, uses the 10,000 MT/yr threshold to determine CEQA significance by combining a project's stationary source and mobile source emissions. Although the threshold was originally developed for stationary sources, SCAQMD staff views the threshold as conservative for projects with both stationary and mobile sources because it is applied to a larger set of emissions and therefore captures a greater percentage of projects than would be captured if the threshold was only used for stationary sources (SCAQMD and iLanco 2016).

- The SCAQMD industrial source threshold is appropriate for projects with sources that use primarily diesel fuel. Although most of the sources that were considered by the SCAQMD in the development of the 10,000 MT/yr threshold are natural gas-fueled, both natural gas and diesel combustion produce CO_2 as the dominant GHG (The Climate Registry 2019). Furthermore, the conversion of all GHG species into a CO_2e ensures that the GHG emissions from any source, regardless of fuel type, can be evaluated equitably.

After considering these guidelines, the following threshold has been determined as appropriate for use in this IS/MND to determine the significance of proposed Project-related GHG impacts. The proposed Project would create a significant GHG impact if it:

- Generates direct and indirect GHG emissions that exceed 10,000 metric tons per year of CO_2e.

GHG Emissions

Table 5 shows the proposed Project's annual GHG emissions. The table shows that total estimated annual GHG emissions would be 12.0 MT/yr CO_2e, which is well below the SCAQMD significance threshold of 10,000 MT/yr CO_2e. Increases in emissions of GHGs associated with the proposed Project would be less than significant and no mitigation is required.

Table 5: Annual GHG Emissions Associated with the Proposed Project

Source	Emission Rate (MT/yr) [a]			
	CO_2	CH_4	N_2O	CO_2e [c]
Project Construction [b]	11.1	<0.01	<0.01	11.1
Bi-weekly operational deliveries	0.9	<0.01	<0.01	0.9
Total Project Emissions	**12.0**	**<0.01**	**<0.01**	**12.0**
Significance Threshold	--	--	--	10,000
Significant Impact?	**--**	**--**	**--**	**No**

Key: MT/yr = metric tons (1,000 kilograms or 2,205 pounds) per year; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent, which equals (CO_2 x 1) + (CH_4 x 25) + (N_2O x 298).

Notes:

a. Emission calculations use 2020 emission factors. Operational emissions after 2021 would generally decline due to fleet turnover where older, higher emitting trucks and equipment are retired at the end of their useful lives and replaced with newer, lower emitting trucks and equipment.

b. Construction emissions are amortized over 30 years per SCAQMD guidance (SCAQMD, 2008a).

c. Global warming potentials of 1 for CO_2, 25 for CH_4, and 298 for N_2O are based on the Intergovernmental Panel on Climate Change Fourth Assessment Report (AR4). Source: IPCC, *Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, 2007.

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact. As noted above, CEQA Guideline Section 15064.4(b) provides that one factor to be considered in determining the significance of GHG emissions on the environment is "the extent to which a project complies with regulations or requirements adopted to implement a statewide, regional or local plan for the reduction or mitigation of GHG emissions."

Several state, regional and local plans have been developed that set goals for the reduction of GHG emissions over the next few years and decades. Some of these plans and policies (notably, Executive

Order S-3-05 and AB 32) were taken into account by the SCAQMD in developing the 10,000 MT/yr CO_2e threshold. However, no regulations or requirements have been adopted by relevant public agencies to implement those plans for specific projects, within the meaning of CEQA Guidelines Section 15064.4(b)(3) (See *Center for Biological Diversity v. Cal. Dept. of Fish and Wildlife [Newhall Ranch] [2015] 62 Cal.4th 204, 223*). Consequently, no CEQA significance assessment based upon compliance with such regulations or requirements can be made for the proposed Project. Nevertheless, for the purpose of disclosure, Burbank has considered, for informational purposes only, whether the proposed Project activities and features are consistent with federal, state or local plans, policies or regulations for the reduction of GHG emissions, as set forth below.

The State of California is leading the way in the United States with respect to GHG reductions. Several legislative and municipal targets for reducing GHG emissions below 1990 levels have been established. Key examples include:

- Senate Bill 32
    - 1990 levels by 2020
    - 40 percent below 1990 levels by 2030

- AB 32
    - 80 percent below 1990 levels by 2050

- City of Los Angeles Sustainable City Plan
    - 45 percent below 1990 levels by 2025
    - 60 percent below 1990 levels by 2035
    - 80 percent below 1990 levels by 2050

- City of Los Angeles Green New Deal (4-Year Update to the Sustainable City Plan)
    - 50 percent below 1990 levels by 2025
    - 73 percent below 1990 levels by 2035
    - Carbon neutral by 2050

- City of Burbank Greenhouse Gas Reduction Plan (2013)

While project related GHG emissions represent a negligibly small contribution to local and regional GHG emissions, it is not possible at this time to determine whether regional emissions will be able to meet the targets shown. Achieving these targets will depend upon future regulations or requirements that may be adopted, future technologies that have not been identified or fully developed at this time, or any other regional GHG reduction strategies that may be established. As a result, while the cities of Los Angeles and Burbank will continue to implement GHG reduction measures to meet the applicable compliance trajectories list shown above, compliance with these future plans and policies cannot be confirmed with certainty.

Although it is unclear if the GHG reduction goals and timeline can be met due to future regulations or requirements that may be adopted, or future technologies that have not been identified or fully developed at this time, the proposed Project is not expected to conflict with any GHG reduction initiative that is developed to help the region meet GHG reduction goals. As GHG reduction initiatives are implemented to address the above GHG reduction targets, they would be implemented at the project level if they affect elements that extend to Project operations. Thus, the proposed Project is not expected to conflict with GHG reduction goals and initiatives. The impact would be less than significant, and no mitigation is required.

IX. HAZARDS AND HAZARDOUS MATERIALS.

Would the project:

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact. Construction activities associated with the proposed Project would involve use of limited quantities of hazardous materials such as petroleum, hydrocarbons, and their derivatives (e.g., gasoline, diesel, oils, and lubricants) to operate the construction equipment. Inadvertent release of these materials into the environment could adversely impact soil, surface waters, or groundwater quality and potentially result in a significant hazard. However, construction activities for the proposed Project would be short-term and would involve the limited transport, storage, use, and disposal of hazardous materials. These materials would be used with construction equipment and stored in vessels engineered for safe storage. It is unlikely that construction activities would involve the use of any substantial quantities of hazardous materials and the most likely source of these materials would be from vehicles at the site.

Similar to construction, operation of the proposed Project could involve limited quantities of hazardous materials such as petroleum, hydrocarbons, and their derivatives (e.g., gasoline, diesel, oils, and lubricants) during periodic maintenance activities. Additionally, periodic delivery of treatment media and hydrogen peroxide would be made to the BOU Plant. As with current operations involving maintenance existing wells and BOU Plant operations, transport, use, or disposal of these hazardous substances would occur according to instructions provided by the product manufacturer and be subject to federal, state, and local health and safety regulations involving storage, transport, use, and disposal. Use and storage of such materials would comply with applicable regulations governing use, storage, transport, and disposal of such materials, which would limit the potential for exposure to health hazards. Applicable laws and regulation that the proposed Project would be required to implement includes BMPs as part of the required SWPPP designed to control stormwater runoff. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials), secondary confinement requirements, and the separation of containers holding hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity and a Project-specific SWPPP, standard BMPs would be used during construction activities to minimize runoff of contaminants and clean-up any spills. Applicable BMPs include but are not limited to: vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; solid and hazardous waste management; and contaminated soil management. Therefore, implementation of construction standards would minimize the potential for an accidental release of petroleum products, hazardous materials, and/or explosion during construction activities at the Project site. With compliance with applicable regulations, construction and operation of the proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. As such, impacts would be less than significant, and no mitigation is required.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact. As discussed under Section IX (a) above, construction activities associated with the proposed Project would involve relatively small quantities of hazardous

substances associated with the operation of equipment and vehicles. Construction vehicles onsite may require refueling or maintenance that could result in minor releases of oil, diesel fuel, transmission fluid or other materials. Accidental spills, leaks, fires, explosions, or pressure releases involving hazardous materials represent a potential threat to human health and the environment if not properly treated. However, accident prevention and containment would be the responsibility of the construction contractors, and provisions to properly manage hazardous substances and wastes are typically included in construction specifications. Additionally, the limited quantities of hazardous materials that would be associated with proposed construction and maintenance of well and pipeline facilities would not represent a significant hazard to the public or environment in the case of an accidental release.

Similar to construction, operation of the proposed Project could involve use of limited quantities of hazardous materials associated with repair and maintenance activities and BOU Plant treatment operations. All storage, handling, and disposal of these materials are regulated by the Department of Toxic Substance Control (DTSC), EPA, Occupational Safety and Health Administration, and the Los Angeles City and County Fire Departments. Mandatory compliance with all federal, state, and local regulations on the transport, use, and disposal of hazardous materials would reduce the likelihood of an accidental release of hazardous materials into the environment. This would not represent a significant hazard to the public or environment in the case of an accidental release such as petroleum, hydrocarbons, and their derivatives (e.g., gasoline, diesel, oils, and lubricants) during operations. Finally, mandatory compliance with all federal, state, and local regulations on the transport, use, and disposal of hazardous materials would further reduce the likelihood of an accidental release of hazardous materials into the environment.

The proposed Project involves conveying VOC-containing groundwater for treatment at the BOU Plant via underground conveyance pipelines. As discussed in Section VII Geology and Soils, above, all project components would be designed and built in accordance with all applicable design provisions set forth by the Los Angeles and Burbank Building Codes, the current CBC, both cities' Standard Specifications for Public Works Construction, and geotechnical report recommendations. Compliance with these requirements would ensure the pipeline and other project components are constructed to comply with applicable construction requirements to ensure safety in construction and operation, thereby minimizing risk of reasonably foreseeable upset and accident conditions. Further, as the project components are primarily located underground, risk of rupture would not pose a risk to the public.

The existing BOU Plant must comply with safety regulations, including maintenance of a health and safety plan and design requirements such as providing for secondary containment. The existing safety regulations and protocols in place at the BOU Plant would also apply to construction and operation of the new treatment facilities, and as such, the new facilities would not pose an increased hazard or risk to the public. Therefore, the proposed Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment. Further, the proposed Project would improve the reliability of the existing NHOU remediation system and thereby be a benefit to the on-going remediation activities. Impacts would be less than significant, and no mitigation is required.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant Impact. Providencia Elementary School (1919 N Ontario Street) is located approximately 0.2 miles from the existing BOU Plant; Luther Burbank Middle School (3700 Jeffries Avenue) is located approximately 0.2 mile north of the intertie pipeline; schools within 0.25 mile of existing extraction wells to be modified are: Providencia Elementary School (1919 North Ontario Street), Magnolia Park School (1915 West Monterey Avenue) and Monterey High School (1915 West Monterey Avenue). There are no schools located within 0.25 mile of the new or replacement extraction wells and the new conveyance pipelines. As described under items IX (a) and (b) above, construction and operation of the proposed Project would involve transport and use of small quantities of hazardous materials. Such materials would be transported, stored, and disposed of in accordance with applicable codes and regulations and would not create a significant hazard to the public or the environment. Additionally, operation of the proposed Project would be located underground, with only the associated well equipment and treatment facilities within the existing BOU Plant located aboveground. The Project components are operated as a closed system, which would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste that would affect an existing or proposed school. Therefore, construction and operation of the proposed Project would result in less than significant impacts to schools no mitigation is required.

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less than Significant. The Project site is included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., "Cortese List") maintained by the California DTSC (CalEPA 2019). The project components are part of the NHOU/BOU, which is one of three operable units established for the San Fernando Valley Superfund site to address cleanup and remediation of contaminant groundwater plumes existing in the area. The proposed Project would improve the effectiveness and reliability of the existing system and address emerging contaminants in the groundwater, including 1,4-Dioxane, thereby benefiting the on-going remediation activities. There is a less than significant from the proposed Project related to the disturbance of a Cortese Listed Site and no mitigation is required.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Less than Significant Impact. As discussed in Section XIII (c), Noise, the proposed Project is located approximately 0.2 miles south of the Burbank Hollywood Airport and is located within the Airport Influence Area (65 CNEL noise contour). Numerous safeguards are required by law to minimize the potential for and the effects from excessive noise levels from the airport. FAA's Airport Design Standards establish, among other things, land use related guidelines to protect people and property on the ground, including establishment of Runway Protection Zones that keep areas near runways free of objects that could interfere with aviation activities. None of the proposed Project components are located within the Runway Protection Zones. In addition to the many safeguards required by law, the Burbank Hollywood Airport implements many additional safeguards to reduce impacts of airport

noise. Therefore, the proposed Project would not expose people residing or working in the project area to excessive noise levels and result in a less than significant impact. No mitigation is required.

f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. The proposed Project would require temporary lane closures during construction, including a segment of Victory Boulevard and West Burbank Boulevard that serves as an emergency access and evacuation route, where the new conveyance and intertie pipelines would be constructed. While this would reduce access, the road would remain open to through traffic, including emergency vehicles. Lane closures would occur in compliance with standard traffic control requirements. As part of standard construction specifications, any partial or complete street closures must occur in compliance with the Requirements for Temporary Controls in the current edition of the California Manual on Uniform Traffic Control Devices (MUTCD) Part 6 (Temporary Traffic Control) and the traffic control plan approved as part of the construction permit. The includes notifying police and fire departments of the closing or partial closing and reopening of streets at least 48 hours in advance. Compliance with the traffic control requirements during construction would ensure that emergency vehicle access would remain available. Once constructed, the proposed Project would not result in any physical changes to the surrounding roadways. In addition, the construction activities on Victory Boulevard and West Burbank Boulevard would require Encroachment Permits from the cities of Burbank and Los Angeles. Compliance with the terms of the permit and the cities of Burbank and Los Angeles Fire Departments codes and regulations, would ensure that proposed Project construction would not interfere or impair an adopted emergency response plan or emergency evacuation plan. Operations of the proposed pipelines and well would not impact emergency response or evacuation plans because the pipelines are located underground, with only the associated well equipment and treatment facilities at the existing BOU Plant located aboveground. The new treatment facilities would be located at the existing BOU Plant and would not impact emergency response or evacuation plans. Therefore, the proposed Project would not significantly impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant, and no mitigation is required.

g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

No Impact. The proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. The proposed Project is located within highly developed residential and light industrial areas and not located in a wildland fire hazard area or mountain fire zone. Therefore, the proposed Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. No impact would occur.

X. HYDROLOGY AND WATER QUALITY.

Would the project:

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact. Construction activities consisting of excavation, grading, well drilling, and trenching would result in the disturbance of soil and allow for possible erosion and runoff into storm drains. However, the proposed Project would comply with NPDES General Permit for Construction Activities and General Permit for Discharges of Stormwater Runoff Associated with Construction Activity and would be designed and constructed using BMPs to avoid impacts to water quality. Well development and aquifer testing water would be stored in on-site tanks and transported to the Burbank stormwater treatment plant for treatment and discharge under the Burbank Water and Power NPDES permit. Implementation of such control measures would prevent substantial construction site runoff and soil erosion that could violate water quality standards or waste discharge requirements.

During operations, groundwater pumped from the extraction wells would be conveyed to the existing BOU Plant. Testing would occur to ensure that the water would meet all applicable water quality rules, regulations and standards (e.g., Clean Water Act, California Water Code, Maximum Contaminant Levels and Title 22 drinking water standards). Additionally, the proposed Project includes an AOP unit with hydrogen peroxide which improves water quality by removing VOCs from the groundwater extracted from the wells. Adherence to applicable water quality rules, regulations, standards, and the inclusion of the AOP process would ensure impacts to water quality from construction or operation would be less than significant. Further, increased reliability in the groundwater remediation would be a benefit to water quality.

b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less than Significant Impact. The proposed Project includes extraction and treatment of groundwater from the aquifer in the San Fernando Basin (SFB). Additionally, the intertie pipeline would facilitate supplying Los Angeles with recycled water in exchange for additional groundwater credits, in accordance with a recent agreement between Los Angeles and BWP.

According to Burbank Water and Power Department's 2015 Urban Water Master Plan (UWMP) (Burbank Water and Power 2016), the City of Burbank's water supply consists of groundwater extracted from the SFB and imported water from the Metropolitan Water District (MWD). Los Angeles owns the native groundwater rights to the SFB, while Burbank has the right to store water in the aquifer for water credits. This was determined via a State Supreme Court decision (Superior Court Case No. 650079, City of Los Angeles vs. the City of San Fernando), which granted Los Angles exclusive rights to all groundwater in the SFB derived from precipitation (infiltration of direct rain fall plus surface water runoff) and established an Import Return Credit (IRC) for Burbank of 20 percent of all water delivered in the City of Burbank, including recycled water and imported water from the MWD that percolates into the ground from landscape irrigation and other uses. Therefore, the water that Burbank extracts from the SFB, including from existing and new wells, may not exceed the amount of water that Burbank contributes to groundwater recharge through percolation of imported and recycled water. Groundwater extraction associated with the new and replacement water wells would occur in compliance with these existing requirements and would not reduce

native groundwater levels within the SFB, and would not impede sustainable groundwater management of the basin.

Further, the SFB is approximately 99 percent adjudicated and groundwater levels are closely monitored. Monitoring is required under the California Code, Water Code, Section 10932 which requires that groundwater elevations in all groundwater basins and subbasins be regularly and systematically monitored locally, and that the resulting groundwater information be made readily and widely available. Additionally, the Sustainable Groundwater Act (SGMA) of 2014 requires adjudicated basins to submit information including groundwater elevation data and change in groundwater storage to the California Department of Water Resources (DWR). DWR assesses the current state and long-term sustainability of groundwater basins throughout California and identifies a basin's priority (high, medium, low, or very low) to determine which provisions of California Statewide Groundwater Elevation Monitoring (CASGEM) and SGMA apply. High and medium priority basins are at risk of overdraft and are subject to additional regulations, such as developing a groundwater sustainability plan to bring over-drafted basins into balanced levels of water extraction and recharge.

SGMA requires medium- and high-priority basins to develop groundwater sustainability agencies (GSAs), develop groundwater sustainability plans (GSPs) and manage groundwater for long-term sustainability. The results of the latest basin prioritization assessment, the Sustainable Groundwater Management Act 2019 Basin Prioritization, are available through the online SGMA Basin Prioritization Dashboard (Dashboard). According to the SGMA Basin Prioritization Dashboard, the SFB is considered a "very low priority" basin and not at risk of overdraft (DWR 2020).

For the reasons described above, the proposed Project would not deplete groundwater supplies or interfere substantially with groundwater recharge. Impacts would be less than significant, and no mitigation measures are necessary.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i. Result in substantial erosion or siltation on- or off-site?

Less than Significant Impact. The proposed Project consists of one new extraction well and two replacement extraction wells, piezometers, an intertie pipeline connecting the existing BWP potable water distribution system to LADWP's River Supply Conduit, a pipeline to convey water to the BOU Plant and new treatment facilities at the existing plant. No stream or river exists at the any of the extraction well sites or along the pipeline alignments. The proposed Project would be located within previously developed areas and existing roadways, which have been previously disturbed. All drainage flows would be routed through existing storm water infrastructure. Construction activities would temporarily increase the potential for erosion due to excavation. However, the proposed Project is required to obtain a NPDES permit issued by the LARWQCB to control soil erosion due to stormwater. Compliance with the SWPPP, and NPDES permit would minimize impacts from construction of the proposed Project.

Upon completion of construction, all exposed areas would be returned to conditions similar to those that existed prior to groundbreaking activities (i.e., hardscape areas would be repaved, and landscaped areas would be revegetated). Following completion of construction,

the proposed Project would not alter the amount of impervious surfaces or otherwise alter the drainage pattern. Operation of the proposed Project would be located underground, with only the associated well equipment, and treatment facilities at the existing BOU Plant located aboveground. Therefore, impacts related to erosion resulting from altered drainage patterns would be considered less than significant, and no mitigation is required.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

Less than Significant Impact. The proposed Project is located entirely in previously developed areas. All drainage flows would be routed through existing storm water infrastructure serving the Project site and surrounding areas. Additionally, following construction of the proposed Project, all roadways and paved areas would be returned to their original condition. After construction, storm water flows would be similar to the current condition and the operation of the proposed Project does not have the potential to substantially increase the rate of surface runoff as it would be located almost entirely underground, with only the associated well equipment and the treatment facilities at the existing BOU Plant located aboveground. As discussed in Section X (a) above, BMPs would be implemented to control runoff from the Project site during construction. Therefore, no flooding is expected to occur on- or off-site as a result of the proposed Project construction. The impact would be considered less than significant, and no mitigation measures are necessary.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than Significant Impact. As discussed above in Section X (c,ii), implementation of the proposed Project would result in a similar amount of permeable surfaces as under existing conditions. Thus, no substantial increase in the amount of runoff from the Project site is anticipated. Construction would require water, as necessary, to control fugitive dust. Fugitive dust emissions at the construction site would be controlled by water trucks equipped with spray nozzles. Construction water needs would generate minimal quantities of discharge water, which would drain into existing storm drains located within or adjacent to the Project site. BMPs would be identified in the SWPPP developed for the proposed Project pursuant to the NPDES permit requirements to control runoff from the Project sites during construction. Operation of the proposed Project would be located underground, with only the associated well equipment and the treatment facilities at the existing BOU Plant located aboveground. Thus, the proposed Project would not create or contribute runoff which would exceed drainage system capacity, nor would it provide substantial additional sources of polluted runoff. Impacts would be considered less than significant, and no mitigation is required.

iv. Impede or redirect flood flows?

***Less than Significant Impact*.** The proposed Project consists of groundwater extraction wells, piezometers, conveyance and intertie pipelines, and treatment facilities at the existing BOU Plant. According to the Federal Emergency Management Agency (FEMA) flood insurance rate map (FIRM) Panel 06037C1328F, 06037C1340F, and 06037C1329F, the majority of the project area is located within FEMA Zone X, in an area of minimal flood hazard that is outside

of the 0.2 percent annual chance floodplain. Existing well VO-5 which would be modified/updated, is located in Zone X within the 0.2 percent annual chance floodplain. Existing wells VO-3 and VO-4 which would be modified/updated are located with Zone AE, which has a 1 percent annual chance of flooding. The upgrades to the existing wells VO-3, VO-4 and VO-5 would involve installation of VFDs on the pump motors, the addition of electrical components associated with the VFDs, and improvements to the existing motor control centers. These changes would be minor changes to the existing equipment and would not result in new structures being placed within a flood hazard zone. Therefore, the proposed Project would not impede or redirect flood flows compared to existing conditions. A less than significant impact is anticipated from the construction and operation of the proposed Project and no mitigation is required

d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less than Significant Impact. The proposed Project is in a developed area approximately 15 miles to the northeast of the Pacific Ocean. It is not subject to seiche- or tsunami-related inundation as it is not located within the range of a body of water susceptible to seiche or located within a tsunami hazard zone. Additionally, it is located in an area of relatively flat topography. Operation of the proposed Project would be located underground, with only the associated well equipment, and the treatment facilities at the existing BOU Plant located aboveground and would not risk release of pollutants due to project inundation. Therefore, there would be no significant impact on or to the proposed Project during construction and operation, from inundation by seiche, tsunami or risk of inundation, and no mitigation is required.

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. As discussed under (b) above, the SFB is not subject to a groundwater sustainability plan as it is considered "very low priority" basin. Additionally, the proposed Project does not conflict or obstruct the LARWQCB Basin Plan (LARWQCB 2019) which governs water quality in the region. Conversely, the proposed Project would assist in the goals of the LARWQCB Basin Plan by removing pollutants from the SFB groundwater supply (LARWQCB 2019, 2019b). For these reasons, the proposed Project would not interfere with any water quality or groundwater management plan and no mitigation measures are necessary.

XI. LAND USE AND PLANNING.

Would the project:

a. Physically divide an established community?

Less than Significant Impact. The proposed Project would be located along public rights-of-way, lots with existing wells, parking lots, and within the existing BOU Plant. Public rights-of-way would be temporarily affected but would remain operational during construction. Construction in the public right-of-way would be temporary and would not physically divide a community. The streets and rights-of-way would be fully restored to preconstruction conditions upon completion of work. Operation of the proposed Project would be underground, with only the associated well equipment, and the treatment facilities at the existing BOU Plant located aboveground, and therefore, the proposed Project would not divide an established community. Improvements typically associated with division of an established community, including construction of a highway or freeway,

installation of a long fence or wall, or removal of a bridge, are not proposed. Therefore, less than significant impacts associated with physically dividing an established community would occur from construction and operation of the proposed Project, and no mitigation is required.

b. Cause a significant environmental impact due to a conflict with any land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The conveyance and intertie pipelines and the proposed new well (BNH-2) are located within the public right-of-way. Public streets do not have general plan designations or zoning classifications. Land uses along the pipeline alignment are primarily residential, commercial, and open space (park and memorial park). The replacement wells NHE-7R and NHE-8R are located within city-owned lots that have a R-1 (Single-Family Residential) zoning classification and a general plan designation of Single-Family Residential. The piezometers would be located in the public right-of-way or the same lot as NHE-7R and NHE-8R. The BOU Plant has a zoning classification of M-1 Limited Industrial and a General Plan designation of Open Space. The existing wells to be modified are located in public rights-of way and parking lots in areas designed as M-1 Limited Industrial and Planned Development.

The proposed Project is an infrastructure project that would not conflict with the designated land uses or zoning classification. The construction of the proposed Project would not dictate or influence the density of land use development; rather, this is and would continue to be determined by the General Plans, the Community Plans, and the zoning of individual parcels of land. The construction and operation of the proposed Project would not affect any applicable land use plans within the cities, no impact would occur.

XII. MINERAL RESOURCES.

Would the project:

a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. According to the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources Well Finder online mapping system, there are no gas, geothermal, or other known wells located on the Project site. The closest well identified on Well Finder is an inactive well located approximately 0.8-mile west (Department of Conservation 2019). The proposed Project would neither result in a land use conflict with the existing oil extraction nor would it preclude future oil extraction on underlying deposits. Although the Project is located within a mineral resource zone as classified by the State Mining and Geology Board, the area has been heavily developed and is no longer available for mineral resource extraction. Therefore, implementation of the proposed Project would not result in the loss of availability of a known mineral that would be of value to the region and residents of the state. There would be no impact.

b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. The proposed Project would not result in the loss of availability of a locally-important resource recovery site. According to Exhibit A of the City of Los Angeles General Plan Conservation Element, the Project site is not located within a mineral resource zone (City of Los Angeles 2001). Further, as discussed in Section XII (a) above, there are no gas, geothermal, or other known wells

located on the Project site, and the proposed Project would neither result in a land use conflict with the existing oil extraction nor would it preclude future oil extraction on underlying deposits. Therefore, implementation of the proposed Project would not result in the loss of availability of a locally important mineral resource recovery site, no impact would occur, and no mitigation is required.

XIII. NOISE.

Would the project result in:

a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact. Construction of the new extraction well, two replacement wells, a small portion of the intertie pipeline, piezometers, and a portion of the associated conveyance pipeline that would connect the new and replacement wells to the existing BOU Plant would generate various levels of noise in the City of Los Angeles. Additionally, construction of most of the intertie pipeline and vaults, a portion of the conveyance pipeline, additional treatment facilities at the BOU Plant, and modifications to the existing extraction wells would generate noise in the City of Burbank. The Project site is a highly urbanized area with existing sources of noise, including roadway traffic, light industrial uses, and the Burbank Hollywood Airport that has flight operations from 7 a.m. to 10 p.m. A large portion of the Project site, including BNH-2, are located within the airport's 65 CNEL noise contour, where there is an average noise of 65 decibels over a 24-hour period. Construction of the wells and portions of the pipeline alignments would occur in a predominantly residential area. The residential uses would be the closest sensitive noise receptors.

The City of Los Angeles has numerous ordinances and enforcement practices that apply to intrusive noise and that guide new construction. The City's comprehensive noise ordinance (Chapter XI of the LAMC) sets forth sound measurement and criteria, maximum ambient noise levels for different land use zoning classifications, sound emission levels for specific uses, hours of operation for certain uses, standards for determining when noise is deemed to be a disturbance to the peace, and legal remedies for violations. In particular, Section 41.40 of the LAMC prohibits construction activity and repair work, where the use of any power tool, device, or equipment would disturb persons occupying sleeping quarters in any dwelling hotel, apartment, or other place of residence, between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, and between 6 p.m. and 8 a.m. on Saturday. All such activities are also prohibited on Sundays and all federal holidays. Similarly, Section 9-1-1105.8 of the Burbank Municipal Code (BMC) regulates that noise sources associated with noise and vibration created by construction will not take place between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, 5:00 p.m. to 8:00 a.m. on Saturdays (no work is allowed on Sundays or national holidays).

Section 112.05 of the LAMC prohibits the operation of any powered equipment or powered hand tool that produces a maximum noise level exceeding 75 dB (A) for construction, industrial, and agricultural machinery including crawler tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or other powered equipment within or within 50 feet of a residential area between the hours of 7:00 a.m. and 10:00 p.m. Construction of the replacement extraction wells NHE-7R and NHE-8R and new well BNH-2 would occur approximately 20 feet from a residential uses. However, this noise limitation does not apply where compliance is technically infeasible. Technically infeasible means the above noise

limitation cannot be met despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of equipment.

The construction of the extraction wells in the City of Los Angeles would require work that extends to 24 hours per day during the building of the well screen and casing to prevent borehole collapse, and thus, construction activities would be required during the nighttime hours. Additionally, power equipment would be used within 50 feet of residential uses. In order to work outside of designated times of 9:00AM to 7:00 PM and avoid a violation of the noise ordinance, a noise variance would be required. A noise ordinance would be obtained from the Los Angeles Police Department Board of Police Commissioners by preparing a letter requesting a variance and paying the associated fee. The letter should provide details on location, type of work, contact information for all parties involved, type of construction equipment, start date, end date, and duration of work. Additionally, it is anticipated that temporary sound proofing (such as a sound wall) and silencing equipment would be implemented in compliance with expected permitting requirements to reduce noise generation. The expected duration for well construction is two months. However, the duration of nighttime construction at each site is expected to be a maximum of 14 days. Construction in the City of Burbank will adhere to the City construction noise requirements, including Municipal Code Section 9-1-1-105.10, which allows construction to occur Monday through Friday from 7:00 a.m. to 7:00 p.m. and on Saturday from 8:00 a.m. to 5:00 p.m., and prohibits construction on Sundays and holidays. Therefore, construction in Burbank would occur only during daytime hours Monday through Saturday and would not occur during nighttime hours.

As described above, project construction would comply with the applicable Los Angeles and Burbank noise requirements, including obtaining a noise variance from the City of Los Angeles for nighttime construction activities. Therefore, while construction activities would result in a temporary increase in noise levels, it would comply with established standards, and thus, no significant noise impacts would occur.

During operations, no noise impacts to surrounding sensitive noise receptors would occur because of the operation of the proposed Project, and the new conveyance and intertie pipelines would be located underground and would not be a source of noise. The electrical pumps at the well sites would generate a small amount of noise, however, the wells would be located 20 feet or more from surrounding residential uses and would not be audible at this distance. Improvements to the treatment facilities would be located at the existing BOU Plant and would create a new source of noise. Operational noise impacts would be less than significant.

As described above, construction and operation of the proposed Project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity that is in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Therefore, impacts would be less than significant, and no mitigation is required.

b. Generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact. Construction activities could generate low levels of ground vibration. The significance of impacts associated with ground vibration is dependent on the type of construction equipment and activities occurring on the Project site, as well as the proximity of construction equipment to nearby sensitive receptors and structures. Construction activities would be limited in duration and not require the activities or equipment known to generate substantial ground vibration, including activities such as blasting, pile driving, and equipment such as heavy demolition and jackhammers, impact hammers, and pile drivers. The cities of Los Angeles and Burbank do not specify a significance criterion of vibration, but Caltrans developed guidelines for construction activities and

estimates that vibration levels exceeding 0.3 inches per second (in/sec) can damage older residential structures and cause annoyance to humans (Caltrans 2013). Vibration levels would not be substantial under this threshold at the closest sensitive receptors.

Operation of the wells and pipelines would not generate vibration. Periodic maintenance would necessitate truck visits throughout the year, but maintenance truck trips are not associated with the generation of substantial ground vibration. Therefore, the proposed Project would not expose persons to or generate excessive groundborne vibration or groundborne noise. Construction and operational impacts would be less than significant, and no mitigation is required.

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Less than Significant Impact. The proposed Project is located approximately 0.2 miles south of the Burbank Hollywood Airport and is located within the Airport Influence Area (65 CNEL noise contour). Numerous safeguards are required by law to minimize the potential for and the effects from excessive noise levels from the airport. The Federal Aviation Administration (FAA)'s Airport Design Standards establish, among other things, land use related guidelines to protect people and property on the ground, including establishment of Runway Protection Zones that keep areas near runways free of objects that could interfere with aviation activities. None of the proposed Project components are located within the Runway Protection Zones. In addition to the many safeguards required by law, the Burbank Hollywood Airport implements many additional safeguards to reduce impacts of airport noise. Additional airports located nearest to the Project site include Whiteman Airport (approximately five miles to the northwest), Van Nuys Airport (approximately seven miles to the west), and Santa Monica Airport (approximately 12 miles southwest). Nearby private airstrips or helipads include the Providence Sant Joseph Medical Center Helipad (approximately two miles to the southeast), the Griffith Helipad (approximately five miles to the southeast), and the Apollo Xi Model Aircraft Airstrip (approximately seven miles to the west). The proposed Project would not establish new residential uses or new on-site permanent employment opportunities. With the exception of the existing BOU Plant, workers would only be on-site temporarily during construction activities and OMM. Therefore, the proposed Project would not expose people residing or working in the project area to excessive noise levels and result in a less than significant impact. No mitigation is required.

XIV. POPULATION AND HOUSING.

Would the project:

a. Induce substantial unplanned population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The proposed Project consists of the construction, replacement, modification and operation of new and existing remediation system extraction wells, piezometers, conveyance and intertie pipelines, and additional treatment units in the existing BOU Plant. It would not involve the construction of new housing, nor would it result in new infrastructure that would induce population growth in the area. Therefore, the proposed Project would not induce substantial unplanned population growth in an area directly or indirectly and no impact would occur.

b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed Project consists of the construction, replacement, modification and operation of new and existing remediation system extraction wells, piezometers, conveyance and intertie pipelines, and additional treatment units in the existing BOU Plant. The implementation of the proposed Project would not displace existing housing, necessitating the construction of replacement housing elsewhere and no impact would occur.

XV. PUBLIC SERVICES.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?

a. Fire protection?

Less than Significant Impact. The Los Angeles Fire Department (LAFD) and Burbank Fire Department (BFD) provide fire protection and emergency medical response services to the Project site. The LAFD operates 114 stations located throughout the City (LAFD 2016), and the BFD operates six stations throughout Burbank, protecting approximately 17 square miles. The closest stations are the Burbank Fire Station No. 13 (2713 Thornton Avenue), which is located approximately 0.7 miles northeast of the site, Fire Station No. 14 (2305 W Burbank Boulevard), which is located approximately 0.8 miles east of the site, and Los Angeles Fire Department Station 60 (5320 Tujunga Avenue), which is located approximately 1.2 miles southwest of the Project site.

The Project site is already within the service area of the LAFD and BFD. Construction activities would include work within public right-of-way in work zones and designated work areas. Construction would result in temporary lane restrictions, closures and on-street parking restrictions, which would temporarily reduce the capacity of the affected streets and could slow optimum response rates. Construction would be subject to a traffic control plan and the traffic lane requirements set forth by the Los Angeles Department of Transportation and City of Burbank Public Works Department, as applicable. The construction contractor(s) would be required to notify emergency response providers prior to construction activities in the travel system so that appropriate alternative routes can be planned or established by the emergency response providers. As a consequence, construction would not be expected significantly reduce public safety response times. Therefore, there would be no additional demand for fire protection as a result of the proposed Project.

Following the completion of the proposed Project, there would be no substantial adverse impacts for new or altered fire protection services. Once operational, the proposed Project would continue to be served by the LAFD and BFD. Additionally, as previously discussed under Section XIV (a) above, the proposed Project would not directly or indirectly induce population growth in the area. It is not anticipated that the proposed Project would result in an increase in calls for service to the Project site in comparison to the existing conditions. The proposed Project would not increase the demand for fire services and would neither require the expansion of existing facilities nor the construction of new fire facilities. The proposed Project would be adequately served by existing LAFD and BFD facilities, equipment, and personnel. Therefore, impacts associated with the proposed Project relative to fire services would be less than significant, and no mitigation is required.

b. Police protection?

Less than Significant Impact. The Los Angeles Police Department and the Burbank Police Department are the primary law enforcement agencies, serving the Project site. The closest station is the North Hollywood Police Station, part of the Los Angeles Police department, which is located approximately 1.6 miles southwest of the Project site. The proposed Project involves the construction and operation of the new, modified, and replacement extraction wells, conveyance and intertie pipelines, and treatment facilities at the existing BOU Plant and would not increase the demand for police protection nor require the construction of new or physically altered facilities to accommodate an increased demand or to maintain acceptable response times. Similar to fire protection services, although construction would result in temporary lane restrictions, closures and on-street parking restrictions, which would temporarily reduce the capacity of the affected streets and could slow optimum response rates, compliance with standard construction traffic control requirement would ensure that temporary construction impacts on emergency response times would be less than significant. As a consequence, construction would not be expected significantly reduce public safety response times.

The Project site is already within the service area of the Los Angeles Police Department and the Burbank Police Department, and once operational, they would continue to serve the Project site. Additionally, the proposed Project would not directly or indirectly induce population growth in the area. The proposed Project would be adequately served by existing police facilities, equipment, and personnel. Therefore, impacts associated with the proposed Project relative to police services would be less than significant, and no mitigation is required.

c. Schools?

No Impact. Public kindergarten through high school education near the Project site is provided by the Burbank Unified School District (BUSD) and Los Angeles Unified School District. As previously discussed in Section XIV (a), the proposed Project would not directly or indirectly induce population growth in the City, and people would relocate as a result of the proposed Project. As such, an increase in school-age children requiring public education is not expected to occur as a result of the proposed Project. There are no schools located in the immediate vicinity that could affected by project construction activities such as temporary lane closures during pipeline construction. Therefore, no impacts associated with the construction or operation of the proposed Project relative to school facilities would occur, and no mitigation is required.

d. Parks?

Less than Significant Impact. As further discussed in Section XVI (a), no residential uses or other land uses typically associated with directly inducing population growth are included as part of the proposed Project. Therefore, there would be no increase in residential use, and an increase in patronage at park facilities is not expected to result. Pipeline construction would occur in the vicinity of two public parks, Ralph Foy Park, located at 3211 Victory Boulevard in the City of Burbank and Whitnall Highway Park North, located at 1202 North Whitnall Highway in the City of Burbank. During construction, temporary lane closures and parking restrictions on Victory Boulevard, Ontario Street, and Burbank Boulevard could increase travel times to and from the parks. However, lane closures would occur in compliance with standard construction traffic control requirements and vehicular and pedestrian access to the parks would be maintained.

The vaults associated with the intertie pipeline would be located within Whitnall Highway Park North on the southside of Burbank Boulevard. Whitnall Highway Park North is a greenspace located within

a LADWP transmission line right-of-way. It is an open turf area with trees and no other recreational amenities. During construction of the vaults, the area near the construction site would be temporarily closed to public access and thus not available for recreational uses. Given that other areas of the park would continue to remain open, this temporary closure would not result in the need for new park space to accommodate public recreational uses temporarily displaced during construction activities.

The vaults would be located underground and following construction, with the exception of access panels, the site would be restored to current conditions (i.e., turf would be re-established at the majority of the vault sites). This area would continue to be accessible turf area for public recreational use. Therefore, the proposed Project would not reduce the overall recreation value of park, nor would it reduce the usable park area such that demand for recreational space would increase.

As described above, the parks along the pipeline alignments would continue to be available for use by the public. The construction and operation of proposed Project would have a less than significant impact associated with access to Ralph Foy Park and Whitnall Highway Park North. Less than significant impacts associated with the need for construction or expansion of park facilities would occur and no mitigation is required.

e. Other public facilities?

No Impact. No residential uses or other land uses typically associated with directly inducing population growth are included as part of the proposed Project. A substantial increase in patronage at libraries, community centers, or other public facilities is not expected. Therefore, no impacts associated with the construction or expansion of public facilities would occur, and no mitigation is required.

XVI. RECREATION.

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than Significant Impact. Demand for neighborhood or regional parks or other recreational facilities is primarily generated by an increase in the permanent residential population. The proposed Project does not propose any residential uses that may increase the use of existing neighborhood parks in the vicinity such that substantial physical deterioration of the facility or an increase in park facilities would occur or be accelerated.

As discussed under XV. Public Services (d) above, the vaults associated with the intertie pipeline would be located within Whitnall Highway Park North. This would make a portion of the park inaccessible during construction. However, other portions of the park with the same amenities (open turf area) would continue to be available. The temporary removal of a small portion of the park along Burbank Boulevard would not increase the use of other portions of the park and such that physical deterioration would occur. During operations, turf would be re-established and the area overlying the vault would continue to be available for recreational uses. Therefore, no significant impacts associated with parks or other recreational facilities would not occur.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The Project site does not include recreational facilities or require the construction or expansion of recreational facilities. Therefore, no impacts to recreational facilities would result that might have an adverse physical effect on the environment, and no mitigation is required.

XVII. TRANSPORTATION.

Would the project:

a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant Impact. The proposed Project consists of one new groundwater extraction well, two replacement wells, piezometers, intertie pipeline, pipelines to convey extracted groundwater from the wells to the BOU Plant, and modifications to the BOU Plant and existing wells. The proposed Project and would not result in changes to bus stops, bicycle racks, sidewalks or other non-automotive transportation infrastructure. Furthermore, the proposed Project does not conflict with any goals or policies contained in the Mobility Element of the Burbank 2035: General Plan (Burbank 2035 General Plan) or the Mobility Element of the Los Angeles General Plan. Temporary lane closures would occur during construction within the public rights-of way. This would be short-term and subject to a traffic control plan. Upon completion of construction, public-rights-of way would be returned to the same conditions as prior to groundbreaking activities and long-term changes to the circulation system would not occur. Therefore, the proposed Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

b. Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Less than Significant Impact. The proposed Project consists of one new groundwater extraction well, two replacement wells, piezometers, intertie pipeline, pipelines to convey extracted groundwater from the wells to the BOU Plant, and modifications to the BOU Plant and existing wells. The proposed Project is within the City of Burbank and the City of Los Angeles. Consequently, impacts associated with vehicle miles traveled (VMT) are considered to for both cities. The City of Los Angeles has established VMT thresholds but the City of Burbank has not established VMT thresholds at this time. As the conditions in the project area are similar in both cities (i.e., land uses and roadway conditions/traffic levels are generally similar along Victory Boulevard and West Burbank Boulevard in both Los Angeles and Burbank), the proposed Project's VMT related transportation impacts were analyzed in accordance with the latest version of the City of Los Angeles Department of Transportation's (LADOT) Transportation Impact Study Guidelines (LADOT 2019). LADOT's guidelines put forth the following screening criteria for whether a traffic assessment evaluating potential VMT impacts is required for a proposed Project:

- Would the project generate a net increase of 250 or more daily vehicle trips?
- Is the project proposing to, or required to make any voluntary or required, modifications to the public right-of-way (i.e., street dedications, reconfigurations of curb line, etc.)?

- Is the project on a lot that is 0.5-acre or more in total gross area, or is the project's frontage along a street classified as an Avenue or Boulevard (as designated in the City of Los Angeles General Plan), 250 linear feet or more, or is the project's building frontage encompassing an entire block along a street classified as an Avenue or Boulevard by the City of Los Angeles General Plan?

Construction of the proposed Project would result in construction-related trips associated with workers traveling to and from the site, and movements of construction vehicles and equipment. These trips would be minimal and would not exceed 250 or more daily vehicle trips. Project operation would not generate vehicle trips other than occasional maintenance of the extraction wells and bi-weekly deliveries of hydrogen peroxide to the BOU Plant, which would average several trips a month.

Construction of new well BNH-2, piezometers, conveyance and intertie pipelines would occur within the public rights-of-way but this would be temporary and streets would be fully restored to preconstruction conditions upon completion of work. No permanent/long-term loss of regular vehicle, bicycle, or pedestrian access would occur.

Lastly, the proposed Project does not consist of any habitable structures, and would generally be located underground, with the exception of well equipment and the treatment facilities at the existing BOU Plant.

Therefore, as described above, the proposed Project would generate only a small number of vehicle trips during construction and operation and does not meet the LADOT screening criteria for evaluation of potential VMT impacts. Therefore, the proposed Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) and the impact would be less than significant.

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than Significant Impact. The proposed Project consists of the installation of one new groundwater extraction well, two replacement well, piezometers, an intertie pipeline connecting the existing BWP potable water distribution system to LADWP's River Supply Conduit, pipelines to convey extracted groundwater from the wells to the BOU Plant, and modifications to the BOU Plant and existing wells, all of which would be located underground with the exception of well equipment, and the treatment facilities at the existing BOU Plant located aboveground. While construction of the pipeline would occur within the public streets, requiring temporary lane closures, this would be short-term and subject to a traffic control plan. Upon completion of construction, public-rights-of way would be returned to the same conditions as prior to groundbreaking activities. The proposed Project would not result in an increase in a hazard due to a design feature or incompatible use. There are no hazardous design features (e.g., sharp curves or dangerous intersections) or incompatible uses proposed as part of the proposed Project. Therefore, construction and operation of the proposed Project would result in less than significant impacts, and no mitigation is required.

d. Result in inadequate emergency access?

Less than Significant Impact. The proposed Project includes pipeline and well construction in the public right-of-way which would involve temporary lane closures. Construction would be subject to a traffic control plan and the traffic lane requirements set forth by the Los Angeles Department of Transportation and City of Burbank Public Works Department. The construction contractor(s) would

be required to notify emergency response providers prior to construction activities in the travel system so that appropriate alternative routes can be planned or established by the emergency response providers. Project operations would primarily occur underground with the exception of well equipment, and the treatment facilities at the existing BOU Plant and would not affect emergency access. Therefore, less than significant emergency access impacts are expected from construction and operation of the proposed Project and no mitigation is required.

XVIII. TRIBAL CULTURAL RESOURCES.

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

Less than Significant Impact with Mitigation Incorporation. The proposed Project is located within the vicinity of significant tribal cultural resources; however, there are no known tribal cultural resources, as defined in Public Resources Code Section 21074 on the Project site or immediate vicinity. The Project site is in an urban area that is highly disturbed. Pursuant to Assembly Bill (AB) 52, a lead agency is required to consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed Project if the tribe requested to the lead agency, in writing, to be informed by the lead agency of proposed Projects in that geographic area. As part of Native American consultation associated with the proposed Project, the Native American Heritage Commission (NAHC) was contacted and a consultation list received of tribes that are traditionally and culturally affiliated with the geographic area of the proposed Project (see Appendix C). In addition, NAHC conducted a Sacred Lands File check and found that the Project site was negative for Sacred Lands. On August 18, 2020, pursuant to PRC Section 21080.3.1(d), nine tribes were sent AB 52 formal notification of the proposed Project. On September 4, 2020, the Fernandeño Tataviam Band of Mission Indians, responded to this letter, identifying the Project site as within their Ancestral Tribal Territory, and requested consultation with Burbank to discuss the Project and the surrounding location in further detail.

On September 30, 2020, Burbank, Lockheed Martin and CDM Smith held a virtual meeting with Jairo Avila, M.A., RPA, Tribal Historic and Cultural Preservation Officer with the Fernandeño Tataviam Band of Mission Indians (FTBMI) to discuss the proposed project and obtain input from FTBMI regarding potential project-related impacts to tribal cultural resources. FTBMI requested that Burbank provide information, including additional information on the project area and soil conditions. This information was provided by Burbank on October 28, 2020. FTBMI responded via email on December 9, 2020, that although no tribal cultural resources have been reported within the boundaries of the project area, there have been tribal cultural resource sites and isolate artifacts found throughout the region. Therefore, Burbank has agreed to provide mitigation measures recommended by

FTBMI to reduce potential significant impacts associated with the potential to uncover previously unknown tribal cultural resources. Consultation was concluded by mutual agreement on December 9, 2020.

The following mitigation measures would be implemented:

> **MM TCR-1.** In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall assess the find. Work on the portions of the Projects outside of the buffered area may continue during this assessment period. The FTBMI shall be contacted, as detailed in MM CUL-1, regarding any pre-contact and/or post-contact finds and be provided information after the archaeologist makes their initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment.
>
> **MM TCR-2.** Any and all archaeological documents created as a part of the Projects (isolate records, site records, survey reports, testing reports, and monitoring reports) shall be provided to the FTBMI.
>
> **MM TCR-3.** The Lead Agency shall, in good faith, consult with the FTBMI on the disposition of any Tribal Cultural Resource encountered during the Projects grading.

With incorporation of mitigation measures MM TRC-1, MM TRC-2, and MM TRC-3, impacts to tribal cultural resources would be less than significant.

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Less than Significant Impact with Mitigation Incorporation. As discussed in Section XVIII (a), no known tribal cultural resources are located at the Project site or vicinity of the proposed Project. Although no tribal cultural resources have been reported within the boundaries of the project area, there have been tribal cultural resource sites and isolated artifacts found throughout the region. As discussed under item XVIII ii above, should such resources be encountered, a potentially significant impact would occur. With implementation of MM TCR-1, MM TCR-2, and MM TCR-3 identified above, the proposed Project would have a less than significant impact.

XIX. UTILITIES AND SERVICE SYSTEMS.

Would the project:

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less than Significant Impact. The proposed Project is located in a developed area that is served by existing utilities and would not generate any wastewater requiring new or expanded wastewater treatment. It would not result in a change in impermeable surfaces and would maintain the existing drainage patterns change so no change in stormwater drainage would occur. As described in Section VI, Energy, only small amounts of electrical power and natural gas would be required during construction and operation. It would not involve the need for telecommunications facilities. Therefore, the proposed Project would not require or result in the relocation or construction of new or expanded wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

The proposed Project involves construction and relocation of water facilities consisting of one new groundwater extraction well, two replacement wells, piezometers, an intertie pipeline connecting the existing BWP potable water distribution system to LADWP's River Supply Conduit, pipelines to convey extracted groundwater from the wells to the BOU Plant, and modifications to the BOU Plant treatment facilities and existing wells. As described throughout this Initial Study, with implementation of mitigation, there would be no significant impacts during construction and operation of the proposed Project.

Therefore, there would be no significant impacts associated with the need to relocate or construct of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, and no mitigation is required.

b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less than Significant Impact. The proposed Project involves the construction and operation of new and replacement groundwater extraction wells, piezometers, an intertie pipeline connecting the existing BWP potable water distribution system to LADWP's River Supply Conduit, and associated pipelines as well as modifications to existing wells and the BOU Plant and would not result in an increased water demand. Water utilized for dust control purposes during construction would be trucked into the Project site. The extracted and treated water would be available for use as a drinking water, subject to drinking water permit requirements, and thereby would provide increased reliability to local drinking water supplies. The proposed Project would not have a significant impact on the water supplies available to serve reasonably foreseeable future development during normal, dry and multiple dry years, and no mitigation is required.

c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. The proposed Project involves the construction and operation of a new groundwater extraction wells and associated pipelines, piezometers, the intertie pipeline, and improvements to existing wells and the BOU Plant and would not tie into the existing sewer system. The proposed Project would have no impact on wastewater treatment providers.

d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant Impact. During construction, small amounts of solid waste materials may be generated (e.g., crew food scraps and construction packaging material). These materials would be properly disposed of during construction of the proposed Project. Operation of the proposed Project would not generate solid waste. The proposed Project would have a less than significant impacts on landfills.

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less than Significant Impact. As described under XIX. Utilities f) above, only a minimal amount of solid waste would be generated during project construction. Wastes that are generated would be disposed at Los Angeles County facilities with capacity remaining to accept those wastes, and in accordance with governing regulations in effect at that time. A less than significant impact would occur, and no mitigation measures are necessary.

XX. WILDFIRE.

If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a. Substantially impair an adopted emergency response plan or emergency evacuation plan?

b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. PRC Sections 4201-4204 direct the California Department of Forestry and Fire Protection (CAL FIRE) to map fire hazard based on relevant factors such as fuels, terrain, and weather. The proposed Project is neither located within a CAL FIRE State responsibility area nor in an area classified as a Very High Fire Severity Zone (VHFSZ) within its Local Responsibility Area. The nearest

boundary of a VHFSZ is in the Verdugo Mountains, approximately three miles east of the Project site. Therefore, the Project site is not located in or near State responsibility areas or lands classified as very high fire hazard severity zones, and therefore, there is no wildfire impact, and no mitigation is required.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE.

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant Impact with Mitigation Incorporation. The Project site does not contain habitat for, or support, any fish or wildlife species, or plant or animal communities listed on any state of federal lists for endangered, threatened or special status species. The urbanized and highly developed nature of the Project site and surrounding area is not conducive to supporting fish or wildlife or plant and animal communities. As discussed in Section IV, Biological Resources, the proposed Project would be located within a densely population urban area occupied by primarily residential and commercial uses that are highly-disturbed and have limited vegetated habitats. Wildlife use of developed and undeveloped areas within the area is limited. Additionally, the proposed Project construction would be confined to the immediate Project site and no in- or over-water construction or operations are proposed and would not impact marine species. Overall, the proposed Project would not significantly impact protected biological species and resources.

As discussed in Section V, Cultural Resources, the Project site is located on urban and previously developed land, there are no known cultural resources located on-site, and the proposed Project would not eliminate important examples of the major periods of California history or prehistory. While construction of the proposed Project is not expected to encounter archeological resources, the potential exists that previously unknown archaeological resources could be encountered. With implementation of mitigation and adherence to applicable regulatory requirements, the proposed Project would have a less than significant impact to cultural or archaeological resources.

b. Does the project have impacts which are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).

Less than Significant Impact. As discussed under each issue area in Sections I through XX of this IS/MND, the proposed Project would not result in significant impacts to aesthetics, agricultural and forestry resources, air quality, biological resources, energy, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and services systems or wildfires, and with implementation of mitigation, cultural resources and geology and soils. In the absence of significant Project-level impacts, the incremental contribution of the proposed Project would not be cumulatively considerable.

c. Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant Impact with Mitigation Incorporation. Based on the analysis in this IS/MND, the proposed Project would not have significant adverse effects on the environment, and thus, would not cause substantial adverse effects on human beings, either directly or indirectly. Mitigation measures have been identified to reduce short-term construction impacts and long-term operational impacts to a level of less than significant. Implementation of mitigation measures and compliance with existing federal, state and local regulations, along with standard design criteria, will ensure that the proposed project does not directly or indirectly cause a substantial adverse effect on human beings.

PROPOSED FINDING

The City of Burbank has prepared this IS/MND to address the environmental effects of the proposed Project. Based on the analysis provided in this IS/MND, The City of Burbank finds that the proposed Project would not have a significant effect on the environment with implementation of mitigation measures identified in this IS.

This page intentionally left blank

5.0 Preparers and Contributors

City of Burbank

- Lead Agency; Preparation of the CEQA documents

  Michael Thompson

  Christopher Chwang

  Leonard Bechet

  Greg Mirza-Avakyan

California State Water Resources Control Board Division of Drinking Water

- Responsible Agency; Review and comment on CEQA documents

Los Angeles Department of Water & Power

- Responsible Agency; Review and comment on CEQA documents

Lockheed Martin Corporation

- Project support and oversight

Liaht Rosenstein	Project Lead

CDM Smith Team

- Preparation of supporting analysis

Kathleen Owston	Senior Environmental Planner
Gwen Pelletier	Senior Air Quality Specialist
Jeremy Gilbride	Air Quality Specialist
Alex Kessel	Environmental Planner
Rachel Krusenoski	Environmental Planner

This page left intentionally blank

6.0 Acronyms and Abbreviations

AB	Assembly Bill
AOC	Agreement and Order on Consent
AOP	Advanced Oxidation Process
Basin	San Fernando Groundwater Basin
BFD	Burbank Fire Department
BGS	Below ground surface
BMC	Burbank Municipal Code
BMPs	Best management practices
BOU	Burbank Operable Unit
BUSD	Burbank Unified School District
BWP	Burbank Water and Power
CA	California
CAL FIRE	California Department of Forestry and Fire Protection
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
County	County of Los Angeles
Dashboard	SGMA Basin Prioritization Dashboard
dB	Decibel
DDW	State Water Resources Control Board's Division of Drinking Water
DTSC	Department of Toxic Substance Control
DWR	California Department of Water Resources
EIR	Environmental impact report
EPA	U.S. Environmental Protection Agency
ESD	Explanation of Significant Differences
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood insurance rate map
GHG	Greenhouse gas
GOU	Glendale North and South Operable Units
GPM	Gallons per minute
HMI	Hazardous material inventory
Honeywell	Honeywell International, Inc.
I-	Interstate
IRC	Import Return Credit
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
LADOT	Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department
LAMC	Los Angeles Municipal Code
LARWQCB	Los Angeles Regional Water Quality Control Board
LEED	Leadership in Energy and Environmental Design

Lockheed Martin	Lockheed Martin Corporation
LPGAC	Liquid-phase granular active carbon
LST	Localized Significance Threshold
M-1	Limited Industrial
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MUTCD	California Manual on Uniform Traffic Control Devices
MWD	Metropolitan Water District
NAHC	Native American Heritage Commission
ND	Negative Declaration
NHOU	North Hollywood Operable Unit
NO_X	Nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
OMM	Operation, maintenance, and monitoring
P-1	Automobile parking zoning classification
PM_{10}	Directly emitted diesel-emitted particulate matter less than 10 microns
$PM_{2.5}$	Directly emitted particulate matter less than 2.5 microns
PRC	Public Resources Code
PVC	polyvinyl chloride
R-1	Single-Family residential zoning classification
RA	Remedial Action
RD	Remedial Design
RPZ	Runway Protection Zone
ROD	Record of Decision
RWQVB	Regional Water Quality Control Board
SCADA	Supervisory Control and Data Acquisition
SCAQMD	South Coast Air Quality Management District
SEA	Significant Ecological Area
SFB	San Fernando Basin
SFVB	San Fernando Valley Basin
SGMA	Sustainable Groundwater Management Act
SR-	State Route
SUSMP	Standard Urban Storm Water Management
SWPPP	Stormwater Pollution Prevention Plan
UAO	Unilateral Administrative Order
USFWS	U.S. Fish and Wildlife Service
UVAOP	Ultraviolet light advanced oxidation process
UWMP	Urban Water Master Plan
VFDs	Variable Frequency Drives
VHFSZ	Very High Fire Severity Zone
VMT	Vehicle miles travelled
VOC	Volatile organic compound

7.0 References

Burbank Water and Power. 2016. Urban Water Management Plan. Accessed May 2020. Available at: https://www.burbankwaterandpower.com/images/administrative/downloads/2015_UWMP_Final_06-24-2016.pdf.

CalEPA (California Environmental Protection Agency). 2020. "Cortese List: Section 65962.5(a)." Accessed February 2021. Available at: https://calepa.ca.gov/sitecleanup/corteselist/section65962-5a/.

CAL FIRE (California Department of Forestry and Fire Protection). 2020 California Fire Hazard Severity Zone Viewer. Accessed February 2021. Available at: https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414

CAL FIRE (California Department of Forestry and Fire Protection). 2020. CPUC Firemap. Accessed February 2021. Available at: https://ia.cpuc.ca.gov/firemap/.

CA DOC (California Department of Conservation). 2018. Farmland Mapping and Monitoring Program. Accessed May 2020. Available at: https://www.conservation.ca.gov/dlrp/fmmp/.

CA DOC (California Department of Conservation). 2020. Geologic Hazards Map. Accessed February 2021. Available at: https://maps.conservation.ca.gov/geologichazards/#datalist.

CA DOC (California Department of Conservation). 2016. Los Angeles County. 2016. Accessed May 2020. Available at: https://www.conservation.ca.gov/dlrp/fmmp/Pages/LosAngeles.aspx.

California Public Resources Code, Sections 21000–21177. California Environmental Quality Act (CEQA), as amended.

California State Parks. 2019. California Register of Historical Resources. Accessed February 2021. Available at: https://ohp.parks.ca.gov/?page_id=21238.

Caltrans (California Department of Transportation). 2018. Paleontological Resources Program. Accessed February 2021. Available at: http://www.dot.ca.gov/env/paleontology/.

Caltrans (California Department of Transportation). 2020. Scenic Highways List. Last updated August 2, 2018. Accessed February 2021. Available at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways.

City of Burbank. 1999. Historic Preservation Plan. Accessed May 2020. Available at: https://www.burbankca.gov/home/showdocument?id=3014.

City of Burbank. 2008. Sustainability Action Plan. Accessed May 2020. Available at: https://www.burbankca.gov/residents/going-green.

City of Burbank. 2013. Burbank 2035 Greenhouse Gas Reduction Plan. Accessed March 2021. Available at: https://www.burbankca.gov/home/showdocument?id=23440.

City of Burbank. 2014. Burbank 2035 General Plan, Land Use Element. Accessed May 2020. Available at: https://www.burbankca.gov/departments/community-development/planning/long-range-planning/burbank2035-general-plan.

City of Burbank. 2014. Burbank 2035 General Plan, Mobility Element. Accessed May 2020. Available at: https://www.burbankca.gov/home/showdocument?id=3448.

City of Burbank. 2014. Burbank 2035 General Plan, Noise Element. Accessed May 2020. Available at: https://www.burbankca.gov/departments/community-development/planning/long-range-planning/burbank2035-general-plan.

City of Burbank. 2014. Burbank 2035 General Plan, Safety Element. Accessed May 2020. Available at: https://www.burbankca.gov/departments/community-development/planning/long-range-planning/burbank2035-general-plan.

City of Burbank. 2020. Active Planning Projects website. Accessed February 2021. Available at: https://www.burbankca.gov/departments/community-development/planning/current-planning.

City of Burbank. 2020. Burbank Municipal Code. Accessed May 2020. Available at: https://www.codepublishing.com/CA/Burbank/.

City of Burbank. 2020. Permits. Accessed February 2021. Available at: https://www.burbankca.gov/departments/public-works/permits.

City of Los Angeles. 1996. Safety Element of the Los Angeles City General Plan. Accessed May 2020. Available at: https://planning.lacity.org/odocument/31b07c9a-7eea-4694-9899-f00265b2dc0d/Safety_Element.pdf.

City of Los Angeles. 1998. Noise Element of the Los Angeles City General Plan. Accessed May 2020. Available at: https://planning.lacity.org/odocument/b49a8631-19b2-4477-8c7f-08b48093cddd/Noise_Element.pdf.

City of Los Angeles. 2001. Conservation Element of the City of Los Angeles General Plan. Adopted September 26, 2001. Approved March 10, 2001. Accessed May 2020. Available at: https://planning.lacity.org/odocument/28af7e21-ffdd-4f26-84e6-dfa967b2a1ee/Conservation_Element.pdf

City of Los Angeles. 2006. L.A. CEQA Thresholds Guide. Accessed May 2020. Available at: https://planning.lacity.org/eir/CrossroadsHwd/deir/files/references/A07.pdf.

City of Los Angeles. 2010. City of Los Angeles Bicycle Plan, Noise and Vibration. Accessed May 2020. Available at: https://planning.lacity.org/eir/BicyclePlan/DEIR/4.4%20Noise.pdf.

City of Los Angeles. 2019a. L.A.'s Green New Deal Sustainable City pLAn. Accessed May 2020. Available at: http://plan.lamayor.org/sites/default/files/pLAn_2019_final.pdf.

City of Los Angeles. 2019b. Zone Information & Map Access System (ZIMAS). Accessed May 2020. Available at: http://zimas.lacity.org/.

Department of Water Resources. 2020. SGMA Basin Prioritization Dashboard. Accessed February 2021. Available at: https://gis.water.ca.gov/app/bp-dashboard/final/#.

DTSC (Department of Toxic Substances Control). 2020. EnviroStor. Accessed May 2020. Available at: https://www.envirostor.dtsc.ca.gov/public/.

FEMA (Federal Emergency Management Agency). 2020. FEMA Flood Map Service Center Panels 06037C1328F, 06037C1340F, and 06037C1329F. Accessed May 2020. Available at: https://www.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd.

Hollywood Burbank Airport. 2020. Noise Issues. Accessed February 2021. Available at: https://hollywoodburbankairport.com/noise-environment/noise-issues/.

LACP (Los Angeles Citywide Planning). 2016. City of General Plan – Mobility 2035. Accessed February 2021. Available at: https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf.

LAFD (Los Angeles Fire Department). 2019. Station List. Accessed February 2021. Available at: http://www.lafd.org/fire-stations/find-your-station.

LADOT (Los Angeles Department of Transportation). 2019. LADOT Transportation Assessment Guidelines. Accessed February 2021. Available at: https://ladot.lacity.org/sites/default/files/documents/ta_guidelines_-20190731_0.pdf.

LARWQCB (Los Angeles Regional Water Quality Control Board). 2019a. LARWQCB Basin Plan, Chapter 4: Strategic Planning and Programs of Implementation. Accessed February 2021. Available at: https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/Final_Updated_Chapter4_June2019.pdf.

LARWQCB (Los Angeles Regional Water Quality Control Board). 2019b. Chromium Remediation. Accessed February 2021. Available at: https://www.waterboards.ca.gov/losangeles/water_issues/programs/remediation/chromium/chromium_s1.html.

National Parks Service. 2020. National Register of Historic Places. Accessed February 2021. Available at: https://www.nps.gov/subjects/nationalregister/database-research.htm#table.

.

This page left intentionally blank

Appendix A – Air Quality and Greenhouse Gas Emissions Calculations

This page intentionally left blank

Burbank Operable Unit (BOU) Remediation System Upgrades Project Emissions Summary

ANNUAL EMISSIONS		*tons/yr*	*tons/yr*	*tons/yr*	*tons/yr*	*tons/yr*	*tons/yr*	*MT/yr*	*MT/yr*	*MT/yr*	*MT/yr*
Project Component	**Phase**	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Conveyance Pipeline	Regional Construction	0.10	0.82	0.89	0.00	0.07	0.05	132	0.03	0.00	132
Intertie Pipeline	Regional Construction	0.03	0.25	0.27	0.00	0.02	0.02	40	0.01	0.00	40
Well Construction (Three Wells)	Regional Construction	0.07	0.45	0.62	0.00	0.04	0.03	108	0.02	0.00	108
Vault Construction (Two Vaults)	Regional Construction	0.04	0.34	0.36	0.00	0.02	0.02	53	0.01	0.00	53
Total	**Regional Construction**	**0.23**	**1.87**	**2.15**	**0.00**	**0.15**	**0.12**	**332**	**0.07**	**0.00**	**334**

OPERATIONAL GHG EMISSIONS		*MT/yr*	*MT/yr*	*MT/yr*	*MT/yr*
CalEEMod Basis	**Trips/yr**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Annual Well Construction - Off-Site Demolition (Used as Basis)	13	0.5	0.00	0.00	0.5
⮟	⮟	⮟	⮟	⮟	⮟
Bi-weekly Operational Deliveries to BOU	**26**	**0.9**	**0.00**	**0.00**	**0.9**
Amortized Construction	**--**	**11.1**	**0.00**	**0.00**	**11.1**
Total Operational	**--**	**12.0**	**0.00**	**0.00**	**12.0**

PEAK DAILY REGIONAL EMISSIONS		winter *lb/day*	winter *lb/day*	summer *lb/day*	summer *lb/day*	winter *lb/day*	winter *lb/day*
Project Component[1]	**Phase**	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Conveyance Pipeline	Maximum Regional Construction	1.97	16.68	18.25	0.03	1.37	1.01
Intertie Pipeline	Maximum Regional Construction	1.97	16.68	18.25	0.03	1.37	1.01
Well Construction (One Well)[2]	Maximum Regional Construction	1.62	10.09	14.27	0.03	0.96	0.76
Vault Construction (Two Vaults)[3]	Maximum Regional Construction	1.27	11.30	11.73	0.02	0.78	0.60
BOU Plant Upgrade	Maximum Regional Construction	0.25	2.47	2.60	0.00	0.74	0.20
Total	**Maximum Regional Construction**	**7**	**57**	**65**	**0**	**5**	**4**
SCAQMD Significance Threshold		**75**	**100**	**550**	**150**	**150**	**55**
Significant Impact?		**No**	**No**	**No**	**No**	**No**	**No**

1. Construction of Conveyance Pipeline, Intertie Pipeline, Well Construction, and Vault Construction project components anticipated to overlap.

2. Construction of each well (BNH-1, BNH-2, and NHE-8R) not anticipated to overlap.

3. Construction of vaults are anticipated to occur simultaneously.

Burbank Operable Unit (BOU) Remediation System Upgrades Project Emissions Summary

PEAK DAILY ON-SITE EMISSIONS		winter *lb/day*	summer *lb/day*	winter *lb/day*	winter *lb/day*
Project Component[1,2,3]	**Phase**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Conveyance Pipeline[4]	Maximum On-Site	10.47	10.91	0.66	0.62
"	*On-Site Trenching*	*8.45*	*8.54*	*0.54*	*0.51*
"	*On-Site Pipelaying & Backfill*	2.02	2.37	0.12	0.11
"	*On-Site Paving*	5.52	5.86	0.30	0.28
Well Construction (One Well)[5]	Maximum On-Site	9.74	13.39	0.72	0.69
"	*On-Site Demolition*	*4.46*	*5.37*	*0.35*	*0.27*
"	*On-Site Well Installation*	*9.74*	*13.39*	*0.72*	*0.69*
Well Construction Work Area[3]	**Maximum On-Site**	**20**	**24**	**1**	**1**
SCAQMD LST		**80**	**498**	**4**	**3**
Significant Impact?		**No**	**No**	**No**	**No**
Intertie Pipeline[4]	Maximum On-Site	10.47	10.91	0.66	0.62
"	*On-Site Trenching*	*8.45*	*8.54*	*0.54*	*0.51*
"	*On-Site Pipelaying & Backfill*	2.02	2.37	0.12	0.11
"	*On-Site Paving*	5.52	5.86	0.30	0.28
Vault Construction (Two Vaults)[6]	Maximum On-Site	10.91	11.04	0.58	0.54
"	*On-Site Site Preparation*	*5.88*	*7.06*	*0.34*	*0.33*
"	*On-Site Vault Installation*	*10.91*	*11.04*	*0.58*	*0.54*
"	*On-Site Paving*	*6.17*	*6.63*	*0.33*	*0.31*
Intertie Work Area[3]	**Maximum On-Site**	**21**	**22**	**1**	**1**
SCAQMD LST		**80**	**498**	**4**	**3**
Significant Impact?		**No**	**No**	**No**	**No**
Conveyance Pipeline[4]	Maximum On-Site	10.91	11.04	0.58	0.54
"	*On-Site Trenching*	*2.02*	*2.37*	*0.12*	*0.11*
"	*On-Site Pipelaying & Backfill*	5.52	5.86	0.30	0.28
"	*On-Site Paving*	10.91	11.04	0.58	0.54
BOU Plant Upgrade	Maximum On-Site	2.47	2.60	0.74	0.20
BOU Plant Work Area[3]	**Maximum On-Site**	**13**	**14**	**1**	**1**
SCAQMD LST		**80**	**498**	**4**	**3**
Significant Impact?		**No**	**No**	**No**	**No**

1. The LST analysis applies only to on-site emissions of NOx, CO, PM10, and PM2.5.

2. Emissions of PM10 and PM2.5 assume twice-daily watering for fugitive dust control per SCAQMD Rule 403.

3. The project is divided up into two major work areas, the Intertie area, which follows West Burbank Boulevard, and the Well area, which primarily follows along Victory Boulevard, Clybourn Avenue, West Victory Boulevard, and North Ontario Street around the Pierce Brothers Valhalla Memorial Park. These two work areas are separated by more than 3,500 feet at their closest points, and areas of peak constrution are more than a mile apart. Thus, for the purposes of the LST analysis, the on-site emissions from each work area are compared separately against the strictest relevent LST thresholds, corresponding to a daily disturbed site area of 1 acrea and a receptor distance of 25 meters.

4. Trenching and Pipelaying & Backfill phases anticipated to occur simultaneously; Paving phase would occur after Treching and Pipelaying & Backfill phases have completed for any given area.

5. Construction of each well (BNH-1, BNH-2, and NHE-8R) not anticipated to overlap. Demolition & Well Installation Phases would occur in series and would not overlap.

6. Construction of vaults are anticipated to occur simultaneously. Site Preparation, Vault Installation, and Paving phases would occur in series and would not overlap.

Burbank Operable Unit (BOU) Remediation System Upgrades Project CalEEMod Inputs

Global Note: Any unspecified inputs use CalEEMod default values (i.e. equipment horsepower, load factor, etc.)

	BOU Plant Upgrade
Model Purpose	Estimate a peak day of the BOU Plant Upgrade construction. Overall, the BOU Plant Upgrade would be non-intensive construction.
Project Characteristics	County: LASC CC Forecasting Zone: 12
Land Use	Land Use Type: Industrial Land Use Subtype: Unrefrigerated Warehouse - No Rail Unit Amount: 1 Size Metric: 1000sqft
Construction - Construction Phase	Phase Name: Site Preparation Phase Type: Site Preparation Start Date: 06/17/2021 Days/Week: 5 Days/Week Total Days: 1

Burbank Operable Unit (BOU) Remediation System Upgrades Project CalEEMod Inputs

Global Note: Any unspecified inputs use CalEEMod default values (i.e. equipment horsepower, load factor, etc.)

	BOU Plant Upgrade
Construction - Off-Road Equipment	Phase Name: Site Preparation Equipment Type: Aerial Lifts Unit Amount: 1 Hours/Day: 4 Phase Name: Site Preparation Equipment Type: Forklifts Unit Amount: 2 Hours/Day: 6 Phase Name: Site Preparation Equipment Type: Graders Unit Amount: 0 Hours/Day: 0 Phase Name: Site Preparation Equipment Type: Tractors/Loaders/Backhoes Unit Amount: 0 Hours/Day: 0

Burbank Operable Unit (BOU) Remediation System Upgrades Project CalEEMod Inputs

Global Note: Any unspecified inputs use CalEEMod default values (i.e. equipment horsepower, load factor, etc.)

	BOU Plant Upgrade
Construction - Dust from Material Movement	N/A
Construction - Demolition	N/A
Construction - Trips And VMT	Phase Name: Site Preparation # Trips Worker (/day): 5 # Trips Vendor (/day): 4
Mitigation - Construction Mitigation	N/A

Burbank Operable Unit (BOU) Remediation System Upgrades Project CalEEMod Inputs

	Pipeline (1000ft)
Model Purpose	Estimate the annual and peak day emissions associated with 1000ft of pipeline installation along roadways. Applicable as a basis for both Conveyance and Intertie pipeline calculations.
Project Characteristics	County: LASC CC Forecasting Zone: 12
Land Use	Land Use Type: Parking Land Use Subtype: Other Asphalt Surfaces Unit Amount: 3 Size Metric: 1000sqft
Construction - Construction Phase	Phase Name: Trenching Phase Type: Grading Start Date: 06/01/2021 Days/Week: 5 Days/Week Total Days: 10 Phase Name: Pipelaying & Backfill Phase Type: Building Construction Start Date: 06/01/2021 Days/Week: 5 Days/Week Total Days: 10 Phase Name: Paving Phase Type: Paving Start Date: 06/01/2021 Days/Week: 5 Days/Week Total Days: 10

	Pipeline (1000ft)
Construction - Off-Road Equipment	Phase Name: Trenching Equipment Type: Concrete/Industrial Saws Unit Amount: 1 Hours/Day: 8 Phase Name: Trenching Equipment Type: Tractors/Loaders/Backhoes Unit Amount: 1 Hours/Day: 8 Phase Name: Trenching Equipment Type: Trenchers Unit Amount: 1 Hours/Day: 8 Phase Name: Pipelaying & Backfill Equipment Type: Plate Compactors Unit Amount: 1 Hours/Day: 4 Phase Name: Pipelaying & Backfill Equipment Type: Tractors/Loaders/Backhoes Unit Amount: 1 Hours/Day: 8 Phase Name: Paving Equipment Type: Air Compressors Unit Amount: 1 Hours/Day: 4 Phase Name: Paving Equipment Type: Cement and Mortar Mixers Unit Amount: 2 Hours/Day: 6 Phase Name: Paving Equipment Type: Pavers Unit Amount: 1 Hours/Day: 7 Phase Name: Paving Equipment Type: Rollers Unit Amount: 1 Hours/Day: 7

Burbank Operable Unit (BOU) Remediation System Upgrades Project CalEEMod Inputs

	Pipeline (1000ft)
Construction - Dust from Material Movement	Phase Name: Trenching Material Imported: 333 Material Exported: 500 Size Metric: Cubic Yards
Construction - Demolition	Phase Name: Trenching Material Imported: 333 Material Exported: 500 Size Metric: Cubic Yards
Construction - Trips And VMT	Phase Name: Trenching # Trips Vendor (/day): 1 Phase Name: Pipelaying & Backfill # Trips Worker (/day): 12 # Trips Vendor (/day): 5
Mitigation - Construction Mitigation	Water Exposed Area: CHECKED Frequency (per day): 3

Burbank Operable Unit (BOU) Remediation System Upgrades Project CalEEMod Inputs

	Vault Installation (two vaults)
Model Purpose	Estimate the annual and peak day emissions associated with the monitoring and control vaults for the Intertie pipeline.
Project Characteristics	County: LASC CC Forecasting Zone: 12
Land Use	Land Use Type: Parking Land Use Subtype: Enclosed Parking with Elevator Unit Amount: 0.28 Size Metric: 1000sqft
Construction - Construction Phase	Phase Name: Site Preparation Phase Type: Site Preparation Start Date: 01/01/2021 Days/Week: 5 Days/Week Total Days: 5 Phase Name: Vault Construction Phase Type: Building Construction Start Date: 01/07/2021 Days/Week: 5 Days/Week Total Days: 55 Phase Name: Paving Phase Type: Paving Start Date: 04/01/2021 Days/Week: 5 Days/Week Total Days: 5

	Vault Installation (two vaults)
Construction - Off-Road Equipment	Phase Name: Site Preparation Equipment Type: Concrete/Industrial Saws Unit Amount: 1 Hours/Day: 8 Phase Name: Site Preparation Equipment Type: Graders Unit Amount: 0 Hours/Day: 0 Phase Name: Site Preparation Equipment Type: Tractors/Loaders/Backhoes Unit Amount: 2 Hours/Day: 6 Phase Name: Vault Construction Equipment Type: Cement and Mortar Mixers Unit Amount: 2 Hours/Day: 6 Phase Name: Vault Construction Equipment Type: Excavators Unit Amount: 1 Hours/Day: 6 Phase Name: Vault Construction Equipment Type: Tractors/Loaders/Backhoes Unit Amount: 2 Hours/Day: 8 Phase Name: Vault Construction Equipment Type: Welders Unit Amount: 1 Hours/Day: 4 Phase Name: Paving Equipment Type: Cement and Mortar Mixers Unit Amount: 2 Hours/Day: 6 Phase Name: Paving Equipment Type: Pavers Unit Amount: 1 Hours/Day: 7 Phase Name: Paving Equipment Type: Rollers Unit Amount: 1 Hours/Day: 7 Phase Name: Paving Equipment Type: Tractors/Loaders/Backhoes Unit Amount: 1 Hours/Day: 7

Burbank Operable Unit (BOU) Remediation System Upgrades Project CalEEMod Inputs

	Vault Installation (two vaults)
Construction - Dust from Material Movement	Phase Name: Trenching Material Exported: 100 Size Metric: Cubic Yards
Construction - Demolition	Phase Name: Trenching Material Exported: 100 Size Metric: Cubic Yards
Construction - Trips And VMT	Phase Name: Site Preparation # Trips Vendor (/day): 1 # Total # Trips Hauling: 2 Phase Name: Vault Construction # Trips Worker (/day): 15 # Trips Vendor (/day): 3 # Total # Trips Hauling: 10
Mitigation - Construction Mitigation	Water Exposed Area: CHECKED Frequency (per day): 3

Burbank Operable Unit (BOU) Remediation System Upgrades Project CalEEMod Inputs

	Well Construction
Model Purpose	Estimate the annual and peak day emissions associated with the installation of a single well.
Project Characteristics	County: LASC CC Forecasting Zone: 12
Land Use	Land Use Type: Parking Land Use Subtype: Other Asphalt Surfaces Unit Amount: 10.2 Size Metric: 1000sqft
Construction - Construction Phase	Phase Name: Demolition Phase Type: Demolition Start Date: 06/01/2021 Days/Week: 7 Days/Week Total Days: 10 Phase Name: Well Installation Phase Type: Building Construction Start Date: 06/11/2021 Days/Week: 7 Days/Week Total Days: 25

	Well Construction
Construction - Off-Road Equipment	Phase Name: Demolition Equipment Type: Concrete/Industrial Saws Unit Amount: 1 Hours/Day: 8 Phase Name: Demolition Equipment Type: Tractors/Loaders/Backhoes Unit Amount: 1 Hours/Day: 6 Phase Name: Well Installation Equipment Type: Bore/Drill Rigs Unit Amount: 1 Hours/Day: 4 Phase Name: Well Installation Equipment Type: Cranes Unit Amount: 1 Hours/Day: 4 Phase Name: Well Installation Equipment Type: Forklifts Unit Amount: 2 Hours/Day: 6 Phase Name: Well Installation Equipment Type: Generator Sets Unit Amount: 1 Hours/Day: 8 Phase Name: Well Installation Equipment Type: Pumps Unit Amount: 1 Hours/Day: 6 Phase Name: Well Installation Equipment Type: Tractors/Loaders/Backhoes Unit Amount: 1 Hours/Day: 8 Phase Name: Well Installation Equipment Type: Welders Unit Amount: 1 Hours/Day: 4

Burbank Operable Unit (BOU) Remediation System Upgrades Project CalEEMod Inputs

	Well Construction
Construction - Dust from Material Movement	N/A
Construction - Demolition	Phase Name: Demolition Size Metric: Building Square Footage Unit Amount: 2,550
Construction - Trips And VMT	Phase Name: Demolition # Trips Worker (/day): 8 # Trips Vendor (/day): 1 Phase Name: Well Installation # Trips Worker (/day): 20 # Trips Vendor (/day): 3
Mitigation - Construction Mitigation	Water Exposed Area: CHECKED Frequency (per day): 3

NHOU Eastern Plume Remedial Action - BOU Plant Upgrade

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - BOU Plant Upgrade

Construction Phase - BOU Plant Upgrade

Off-road Equipment - BOU Plant Upgrade

Trips and VMT - BOU Plant Upgrade estimated 4 peak day delivery trips

Demolition -

Grading -

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	0.00	0.50
tblOffRoadEquipment	HorsePower	187.00	0.00
tblOffRoadEquipment	HorsePower	97.00	0.00
tblOffRoadEquipment	LoadFactor	0.41	0.00
tblOffRoadEquipment	LoadFactor	0.37	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	8.00	5.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.2493	2.4729	2.5952	4.6700e-003	0.6118	0.1325	0.7443	0.0794	0.1220	0.2014	0.0000	463.9069	463.9069	0.1066	0.0000	466.5718
Maximum	**0.2493**	**2.4729**	**2.5952**	**4.6700e-003**	**0.6118**	**0.1325**	**0.7443**	**0.0794**	**0.1220**	**0.2014**	**0.0000**	**463.9069**	**463.9069**	**0.1066**	**0.0000**	**466.5718**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/17/2021	6/17/2021	5	1	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Aerial Lifts	1	4.00	63	0.31
Site Preparation	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	0	0.00	0	0.00
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	0	0.00

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	5.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.2127	2.0690	2.2988	3.1300e-003		0.1313	0.1313		0.1208	0.1208	0.0000	303.3562	303.3562	0.0981		305.8090
Total	**0.2127**	**2.0690**	**2.2988**	**3.1300e-003**	**0.5303**	**0.1313**	**0.6615**	**0.0573**	**0.1208**	**0.1780**	**0.0000**	**303.3562**	**303.3562**	**0.0981**		**305.8090**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0128	0.3876	0.1123	1.0000e-003	0.0256	8.2000e-004	0.0264	7.3700e-003	7.8000e-004	8.1600e-003		106.9382	106.9382	6.9000e-003		107.1108
Worker	0.0238	0.0163	0.1841	5.4000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		53.6126	53.6126	1.5800e-003		53.6520
Total	**0.0366**	**0.4039**	**0.2964**	**1.5400e-003**	**0.0815**	**1.2700e-003**	**0.0828**	**0.0222**	**1.2000e-003**	**0.0234**		**160.5508**	**160.5508**	**8.4800e-003**		**160.7628**

NHOU Eastern Plume Remedial Action - Pipeline Construction (1000 LF)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.00	1000sqft	0.07	3,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2021
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Emission estimates per 1000 LF of pipeline construction

Land Use - Based on a 1,000 linear feet estimate of new pipeline and a 3-foot wide trenched area.

Construction Phase - 100 LF of pipelaying per day at peak construction intensity (10 days of construction per 1,000 LF).

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Trips and VMT - Default 5 vendor trips/day for pipelaying deliveries. Added 1 vendor trip/day to Trenching to represent use of a water truck per CalEEMod User Guide.

Grading - Assumed approximately one half of trenched material to be exported off-site and one third of exported soil to be replaced with imported backfill. [Total Trenched Volume: 1,000 ft sample length × 3 ft width × 9 ft depth = 27,000 cft = 1,000 cy]

Consumer Products -

Area Coating - No new pavement striping (existing pavement being demo'd and repaved)

Energy Use -

Water And Wastewater -

Construction Off-road Equipment Mitigation -

Demolition - Demolition included in material movement phasing.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	100.00	10.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	5.00	10.00
tblGrading	MaterialExported	0.00	333.00
tblGrading	MaterialImported	0.00	500.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Pipelaying & Backfill
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00

2.0 Emissions Summary

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	9.7800e-003	0.0835	0.0909	1.5000e-004	2.0200e-003	4.7900e-003	6.8000e-003	5.4000e-004	4.5100e-003	5.0500e-003	0.0000	13.3596	13.3596	2.6200e-003	0.0000	13.4253
Maximum	**9.8E-03**	**0.0835**	**0.0909**	**1.5000e-004**	**2.0200e-003**	**4.7900e-003**	**6.8000e-003**	**5.4000e-004**	**4.5100e-003**	**5.0500e-003**	**0.0000**	**13.3596**	**13.3596**	**2.6200e-003**	**0.0000**	**13.4253**

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Trenching	Grading	6/1/2021	6/14/2021	5	10	
2	Pipelaying & Backfill	Building Construction	6/1/2021	6/14/2021	5	10	
3	Paving	Paving	6/1/2021	6/14/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.07

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching	Concrete/Industrial Saws	1	8.00	81	0.73
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Trenchers	1	8.00	78	0.50
Pipelaying & Backfill	Plate Compactors	1	4.00	8	0.43
Pipelaying & Backfill	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Air Compressors	1	4.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Trenching	3	8.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Pipelaying & Backfill	2	12.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Trenching - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7700e-003	0.0422	0.0427	6.0000e-005		2.7000e-003	2.7000e-003		2.5500e-003	2.5500e-003	0.0000	5.5360	5.5360	1.0800e-003	0.0000	5.5630
Total	**4.7700e-003**	**0.0422**	**0.0427**	**6.0000e-005**	**2.0000e-005**	**2.7000e-003**	**2.7200e-003**	**0.0000**	**2.5500e-003**	**2.5500e-003**	**0.0000**	**5.5360**	**5.5360**	**1.0800e-003**	**0.0000**	**5.5630**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	4.9000e-004	1.3000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1233	0.1233	1.0000e-005	0.0000	0.1234
Worker	1.7000e-004	1.3000e-004	1.5100e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3956	0.3956	1.0000e-005	0.0000	0.3959
Total	**1.9000e-004**	**6.2000e-004**	**1.6400e-003**	**0.0000**	**4.7000e-004**	**0.0000**	**4.7000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.5188**	**0.5188**	**2.0000e-005**	**0.0000**	**0.5193**

3.3 Pipelaying & Backfill - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0400e-003	0.0101	0.0118	2.0000e-005		5.8000e-004	5.8000e-004		5.4000e-004	5.4000e-004	0.0000	1.4431	1.4431	4.5000e-004	0.0000	1.4543
Total	**1.0400e-003**	**0.0101**	**0.0118**	**2.0000e-005**		**5.8000e-004**	**5.8000e-004**		**5.4000e-004**	**5.4000e-004**	**0.0000**	**1.4431**	**1.4431**	**4.5000e-004**	**0.0000**	**1.4543**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	2.4700e-003	6.7000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.6000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.6162	0.6162	4.0000e-005	0.0000	0.6172
Worker	2.6000e-004	2.0000e-004	2.2700e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5934	0.5934	2.0000e-005	0.0000	0.5938
Total	**3.4000e-004**	**2.6700e-003**	**2.9400e-003**	**2.0000e-005**	**8.2000e-004**	**2.0000e-005**	**8.2000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**1.2096**	**1.2096**	**6.0000e-005**	**0.0000**	**1.2110**

3.4 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.0800e-003	0.0276	0.0293	5.0000e-005		1.4800e-003	1.4800e-003		1.4000e-003	1.4000e-003	0.0000	4.0094	4.0094	1.0000e-003	0.0000	4.0345
Paving	9.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.1700e-003**	**0.0276**	**0.0293**	**5.0000e-005**		**1.4800e-003**	**1.4800e-003**		**1.4000e-003**	**1.4000e-003**	**0.0000**	**4.0094**	**4.0094**	**1.0000e-003**	**0.0000**	**4.0345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.2000e-004	2.4600e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	1.9000e-004	0.0000	0.6428	0.6428	2.0000e-005	0.0000	0.6433
Total	**2.8000e-004**	**2.2000e-004**	**2.4600e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6428**	**0.6428**	**2.0000e-005**	**0.0000**	**0.6433**

NHOU Eastern Plume Remedial Action - Pipeline Construction (1000 LF)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.00	1000sqft	0.07	3,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2021
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Emission estimates per 1000 LF of pipeline construction

Land Use - Based on a 1,000 linear feet estimate of new pipeline and a 3-foot wide trenched area.

Construction Phase - 100 LF of pipelaying per day at peak construction intensity (10 days of construction per 1,000 LF).

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Trips and VMT - Default 5 vendor trips/day for pipelaying deliveries. Added 1 vendor trip/day to Trenching to represent use of a water truck per CalEEMod User Guide.

Grading - Assumed approximately one half of trenched material to be exported off-site and one third of exported soil to be replaced with imported backfill. [Total Trenched Volume: 1,000 ft sample length × 3 ft width × 9 ft depth = 27,000 cft = 1,000 cy]

Consumer Products -

Area Coating - No new pavement striping (existing pavement being demo'd and repaved)

Energy Use -

Water And Wastewater -

Construction Off-road Equipment Mitigation -

Demolition - Demolition included in material movement phasing.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	100.00	10.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	5.00	10.00
tblGrading	MaterialExported	0.00	333.00
tblGrading	MaterialImported	0.00	500.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Pipelaying & Backfill
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.9553	16.6716	18.2488	0.0309	0.4109	0.9576	1.3685	0.1094	0.9020	1.0115	0.0000	2,963.2619	2,963.2619	0.5788	0.0000	2,977.7317
Maximum	**1.9553**	**16.6716**	**18.2488**	**0.0309**	**0.4109**	**0.9576**	**1.3685**	**0.1094**	**0.9020**	**1.0115**	**0.0000**	**2,963.2619**	**2,963.2619**	**0.5788**	**0.0000**	**2,977.7317**

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Trenching	Grading	6/1/2021	6/14/2021	5	10	
2	Pipelaying & Backfill	Building Construction	6/1/2021	6/14/2021	5	10	
3	Paving	Paving	6/1/2021	6/14/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.07

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching	Concrete/Industrial Saws	1	8.00	81	0.73
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Trenchers	1	8.00	78	0.50
Pipelaying & Backfill	Plate Compactors	1	4.00	8	0.43
Pipelaying & Backfill	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Air Compressors	1	4.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Trenching	3	8.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Pipelaying & Backfill	2	12.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Trenching - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.6700e-003	0.0000	3.6700e-003	5.6000e-004	0.0000	5.6000e-004			0.0000			0.0000
Off-Road	0.9546	8.4458	8.5406	0.0127		0.5399	0.5399		0.5106	0.5106	0.0000	1,220.4872	1,220.4872	0.2375		1,226.4239
Total	**0.9546**	**8.4458**	**8.5406**	**0.0127**	**3.6700e-003**	**0.5399**	**0.5436**	**5.6000e-004**	**0.5106**	**0.5111**	**0.0000**	**1,220.4872**	**1,220.4872**	**0.2375**		**1,226.4239**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.0400e-003	0.0971	0.0254	2.6000e-004	6.4000e-003	2.0000e-004	6.6000e-003	1.8400e-003	1.9000e-004	2.0300e-003		27.4881	27.4881	1.6200e-003		27.5286
Worker	0.0343	0.0236	0.3222	9.1000e-004	0.0894	7.2000e-004	0.0901	0.0237	6.7000e-004	0.0244		91.1016	91.1016	2.6800e-003		91.1687
Total	**0.0373**	**0.1207**	**0.3476**	**1.1700e-003**	**0.0958**	**9.2000e-004**	**0.0967**	**0.0256**	**8.6000e-004**	**0.0264**		**118.5897**	**118.5897**	**4.3000e-003**		**118.6973**

3.3 Pipelaying & Backfill - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2073	2.0215	2.3655	3.3500e-003		0.1167	0.1167		0.1077	0.1077	0.0000	318.1398	318.1398	0.0991		320.6174
Total	**0.2073**	**2.0215**	**2.3655**	**3.3500e-003**		**0.1167**	**0.1167**		**0.1077**	**0.1077**	**0.0000**	**318.1398**	**318.1398**	**0.0991**		**320.6174**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0152	0.4855	0.1269	1.2900e-003	0.0320	9.9000e-004	0.0330	9.2200e-003	9.5000e-004	0.0102		137.4403	137.4403	8.1000e-003		137.6427
Worker	0.0514	0.0354	0.4833	1.3700e-003	0.1341	1.0800e-003	0.1352	0.0356	1.0000e-003	0.0366		136.6524	136.6524	4.0300e-003		136.7530
Total	**0.0666**	**0.5208**	**0.6102**	**2.6600e-003**	**0.1661**	**2.0700e-003**	**0.1682**	**0.0448**	**1.9500e-003**	**0.0467**		**274.0927**	**274.0927**	**0.0121**		**274.3958**

3.4 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6153	5.5245	5.8613	9.4600e-003		0.2969	0.2969		0.2799	0.2799	0.0000	883.9125	883.9125	0.2214		889.4482
Paving	0.0183					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6337**	**5.5245**	**5.8613**	**9.4600e-003**		**0.2969**	**0.2969**		**0.2799**	**0.2799**	**0.0000**	**883.9125**	**883.9125**	**0.2214**		**889.4482**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0557	0.0383	0.5236	1.4900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0800e-003	0.0396		148.0401	148.0401	4.3600e-003		148.1491
Total	**0.0557**	**0.0383**	**0.5236**	**1.4900e-003**	**0.1453**	**1.1700e-003**	**0.1465**	**0.0385**	**1.0800e-003**	**0.0396**		**148.0401**	**148.0401**	**4.3600e-003**		**148.1491**

NHOU Eastern Plume Remedial Action - Pipeline Construction (1000 LF)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.00	1000sqft	0.07	3,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2021
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Emission estimates per 1000 LF of pipeline construction

Land Use - Based on a 1,000 linear feet estimate of new pipeline and a 3-foot wide trenched area.

Construction Phase - 100 LF of pipelaying per day at peak construction intensity (10 days of construction per 1,000 LF).

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Trips and VMT - Default 5 vendor trips/day for pipelaying deliveries. Added 1 vendor trip/day to Trenching to represent use of a water truck per CalEEMod User Guide.

Grading - Assumed approximately one half of trenched material to be exported off-site and one third of exported soil to be replaced with imported backfill. [Total Trenched Volume: 1,000 ft sample length × 3 ft width × 9 ft depth = 27,000 cft = 1,000 cy]

Consumer Products -

Area Coating - No new pavement striping (existing pavement being demo'd and repaved)

Energy Use -

Water And Wastewater -

Construction Off-road Equipment Mitigation -

Demolition - Demolition included in material movement phasing.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstructionPhase	NumDays	100.00	10.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	5.00	10.00
tblGrading	MaterialExported	0.00	333.00
tblGrading	MaterialImported	0.00	500.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Pipelaying & Backfill
tblOffRoadEquipment	UsageHours	6.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.9721	16.6807	18.1511	0.0306	0.4109	0.9576	1.3686	0.1094	0.9021	1.0115	0.0000	2,936.7897	2,936.7897	0.5788	0.0000	2,951.2589
Maximum	**1.9721**	**16.6807**	**18.1511**	**0.0306**	**0.4109**	**0.9576**	**1.3686**	**0.1094**	**0.9021**	**1.0115**	**0.0000**	**2,936.7897**	**2,936.7897**	**0.5788**	**0.0000**	**2,951.2589**

3.0 Construction Detail

Construction Phase

Phase	Phase Name	Phase Type	Start Date	End Date	Num Days	Num Days	Phase Description
1	Trenching	Grading	6/1/2021	6/14/2021	5	10	
2	Pipelaying & Backfill	Building Construction	6/1/2021	6/14/2021	5	10	
3	Paving	Paving	6/1/2021	6/14/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.07

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching	Concrete/Industrial Saws	1	8.00	81	0.73
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Trenchers	1	8.00	78	0.50
Pipelaying & Backfill	Plate Compactors	1	4.00	8	0.43
Pipelaying & Backfill	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Air Compressors	1	4.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
Trenching	3	8.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Pipelaying & Backfill	2	12.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Trenching - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.6700e-003	0.0000	3.6700e-003	5.6000e-004	0.0000	5.6000e-004			0.0000			0.0000
Off-Road	0.9546	8.4458	8.5406	0.0127		0.5399	0.5399		0.5106	0.5106	0.0000	1,220.4872	1,220.4872	0.2375		1,226.4239
Total	**0.9546**	**8.4458**	**8.5406**	**0.0127**	**3.6700e-003**	**0.5399**	**0.5436**	**5.6000e-004**	**0.5106**	**0.5111**	**0.0000**	**1,220.4872**	**1,220.4872**	**0.2375**		**1,226.4239**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	3.1900e-003	0.0969	0.0281	2.5000e-004	6.4000e-003	2.0000e-004	6.6100e-003	1.8400e-003	2.0000e-004	2.0400e-003		26.7346	26.7346	1.7300e-003		26.7777
Worker	0.0382	0.0261	0.2946	8.6000e-004	0.0894	7.2000e-004	0.0901	0.0237	6.7000e-004	0.0244		85.7801	85.7801	2.5200e-003		85.8432
Total	**0.0413**	**0.1230**	**0.3227**	**1.1100e-003**	**0.0958**	**9.2000e-004**	**0.0968**	**0.0256**	**8.7000e-004**	**0.0264**		**112.5146**	**112.5146**	**4.2500e-003**		**112.6209**

3.3 Pipelaying & Backfill - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2073	2.0215	2.3655	3.3500e-003		0.1167	0.1167		0.1077	0.1077	0.0000	318.1398	318.1398	0.0991		320.6174
Total	**0.2073**	**2.0215**	**2.3655**	**3.3500e-003**		**0.1167**	**0.1167**		**0.1077**	**0.1077**	**0.0000**	**318.1398**	**318.1398**	**0.0991**		**320.6174**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0160	0.4844	0.1404	1.2500e-003	0.0320	1.0200e-003	0.0330	9.2200e-003	9.8000e-004	0.0102		133.6728	133.6728	8.6300e-003		133.8885
Worker	0.0572	0.0391	0.4419	1.2900e-003	0.1341	1.0800e-003	0.1352	0.0356	1.0000e-003	0.0366		128.6701	128.6701	3.7900e-003		128.7648
Total	**0.0732**	**0.5236**	**0.5823**	**2.5400e-003**	**0.1661**	**2.1000e-003**	**0.1683**	**0.0448**	**1.9800e-003**	**0.0468**		**262.3429**	**262.3429**	**0.0124**		**262.6533**

3.4 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6153	5.5245	5.8613	9.4600e-003		0.2969	0.2969		0.2799	0.2799	0.0000	883.9125	883.9125	0.2214		889.4482
Paving	0.0183					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6337**	**5.5245**	**5.8613**	**9.4600e-003**		**0.2969**	**0.2969**		**0.2799**	**0.2799**	**0.0000**	**883.9125**	**883.9125**	**0.2214**		**889.4482**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0620	0.0424	0.4787	1.4000e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0800e-003	0.0396		139.3926	139.3926	4.1000e-003		139.4952
Total	**0.0620**	**0.0424**	**0.4787**	**1.4000e-003**	**0.1453**	**1.1700e-003**	**0.1465**	**0.0385**	**1.0800e-003**	**0.0396**		**139.3926**	**139.3926**	**4.1000e-003**		**139.4952**

NHOU Eastern Plume Remedial Action - Vault Installation (two Vaults)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	0.28	1000sqft	0.01	280.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Emission estimates for construction of two subsurface vaults

Land Use - Based on two, 14 foot by 10 foot area and 10 foot depth, vaults.

Construction Phase - Major construction assumed to require 1 week site preparation, 11 weeks vault construction, 1 week paving / site cleanup based on 19 week total construction duration of Intertie and 6 week pipeline installation.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Grading - Assumed all excavated material to be exported off-site. [Total Excavated Volume: 10 ft length × 14 ft width × 10 ft depth × 2 vaults = 2,800 cft = approximately 100 cy]

Demolition - Demolition included in material movement phasing.

Trips and VMT - Peak 2 vendor trip/day for Vault Construction deliveries. Added 1 vendor trip/day to Site Preparation and Vault Construction phases to represent use of a water truck per CalEEMod User Guide. Assumed most of off-site material hauling (10 out of 12 total trips) would occur during vault construction phase.

Energy Use -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	55.00
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	PhaseEndDate	11/19/2020	3/25/2021
tblConstructionPhase	PhaseEndDate	11/26/2020	4/8/2021
tblConstructionPhase	PhaseEndDate	6/30/2020	1/7/2021
tblConstructionPhase	PhaseStartDate	7/3/2020	1/8/2021
tblConstructionPhase	PhaseStartDate	11/20/2020	4/2/2021
tblConstructionPhase	PhaseStartDate	6/30/2020	1/1/2021
tblGrading	MaterialImported	0.00	100.00
tblOffRoadEquipment	HorsePower	187.00	0.00
tblOffRoadEquipment	LoadFactor	0.41	0.00
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	HaulingTripNumber	13.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00

2.0 Emissions Summary

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0382	0.3417	0.3581	6.1000e-004	5.7400e-003	0.0178	0.0236	1.5400e-003	0.0166	0.0181	0.0000	53.0550	53.0550	0.0138	0.0000	53.4008
Maximum	**0.0382**	**0.3417**	**0.3581**	**6.1000e-004**	**5.7400e-003**	**0.0178**	**0.0236**	**1.5400e-003**	**0.0166**	**0.0181**	**0.0000**	**53.0550**	**53.0550**	**0.0138**	**0.0000**	**53.4008**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/7/2021	5	5	
2	Vault Construction	Building Construction	1/8/2021	3/25/2021	5	55	
3	Paving	Paving	4/2/2021	4/8/2021	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.01

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Vault Construction	Cement and Mortar Mixers	2	6.00	9	0.56
Vault Construction	Excavators	1	6.00	158	0.38
Vault Construction	Cranes	1	4.00	231	0.29
Vault Construction	Welders	1	4.00	46	0.45
Vault Construction	Forklifts	2	6.00	89	0.20
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Site Preparation	Graders	0	0.00	0	0.00
Vault Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	1.00	2.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Vault Construction	9	15.00	3.00	10.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6600e-003	0.0147	0.0177	3.0000e-005		8.5000e-004	8.5000e-004		8.2000e-004	8.2000e-004	0.0000	2.3678	2.3678	4.1000e-004	0.0000	2.3780
Total	**1.6600e-003**	**0.0147**	**0.0177**	**3.0000e-005**	**0.0000**	**8.5000e-004**	**8.5000e-004**	**0.0000**	**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.3678**	**2.3678**	**4.1000e-004**	**0.0000**	**2.3780**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	2.8000e-004	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0762	0.0762	1.0000e-005	0.0000	0.0764
Vendor	1.0000e-005	2.5000e-004	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0616	0.0616	0.0000	0.0000	0.0617
Worker	9.0000e-005	7.0000e-005	7.6000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1978	0.1978	1.0000e-005	0.0000	0.1979
Total	**1.1000e-004**	**6.0000e-004**	**8.9000e-004**	**0.0000**	**2.6000e-004**	**0.0000**	**2.6000e-004**	**6.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.3356**	**0.3356**	**2.0000e-005**	**0.0000**	**0.3360**

3.3 Vault Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0326	0.2999	0.3036	4.8000e-004		0.0161	0.0161		0.0149	0.0149	0.0000	41.3599	41.3599	0.0125	0.0000	41.6714
Total	**0.0326**	**0.2999**	**0.3036**	**4.8000e-004**		**0.0161**	**0.0161**		**0.0149**	**0.0149**	**0.0000**	**41.3599**	**41.3599**	**0.0125**	**0.0000**	**41.6714**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	1.3800e-003	3.2000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.3812	0.3812	3.0000e-005	0.0000	0.3818
Vendor	2.6000e-004	8.1400e-003	2.2100e-003	2.0000e-005	5.2000e-004	2.0000e-005	5.4000e-004	1.5000e-004	2.0000e-005	1.7000e-004	0.0000	2.0336	2.0336	1.2000e-004	0.0000	2.0367
Worker	1.7700e-003	1.3800e-003	0.0156	5.0000e-005	4.5200e-003	4.0000e-005	4.5600e-003	1.2000e-003	3.0000e-005	1.2300e-003	0.0000	4.0793	4.0793	1.2000e-004	0.0000	4.0823
Total	**2.0700e-003**	**0.0109**	**0.0181**	**7.0000e-005**	**5.1300e-003**	**6.0000e-005**	**5.1900e-003**	**1.3700e-003**	**5.0000e-005**	**1.4300e-003**	**0.0000**	**6.4940**	**6.4940**	**2.7000e-004**	**0.0000**	**6.5008**

3.4 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5800e-003	0.0154	0.0166	3.0000e-005		8.3000e-004	8.3000e-004		7.7000e-004	7.7000e-004	0.0000	2.1763	2.1763	6.7000e-004	0.0000	2.1929
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5800e-003**	**0.0154**	**0.0166**	**3.0000e-005**		**8.3000e-004**	**8.3000e-004**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**2.1763**	**2.1763**	**6.7000e-004**	**0.0000**	**2.1929**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.1000e-004	1.2300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3214	0.3214	1.0000e-005	0.0000	0.3216
Total	**1.4000e-004**	**1.1000e-004**	**1.2300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3214**	**0.3214**	**1.0000e-005**	**0.0000**	**0.3216**

NHOU Eastern Plume Remedial Action - Vault Installation (two Vaults)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	0.28	1000sqft	0.01	280.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Emission estimates for construction of two subsurface vaults

Land Use - Based on two, 14 foot by 10 foot area and 10 foot depth, vaults.

Construction Phase - Major construction assumed to require 1 week site preparation, 11 weeks vault construction, 1 week paving / site cleanup based on 19 week total construction duration of Intertie and 6 week pipeline installation.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Grading - Assumed all excavated material to be exported off-site. [Total Excavated Volume: 10 ft length × 14 ft width × 10 ft depth × 2 vaults = 2,800 cft = approximately 100 cy]

Demolition - Demolition included in material movement phasing.

Trips and VMT - Peak 2 vendor trip/day for Vault Construction deliveries. Added 1 vendor trip/day to Site Preparation and Vault Construction phases to represent use of a water truck per CalEEMod User Guide. Assumed most of off-site material hauling (10 out of 12 total trips) would occur during vault construction phase.

Energy Use -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	55.00
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	PhaseEndDate	11/19/2020	3/25/2021
tblConstructionPhase	PhaseEndDate	11/26/2020	4/8/2021
tblConstructionPhase	PhaseEndDate	6/30/2020	1/7/2021
tblConstructionPhase	PhaseStartDate	7/3/2020	1/8/2021
tblConstructionPhase	PhaseStartDate	11/20/2020	4/2/2021
tblConstructionPhase	PhaseStartDate	6/30/2020	1/1/2021
tblGrading	MaterialImported	0.00	100.00
tblOffRoadEquipment	HorsePower	187.00	0.00
tblOffRoadEquipment	LoadFactor	0.41	0.00
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	HaulingTripNumber	13.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.2613	11.2910	11.7312	0.0202	0.1901	0.5865	0.7765	0.0509	0.5443	0.5951	0.0000	1,926.5427	1,926.5427	0.5104	0.0000	1,939.3037
Maximum	**1.2613**	**11.2910**	**11.7312**	**0.0202**	**0.1901**	**0.5865**	**0.7765**	**0.0509**	**0.5443**	**0.5951**	**0.0000**	**1,926.5427**	**1,926.5427**	**0.5104**	**0.0000**	**1,939.3037**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/7/2021	5	5	
2	Vault Construction	Building Construction	1/8/2021	3/25/2021	5	55	
3	Paving	Paving	4/2/2021	4/8/2021	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.01

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Vault Construction	Cement and Mortar Mixers	2	6.00	9	0.56
Vault Construction	Excavators	1	6.00	158	0.38
Vault Construction	Cranes	1	4.00	231	0.29
Vault Construction	Welders	1	4.00	46	0.45
Vault Construction	Forklifts	2	6.00	89	0.20
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Site Preparation	Graders	0	0.00	0	0.00
Vault Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	1.00	2.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Vault Construction	9	15.00	3.00	10.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.8000e-004	0.0000	8.8000e-004	1.3000e-004	0.0000	1.3000e-004			0.0000			0.0000
Off-Road	0.6657	5.8816	7.0644	0.0109		0.3408	0.3408		0.3274	0.3274	0.0000	1,044.0148	1,044.0148	0.1804		1,048.5245
Total	**0.6657**	**5.8816**	**7.0644**	**0.0109**	**8.8000e-004**	**0.3408**	**0.3417**	**1.3000e-004**	**0.3274**	**0.3275**	**0.0000**	**1,044.0148**	**1,044.0148**	**0.1804**		**1,048.5245**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.3400e-003	0.1073	0.0252	3.1000e-004	6.9900e-003	3.3000e-004	7.3200e-003	1.9200e-003	3.2000e-004	2.2300e-003		33.8579	33.8579	2.3000e-003		33.9153
Vendor	3.0400e-003	0.0971	0.0254	2.6000e-004	6.4000e-003	2.0000e-004	6.6000e-003	1.8400e-003	1.9000e-004	2.0300e-003		27.4881	27.4881	1.6200e-003		27.5286
Worker	0.0343	0.0236	0.3222	9.1000e-004	0.0894	7.2000e-004	0.0901	0.0237	6.7000e-004	0.0244		91.1016	91.1016	2.6800e-003		91.1687
Total	**0.0407**	**0.2280**	**0.3728**	**1.4800e-003**	**0.1028**	**1.2500e-003**	**0.1041**	**0.0275**	**1.1800e-003**	**0.0286**		**152.4475**	**152.4475**	**6.6000e-003**		**152.6125**

3.3 Vault Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1863	10.9068	11.0395	0.0176		0.5844	0.5844		0.5423	0.5423	0.0000	1,657.8731	1,657.8731	0.4995		1,670.3608
Total	**1.1863**	**10.9068**	**11.0395**	**0.0176**		**0.5844**	**0.5844**		**0.5423**	**0.5423**	**0.0000**	**1,657.8731**	**1,657.8731**	**0.4995**		**1,670.3608**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5200e-003	0.0488	0.0114	1.4000e-004	3.1800e-003	1.5000e-004	3.3300e-003	8.7000e-004	1.4000e-004	1.0100e-003		15.3899	15.3899	1.0400e-003		15.4160
Vendor	9.1200e-003	0.2913	0.0762	7.7000e-004	0.0192	6.0000e-004	0.0198	5.5300e-003	5.7000e-004	6.1000e-003		82.4642	82.4642	4.8600e-003		82.5856
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.0749**	**0.3842**	**0.6918**	**2.6200e-003**	**0.1901**	**2.1000e-003**	**0.1922**	**0.0509**	**1.9600e-003**	**0.0528**		**268.6696**	**268.6696**	**0.0109**		**268.9430**

3.4 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6333	6.1655	6.6273	0.0102		0.3319	0.3319		0.3071	0.3071	0.0000	959.5681	959.5681	0.2937		966.9106
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6333**	**6.1655**	**6.6273**	**0.0102**		**0.3319**	**0.3319**		**0.3071**	**0.3071**	**0.0000**	**959.5681**	**959.5681**	**0.2937**		**966.9106**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0557	0.0383	0.5236	1.4900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0800e-003	0.0396		148.0401	148.0401	4.3600e-003		148.1491
Total	**0.0557**	**0.0383**	**0.5236**	**1.4900e-003**	**0.1453**	**1.1700e-003**	**0.1465**	**0.0385**	**1.0800e-003**	**0.0396**		**148.0401**	**148.0401**	**4.3600e-003**		**148.1491**

NHOU Eastern Plume Remedial Action - Vault Installation (two Vaults)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	0.28	1000sqft	0.01	280.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Emission estimates for construction of two subsurface vaults

Land Use - Based on two, 14 foot by 10 foot area and 10 foot depth, vaults.

Construction Phase - Major construction assumed to require 1 week site preparation, 11 weeks vault construction, 1 week paving / site cleanup based on 19 week total construction duration of Intertie and 6 week pipeline installation.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Grading - Assumed all excavated material to be exported off-site. [Total Excavated Volume: 10 ft length × 14 ft width × 10 ft depth × 2 vaults = 2,800 cft = approximately 100 cy]

Demolition - Demolition included in material movement phasing.

Trips and VMT - Peak 2 vendor trip/day for Vault Construction deliveries. Added 1 vendor trip/day to Site Preparation and Vault Construction phases to represent use of a water truck per CalEEMod User Guide. Assumed most of off-site material hauling (10 out of 12 total trips) would occur during vault construction phase.

Energy Use -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	55.00
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	PhaseEndDate	11/19/2020	3/25/2021
tblConstructionPhase	PhaseEndDate	11/26/2020	4/8/2021
tblConstructionPhase	PhaseEndDate	6/30/2020	1/7/2021
tblConstructionPhase	PhaseStartDate	7/3/2020	1/8/2021
tblConstructionPhase	PhaseStartDate	11/20/2020	4/2/2021
tblConstructionPhase	PhaseStartDate	6/30/2020	1/1/2021
tblGrading	MaterialImported	0.00	100.00
tblOffRoadEquipment	HorsePower	187.00	0.00
tblOffRoadEquipment	LoadFactor	0.41	0.00
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	HaulingTripNumber	13.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripNumber	0.00	15.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.2690	11.2957	11.6882	0.0201	0.1901	0.5865	0.7766	0.0509	0.5443	0.5952	0.0000	1,914.0377	1,914.0377	0.5105	0.0000	1,926.8002
Maximum	**1.2690**	**11.2957**	**11.6882**	**0.0201**	**0.1901**	**0.5865**	**0.7766**	**0.0509**	**0.5443**	**0.5952**	**0.0000**	**1,914.0377**	**1,914.0377**	**0.5105**	**0.0000**	**1,926.8002**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/7/2021	5	5	
2	Vault Construction	Building Construction	1/8/2021	3/25/2021	5	55	
3	Paving	Paving	4/2/2021	4/8/2021	5	5	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.01

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Vault Construction	Cement and Mortar Mixers	2	6.00	9	0.56
Vault Construction	Excavators	1	6.00	158	0.38
Vault Construction	Cranes	1	4.00	231	0.29
Vault Construction	Welders	1	4.00	46	0.45
Vault Construction	Forklifts	2	6.00	89	0.20
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Site Preparation	Graders	0	0.00	0	0.00
Vault Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	1.00	2.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Vault Construction	9	15.00	3.00	10.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.8000e-004	0.0000	8.8000e-004	1.3000e-004	0.0000	1.3000e-004			0.0000			0.0000
Off-Road	0.6657	5.8816	7.0644	0.0109		0.3408	0.3408		0.3274	0.3274	0.0000	1,044.0148	1,044.0148	0.1804		1,048.5245
Total	**0.6657**	**5.8816**	**7.0644**	**0.0109**	**8.8000e-004**	**0.3408**	**0.3417**	**1.3000e-004**	**0.3274**	**0.3275**	**0.0000**	**1,044.0148**	**1,044.0148**	**0.1804**		**1,048.5245**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.4200e-003	0.1086	0.0267	3.1000e-004	6.9900e-003	3.3000e-004	7.3300e-003	1.9200e-003	3.2000e-004	2.2400e-003		33.2713	33.2713	2.3800e-003		33.3308
Vendor	3.1900e-003	0.0969	0.0281	2.5000e-004	6.4000e-003	2.0000e-004	6.6100e-003	1.8400e-003	2.0000e-004	2.0400e-003		26.7346	26.7346	1.7300e-003		26.7777
Worker	0.0382	0.0261	0.2946	8.6000e-004	0.0894	7.2000e-004	0.0901	0.0237	6.7000e-004	0.0244		85.7801	85.7801	2.5200e-003		85.8432
Total	**0.0448**	**0.2316**	**0.3494**	**1.4200e-003**	**0.1028**	**1.2500e-003**	**0.1041**	**0.0275**	**1.1900e-003**	**0.0287**		**145.7860**	**145.7860**	**6.6300e-003**		**145.9517**

3.3 Vault Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1863	10.9068	11.0395	0.0176		0.5844	0.5844		0.5423	0.5423	0.0000	1,657.8731	1,657.8731	0.4995		1,670.3608
Total	**1.1863**	**10.9068**	**11.0395**	**0.0176**		**0.5844**	**0.5844**		**0.5423**	**0.5423**	**0.0000**	**1,657.8731**	**1,657.8731**	**0.4995**		**1,670.3608**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.5500e-003	0.0494	0.0121	1.4000e-004	3.1800e-003	1.5000e-004	3.3300e-003	8.7000e-004	1.5000e-004	1.0200e-003		15.1233	15.1233	1.0800e-003		15.1504
Vendor	9.5700e-003	0.2907	0.0842	7.5000e-004	0.0192	6.1000e-004	0.0198	5.5300e-003	5.9000e-004	6.1200e-003		80.2037	80.2037	5.1800e-003		80.3331
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.0826**	**0.3890**	**0.6487**	**2.5000e-003**	**0.1901**	**2.1100e-003**	**0.1922**	**0.0509**	**1.9900e-003**	**0.0529**		**256.1647**	**256.1647**	**0.0110**		**256.4394**

3.4 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6333	6.1655	6.6273	0.0102		0.3319	0.3319		0.3071	0.3071	0.0000	959.5681	959.5681	0.2937		966.9106
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6333**	**6.1655**	**6.6273**	**0.0102**		**0.3319**	**0.3319**		**0.3071**	**0.3071**	**0.0000**	**959.5681**	**959.5681**	**0.2937**		**966.9106**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0620	0.0424	0.4787	1.4000e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0800e-003	0.0396		139.3926	139.3926	4.1000e-003		139.4952
Total	**0.0620**	**0.0424**	**0.4787**	**1.4000e-003**	**0.1453**	**1.1700e-003**	**0.1465**	**0.0385**	**1.0800e-003**	**0.0396**		**139.3926**	**139.3926**	**4.1000e-003**		**139.4952**

NHOU Eastern Plume Remediation Action - Well Construction (one well)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	10.20	1000sqft	0.23	10,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Emission estimates for construction of one well

Land Use - Approximate disturbed area of 10,200 ft based on well site drawing.

Construction Phase - Phasing based on CalEEMod defaults & project-specific details.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Trips and VMT - Added 1 vendor trip/day to each phase to represent water truck per CalEEMod User Guide.

Demolition - Since no bldg being demolished, assumed approximatley 1/4 square footage of site.

Construction Off-road Equipment Mitigation -

Operational Off-Road Equipment - Ongoing well operations after construction assumed continuous.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	25.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	24.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	2.00	3.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	4.00	20.00

2.0 Emissions Summary

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0229	0.1508	0.2067	4.1000e-004	4.0400e-003	0.0103	0.0144	1.0200e-003	9.9000e-003	0.0109	0.0000	35.8945	35.8945	6.0900e-003	0.0000	36.0466
Maximum	**0.0229**	**0.1508**	**0.2067**	**4.1000e-004**	**4.0400e-003**	**0.0103**	**0.0144**	**1.0200e-003**	**9.9000e-003**	**0.0109**	**0.0000**	**35.8945**	**35.8945**	**6.0900e-003**	**0.0000**	**36.0466**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2021	6/10/2021	7	10	
2	Well Installation	Building Construction	6/11/2021	7/5/2021	7	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.23

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Well Installation	Bore/Drill Rigs	1	4.00	221	0.50
Well Installation	Generator Sets	1	8.00	84	0.74
Well Installation	Pumps	1	6.00	84	0.74
Well Installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Well Installation	Welders	1	4.00	46	0.45
Well Installation	Cranes	1	4.00	231	0.29
Well Installation	Forklifts	2	6.00	89	0.20

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	2	8.00	1.00	12.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Well Installation	5	20.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.9000e-004	0.0000	4.9000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6300e-003	0.0223	0.0269	4.0000e-005		1.2800e-003	1.2800e-003		1.2500e-003	1.2500e-003	0.0000	3.7119	3.7119	4.9000e-004	0.0000	3.7241
Total	**2.6300e-003**	**0.0223**	**0.0269**	**4.0000e-005**	**4.9000e-004**	**1.2800e-003**	**1.7700e-003**	**7.0000e-005**	**1.2500e-003**	**1.3200e-003**	**0.0000**	**3.7119**	**3.7119**	**4.9000e-004**	**0.0000**	**3.7241**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.6600e-003	3.9000e-004	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4574	0.4574	3.0000e-005	0.0000	0.4582
Vendor	2.0000e-005	4.9000e-004	1.3000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1233	0.1233	1.0000e-005	0.0000	0.1234
Worker	1.7000e-004	1.3000e-004	1.5100e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3956	0.3956	1.0000e-005	0.0000	0.3959
Total	**2.4000e-004**	**2.2800e-003**	**2.0300e-003**	**0.0000**	**5.7000e-004**	**0.0000**	**5.8000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.9762**	**0.9762**	**5.0000e-005**	**0.0000**	**0.9775**

3.3 Well Installation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0189	0.1217	0.1674	3.2000e-004		8.9900e-003	8.9900e-003		8.6100e-003	8.6100e-003	0.0000	27.8097	27.8097	5.4200e-003	0.0000	27.9451
Total	**0.0189**	**0.1217**	**0.1674**	**3.2000e-004**		**8.9900e-003**	**8.9900e-003**		**8.6100e-003**	**8.6100e-003**	**0.0000**	**27.8097**	**27.8097**	**5.4200e-003**	**0.0000**	**27.9451**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2000e-004	3.7000e-003	1.0000e-003	1.0000e-005	2.4000e-004	1.0000e-005	2.4000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.9244	0.9244	6.0000e-005	0.0000	0.9258
Worker	1.0800e-003	8.4000e-004	9.4500e-003	3.0000e-005	2.7400e-003	2.0000e-005	2.7600e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.4723	2.4723	7.0000e-005	0.0000	2.4741
Total	**1.2000e-003**	**4.5400e-003**	**0.0105**	**4.0000e-005**	**2.9800e-003**	**3.0000e-005**	**3.0000e-003**	**8.0000e-004**	**3.0000e-005**	**8.3000e-004**	**0.0000**	**3.3967**	**3.3967**	**1.3000e-004**	**0.0000**	**3.3999**

NHOU Eastern Plume Remediation Action - Well Construction (one well)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	10.20	1000sqft	0.23	10,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Emission estimates for construction of one well

Land Use - Approximate disturbed area of 10,200 ft based on well site drawing.

Construction Phase - Phasing based on CalEEMod defaults & project-specific details.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Trips and VMT - Added 1 vendor trip/day to each phase to represent water truck per CalEEMod User Guide.

Demolition - Since no bldg being demolished, assumed approximatley 1/4 square footage of site.

Construction Off-road Equipment Mitigation -

Operational Off-Road Equipment - Ongoing well operations after construction assumed continuous.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	25.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	24.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	2.00	3.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	4.00	20.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.6057	10.0855	14.2717	0.0288	0.2428	0.7220	0.9647	0.0648	0.6913	0.7561	0.0000	2,762.6153	2,762.6153	0.4893	0.0000	2,774.8486
Maximum	**1.6057**	**10.0855**	**14.2717**	**0.0288**	**0.2428**	**0.7220**	**0.9647**	**0.0648**	**0.6913**	**0.7561**	**0.0000**	**2,762.6153**	**2,762.6153**	**0.4893**	**0.0000**	**2,774.8486**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2021	6/10/2021	7	10	
2	Well Installation	Building Construction	6/11/2021	7/5/2021	7	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.23

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Well Installation	Bore/Drill Rigs	1	4.00	221	0.50
Well Installation	Generator Sets	1	8.00	84	0.74
Well Installation	Pumps	1	6.00	84	0.74
Well Installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Well Installation	Welders	1	4.00	46	0.45
Well Installation	Cranes	1	4.00	231	0.29
Well Installation	Forklifts	2	6.00	89	0.20

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	2	8.00	1.00	12.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Well Installation	5	20.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0979	0.0000	0.0979	0.0148	0.0000	0.0148			0.0000			0.0000
Off-Road	0.5253	4.4598	5.3692	8.5900e-003		0.2570	0.2570		0.2502	0.2502	0.0000	818.3397	818.3397	0.1074		821.0248
Total	**0.5253**	**4.4598**	**5.3692**	**8.5900e-003**	**0.0979**	**0.2570**	**0.3548**	**0.0148**	**0.2502**	**0.2651**	**0.0000**	**818.3397**	**818.3397**	**0.1074**		**821.0248**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0100	0.3219	0.0755	9.4000e-004	0.0210	9.9000e-004	0.0220	5.7500e-003	9.5000e-004	6.7000e-003		101.5736	101.5736	6.8900e-003		101.7459
Vendor	3.0400e-003	0.0971	0.0254	2.6000e-004	6.4000e-003	2.0000e-004	6.6000e-003	1.8400e-003	1.9000e-004	2.0300e-003		27.4881	27.4881	1.6200e-003		27.5286
Worker	0.0343	0.0236	0.3222	9.1000e-004	0.0894	7.2000e-004	0.0901	0.0237	6.7000e-004	0.0244		91.1016	91.1016	2.6800e-003		91.1687
Total	**0.0473**	**0.4426**	**0.4231**	**2.1100e-003**	**0.1168**	**1.9100e-003**	**0.1187**	**0.0313**	**1.8100e-003**	**0.0331**		**220.1632**	**220.1632**	**0.0112**		**220.4431**

3.3 Well Installation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5108	9.7353	13.3900	0.0258		0.7196	0.7196		0.6891	0.6891	0.0000	2,452.3971	2,452.3971	0.4778		2,464.3412
Total	**1.5108**	**9.7353**	**13.3900**	**0.0258**		**0.7196**	**0.7196**		**0.6891**	**0.6891**	**0.0000**	**2,452.3971**	**2,452.3971**	**0.4778**		**2,464.3412**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	9.1200e-003	0.2913	0.0762	7.7000e-004	0.0192	6.0000e-004	0.0198	5.5300e-003	5.7000e-004	6.1000e-003		82.4642	82.4642	4.8600e-003		82.5856
Worker	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.0949**	**0.3502**	**0.8817**	**3.0600e-003**	**0.2428**	**2.4100e-003**	**0.2452**	**0.0648**	**2.2300e-003**	**0.0671**		**310.2182**	**310.2182**	**0.0116**		**310.5074**

NHOU Eastern Plume Remediation Action - Well Construction (one well)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	10.20	1000sqft	0.23	10,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	12			**Operational Year**	2022
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Emission estimates for construction of one well

Land Use - Approximate disturbed area of 10,200 ft based on well site drawing.

Construction Phase - Phasing based on CalEEMod defaults & project-specific details.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Off-road Equipment - Equipment based on CalEEMod defaults & project-specific requirements.

Trips and VMT - Added 1 vendor trip/day to each phase to represent water truck per CalEEMod User Guide.

Demolition - Since no bldg being demolished, assumed approximatley 1/4 square footage of site.

Construction Off-road Equipment Mitigation -

Operational Off-Road Equipment - Ongoing well operations after construction assumed continuous.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	25.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOffRoadEquipment	PhaseName		Well Installation
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	24.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	2.00	3.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	4.00	20.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	1.6158	10.0912	14.2108	0.0287	0.2428	0.7220	0.9648	0.0648	0.6913	0.7561	0.0000	2,747.0510	2,747.0510	0.4893	0.0000	2,759.2823
Maximum	**1.6158**	**10.0912**	**14.2108**	**0.0287**	**0.2428**	**0.7220**	**0.9648**	**0.0648**	**0.6913**	**0.7561**	**0.0000**	**2,747.0510**	**2,747.0510**	**0.4893**	**0.0000**	**2,759.2823**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2021	6/10/2021	7	10	
2	Well Installation	Building Construction	6/11/2021	7/5/2021	7	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.23

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Well Installation	Bore/Drill Rigs	1	4.00	221	0.50
Well Installation	Generator Sets	1	8.00	84	0.74
Well Installation	Pumps	1	6.00	84	0.74
Well Installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Well Installation	Welders	1	4.00	46	0.45
Well Installation	Cranes	1	4.00	231	0.29
Well Installation	Forklifts	2	6.00	89	0.20

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	2	8.00	1.00	12.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Well Installation	5	20.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0979	0.0000	0.0979	0.0148	0.0000	0.0148			0.0000			0.0000
Off-Road	0.5253	4.4598	5.3692	8.5900e-003		0.2570	0.2570		0.2502	0.2502	0.0000	818.3397	818.3397	0.1074		821.0248
Total	**0.5253**	**4.4598**	**5.3692**	**8.5900e-003**	**0.0979**	**0.2570**	**0.3548**	**0.0148**	**0.2502**	**0.2651**	**0.0000**	**818.3397**	**818.3397**	**0.1074**		**821.0248**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0103	0.3258	0.0800	9.2000e-004	0.0210	1.0000e-003	0.0220	5.7500e-003	9.6000e-004	6.7100e-003		99.8140	99.8140	7.1400e-003		99.9924
Vendor	3.1900e-003	0.0969	0.0281	2.5000e-004	6.4000e-003	2.0000e-004	6.6100e-003	1.8400e-003	2.0000e-004	2.0400e-003		26.7346	26.7346	1.7300e-003		26.7777
Worker	0.0382	0.0261	0.2946	8.6000e-004	0.0894	7.2000e-004	0.0901	0.0237	6.7000e-004	0.0244		85.7801	85.7801	2.5200e-003		85.8432
Total	**0.0516**	**0.4488**	**0.4027**	**2.0300e-003**	**0.1168**	**1.9200e-003**	**0.1187**	**0.0313**	**1.8300e-003**	**0.0331**		**212.3286**	**212.3286**	**0.0114**		**212.6133**

3.3 Well Installation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5108	9.7353	13.3900	0.0258		0.7196	0.7196		0.6891	0.6891	0.0000	2,452.3971	2,452.3971	0.4778		2,464.3412
Total	**1.5108**	**9.7353**	**13.3900**	**0.0258**		**0.7196**	**0.7196**		**0.6891**	**0.6891**	**0.0000**	**2,452.3971**	**2,452.3971**	**0.4778**		**2,464.3412**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	9.5700e-003	0.2907	0.0842	7.5000e-004	0.0192	6.1000e-004	0.0198	5.5300e-003	5.9000e-004	6.1200e-003		80.2037	80.2037	5.1800e-003		80.3331
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.1049**	**0.3559**	**0.8207**	**2.9000e-003**	**0.2428**	**2.4200e-003**	**0.2452**	**0.0648**	**2.2500e-003**	**0.0671**		**294.6539**	**294.6539**	**0.0115**		**294.9411**