

EXHIBIT "B"

**FINAL
INITIAL STUDY/MITIGATED NEGATIVE
DECLARATION**

EASTWOOD RECYCLED WATER PUMP STATION PROJECT



LSA

January 2018

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DECLARATION

EASTWOOD RECYCLED WATER PUMP STATION PROJECT



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January 2018

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LIST OF ABBREVIATIONS AND ACRONYMS

µin/sec	microinches per second
AB	Assembly Bill
ADA	Americans with Disabilities Act
ADT	average daily traffic
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
Basin	South Coast Air Basin
BMP	Best Management Practice
CA	California
CalARP	California Accidental Release Program
CalEEMod	California Emissions Estimator Model
California Register	California Register of Historical Resources
Caltrans	California Department of Transportation
CBC	California Building Code
CCR	California Code of Regulations
CCTV	closed-circuit television
CEQA	California Environmental Quality Act
CH ₄	methane
City	City of Irvine
CMA	Congestion Management Agency
CMP	Congestion Management Program
CMU	concrete masonry unit
CNEL	community noise equivalent level
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CUPA	Certified Unified Program Agency
dB	decibel
dBA	A-weighted decibel
DTSC	Department of Toxic Substances Control
EFZ	Earthquake Fault Zone
EIR	Environmental Impact Report
EO	Executive Order
ERW PS	Eastwood Recycled Water Pump Station
FMMP	Farmland Mapping and Monitoring Program

ft	feet/foot
FTA	Federal Transit Administration
GHG	Greenhouse gas
GIS	geographic information system
GWP	Global Warming Potential
HCP	Habitat Conservation Plan
HFC	hydrofluorocarbon
HMBP	Hazardous Materials Business Plan
Hz	Hertz
ILP	Irvine Lake Pipeline
in/sec	inches per second
IRWD	Irvine Ranch Water District
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
lbs/day	pounds per day
L _{dn}	day-night average level
LED	light-emitting diode
L _{eq}	equivalent continuous sound level
L _{max}	maximum noise level
LOS	levels of service
LST	localized significance threshold
L _v	velocity in decibels
MCAS	Marine Corps Air Station
MLD	Most Likely Descendant
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zones
MS4	Municipal Separate Storm Sewer System
MT/yr	metric tons per year
N/A	not applicable
N ₂ O	nitrous oxide
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NO	nitric oxide
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
O ₃	ozone
OCFA	Orange County Fire Authority
OCTA	Orange County Transportation Authority

PA	Planning Area
Pb	lead
PCB	polychlorinated biphenyls
PFC	perfluorocarbon
PLC	Programmable Logic Controller
PM	particulate matter
PM ₁₀	particulate matter less than 10 microns in diameter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
PPV	peak particle velocity
PRC	Public Resources Code
Project	Eastwood Recycled Water Pump Station Project
PVC	polyvinyl chloride
RMS	root-mean-square
ROG	reactive organic gas
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SF ₆	sulfur hexafluoride
SO ₂	sulfur dioxide
SRA	Source Receptor Area
SWPPP	Storm Water Pollution Prevention Plan
TIA	Traffic Impact Analysis
TIC	The Irvine Company
VdB	vibration velocity decibels

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1.0 INTRODUCTION

1.1 PURPOSE OF THIS INITIAL STUDY

The purpose of this Initial Study (IS) is to (1) describe the proposed Eastwood Recycled Water Pump Station Project (Project), which would occur in the City of Irvine and (2) provide an evaluation of potential environmental effects associated with the Project's construction and operation.

This IS has been prepared pursuant to the California Environmental Quality Act (CEQA), as amended (*Public Resources Code* [PRC] §21000 et seq.) and in accordance with the *State CEQA Guidelines* (*California Code of Regulations* [CCR] §15000 et seq.). Consistent with *State CEQA Guidelines* Section 15071, this IS/MND includes a description of the proposed Project, an evaluation of the potential environmental impacts associated with implementation of the proposed Project, and findings from the environmental analysis.

Pursuant to Section 15367 of the *State CEQA Guidelines*, Irvine Ranch Water District (IRWD) is the Lead Agency for the Project. The Lead Agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect on the environment. IRWD, as the Lead Agency, has the authority for Project approval and adoption or certification of the accompanying environmental documentation.

1.2 SUMMARY OF FINDINGS

Based on the environmental checklist form prepared for the Project (Section 4.0) and supporting environmental analysis (Section 5.0), the proposed Project would have no impact or less than significant impacts in the following environmental areas: agriculture and forest land resources, aesthetics, air quality, biological resources, geology and soils, greenhouse gases, hydrology and water quality, land use, mineral resources, public services, recreation, traffic, tribal cultural resources, and utilities and services. The proposed Project has the potential to have significant impacts on the following topics unless the recommended mitigation measures described herein are incorporated into the Project: cultural resources, hazards and hazardous materials, and noise.

According to the *State CEQA Guidelines*, it is appropriate to prepare a Mitigated Negative Declaration (MND) for the proposed Project because, after incorporation of the recommended mitigation measures, potentially significant environmental impacts would be eliminated or reduced to a level considered less than significant.

1.3 ORGANIZATION OF THIS INITIAL STUDY

The IS/MND is organized into sections, as described below.

- Section 1.0: Introduction. This section provides an introduction and overview of the conclusions in the IS/MND.
- Section 2.0: Environmental Setting and Project Description. This section provides a brief description of the Project location, relevant background information, and a description of the

existing conditions of the Project site and vicinity. This section also provides a description of the proposed Project and necessary discretionary approvals.

- Section 3.0: Environmental Factors Potentially Affected. This section provides a list of the environmental factors that would be potentially affected by this Project and a determination by IRWD as to the appropriate environmental document.
- Section 4.0: Environmental Checklist and Discussion of Environmental Checklist Questions. This section contains an analysis of environmental impacts identified in the environmental checklist and identifies mitigation measures that have been recommended to eliminate any potentially significant effects or to reduce them to a level considered less than significant.
- Section 5.0: Mitigation Monitoring and Reporting Program. Consistent with the requirements of PRC Section 21081.6, a mitigation monitoring and reporting program has been prepared for the proposed Project. The program describes the requirements and procedures to be followed by IRWD to ensure that all mitigation measures adopted as part of the proposed Project would be carried out as described in this Initial Study/Mitigated Negative Declaration (IS/MND).
- Section 6.0: References. This section identifies the references used to prepare the IS/MND.

1.4 CONTACT PERSON

Any questions or comments regarding the preparation of this IS/MND, its assumptions, or its conclusions should be referred to:

Irvine Ranch Water District
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2.0 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

Irvine Ranch Water District (IRWD) proposes to construct the Eastwood Recycled Water Pump Station (ERW PS) Project located on the northwest corner of the intersection of Jeffrey Road and Irvine Boulevard in the City of Irvine (City). The surrounding area is currently being developed by The Irvine Company (TIC), and the site was previously mass graded as part of that residential development. Lot 16 contains a 40-foot-wide City storm drain easement through the southern and western portions of the lot. The Project site has an existing 6-foot-high concrete masonry unit (CMU) screening wall around its perimeter, with access to the site from the northwest via an existing opening in the CMU screening wall.

The proposed ERW PS would ultimately house 14 pumps within one building and would also include the installation of three surge tanks, installed slightly below grade, with a roof structure. The Project's purpose is to meet increasing demand in IRWD's Zone B and Zone C recycled water service areas, provide a high degree of operational flexibility, and to maximize the use of recycled water. Construction would include a concrete foundation, CMU block building, lighting, connections to existing recycled water lines within the adjacent roadway, new recycled water lines within the adjacent roadway, storm water drainage infrastructure (e.g., curb and gutter), and installation of asphalt concrete for vehicular access and parking.

2.2 PROJECT LOCATION

The Project site is located in the City of Irvine and in the County of Orange. As shown on Figure 2.1, Project Location, regional access to the Project site is provided by Interstate 5, located southwest of the Project site, State Route 133 located to the south and southeast, State Route 261 located to the northwest, and State Route 241 located to the north.

The proposed ERW PS would be located on a 0.75-acre site (Assessor's Parcel No. 551-711-15) at the northwest corner of the intersection of Jeffrey Road and Irvine Boulevard, within Lot 16 of Tract No. 17849. The Project site is bounded by Jeffrey Road to the east, Irvine Boulevard to the south, and a residential development currently under construction to the north and west. Adjacent land uses include medium-density residential to the north and west, and south across Irvine Boulevard, the Jeffrey Open Space trail to the east of Jeffrey Road, and medium-density residential farther eastward.

2.3 EXISTING SITE CONDITIONS AND LAND USE DESIGNATIONS

The ERW PS Project site is zoned medium-density residential and designated medium-density residential in the City's General Plan. The ERW PS is a conditionally allowed use under the medium-density residential zone. The Project site is vacant in the existing condition. There is an existing 6-foot high CMU screening wall around the perimeter of the site. Access to the site is available from the northwest via an existing opening in the CMU screening wall. There is a temporary chain-link fence gate that restricts vehicular and pedestrian access to the site.

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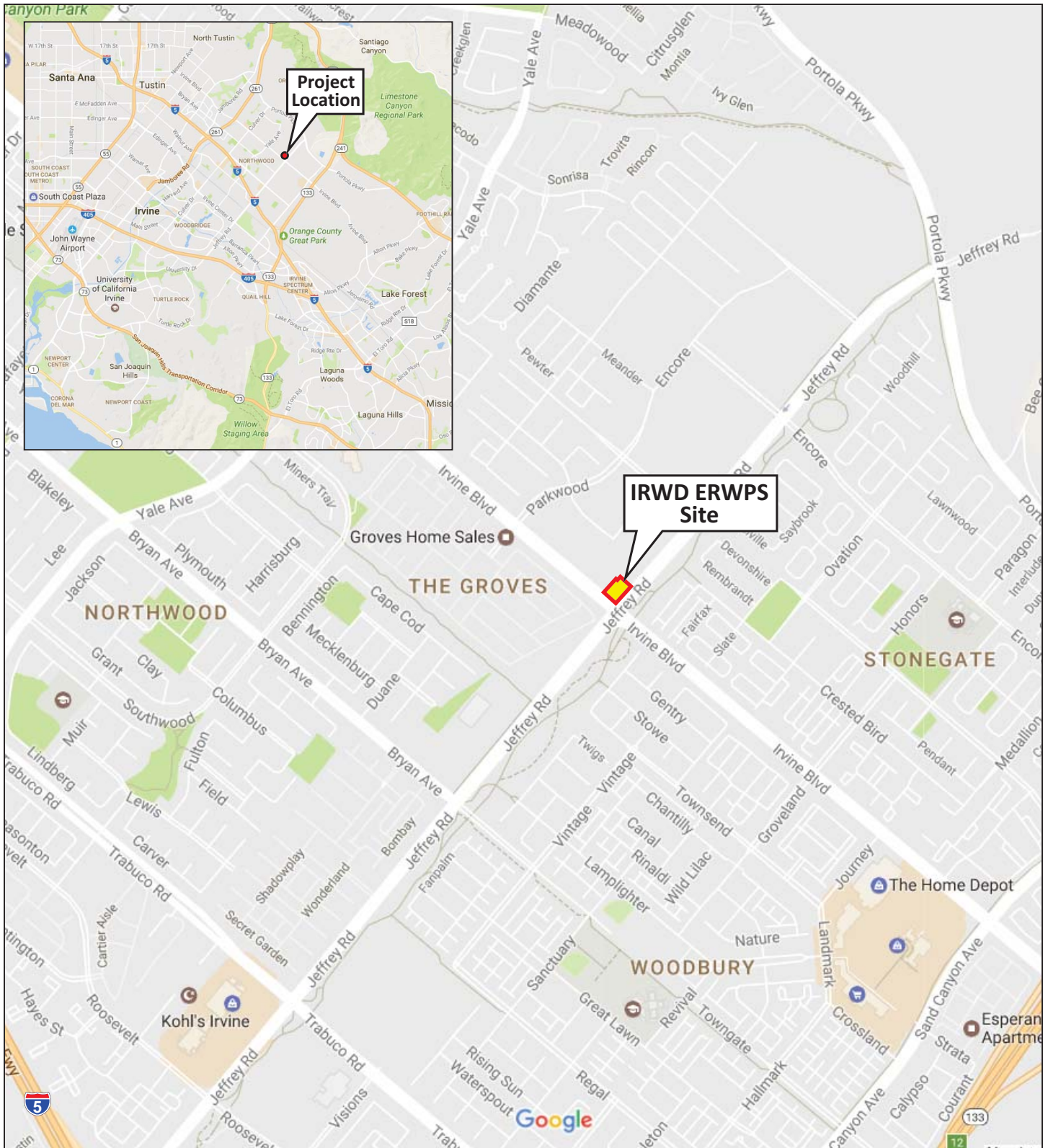
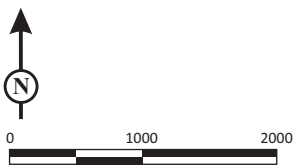


FIGURE 2.1

LSA



SOURCE: Google Maps, 2017

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Eastwood Recycled Water Pump Station
Project Location

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The Project site has existing connection stubs in the ground for 4-inch domestic water, 8-inch sanitary sewer, 36-inch Zone A suction, 16-inch Zone B discharge, 20-inch Zone C discharge, 36-inch Syphon Reservoir suction/discharge, and electrical and communications facilities. Recycled water piping connections are located along the eastern edge of the site, while sewer and water connections are along the western edge, and electrical and communications services are along the southern edge. The Project site also contains an existing box culvert, and a 40-foot-wide City storm drain easement through the southern and western portions of the site.

The area surrounding the Project site is currently being developed by TIC and was previously mass graded as part of that development. The Project site, therefore, consists of relatively flat ground, with average slopes of 2 percent. Although the Project site is primarily flat, a high point of elevation exists at the northeast corner of the site and a low point of elevation exists at the southwest corner of the site. Drainage currently flows from the northern portion to the southern portion of the site.

2.4 PROJECT PHASING

The ERW PS would be implemented in two distinct phases of operation: the Current Phase and the Ultimate Phase. The Current Phase includes the installation of Zone A to Zone B and Zone A to Zone C pumps and would be constructed first. The Ultimate Phase includes the installation of Zone A to Syphon Reservoir and Syphon Reservoir to Zone C pumps and would be constructed within the next five to ten years. All pumps in the Current Phase and Ultimate Phase would meet the required recycled water demands in the Zone B and Zone C pressure zones. Figure 2.2, Site Plan, depicts the details of the site plan.

2.4.1 Current Phase

This phase would implement three booster pumps for Zone A to Zone B and five booster pumps for Zone A to Zone C, sized to meet all Current Phase demands and all Ultimate Phase demands, assuming all Planning Area (PA) developments have been built-out. A total of eight booster pumps would be installed as part of the Current Phase. Figure 2.3a, Current Phase Plan, depicts the details of the current phase.

The following breaks down the functions of the pumps for the Current Phase:

- Zone A to Zone B (2 Duty, 1 Standby)
- Zone A to Zone C (4 Duty, 1 Standby)

2.4.2 Ultimate Phase

This phase would include the installation of two booster pumps for Syphon Reservoir to Zone C and four booster pumps for Zone A to Syphon Reservoir. The pumps would be sized to meet all Ultimate Phase demands, assuming all PA developments have been built-out and the Syphon Reservoir Improvement Project has been constructed. In addition, two of the five booster pumps in the Zone A to Zone C station from the Current Phase would be transitioned to the Syphon Reservoir to the Zone C station.

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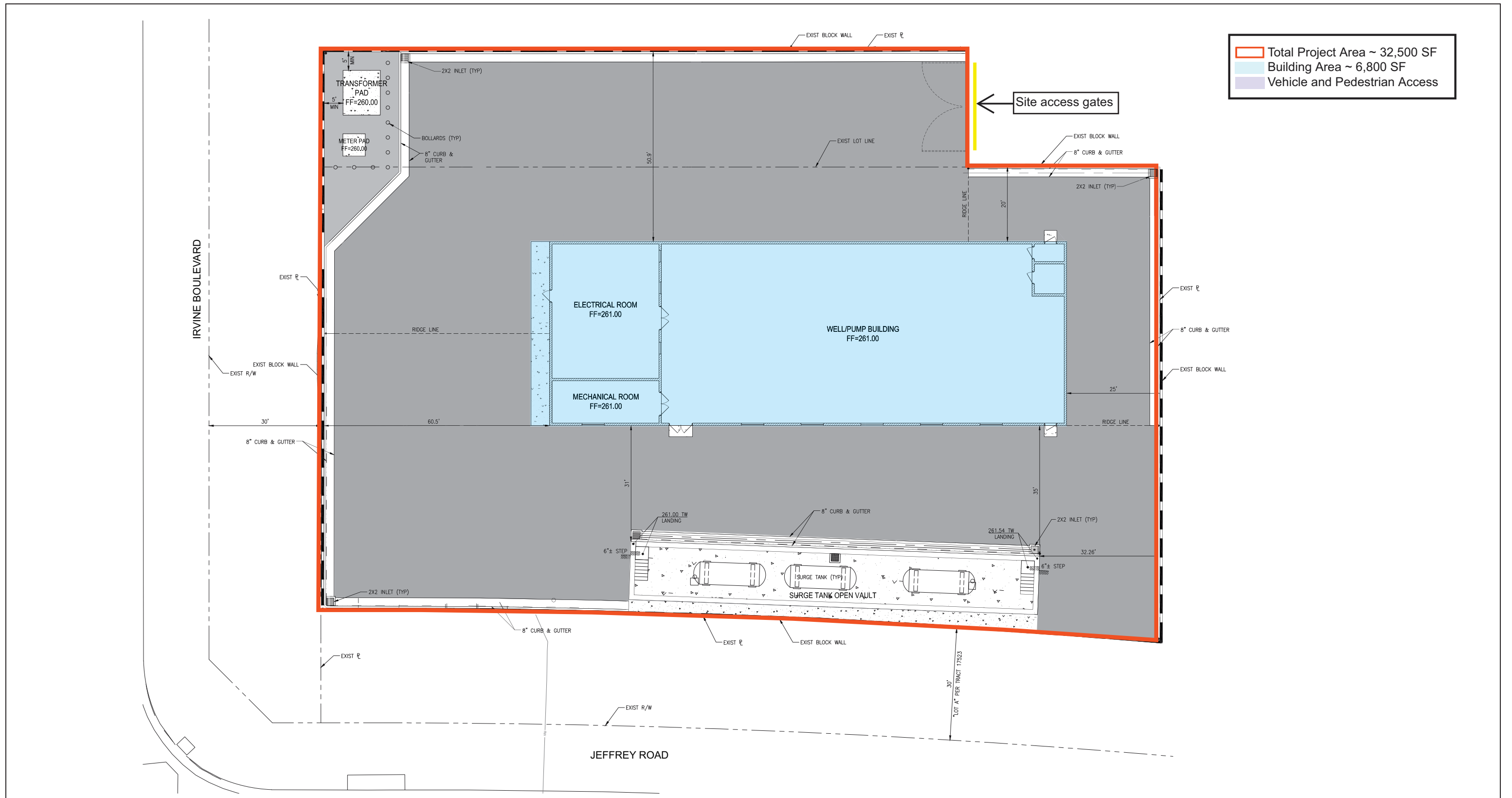
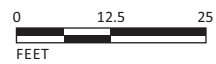


FIGURE 2.2

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SOURCE: AECOM

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Eastwood Recycled Water Pump Station
Site Plan

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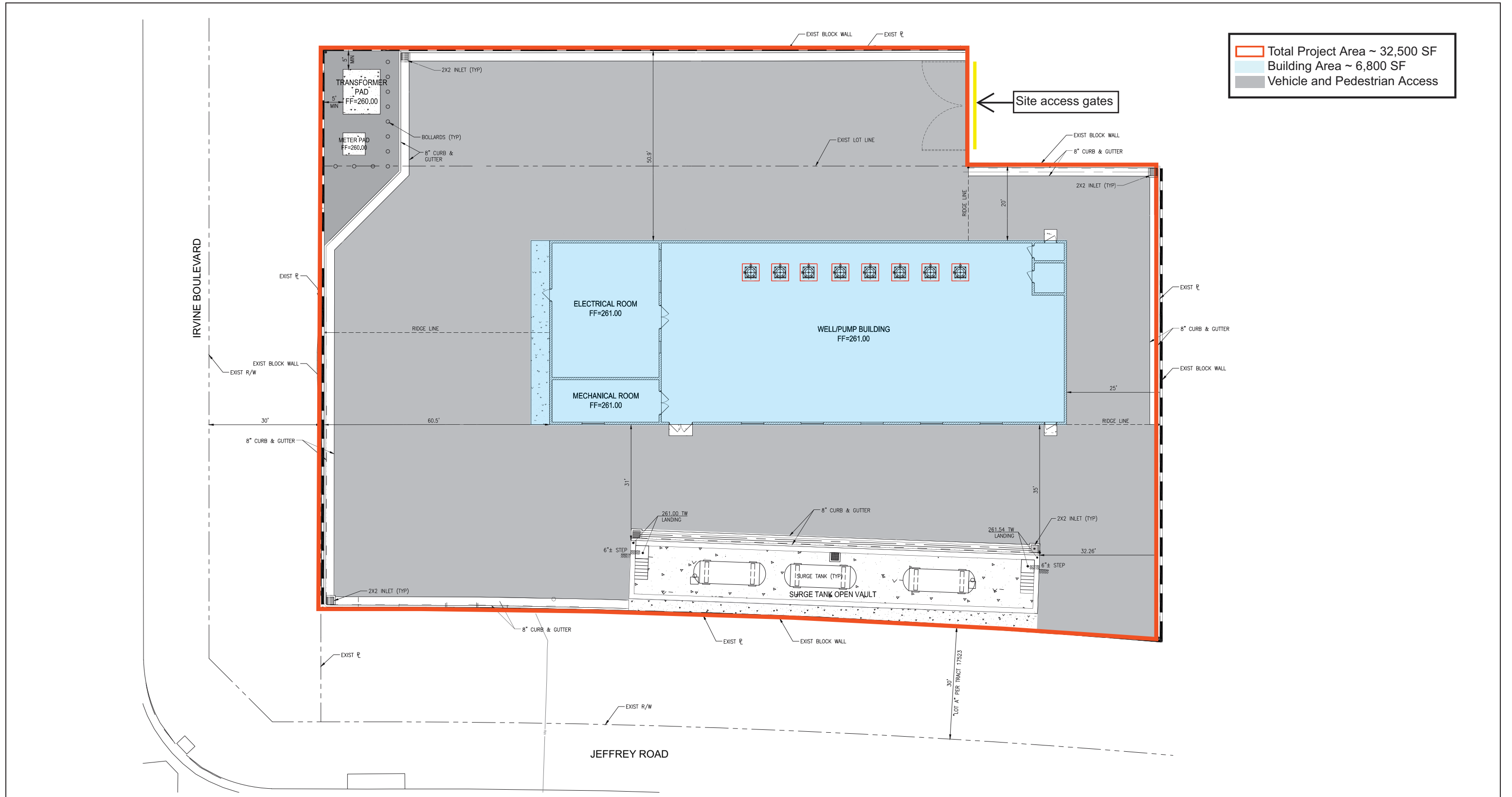
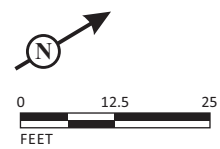


FIGURE 2.3a

LSA



SOURCE: AECOM
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Eastwood Recycled Water Pump Station
Conceptual Current Phase Plan

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A total of six additional pumps and two re-purposed pumps would be installed as part of this phase. Including the Current Phase booster pumps, the ERW PS would house a total of 14 booster pumps at build out. Figure 2.3b, Ultimate Phase Plan, depicts the details of the ultimate phase.

The following breaks down the functions of the pumps for the Ultimate Phase:

- Zone A to Zone B (2 Duty, 1 Standby)
- Zone A to Zone C (2 Duty, 1 Standby)
- Zone A to Syphon Reservoir (3 Duty, 1 Standby)
- Syphon Reservoir to Zone C (4 Duty, 0 Standby)

2.5 PROPOSED FACILITIES

2.5.1 Booster Pump Station

The booster pump station would be a single level, above-grade structure, with shallow reinforced concrete continuous footings, solid grouted and reinforced CMU walls, and steel roof framing. The overall building dimensions would be approximately 138 feet long by 49 feet wide, for a total square footage of approximately 6,800 square feet.

Building structures proposed as part of the Project would be constructed entirely outside of the City storm drain easement, with proposed facilities positioned within the central, northern, and eastern portions of the site, and adequate offsets from the edge of the easement. Buried piping and conduits may be constructed within the City storm drain easement.

IRWD would coordinate with TIC to determine the final aesthetic look of the pump station building and overall site and would meet TIC's expectations due to the requirements of the transfer deed for the property.

2.5.1.1 Building Exterior

The CMU building walls may have a precision block finish on the interior, with a precision block finish, split-face block finish, or stucco exterior finish. The color of exterior walls would match that of the existing site perimeter wall and/or be selected by TIC.

The roof framing would consist of open web steel joists supported at each end by a reinforced CMU wall pilaster. The pump room, electrical room, and mechanical room roof would be flat with a continuous roofing membrane and the exterior would consist of a perimeter parapet wall. The roof type would sufficiently conceal the roof access hatches and other roof-mounted equipment from view by two-story residential units. The southern wall of the electrical room would have a roof structure with walls on both the east and west edges to sufficiently conceal the electrical panels from the adjacent residential buildings. The architectural features of the proposed pump station building would be submitted to TIC prior to project adoption.

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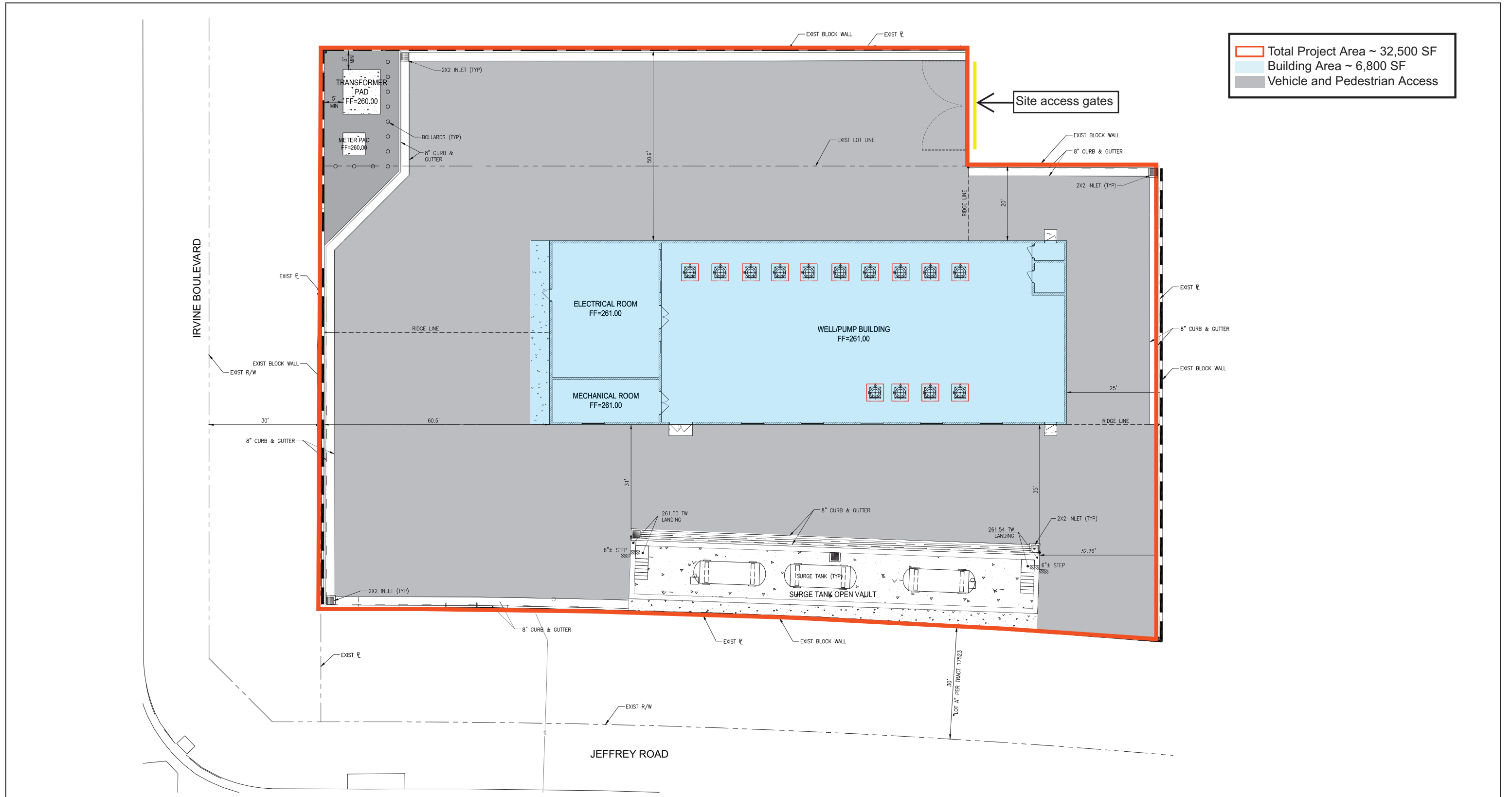
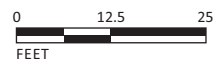


FIGURE 2.3b

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SOURCE: AECOM

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Eastwood Recycled Water Pump Station
Ultimate Phase Plan

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2.5.1.2 Building Interior

The building would consist of three rooms:

- A Pump Room - containing the vertical turbine pumps and auxiliary station equipment;
- An Electrical Room - containing required electrical cabinets and motor controls; and
- A Mechanical Room - containing the station air conditioning unit and surge tank compressors.

The pump station building would be placed parallel to the existing site perimeter wall and in the center of the designated lot for the proposed Project.

A single unisex restroom would be provided in the northwest corner of the pump room. The classification of the ERW PS does not require a restroom or that the restroom to be Americans with Disabilities Act (ADA) compliant and is provided only for the convenience of IRWD operations staff.

2.5.2 Pumps

The ERW PS would house eight pumps during the Current Phase and house 14 pumps during the Ultimate Phase. The configuration of the pumps has been designed so that the pumps would have the ability to pump to all required demand zones (i.e., Zone B, Zone C, and Syphon Reservoir), and from all available supply sources (i.e., Zone A and Syphon Reservoir). The proposed pump phasing scheme is designed to efficiently transition pumps between the Current and Ultimate Phases (described above) without having to replace or significantly modify any pumps.

2.5.3 Surge Tanks

Three surge tanks would be required for the proposed Project for the Zone A, Zone B, and Zone C systems. The surge tanks would be located in a recessed concrete structure on the eastern edge of the site. The proposed surge tank compressors would consist of two reciprocating air compressors with a built-in receiver unit.

The surge tank area would have a roof structure with masonry sidewalls to screen the surge tanks and auxiliary mechanical equipment from the adjacent residential units. A lightweight and removable roof structure may be constructed to allow for easy deconstruction in the event that one of the surge tanks needs to be removed for maintenance or replacement.

Three pressurized surge tanks would be placed as close as possible to the following locations:

1. The Zone A to Zone B and Zone A to Zone C suction header (Zone A surge tank),
2. The Zone A to Zone B discharge header (Zone B surge tank), and
3. The Zone A to Zone C discharge header (Zone C surge tank).

The Zone A surge tank would be connected to the ERW PS suction header with a 20-inch diameter pipe, the Zone B surge tank would be connected to the Zone A to Zone B pumps discharge header with a 16-inch pipe, and the Zone C surge tank would be connected to the Zone A to Zone C pumps discharge header with a 20-inch pipe.

2.5.4 Bypass Pipeline

2.5.4.1 Current Phase

A minimum 24-inch diameter bypass pipeline would be installed parallel with the Zone A to Zone B pumps at the ERW PS. The bypass would be equipped with a 24-inch diameter check valve that permits flow from the suction to the discharge side of the Zone A to Zone B pumps if the pressure on the suction side of the pumps exceeds the pressure on the discharge side of the pumps during a surge event.

2.5.4.2 Ultimate Phase

A minimum 24-inch diameter bypass pipeline would be installed in parallel with the Zone A to Syphon Reservoir pumps at the ERW PS. The bypass would be equipped with a 24-inch diameter check valve that permits flow from the suction the discharge side of the Zone A to Syphon Reservoir pumps if the pressure on the suction side of the pumps exceeds the pressure on the discharge side of the pumps during a surge event.

2.5.5 Zone B and Zone C Discharge Pipelines

The 30-inch Zone C and 20-inch Zone B discharge pipelines would be constructed from the 54-inch Irvine Lake Pipeline (ILP) underlying Irvine Boulevard to the southern edge of the perimeter wall of the ERW PS site. These pipelines would then connect to the pump station on-site piping and provide a direct connection to the ILP. The 54-inch ILP is an existing recycled water pipeline located within the paved travel lanes of Irvine Boulevard. The 30-inch Zone C and 20-inch Zone B pipeline connections would require trenching across multiple paved travel lanes, median, sidewalk, and landscaping areas. Pavement restoration and traffic control would be provided according to the requirements of the City of Irvine.

2.5.6 Drainage Collection System

The drainage collection system for the site would consist primarily of curb and gutter draining to inlet grates that are connected with PVC drainage piping, which would convey the resulting site runoff to the existing junction structure of the 96-inch City storm drain, located at the southern end of the site.

2.5.7 Electrical Service

The Project includes the installation of one pad-mounted electrical transformer and other structures as required by Southern California Edison (SCE). The transformer concrete pad would be oversized to accommodate a transformer capable of powering the future Ultimate Phase. The utility requirements would be per SCE standards.

SCE would provide a transformer that would power the Current Phase only, and when the future Ultimate Phase facilities are installed, SCE would upsize the transformer accordingly.

The SCE disconnect switch pad and the SCE primary and secondary conduits would be installed in the Current Phase and would be sized for the Ultimate Phase loads.

2.5.8 Operation

Generally, operation of the proposed Project would be conducted remotely, and there would not be any full-time dedicated staff at the ERW PS site. However, it is likely that staff would visit the site daily for routine maintenance or in the event of an emergency. It is anticipated that any daily visit by staff would last for no more than approximately two hours, depending on the maintenance. In the event of larger maintenance activities or emergencies, the need for additional staff after normal business hours may be required.

2.6 SITE SECURITY AND ACCESS

2.6.1 Site Exterior (Security) Lighting

Exterior site lighting would be installed at the site. The exterior lighting would be manually controlled by a hand–cranked timer. The site lighting levels would be a cutoff design to keep illumination within the property, and not spill over to the neighboring properties or interfere with drivers on adjacent roadways.

2.6.2 Building Intrusion Alarm

The building intrusion system would consist of intrusion switches and alarms on all exterior building doors and hatches. The alarms would connect with IRWD’s central Supervisory Control and Data Acquisition (SCADA) system.

2.6.3 Site Electric Gates

Access to the site would consist of an electrically actuated gate located on the northwest side of the site at the existing opening in the CMU screening wall. The gate would operate as follows:

- Personnel use a proximity card to open the gate.
- Security is disabled and the gate opens and then automatically closes after a time delay.
- The gate shall be activated using a traffic loop with keypads provided on the interior and exterior of the site.
- If a photo sensor detects an object in the path of the gate while closing, the gate would open and remain open until the proximity card or key switch is reactivated.
- The gate would have an adjustable time delay to close after the last valid card user exits.
- Security would then be enabled after the time delay has expired after the last valid card user exits.
- Local emergency service providers (e.g., fire and police protection) would be given access codes for electronic keypads and emergency contact information for emergencies. The site would provide sufficient space for emergency equipment and vehicles (e.g., fire trucks) to maneuver the site.

2.6.4 Security System

The pump station would be provided with a security system that would be connected to the Programmable Logic Controller (PLC) for alarming IRWD security personnel via the IRWD telemetry system. The minimum security system components would include limit switches to signal an “intrusion alarm” to the PLC.

The security system would have the following requirements:

- Site access gate control, and
- Site access building exterior doors.

2.6.5 Closed-circuit Television

Fixed cameras may be strategically located in the building interior and exterior. The closed-circuit television (CCTV) system shall interface with the IRWD SCADA system, and video would be able to be viewed remotely by IRWD personnel.

2.7 PROJECT IMPLEMENTATION

Weather permitting, project construction is anticipated to take approximately 17 months. Project construction is anticipated to begin in February 2018 and to be completed by September 2019. Phases of construction are outlined in Table 2.A, Preliminary Construction Schedule, below:

Table 2.A: Preliminary Construction Schedule

Phase	Description	Start Time	End Time
1	Underground Utility Installation	February 2018	May 2018
2	Precise Grading	May 2018	June 2018
3	Building Construction	June 2018	December 2018
4	Mechanical and Electrical Installation	October 2018	August 2019
5	Site Improvements	June 2018	September 2019

The Project would begin with trenching and installation of underground utilities. Thereafter, precise grading, building construction, mechanical and electrical installation, and paving would occur.

The construction trips that would be generated on a daily basis throughout each phase of construction would be based on the number of construction workers and delivery of construction materials. The construction phase with the highest construction trip generation would be Mechanical and Electrical Installation, which is anticipated to last 10 months (or approximately 220 construction days). Based on preliminary grading plans, it is estimated that approximately 4,000 cubic yards of soil would be exported from the site.

During construction, workers would arrive at the site at 7:00 a.m. and leave the site at 5:00 p.m. The Project is expected to generate 38 daily trips; 16 inbound trips in the a.m. peak hour and

16 outbound trips in the p.m. peak hour. All construction equipment, including construction worker vehicles, would be staged on the Project site for the duration of the construction period.

Operation of the proposed Project would be conducted remotely and there would be no full-time dedicated staff at the site. As previously noted, it is anticipated that any daily visit by staff would last for no more than two hours, depending on the maintenance required. During operation, the proposed Project is conservatively expected to generate four daily trips and four trips (two inbound and two outbound) during the a.m. and p.m. peak hours.

An additional Mechanical and Electrical Installation task would occur during implementation of the Ultimate Phase, which is expected to occur within the next five to 10 years (i.e., 2022–2027).

2.8 DISCRETIONARY ACTIONS

This Initial Study/Mitigated Negative Declaration (IS/MND) is intended to serve as the primary CEQA environmental document for all actions associated with the Project, including all discretionary approvals requested or required of IRWD to implement the Project. In addition, this is the primary reference document for the formulation and implementation of a Mitigation Monitoring and Reporting Program for the proposed Project (Section 5.0 of this IS/MND).

2.8.1 Probable Future Actions by Responsible Agencies

The Project may require approvals, permits, or authorization from other agencies, classified as “Responsible Agencies” under CEQA. According to Section 15381 of the *State CEQA Guidelines*, a Responsible Agency is defined as a public agency other than the Lead Agency that will have discretionary approval power over the proposed Project or some component of the Project, including mitigation. These agencies include, but are not limited to, the agencies identified in Table 2.B, Probable Future Actions by Responsible Agencies.

Table 2.B: Probable Future Actions by Responsible Agencies

Agency	Action
State Water Resources Control Board	<ul style="list-style-type: none"> Applicant/Developer must submit Permit Registration Documents, including a Notice of Intent, to comply with the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWG and 2012-0006-DWQ, National Pollutant Discharge Elimination System No. CAS000002) (Construction General Permit).

2.8.2 Other Ministerial Actions

If necessary, ministerial permits/approvals may be issued by the City or other appropriate agency to allow site preparations, curb cuts (if necessary), connections to the utility infrastructure, and other Project features subject to ministerial permits.

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3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a “Less Than Significant Impact with Mitigation Incorporated” as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture & Forest Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input checked="" type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality |
| <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources | <input checked="" type="checkbox"/> Noise |
| <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input checked="" type="checkbox"/> Transportation/Traffic | <input type="checkbox"/> Utilities/Service Systems | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input checked="" type="checkbox"/> Mandatory Findings of Significance | | |

DETERMINATION. On the basis of this initial evaluation:

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

IRWD Representative

DATE

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4.0 ENVIRONMENTAL CHECKLIST AND 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 where it is based on Project-specific factors as well as general standards (e.g., the Project will not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the Lead Agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced, as discussed below).
5. Earlier analyses may be used where, pursuant to the 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 they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are “Less Than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which 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, where 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 less than significant.

4.1 AESTHETICS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis:

(a) Would the Project have a substantial adverse effect on a scenic vista?

California State Government Code Section 65560(b)(3) stipulates that city and county General Plans address "...Open space for outdoor recreation, including but not limited to, areas of outstanding scenic, historical and cultural value; areas particularly suited for park and recreation purposes, including access to lakes shores, beaches, and rivers, and streams; and areas which serve as links between major recreation and open space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors..."

A scenic vista is generally defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. There are no designated scenic vistas within the City of Irvine (City);¹ however, according to Figure A-4 of the Land Use Element of the City’s General Plan, there are “major views” available from certain corridors within the City, including one looking northeast from the corner of Jeffrey Road and Irvine Boulevard.

The Project site is bounded by Jeffrey Road to the east, Irvine Boulevard to the south, and a residential development currently under construction to the north and west. The Project site has an existing 6-foot (ft) high concrete masonry unit (CMU) screening wall around its perimeter, with access to the site from the northwest via an existing opening in the CMU screening wall. Adjacent land uses include medium-density residential to the north and west, and south across Irvine Boulevard, the Jeffrey Open Space trail to the east of Jeffrey Road, and medium-density residential farther eastward.

The Jeffry Open Space Trail is located on the east side of Jeffrey Boulevard. According to Appendix L of the City’s General Plan, the Trail is intended to provide a continuous open space edge of variable width along the eastern side of the ultimate alignment of Jeffrey Boulevard.

¹ City of Irvine. 2012. *City of Irvine General Plan*. June.

Except for utilities and general plan roadway improvements, surface uses would be limited to trails and passive public recreation and park-and-ride facilities.

The existing CMU wall surrounding the Project site is visible from the Jeffrey Road, Irvine Boulevard, and the Jeffrey Open Space Trail in the existing condition. Views to the west are partially blocked by the wall but views of the mountains to the north and northwest remain visible. The pump station building is proposed to be a maximum height of 24 ft, so portions of the building would extend above the existing wall and would be visible from the roadways and Trail. The building would be approximately 24 ft at its highest point, which is well below the maximum allowable height of 35 ft within the Medium Density Residential Zoning (2.31) District. In addition, the proposed pump station building would not exceed the height of surrounding residential development. While the proposed Project may further reduce views to the west, it would not substantially reduce or impair views of mountains to the north and northwest that are not already being impaired by the residential development. Views of the mountains would remain visible from Jeffrey Road, Irvine Boulevard, and the Jeffrey Open Space Trail. Therefore, because the Project site is located adjacent to existing and proposed residential uses that are or would be similar in height to the proposed Project and distant views of mountains to the north and northwest would be maintained following Project implementation, the proposed Project would have a less than significant impact to scenic vistas, and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (b) Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The California Department of Transportation's (Caltrans) Landscape Architecture Program administers the Scenic Highway Program, contained in the Streets and Highways Code, Sections 260–263. State Highways are classified as either Officially Listed or Eligible. The City of Irvine does not contain any State-designated scenic highways within its jurisdictional limits, as designated by the Caltrans under the California Scenic Highway Program.¹ Therefore, the proposed Project would have no impact related to scenic resources within a State scenic highway corridor. No mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

¹ California Department of Transportation. 2011. California Scenic Highway Mapping System. September 7. Website: http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm (accessed June 5, 2017).

- (c) Would the Project substantially degrade the existing visual character or quality of the site and its surroundings?

The Project site is bounded by Jeffrey Road to the east, Irvine Boulevard to the south, and a residential development currently under construction to the north and west. The Project site has an existing 6 ft high CMU screening wall around its perimeter, with access to the site from the northwest via an existing opening in the CMU screening wall. Within the area enclosed by the CMU wall, the Project site is vacant. Adjacent land uses include medium-density residential to the north and west, and south across Irvine Boulevard, the Jeffrey Open Space trail to the east of Jeffrey Road, and medium-density residential farther eastward.

Construction. Construction of the proposed Project would involve on-site grading and construction activities that would be visible to travelers along Jeffrey Road and Irvine Boulevard, as well as residential uses immediately adjacent to the Project site. Construction activities for the proposed Project would be short-term and all construction vehicles would be staged on the site for the duration of the construction period. Visual impacts during construction would be temporary in nature and would cease upon Project completion. In addition, the existing CMU wall would screen most construction activities such that the line of sight from ground-level construction equipment and sensitive receptors (to the west) would be blocked. Therefore, construction impacts would be less than significant, and no mitigation is required.

Operation. As discussed in the Project Description, Irvine Ranch Water District (IRWD) would coordinate with The Irvine Company (TIC) to determine the final aesthetic look of the pump station building and overall site and meet TIC's expectations due to the requirements of the deed transfer for the property. The proposed Project would include design features to the satisfaction of the current property owner, TIC.

In summary, the proposed Project would be approved by TIC as a condition of the transfer of the land. Furthermore, the pump station building and other on-site uses would be partially screened from views by the existing 6 ft wall and landscaping. Therefore, because the proposed Project would be compatible with the surrounding development according to the expectations of TIC, the proposed Project would not degrade the character or quality of the Project site, nor would the proposed Project contribute to an overall degradation of the visual character or quality of the surrounding area. Therefore, impacts related to the degradation of the visual character or quality of the site would be less than significant, and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (d) Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The impact of nighttime lighting depends upon the type of use affected, the proximity to the affected use, the intensity of specific lighting, and the background or ambient level of the combined nighttime lighting. Nighttime ambient light levels may vary considerably depending

on the age, condition, and abundance of point-of-light sources present in a particular view. The use of exterior lighting for security and aesthetic illumination of architectural features may contribute to ambient nighttime lighting conditions.

Nighttime illumination impacts are evaluated in terms of the Project's net change in ambient lighting conditions and proximity to light-sensitive land uses. The Project site is currently vacant. Sensitive receptors in the vicinity of the site include residential uses to the north, east, and west of the site across Jeffrey Road, and south across Irvine Boulevard. Other sources of light on and adjacent to the Project site include exterior lighting from adjacent properties, street lights, and vehicle headlights.

Construction of the proposed Project would be limited to daytime hours, generally from 7:00 a.m. to 7:00 p.m., in accordance with City of Irvine policies.¹ Any construction-related illumination during evening and nighttime hours would be shielded to the extent feasible and would consist of the minimum lighting required for safety and security purposes only and would occur only for the duration required for the temporary construction process. Due to its limited scope and short duration, light resulting from construction activities would not substantially impact sensitive uses, substantially alter the character of off-site areas surrounding the construction area, or interfere with the performance of an off-site activity. Therefore, construction of the proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area, and light impacts associated with construction would be less than significant. No mitigation would be required.

The proposed Project would include the installation of exterior security lighting on the pump station building above the doors and around the perimeter. Lighting would consist of light-emitting diode (LED) lights mounted on the building wall. The exterior lighting would be controlled by a hand-cranked timer. Additionally, an exterior light would be provided near the surge tanks, and two LED fixtures would be mounted near the entrance gate to the site. The proposed Project would also include interior lighting for the pump room and electrical and mechanical room. Interior lighting would consist of surface-mounted LED fixtures. The Project would comply with the City's lighting policies, which generally require that light be directed away from adjoining properties and public rights-of-way and that lighting comply with security lighting regulations.

Impacts related to glare from on-site lighting would not occur because the exterior building materials and façade would not include highly reflective materials (e.g., windows or glass with mirror-like tints). The existing perimeter wall is made from CMU and there would be no formal parking lot on-site where vehicles would result in glare from sunlight reflection off of the windshields. In addition, the buildings would be shielded by the perimeter wall and by landscaping along Jeffrey Road and Irvine Boulevard.

Therefore, lighting provided as part of the proposed Project would be fairly minimal and would be largely consistent with the type and intensity of existing lighting in the Project vicinity. The final lighting for the proposed Project would be subject to review and approval by IRWD as part

¹ City of Irvine. 2016. *Irvine Municipal Code, Section 6-8-205b*. July 12.

of the site plan review process, but compliance with the City's Municipal Code would ensure lighting sufficient for safety purposes would also ensure that all exterior lighting would be directed, positioned, or shielded in such a manner as to not unreasonably illuminate the window area of nearby residences. As such, the proposed Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. No mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

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4.2 AGRICULTURE AND FOREST RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Analysis:

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

The California Natural Resources Agency’s Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California’s agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance; however, the most current available Farmlands Map for Orange County is dated 2014.

According to the 2014 FMMP, the proposed Project site is Unique Farmland. According to the FMMP, Unique Farmland consists of lesser quality soils used for the production of the State’s leading agricultural crops and must have been cropped sometime during the four years prior to the map date.¹

Although the FMMP shows the proposed Project site as Unique Farmland, the site has not been recently farmed and is unlikely to ever be used for agricultural activities given the adjacent

¹ Natural Resources Agency. 2014. Farmland Mapping and Monitoring Program, Orange County.

residential development and the current General Plan and zoning designations for the site. The City of Irvine approved the conversion of the site from agricultural use to medium-density residential uses following certification of the Northern Sphere Environmental Impact Report (EIR) (SCH No. 2001051010) and approval of the Northern Sphere Project in 2002. The Project site is designated and zoned for medium-density residential under the Irvine General Plan and Zoning Code. Subsequent to the approval of the Northern Sphere Project, the land was removed from agricultural production, mass graded, and surrounded by a CMU wall. Although the Project site is currently vacant, no agricultural uses exist on the site and the Project site is surrounded by urban development. Therefore, the proposed Project would not result in the conversion of Unique Farmland, or Farmland to a non-agricultural use, because no agricultural uses currently exist on the site. No mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (b) Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?

The proposed Project site is zoned Medium Density Residential (2.3I). The proposed Project is a conditionally allowed use under the medium-density residential zone. Therefore, the proposed Project would not conflict with existing zoning for agricultural use. The Project site is also not under a Williamson Act Contract.¹ Consequently, no impact would occur given that the proposed Project would not conflict with existing zoning for agricultural use and is not under a Williamson Act Contract.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (c) Would the Project 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))?

The Project site currently has a zoning designation of Medium Density Residential (2.3I) which conditionally allows for the construction and operation of the proposed Project; the Project site is not used for timberland production, is not zoned as forest land or timberland, and does not contain forest land or timberland. Therefore, no impacts to forest land or timberland would occur, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

¹ Natural Resources Agency. 2014. Department of Conservation, Division of Land Resource Protection, California Williamson Act Contract Land Map.

- (d) Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

The proposed Project site was previously mass graded and is currently surrounded by a CMU wall and residential development. The proposed Project would not convert forest land to a non-forest use. Likewise, the Project site would not contribute to environmental changes that could result in conversion of forest land to non-forest use. Therefore, no impacts to forest land would occur, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (e) Would the Project 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?

The Project site currently has a zoning designation of Medium Density Residential (2.3I), which conditionally allows for the construction and operation of the proposed Project. The conversion of the land from agricultural uses to non-agricultural uses was approved as part of the Northern Sphere Project in 2002. No existing agricultural uses are present on the Project site. The proposed Project site would not convert farmland to a non-agricultural use. Likewise, because the Project site is already graded and is not located in the vicinity of any existing agricultural land or land zoned for agricultural uses, the proposed Project would not contribute to environmental changes that could result in conversion of farmland to non-agricultural use. Therefore, no impacts to farmland or forest land would occur, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

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4.3 AIR QUALITY

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis:

The Project site is located in the City of Irvine, which is part of the South Coast Air Basin (Basin) and is managed by the South Coast Air Quality Management District (SCAQMD), which is the agency principally responsible for comprehensive air pollution control in the Basin. The Basin includes Orange County and the non-desert regions of Los Angeles, Riverside, and San Bernardino Counties.

Both the United States Environmental Protection Agency and the California Air Resources Board (ARB) have established health-based ambient air quality standards for common air pollutants: carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), and suspended particulate matter (PM). These standards are designed to protect the health and welfare of the populace with a regional margin of safety. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each criteria pollutant. The Basin is in nonattainment for the federal and State standards for O₃ and particulate matter less than 2.5 microns in diameter (PM_{2.5}). In addition, the Basin is in nonattainment for the State particulate matter less than 10 microns in diameter (PM₁₀) standards and in attainment/maintenance for the federal PM₁₀, CO, and NO₂ standards.

To meet these standards, the SCAQMD has established project-level thresholds for reactive organic gases (ROG), nitrogen oxides (NO_x), and PM_{2.5}.

ROG is formed from combustion of fuels and the evaporation of organic solvents. ROG is an O₃ precursor and a prime component of the photochemical reaction that forms O₃. NO_x refers to the compounds of NO₂, a reddish-brown gas, and nitric oxide (NO), a colorless, odorless gas that is

formed from fuel combustion under high temperature or pressure. NO_x is a primary component of the photochemical smog reaction. Nitrogen oxides also contribute to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. $\text{PM}_{2.5}$ refers to fine suspended particulate matter with an aerodynamic diameter of 2.5 microns or less, and PM_{10} refers to coarse particles that are larger than 2.5 microns but smaller than 10 microns.

The proposed Project would generate temporary air emissions during Project construction. Specific criteria for determining whether the potential air quality impacts of a project are significant are set forth in SCAQMD's *CEQA Air Quality Handbook*.¹

The following daily thresholds for construction emissions have been established by the SCAQMD and are used in the analysis of air quality impacts for the proposed Project:

- 75 pounds per day (lbs/day) of reactive organic gases (ROG)
- 100 lbs/day of nitrogen oxides (NO_x)
- 550 lbs/day of carbon monoxide (CO)
- 150 lbs/day of particulate matter less than 10 microns in size (PM_{10})
- 55 lbs/day of particulate matter less than 2.5 microns in size ($\text{PM}_{2.5}$)
- 150 lbs/day of sulfur oxides (SO_x)

Projects in the Basin with construction-related emissions that exceed any of the emission thresholds above are considered potentially significant by the SCAQMD.

In addition, the SCAQMD published its *Final Localized Significance Threshold Methodology* in July 2008, recommending that all air quality analyses include an assessment of air quality impacts to nearby sensitive receptors.² This guidance was used to analyze potential localized air quality impacts associated with construction of the proposed Project. Localized significance thresholds (LSTs) are developed based on the size or total area of the emission source, the ambient air quality in the source receptor area, and the distance to the Project. The SCAQMD defines structures that house persons (e.g., children, the elderly, persons with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise) or places where they gather as sensitive receptors (i.e., residences, schools, playgrounds, child-care centers, convalescent centers, retirement homes, and athletic fields).

LSTs are based on the ambient concentrations of that pollutant within the Project Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. For the proposed Project, the appropriate SRA for the LST is the Central Orange County Coastal area (SRA 20). SCAQMD provides LST screening tables for 25, 50, 100, 200, and 500-meter source-receptor distances.

(a) Would the Project conflict with or obstruct implementation of the applicable air quality plan?

The Air Quality Management Plan (AQMP) describes air pollution control strategies to be taken by the SCAQMD to meet air quality standards. CEQA requires that certain proposed projects be

¹ SCAQMD. 1993. *CEQA Air Quality Handbook*. April.

² SCAQMD. 2008. *Final Localized Significance Threshold Methodology*. July.

analyzed for consistency with the AQMP. For a project to be consistent with the SCAQMD's AQMP, the pollutants emitted from the proposed Project should not exceed the SCAQMD daily emission threshold or cause a significant impact on air quality. As shown in Sections 4.3 (b) through (e) below, the proposed Project would not generate emissions that exceed SCAQMD thresholds. Therefore, the proposed Project would not conflict with the AQMP and would not conflict with or obstruct implementation of the AQMP. No mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (b) Would the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Construction and operation emissions associated with the proposed Project are analyzed below. As discussed below, the proposed Project would not generate operation- or construction-period emissions in excess of established standards. Therefore, the proposed Project would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

Short-Term Construction Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by grading, paving, and building activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter (PM_{2.5} and PM₁₀), and toxic air contaminants such as diesel exhaust particulate matter.

Site preparation and Project construction would involve grading, paving, and building activities. Construction-related effects on air quality from the proposed Project would be greatest during the site preparation phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM₁₀ emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM₁₀ emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The SCAQMD has established Rule 403: Fugitive Dust, which would require the applicant to implement measures that would reduce the amount of particulate matter generated during the construction period.

In addition to dust-related PM₁₀ emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_x, NO_x, ROG, and some soot particulate (PM_{2.5} and PM₁₀) in exhaust emissions. If construction activities were to increase traffic

congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the proposed Project using the California Emissions Estimator Model version 2016.3.2 (CalEEMod), consistent with SCAQMD recommendations. As identified in Section 4.16 Transportation/Traffic, the proposed Project is expected to generate 38 vehicle trips per day during construction. The Project would require the excavation of approximately 4,000 cubic yards of soil, which was accounted for in the CalEEMod analysis. Air emissions associated with vehicle and haul truck trips, in combination with anticipated construction equipment, were estimated using CalEEMod. For purposes of this analysis, the construction schedule for all improvements was assumed to be approximately 17 months. Construction-related emissions are presented in Table 4.3.A, Construction Air Quality Emissions. CalEEMod output sheets are included in Appendix B, Air Quality and Greenhouse Gas.

Table 4.3.A: Construction Air Quality Emissions

Emissions Category	Pollutant Emissions (lbs/day)					
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}	SO _x
Maximum (lbs/day)	3.6	11.2	9.6	1.7	1.1	0.0
SCAQMD Threshold	75.0	100.0	550.0	150.0	55.0	150.0
Exceeds?	No	No	No	No	No	No

Source: LSA (June 2017).

CO = carbon monoxide
 lbs/day = pounds per day

NO_x = nitrogen oxides

PM_{2.5} = particulate matter less than 2.5 microns in size

PM₁₀ = particulate matter less than 10 microns in size

ROG = reactive organic gases

SO_x = oxides of sulfur

SCAQMD = South Coast Air Quality Management District

As shown in Table 4.3.A, construction emissions would not exceed the SCAQMD’s thresholds for maximum daily construction emissions, and therefore, would not result in substantial increase in regional air emissions.

Additionally, construction activities associated with the proposed Project would be required to comply with SCAQMD Rule 403: Fugitive Dust, which would require the implementation of measures that would reduce the amount of particulate matter generated during the construction period. Compliance with Rule 403 would reduce fugitive dust emissions associated with Project construction to a less than significant level.

Long-Term Regional Air Quality Impacts. The proposed Project consists of the construction of the Eastwood Recycled Water Pump Station (ERW PS) to serve multiple pressure zones, provide operational flexibility, and maximize the recycled water system. The proposed ERW PS would ultimately house 14 new pumps within one building and would also include the installation of three new surge tanks, installed slightly below grade, with a roof structure. Long-term air emissions would be associated with on-site stationary sources (i.e., natural gas usage) and off-site mobile sources (i.e., worker trips to the site). As identified in Section 4.16 Transportation/Traffic, operation of the proposed Project would be conducted remotely and

there would be no full-time dedicated staff at the ERW PS site. However, it is likely that staff could visit the site for routine maintenance or emergencies; therefore the proposed Project is expected to generate approximately four daily vehicle trips. Air emissions associated with these trips and other emissions sources (i.e., building maintenance) were calculated using CalEEMod. Results are shown in Table 4.3.B, Operational Air

Table 4.3.B: Operational Air Quality Emissions

Emissions Category	Pollutant Emissions (lbs/day)					
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}	SO _x
Area	0.2	0.0	0.0	0.0	0.0	0.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0
Mobile	0.0	0.1	0.1	0.0	0.0	0.0
Total	0.2	0.1	0.2	0.0	0.0	0.0
SCAQMD Threshold	75.0	100.0	550.0	150.0	55.0	150.0
Exceeds?	No	No	No	No	No	No

Source: LSA (June 2017).

CO = carbon monoxide
 lbs/day = pounds per day

NO_x = nitrogen oxides

PM_{2.5} = particulate matter less than 2.5 microns in size

PM₁₀ = particulate matter less than 10 microns in size

ROG = reactive organic gases

SO_x = oxides of sulfur

SCAQMD = South Coast Air Quality Management District

Quality Emissions, and indicate the proposed Project would be well below the operational emission criteria set forth by the SCAQMD, and no mitigation would be required.

Local Significance Analysis. As discussed above, LSTs are developed based on the size or total area of the emission source, the ambient air quality in the source receptor area, and the distance to the Project. The proposed Project is located within the Central Orange County Coastal SRA. The nearest sensitive receptors to the Project site include the existing residences to the north and west, and south across Irvine Boulevard. In addition, the Project site is bordered to the north and west by a residential development currently under construction. Project construction emissions were compared to the LST screening tables in SRA 20, based on a 25-meter source-receptor and a 1-acre project size. Allowable emissions as a function of receptor distance from the boundary from the Project site are included in Table 4.3.C, Localized Significance Thresholds for Construction Emissions, and Table 4.3.D, Localized Significance Thresholds for Operational Emissions. As shown in Table 4.3.C and Table 4.3.D, the proposed Project would not exceed the LSTs and would not result in a localized air quality impact during Project construction or operation.

Table 4.3.C: Localized Significance Thresholds for Construction Emissions

	Emission Rates (lbs/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
On-Site Project Emissions	11.2	9.6	1.7	1.1
Localized Significance Threshold at 25 meters	92	647	4.0	3.0
Exceeds?	No	No	No	No

Source: LSA (June 2017).

Table 4.3.C: Localized Significance Thresholds for Construction Emissions

	Emission Rates (lbs/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}

CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxides
PM_{2.5} = particulate matter less than 2.5 microns in size
PM₁₀ = particulate matter less than 10 microns in size

Table 4.3.D: Localized Significance Thresholds for Operational Emissions

	Emission Rates (lbs/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
On-Site Project Emissions	0.1	0.2	0.0	0.0
Localized Significance Threshold at 25 meters	371	1,965	13	8.0
Exceeds?	No	No	No	No

Source: LSA (June 2017).
CO = carbon monoxide
lbs/day = pounds per day
NO_x = nitrogen oxides
PM_{2.5} = particulate matter less than 2.5 microns in size
PM₁₀ = particulate matter less than 10 microns in size

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (c) Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

CEQA defines a cumulative impact as two or more individual effects that, when combined, are considerable or that compound or increase other environmental impacts. As discussed above, the proposed Project would not exceed construction or operational emission thresholds for the criteria pollutants established by the SCAQMD. Therefore, the proposed Project would not make a cumulatively considerable contribution to regional air quality impacts, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (d) Would the Project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors are defined as people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling units. The closest sensitive receptors to the Project site are the residences being constructed to the north and west of the Project site.

Construction activities associated with the proposed Project would generate airborne particulates and fugitive dust, as well as a small quantity of pollutants associated with the use of construction equipment (e.g., diesel-fueled vehicles and equipment) on a short-term basis. However, construction contractors would be required to implement measures to reduce emissions by complying with Rule 403, as described above. Additionally, Project short-term construction emissions would be below the SCAQMD's significance thresholds and localized thresholds. Once the proposed Project is constructed, it would not be a source of substantial emissions and would be well below the SCAQMD's significance thresholds and localized thresholds. Therefore, sensitive receptors are not expected to be exposed to substantial pollutant concentrations during Project construction or operation and potential short-term impacts are considered less than significant. No mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (e) Would the Project create objectionable odors affecting a substantial number of people?

SCAQMD's *CEQA Air Quality Handbook* (1993) identifies various secondary significance criteria related to odorous air contaminants. Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills, or heavy manufacturing uses. Pursuant to SCAQMD Rule 402, these sources shall include a quantitative assessment of potential odors and meteorological conditions. The Project does not propose any such uses or activities that would result in potentially significant odor impacts. Some objectionable odors may emanate from the operation of diesel-powered construction equipment during construction of the proposed Project. These odors would be temporary and are not likely to be noticeable for extended periods of time beyond the Project site. Therefore, no significant impacts related to objectionable odors would result from the proposed Project, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

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4.4 BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Analysis:

Section 15150 of the *State CEQA Guidelines* allows for incorporation by reference of all or portions of another document which is a matter of public record or is generally available to the public.

The biological resources analysis that follows is based in part on information incorporated by reference from the Northern Sphere Area EIR (certified in 2002; State Clearinghouse Number 2001051010) prepared for a larger area that included the proposed Project site. In preparation of the Northern Sphere EIR, a biological survey was conducted by Harmsworth and Associates in October 2001, as well as a jurisdictional wetland delineation and assessment conducted by Glenn Lukos Associates. The Northern Sphere is summarized below for context; however, the complete Northern Sphere EIR and its Appendices, including the biological survey, can be viewed on the City of Irvine website at the link http://www.cityofirvine.org/community-development/northern_sphere-eir.

The Northern Sphere Project Area encompasses an area between the northern City limits and the northern boundary of Irvine, generally bounded by Trabuco Road to the south and the former Marine Corps Air Station (MCAS) El Toro to the south and east, Jeffrey Road and residential development to the west, Santiago Hills to the north, and Whiting Ranch Wilderness Park to the east. The area consists of Planning Areas 3, 6, and 9, as well as portions of Planning Area 5, where the proposed Project is located, and Planning Area 8. The purpose of the Northern Sphere Project was to provide comprehensive planning of lands within the City's Northern Sphere of Influence.

Due to the nature of the proposed Project site within an urbanized area, due to its lack of habitat given that there are no existing trees, shrubs, or other natural features on the site, and because the Project site has been mass graded as part of prior plans to develop the site, a biological resources study for the proposed Project was not found to be necessary to adequately address biological resources under the *State CEQA Guidelines*.

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

The Project site is currently developed and is surrounded by existing roadways and residential development. The proposed Project site was previously mass graded as part of the Northern Sphere Project. As such, the existing site does not contain any trees, shrubs, or other features that would be viable as habitat. Further, the Project site is located within a highly disturbed area that was previously designated as agricultural land. When the land was in agricultural production, ground disturbance would have been prevalent reducing its viability for habitat. In addition, according to Exhibit 4-17 in the Northern Sphere EIR, the Project site was not identified as having habitat, such as scrub, chaparral, grassland, marsh, or woodland, which are generally considered to be areas where special-status plants and animals would be present. Lastly, Exhibit 4-20 of the Northern Sphere EIR does not indicate the presence of any special-status plant populations. Therefore, given that the existing site is in an urbanized area and has been previously mass graded, and because habitats were not identified at the site as part of the Northern Sphere EIR, impacts to habitat as a result of the proposed Project would be less than significant.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

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

Exhibit 4-27 of the Northern Sphere EIR does not indicate the presence of riparian habitat at the Project site. As discussed above, the proposed Project site is flat land that has been previously used for agricultural purposes and more recently has been mass graded for development. The Project site is not located within close proximity or directly adjacent to riparian habitat. Further,

as mentioned in discussion 4.4(a), there are no special habitats or other sensitive natural communities located at the Project site. Therefore, no significant impacts related to riparian habitat or other sensitive natural communities identified in a local or regional plan would result from Project implementation, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (c) Would the Project 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?

The Project site is was previously mass graded and is surrounded by a variety of residential development. Based on a review of site photographs and current and historical aerial images, the Project site does not contain federally protected wetlands as defined by Section 404 of the Clean Water Act. Further, as shown in Exhibit 4-27 of the Northern Sphere EIR, there were no wetlands or other water features (e.g., vernal pools, or marshes) on the proposed Project site at the time the Northern Sphere EIR was prepared. Therefore, 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 pools, and coastal) through direct removal, filling hydrological interruption, or other means, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (d) Would the Project 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?

The Project site is was previously mass graded and is surrounded by a variety of residential development. There are no trees or shrubs on the Project site. Wildlife corridors are generally considered to be large, continuous, and open spaces that provide important migratory linkage from one location to another. Given the urbanized setting, lack of any habitat, sensitive communities, and water features (e.g., wetlands, rivers, streams, and riparian habitat), it is unlikely that the proposed Project would affect or interfere substantially with the movement of any native resident or wildlife species. As such, a less than significant impact would occur with regards to the Project interfering substantially with the movement of any native resident or wildlife species.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (e) Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The Project site was previously mass graded and is surrounded by a variety of residential development. As such, there are no existing trees or other natural features (e.g., habitat) on the Project site that would be affected as a result of construction and operation of the proposed Project. The proposed Project would not require the removal of any on-site trees. The removal of any trees located within the public right-of-way or street landscape and trees defined as having significant value (e.g., eucalyptus) would be subject to the City's Urban Forestry Ordinance. If the removal of any such trees is required during installation of the pipelines in public rights-of-way, IRWD would comply with the requirements of the City. Therefore, no impact would occur.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (f) Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Although the Project site is located within the greater Orange County Central Coast Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) Plan Area, the Project site itself is actually not located in a reserve area and is intended for development. As shown in Exhibit 4-15 of the Northern Sphere EIR, the Project site is not considered to be open space or an area for protection of special-status plant and animal species covered in the NCCP/HCP. As such, implementation of the proposed Project would not conflict with the provisions of an HCP, NCCP, or other habitat conservation plan, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

4.5 CULTURAL RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact Analysis:

Section 15150 of the *State CEQA Guidelines* allows for incorporation by reference all or portions of another document which is a matter of public record or is generally available to the public.

The cultural resources analysis that follows is based in part on information incorporated by reference from the Northern Sphere Area EIR (certified in 2002; State Clearinghouse Number 2001051010) prepared for a larger area that included the proposed Project site. In preparation of the Northern Sphere EIR, a cultural resources study was conducted by the Keith Companies, Inc. (TKCI) in August and October 2001. The complete Northern Sphere EIR and its Appendices, including the cultural resources study, can be viewed on the City of Irvine website at <http://www.cityofirvine.org/community-development/northern-sphere-eir>.

- (a) Would the Project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

CEQA defines a “historical resource” as a resource that meets one or more of the following criteria: (1) listed in, or determined eligible for listing in, the California Register of Historical Resources (California Register); (2) listed in a local register of historical resources as defined in Public Resources Code (PRC) Section 5020.1(k); (3) identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (4) determined to be a historical resource by a project’s Lead Agency (PRC Section 21084.1 and *State CEQA Guidelines* Section 15064.5[a]).

The California Register defines a “historical resource” as a resource that meets one or more of the following criteria: (1) associated with events that have made a significant contribution to the broad patterns or local or regional history of the cultural heritage of California or the United States; (2) associated with the lives of persons important to local, California, or national history; (3) embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values; or (4) has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

The Project site is located within Planning Area 5 of the City of Irvine General Plan. According to the Northern Sphere EIR which included a records search of the area, including the proposed Project site, no historic sites or artifacts were recorded.¹ Additionally, the Project site was not designated as a historical/archaeological landmark² and was previously mass graded, which did not uncover any historical or cultural resources. Further, according to the City of Irvine General Plan Cultural Resources Element, there are no historical or archaeological landmarks at the Project site.³ Therefore, the proposed Project would not cause a substantial adverse change in the significance of a historical resource as defined in *State CEQA Guidelines* Section 15064.5, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (b) Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

The Project site is located on a vacant lot and currently developed with a 6 ft high perimeter wall. The Project site is not designated as a historical/archaeological landmark. The site was previously mass graded and no archaeological resources were identified at that time. The site was also historically used for agricultural activities where heavy ground-disturbance likely occurred. As such, there is a low likelihood of the proposed Project resulting in a substantial adverse change in the significance of an archaeological resource. Nevertheless, it is possible that a currently unknown cultural resource, as defined by *State CEQA Guidelines* Section 15064.5, could be encountered during construction activities, such as trenching and minor excavation. In the unlikely event archaeological resources are discovered at any time during construction, those activities would be halted in the vicinity of the find until the find can be assessed for significance by a qualified archaeologist (**Mitigation Measure CUL-1**). Implementation of **Mitigation Measure CUL-1** would reduce any potential impacts to previously undiscovered archaeological resources to a less than significant level.

At the completion of Project construction, the proposed Project would not result in further disturbance of native soils on the Project site. Therefore, operation of the proposed Project would not result in a substantial adverse change in the significance of an archeological resource as defined in Section 15064.5 of the *State CEQA Guidelines*. No additional mitigation is required.

Mitigation Measure:

- CUL-1** **Archeological Resources and Tribal Cultural Resources.** Prior to the initiation of construction, IRWD shall retain a qualified Archeologist to be available “on-call”

¹ City of Irvine. *Northern Sphere Environmental Impact Report*. Website: <http://www.cityofirvine.org/community-development/northern-sphere-eir> (accessed June 8, 2017).

² City of Irvine. 2012. Op. cit.

³ City of Irvine. 2015. General Plan, July, Cultural Resources Element, Figure E-1 Historical/Archaeological Landmarks.

throughout the duration of ground-disturbing activities. The Archeologist shall be present at the pre-construction grade conference; shall, in conjunction with IRWD, establish procedures for archeological resource and tribal cultural resource surveillance; and shall establish, in consultation with IRWD, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the artifacts as appropriate. If the ~~archeological resources are~~ is found to be significant, the Archeologist shall determine appropriate actions, in consultation with IRWD, for exploration, avoidance, and/or salvage. Following the completion of the earth-disturbance activities, the Archeologist shall furnish a report to IRWD.

Significance Determination: Less Than Significant with Mitigation Incorporated

- (c) Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Project site is designated as a low sensitivity zone for paleontological resources in the City of Irvine General Plan, and there is a low likelihood of encountering paleontological resources due to the prior agricultural uses and disturbance of the site. Nevertheless, it is possible that a currently unknown paleontological resources could be uncovered during ground-disturbing activities on the Project site. In the unlikely event that fossil remains are encountered on the site, a paleontologist shall be contacted to assess the discovery for scientific significance and to make recommendations regarding the necessity to develop paleontological mitigation (including paleontological monitoring, collection, stabilization, and identification of observed resources; curation of resources into a museum repository; and preparation of a monitoring report of findings), as required by **Mitigation Measure CUL-2**. With implementation of **Mitigation Measure CUL-2**, impacts would be reduced to a less than significant level.

At the completion of Project construction, the proposed Project would not result in further disturbance of native soils on the Project site. Therefore, operation of the proposed Project would not result in a substantial adverse change in the significance of a paleontological resource as defined in Section 15064.5 of the *State CEQA* Guidelines, and no additional mitigation is required.

Mitigation Measure:

- CUL-2** **Paleontological Resources.** Prior to the initiation of construction, IRWD shall retain a qualified Paleontologist to be available “on-call” throughout the duration of grading activities. In the event that pre-historic or historic subsurface cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the resources shall be halted and IRWD shall consult with the qualified paleontologist to assess the significance of the find according to CEQA Guidelines Section 15064.5. If any find is determined to be significant, IRWD and the paleontologist shall meet to determine the appropriate avoidance measures or other appropriate mitigation. IRWD shall make the final determination. All significant paleontological materials recovered shall be, as necessary and at the discretion of the paleontologist, subject to scientific analysis and professional

standards. The qualified paleontologist shall consult with IRWD to review the project design plans so collectively they can decide where and when monitoring is required. Based on observations, monitoring may be reduced or discontinued if the qualified paleontologist determines that the possibility of encountering fossiliferous deposits is low. The qualified paleontologist shall prepare a final monitoring report to submit to IRWD.

Significance Determination: Less Than Significant with Mitigation Incorporated

- (d) Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?

No known human remains are present on the Project site, and there are no facts or evidence to support the idea that Native Americans or people of European descent are buried on the Project site. However, as described previously, buried and undiscovered archaeological remains, including human remains, may be present below the ground surface in portions of the Project site. Disturbing human remains could violate the State's Health and Safety Code, as well as destroy the resource. In the unlikely event that human remains are encountered during Project grading, the proper authorities would be notified, and standard procedures for the respectful handling of human remains during the earthmoving activities would be adhered to. Construction contractors are required to adhere to California Code of Regulations (CCR) Section 15064.5(e), PRC Section 5097, and Section 7050.5 of the State's Health and Safety Code. To ensure proper treatment of burials, in the event of an unanticipated discovery of a burial, human bone, or suspected human bone, the law requires that all excavation or grading in the vicinity of the find halt immediately, the area of the find be protected, and the contractor immediately notify the County Coroner of the find. All parties are required to comply with the provisions of CCR Section 15064.5(e), PRC Section 5097.98, and Section 7050.5 of the State's Health and Safety Code. Compliance with these provisions (specified in **Mitigation Measure CUL-3**), would ensure that any potential impacts to unknown buried human remains would be less than significant by ensuring appropriate examination, treatment, and protection of human remains as required by State law.

Mitigation Measure:

CUL-3 Human Remains. In the unlikely event that human remains are encountered on the Project site, California Health and Safety Code 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to California Public Resources Code Section 5097.98. The county coroner shall be notified immediately if any human remains are found. If the remains are determined to be prehistoric, the coroner shall notify the Native American Heritage Commission, which will determine and notify the most likely descendant. With the permission of IRWD or an authorized representative, the most likely descendant may inspect the site of discovery. IRWD shall meet and confer with the most likely descendant regarding their recommendations prior to disturbing the site by further construction activity.

Significance Determination: Less Than Significant with Mitigation Incorporated

4.6 GEOLOGY AND SOILS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Analysis:

- (a) (i) Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving 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.

The Alquist-Priolo Fault Zoning Act was signed into law in 1972 and went to effect in 1973. The purpose of this Act was to require the State Geologist to delineate “Earthquake Fault Zones” (EFZs) along known active faults in California. If a city or county was affected by the zones, they would be required to regulate certain development projects within the zones. As with all of Southern California, the Project site is subject to strong ground motion resulting from earthquakes on nearby faults. There are, however, no known faults crossing the Project site. According to the Northern Sphere Area EIR prepared in 2001/2002 which analyzed, in part, the

proposed Project site, there are no known active faults that would affect the Project site.¹ As a result, no impact would occur with regards to exposure to an Alquist-Priolo fault.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(a) (ii) Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The Project site, like all of Southern California, is in an active seismic region. Ground shaking resulting from earthquakes associated with both nearby and more distant faults is likely to occur. The City of Irvine is located within Uniform Building Code Seismic Zone 4, which reflects the highest seismic intensity in the United States. Specifically, the Project site is located within Seismic Response Area 2, which is defined by the Irvine General Plan as areas with denser soils and deeper ground water. Seismic Response Area 2 areas are characterized as subject to ground motion; however, breakage and/or ground failure is not expected and liquefaction in these areas is remote. The proposed Project would be required to comply with the most current California Building Code (CBC) standards, which stipulate appropriate seismic design provisions that shall be implemented with Project design and construction. Compliance with the CBC and the recommendations in the Project Geotechnical Investigation prepared by AECOM as part of the Preliminary Design Report would reduce any potential impacts related to on-site seismic ground shaking to a less than significant level, and no mitigation is required. While the Project site would be exposed to seismic ground-shaking, the proposed Project would not cause or exacerbate strong seismic ground shaking which would expose people or structures to significant risk of injury or loss of property; no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

(a) (iii) Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction commonly occurs when three conditions are present simultaneously: (1) high groundwater; (2) relatively loose, cohesion lacking (sandy) soil; and (3) earthquake-generated seismic waves. Liquefaction effects can manifest in several ways, including (1) loss of bearing, (2) lateral spread, (3) dynamic settlement, and (4) flow failures.

The Project site is partially within the Lake Forest 7.5 Minute Quadrangle and the Tustin 7.5 Minute Quadrangle. According to the California Geological Survey maps for these

¹ City of Irvine. 2001/2002. Northern Sphere Area EIR, page 4-207.

quadrangles, the Project site is not within a liquefaction zone.¹ Additionally, the geotechnical investigation prepared for the Project as part of the Preliminary Design Report, did not encounter any groundwater during exploratory borings.² Therefore, no impact would occur involving seismic-related ground failure, including liquefaction, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(a) (iv) Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landsliding?

Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes in areas with significant ground slopes. The Project site is partially within the Lake Forest 7.5 Minute Quadrangle and the Tustin 7.5 Minute Quadrangle. According to the California Geological Survey maps for these quadrangles, the Project site is not within a landslide zone.³ Further, as described above, the Project site is within Seismic Response Area 2 where ground breakage/failure is considered remote, in addition to being relatively flat and free from large sloping areas. Therefore, the proposed Project would not exposure people or structures to substantial adverse effects involving seismically induced landslides, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(b) Would the Project result in substantial soil erosion or the loss of topsoil?

During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and sedimentation compared to existing conditions. During construction, the total disturbed soil area would be approximately 0.75 acre. Because construction of the Project would disturb less than 1 acre of soil, the Project is not subject to the requirements of the State Water Resources Control Board's Construction General Permit; therefore, preparation of a Storm Water Pollution Prevention Plan (SWPPP), and implementation of Erosion Control and Sediment Control Best Management Practices (BMPs) are not required. Because of the small amount of ground disturbance during construction, Project construction activities have a low potential to result in substantial soil erosion or the loss of topsoil. In the proposed condition, the entire Project site would be impervious surface areas that would not be prone to erosion or loss of topsoil; therefore, on-site erosion and loss of

¹ Natural Resources Agency. 2001. California Geological Survey, Earthquake Zones of Required Investigations, Tustin Quadrangle, and Lake Forest Quadrangle.

² AECOM. 2017. Preliminary Design Report, Zone A to B and Zone A to C Booster Pump Stations Project page 5-3.

³ Natural Resources Agency. 2001. California Geological Survey, Earthquake Zones of Required Investigations, Tustin Quadrangle, and Lake Forest Quadrangle.

topsoil would not occur. For these reasons, impacts related to erosion or loss of topsoil would be less than significant, and no mitigation is required.

Significance Designation: Less Than Significant Impact

Mitigation Measures: No mitigation is required

- (c) Would the Project 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?

Landslides and other forms of mass wasting, including mud flows, debris flows, and soil slips, occur as soil moves downslope under the influence of gravity. Landslides are frequently triggered by intense rainfall or seismic shaking. Because the Project site is in a relatively flat area, landslides or other forms of natural slope instability do not represent a significant hazard to the Project or the surrounding area. See discussion 4.6.1 (a)iii) and (a)iv) above. Further, the geotechnical investigation prepared for the Project as part of the Preliminary Design Report concluded that the Project site's soils would provide suitable support for the Project. Therefore, the Project would not be located on a geologic unit or soil that is unstable or that would become unstable, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (d) Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Expansive soils contain types of clay materials that occupy considerably more volume when they are wet or hydrated than when they are dry or dehydrated. Volume changes associated with changes in the moisture content of near-surface expansive soils can cause uplift or heave of the ground when they become wet or, less commonly, cause settlement when they dry out. The proposed Project site and its surrounding area are underlain by alluvial sediments, consisting of a mix of clays, silts, and sands. The upper few feet of material consist primarily of silty sand, and fine-to-medium sand, with layers of clayey sand and silt and greater depths. The soils in the area are generally medium-stiff to medium-dense, except for the upper 3 feet which can be damp to moist from prior farming activities.¹ Further, as mentioned above, the Project site is classified as Seismic Response Area 2, which is made up of denser soils and deeper groundwater where ground breakage and failure is not expected to characterize the area. Therefore, impacts related to expansive soils would be less than significant, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

¹ City of Irvine. 2001/2002. Northern Sphere Area EIR, page 4-205.

- (e) Would the Project 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?

The proposed Project does not include construction of septic tanks or connections to septic systems or alternative wastewater disposal systems. Therefore, the proposed Project would not result in impacts related to the soils capability to adequately support the use of septic tanks or alternative wastewater disposal systems, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

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4.7 GREENHOUSE GAS EMISSIONS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Technical Background:

Greenhouse gases (GHGs) (so called because of their role in trapping heat near the surface of the Earth) emitted by human activity are implicated in global climate change, commonly referred to as “global warming.” These GHGs contribute to an increase in the temperature of the Earth’s atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal GHGs are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), O₃, and water vapor. For the purposes of planning and regulation, Section 15364.5 of the CCR defines GHGs to include, but are not limited to, CO₂, CH₄, N₂O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second-largest contributors of GHG emissions with about one-fourth of total emissions.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere (“atmospheric lifetime”). The GWP of each gas is measured relative to CO₂, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO₂ over a specified time period. GHG emissions are typically measured in terms of pounds or tons of “CO₂ equivalents” (CO₂e).

In October 2008, the SCAQMD released a *Draft Guidance Document – Interim CEQA Greenhouse Gas Significance Threshold* that suggested a tiered approach to analyzing GHG emissions in a project level analysis. In the Draft Guidance Document, the SCAQMD provided numerical thresholds that can be applied to smaller projects (like the proposed Project). The interim GHG significance

thresholds are 10,000 metric tons (MT) of annual CO₂e for industrial projects where the SCAQMD is the Lead Agency and 3,000 MT of CO₂e per year for all residential and commercial land uses under CEQA. If the project emissions are less than the applicable numerical threshold, then the project's effects related to GHG emissions would be less than significant and the analysis is complete.

For the purpose of this technical analysis, the concept of CO₂e is used to describe how much global warming a given type and amount of GHG may cause, using the functionally equivalent amount or concentration of CO₂ as the reference. Individual GHGs have varying global warming potentials and atmospheric lifetimes. CO₂e is a consistent methodology for comparing GHG emissions because it normalizes various GHGs to the same metric. The GHG emissions estimates were calculated using CalEEMod, Version 2016.3.1. CalEEMod is an air quality modeling program that estimates air pollution emissions in pounds per day or tons per year for various land uses, area sources, construction projects, and project operations. Mitigation measures can also be specified to analyze the effects of mitigation on Project emissions.

Impact Analysis:

- (a) Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction and operation of the proposed Project would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during the Project's operation (as opposed to its construction). Typically, more than 80 percent of the total energy consumption takes place during the use of buildings, and less than 20 percent is consumed during construction.

Construction Emissions. Construction activities, such as site preparation, site grading, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, and motor vehicles transporting the construction crew would produce combustion emissions from various sources. During construction of the Project, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO₂, CH₄, and N₂O. Furthermore, CH₄ is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The SCAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are required to quantify and disclose GHG emissions that would occur during construction. The SCAQMD then requires the construction GHG emissions to be amortized over the life of the Project, defined as 30 years, added to the operational emissions, and compared to the applicable interim GHG significance threshold tier.

Using CalEEMod, it is estimated that the Project would generate approximately 224 MT of CO₂e during construction of the Project. When annualized over the 30 year life of the Project, annual emissions would be 7.5 MT of CO₂e.

Operational Emissions. Long-term operation of the proposed Project would generate GHG emissions from mobile sources and indirect emissions from sources associated with energy consumption. Mobile-source emissions of GHGs would include Project-generated vehicle trips associated with workers traveling to and from the Project site. Emissions would also be generated at off-site utility providers as a result of demand for electricity generated by the proposed Project. GHG emissions associated with the Project were estimated using CalEEMod. Model output sheets are included in Appendix B, Air Quality and Greenhouse Gas.

As shown in Table 4.7.A, Project Operational Greenhouse Gas Emissions, the proposed Project would generate 54.7 MT of CO₂e which would be well below the SCAQMD’s numeric threshold of 10,000 MT of CO₂e. Therefore, GHG emissions generated by the proposed Project would be less than significant. No mitigation is required.

Table 4.7.A: Project Operational Greenhouse Gas Emissions

Emissions Category	Emission Rates (MT/yr)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
Project Emissions	42.9	0.2	0.0	47.2
Amortized Project Construction Emissions	–	–	–	7.5
Total Project Emissions				54.7
SCAQMD Threshold	N/A	N/A	N/A	10,000
Exceeds?	–	–	–	No

Source: LSA (June 2017).

CH₄ = methane

N/A = not applicable

CO₂ = carbon dioxide

N₂O = nitrous oxide

CO₂e = carbon dioxide equivalent

SCAQMD = South Coast Air Quality Management District

MT/yr = metric tons per year

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (b) Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The California Climate Action Team and the ARB have developed several reports to achieve the State’s GHG targets that rely on voluntary actions of California businesses, local government and community groups, and State incentive and regulatory programs. The ARB released the First Update to the Climate Change Scoping Plan. The report identifies strategies to reduce California’s emissions to the levels proposed in Executive Order (EO) S-3-05 and Assembly Bill (AB) 32. ARB released a second update to the Scoping Plan, the Draft 2017 Scoping Plan, to reflect the target of 40 percent below 1990 levels by 2030, as set by EO B-30-15 and codified by Senate Bill (SB) 32.

The adopted Scoping Plan includes proposed GHG reductions from direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as cap-and-trade systems.

The City of Irvine's Energy Plan¹ was adopted on July 8, 2008. The Energy Plan addresses global climate change, including the need for adaptability and carbon emission reductions, and the significant role that energy plays when discussing dealing with global climate change and its affects. In addition, the Energy Plan assesses municipal and citywide energy use. A breakdown of the total energy consumed within the City is approximately 40 percent electricity, 34 percent natural gas, and 26 percent gasoline. Of the electricity consumed, 72 percent is consumed by small-to-medium-sized businesses (i.e., small-to-medium manufacturing and processing firms, retail businesses, churches, service stations, schools, and restaurants), 16 percent is consumed by residential, and 10 percent by large commercial and industrial.

The Energy Plan also identifies four goals for the City that are intended to match or exceed the State's energy and emissions statewide reductions goals. The year 2020 timeframe for the City's goals aligns with the State's goals. The goals include:

- Involve 100 percent of Irvine residents and businesses in reducing energy consumption and thus, reduce carbon emissions. Ensuring widespread participation will require that all sectors of the community are well-informed about energy issues and enabled to take action to change their day-to-day energy use practices.
- Increase the energy efficiency in buildings to reduce building energy use to 30 percent by the year 2015. Existing buildings present a major challenge and cannot be ignored since they already represent a very high percentage of the building stock in Irvine, and will continue to consume energy for years to come.
- Transition new buildings Citywide to renewable energy. This can be done directly with solar panels, solar water heating, and small wind turbines. It will also be occurring, indirectly, as Southern California Edison moves to produce more of its electricity using renewable resources per California Public Utility Commission mandates. Together, the goal for renewable energy use by new buildings is achievable.
- Reduce GHG emissions Citywide to 1990 levels by 2020, in accordance with AB 32. Achievements in the previous three goals will contribute greatly to this goal. There will also likely be measures mandated statewide. Achieving this goal will demonstrate the City of Irvine's leadership by reducing emissions within its own boundaries to meet the State's goal.

Based on the analysis above, the proposed Project would not result in a substantial increase in GHG emissions and, therefore, would not conflict with the goals contained in the adopted Energy Plan. Therefore, the proposed Project would not conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

¹ City of Irvine. 2008. *City of Irvine Energy Plan*. July 8.

4.8 HAZARDS AND HAZARDOUS MATERIALS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Analysis:

(a) Would the Project create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?

Hazardous materials are chemicals that could potentially cause harm during an accidental release or mishap, and are defined as being toxic, corrosive, flammable, reactive, and irritant, or strong sensitizer.¹ Hazardous substances include all chemicals regulated under the United States Department of Transportation “hazardous materials” regulations and the United States

¹ A “sensitizer” is a chemical that can cause a substantial proportion of people or animals to develop an allergic reaction in normal tissue after repeated exposure to a chemical (United States Department of Labor, 2017).

Environmental Protection Agency “hazardous waste” regulations. Hazardous wastes require special handling and disposal because of their potential to damage public health and the environment. The probable frequency and severity of consequences from the routine transport, use, or disposal of hazardous materials is affected by the type of substance, the quantity used or managed, and the nature of the activities and operations.

Construction activities associated with the proposed Project would use a limited amount of hazardous and flammable substances (e.g., oils) during heavy equipment operation for site grading and construction. The amount of hazardous chemicals present during construction is limited and would be in compliance with existing government regulations. Further, the types of materials typically that would result in significant hazards to health are generally considered to be related to asbestos-containing materials and/or lead-based paints, both of which have been banned from use. Because the existing Project site is vacant and free of any structures, there would be no demolition of structures that could have had asbestos-containing materials or lead-based paint. The potential for the release of hazardous materials during Project construction is low, and even if a release would occur, it would not result in a significant hazard to the public, surrounding land uses, or environment due to the small quantities of these materials associated with construction vehicles. Therefore, no mitigation is required.

The proposed Project includes the operation and maintenance of a pump station and the installation of one pad-mounted electrical transformer. Operation of the pump station would include the use of common hazardous materials including, but not limited to, lubricants and cooling fluids. Therefore, in addition to maintenance and custodial supplies, project operation may include the routine use of hazardous materials typical of pump stations that, when used correctly and in compliance with existing laws and regulations, would not result in significant hazards to workers in the vicinity of the proposed Project. Use of hazardous materials by businesses is regulated by California Certified Unified Program Agency (CUPA) programs (California Health and Safety Code Chapter 6.11). CUPA programs include Hazardous Materials Business Plan (HMBP) requirements, hazardous waste generator requirements, underground and aboveground storage tank requirements, and the California Accidental Release Program (CalARP). These existing programs would ensure protection of human health and the environment during operation of the proposed Project. Impacts would be less than significant, and no mitigation is required. It should be noted that polychlorinated biphenyls (PCBs) were used in electrical transformers prior to 1979; however, PCBs are no longer used in electrical transformers.

Therefore, impacts associated with the disposal of hazardous materials and/or the potential release of hazardous materials that could occur with the implementation of the proposed Project are considered less than significant, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (b) Would the Project create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

As previously stated in Response 3.8 (a), construction activities would involve the use of chemical agents, oils, solvents, paints, and other hazardous materials that are associated with construction activities. The amount of these chemicals present during construction is limited and would be in compliance with existing government regulations. Therefore, construction activities would not create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment. No mitigation is required.

The proposed Project would consist of a pump station that would be housed within a secured structure that would be operated from a remote location. Operation of the pump station would include the use of common hazardous material including, but not limited to, lubricants and cooling fluids. Therefore, in addition to maintenance and custodial supplies, project operation may include the routine use of hazardous materials typical of pump stations that, when used correctly and in compliance with existing laws and regulations, would not result in a significant hazard to the public or environment through upset or accidental release of hazardous materials into the environment. Use of hazardous materials by businesses is regulated by CUPA programs, which include HMBP requirements, hazardous waste generator requirements, underground and aboveground storage tank requirements, and CalARP. These existing programs would ensure protection of human health and the environment during operation of the proposed Project. Impacts would be less than significant, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (c) Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Although there are no existing schools within 0.25 mile of the proposed Project site, a new elementary school within the Irvine School District is anticipated for opening in August 2017 near the corner of Meander and Encore, which is located within a 0.25-mile radius of the Project site. However, due to the nature of the Project as a water conveyance system, the Project is not of the type to emit hazardous emissions or handle hazardous or acutely hazardous materials or substances, as described above in discussions 4.8.1 (a) and (b). The Project impact would be a less than significant impact, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (d) Would the Project 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?

A search of the regulatory database's GeoTracker and Department of Toxic Substances Control (DTSC) Envirostor performed on June 6, 2017, looked for locations of hazardous materials sites at or within the vicinity of the proposed Project site. According to GeoTracker and DTSC, there was a school investigation at/near the Project site (PA 5B Elementary School 60002131); however, it was determined that no further action was needed and that no hazardous materials were present at the site.¹ No other hazardous materials listed at the Project site or within its immediate vicinity were found. Given that DTSC determined through its investigation that there were no hazardous materials at the Project site and no further action was needed, it can be concluded that the Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. As a result, it is further concluded the Project would not create a significant hazard to the public or the environment. No mitigation is required.

Significance Determination: No Impact

Mitigation Measures: 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 for people residing or working in the project area?

The proposed Project is not located within an airport land use plan or within 2 miles of a public airport or public use airport. The nearest public airport is the John Wayne Airport at 3160 Airway Avenue, which is located approximately 8 miles west/southwest of the site. As a result, the proposed Project would not result in a safety hazard for people residing or working in the Project area. Therefore, no impacts are anticipated, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

The proposed Project is not located within the vicinity of a private airstrip, and as a result, the proposed Project would not result in a safety hazard for people residing or working in the Project area. Therefore, no impacts are anticipated, and no mitigation is required.

Significance Determination: No Impact

¹ Department of Toxic Substances Control, Envirostor. Website: http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60002131 (accessed on June 6, 2017).

Mitigation Measures: No mitigation is required

- (g) Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Construction. During short-term construction activities, the proposed Project is not anticipated to result in any substantial traffic queuing along Jeffrey Road, Irvine Boulevard, or the residential streets from which the construction equipment would enter the site. All construction equipment would be staged on site and all large construction vehicles entering and exiting the site would be guided by the use of personnel using signs and flags to direct traffic.

The Project does not include any characteristics (e.g., permanent road closure or long-term blocking of road access) that would physically impair or otherwise interfere with emergency response or evacuation in the Project vicinity; however, the proposed Project would require temporary lane closures on Irvine Boulevard to connect the pump station on-site piping and the existing Irvine Lake Pipeline (ILP), which underlies Irvine Boulevard. Temporary lane closures would be implemented consistent with the recommendations of the California *Joint Utility Traffic Control Manual*. Among other things, the manual recommends early coordination with affected agencies to ensure that emergency vehicle access is maintained. In this manner, officials could plan and respond appropriately to direct the public away from Irvine Boulevard in the event of an emergency requiring evacuation. In addition, as described in **Mitigation Measure TRA-1**, IRWD would be required to prepare and implement a Construction Traffic Management Plan. The Construction Traffic Management Plan would require certain conditions (e.g., providing warning signs, lights, and devices) and would require that the City of Irvine Police Department be notified a minimum of 24 hours in advance of any lane closures or roadway work. With implementation of **Mitigation Measure TRA-1**, potential impacts to emergency response and evacuation plans during associated with construction of the proposed Project would be reduced to a less than significant level.

Operation. The City of Irvine has an adopted Emergency Management Plan (2004) that addresses the City's planned response to emergencies associated with natural and man-made disasters. The Emergency Management Plan provides an overview of operational concepts and describes overall responsibilities of the various federal, State, and county entities for protecting life and property in the event of an emergency. The proposed Project would be located on a site already situated within the framework of the City and the City's roadway network. The proposed Project would not reconfigure any existing roadways, result in road closures during operation of the Project, or include features that would otherwise hinder implementation of the Emergency Management Plan. Furthermore, the proposed Project would also be required to comply with all applicable codes and ordinances for emergency vehicle access, which would ensure adequate access to, from, and on site for emergency vehicles. In addition, a remote gate-opening device consistent with Orange County Fire Authority (OCFA) requirements would be installed on both electronically operated access gates.

Therefore, operation of the proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Potential Project impacts would be less than significant, and no mitigation would be required.

Mitigation Measures: Refer to Mitigation Measure TRA-1

Significance Determination: Less Than Significant with Mitigation Incorporated

- (h) Would the Project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

According to the City of Irvine General Plan Safety Element, the proposed Project site is not within a high fire severity rating area.¹ Further, the California Department of Forestry and Fire Protection does not indicate the Project site as a fire hazard zone in either the State Responsibility Area map or the Local Responsibility Area map.² No impact would occur with regards to wildland fires, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

¹ City of Irvine. 2015. General Plan, Safety Element, Figure J-2. July.

² California Department of Forestry and Fire Protection. 2007. State Responsibility Area Map, and 2011. Local Responsibility Area Map for Orange County.

4.9 HYDROLOGY AND WATER QUALITY

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff above pre-development condition in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(j) Cause inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Analysis:

(a) Would the Project violate any water quality standards or waste discharge requirements?

Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. During construction activities, excavated soil would be exposed, and there would be an increased

potential for soil erosion and sedimentation compared to existing conditions. During construction, the total disturbed soil area would be approximately 0.75 acre. In addition, chemicals, liquid products, petroleum products (for example, paints, solvents, and fuels), and concrete-related waste may be spilled or leaked and have the potential to be transported via storm runoff into receiving waters. Because construction of the Project would disturb less than 1 acre of soil, the Project is not subject to the requirements of the State Water Resources Control Board's (Construction General Permit). Because of the small amount of ground disturbance during construction, Project construction activities have a low potential to impact water quality. As a result, construction impacts related to violation of water quality standards or waste discharge requirements would be less than significant and no mitigation would be required.

The depth to the groundwater table is not expected to occur until a depth of 40 ft or greater below ground surface. In addition, during exploratory borings conducted for the Project, no groundwater was encountered. Therefore, groundwater dewatering during construction is not anticipated to be required. If groundwater is encountered during excavation activities, groundwater dewatering would occur. Dewatered groundwater would be released to the storm drain system, which would eventually discharge into downstream receiving waters. Any groundwater dewatering during excavation would be conducted in accordance with one of the Santa Ana Regional Water Quality Control Board (RWQCB's) Groundwater Discharge Permits, which would require testing and treatment (as necessary) of groundwater prior to release to ensure the discharge complies with the effluent limitations specified in the permit. With compliance with the applicable groundwater dewatering permit, impacts of groundwater dewatering related to violation of water quality standards or waste discharge requirements would be less than significant, and no mitigation would be required.

During operation, pollutants of concern would be limited to those associated with vehicle operation, such as oil and grease. Pollutants from vehicles accessing the Project site would be minimal, because of the limited traffic to and from the site (approximately four vehicles per day). However, the Project would increase impervious surface area on the Project site by approximately 0.75 acre (32,670 square feet), which would increase the volume of runoff during a storm, and more effectively transport pollutants to receiving waters. Because the Project is a new development project that creates 10,000 square feet or more of impervious surface, the Project would comply with the requirements of the North Orange County Municipal Separate Storm Sewer System (MS4) Permit. The design of the Project would include Source Control and Low Impact Development (LID) Best Management Practices (BMPs) BMPs that would capture and retain storm water and target and remove pollutants of concern to reduce impacts to water quality during operation of the Project. With compliance with the North Orange County MS4 Permit and implementation of BMPs, operational impacts related to violation of water quality standards or waste discharge requirements would be less than significant, and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (b) Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

The Project site is not in a designated groundwater recharge area. As discussed in Response 4.9 (a), groundwater dewatering may be required during construction. However, dewatering and well construction activities would be temporary, and the volume of groundwater removed would not be substantial. The Project could increase impervious surface areas on site by approximately 0.75 acre, which could result in a minimal decrease in infiltration due to the small amount of new impervious area. Therefore, Project impacts related to the depletion of groundwater supplies or interference with groundwater recharge would be less than significant, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (c) Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site?

During construction activities, soil would be exposed and disturbed, drainage patterns would be temporarily altered during grading and other construction activities, and there could be an increased potential for soil erosion and siltation compared to existing conditions. Additionally, during a storm event, soil erosion and siltation may occur at an accelerated rate. However, as discussed above in Response 4.9 (a), because of the small amount of ground disturbance during construction, Project construction activities have a low potential to impact water quality, including those associated with erosion and siltation. Therefore, construction impacts related to on- or off-site erosion or siltation would be less than significant, and no mitigation is required.

The Project would maintain the existing north-to-south drainage pattern on the Project site. As a result, the entire Project site would be an impervious surface area that would not be prone to erosion or siltation; therefore, on-site erosion and siltation would not occur. The Project would increase the impervious surface area on the Project site by approximately 0.75 acre compared to existing conditions, which could increase runoff peak flow. Increases in on-site runoff could lead to downstream erosion. However, as discussed in Response 4.6 (a), BMPs would be implemented in compliance with the North Orange County MS4 Permit. These BMPs would be designed to capture storm water runoff to reduce runoff volume and velocity, in compliance with the requirements of the North Orange County MS4 Permit. Therefore, because the Project would not substantially change the storm water runoff from the Project site, the Project would not contribute to downstream erosion or siltation. Finally, the proposed Project would not alter the course of a stream or river. As such, operational impacts related to on-site or off-site erosion or siltation would be less than significant, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (d) Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff above pre-development condition in a manner which would result in flooding on- or off-site?

During construction activities, soil would be compacted and drainage patterns would be temporarily altered during grading and other construction activities. However, because of the small amount of ground disturbance during construction, any increase in flooding resulting from the drainage alterations would be minimal. Therefore, construction impacts related to on- or off-site flooding would be less than significant, and no mitigation is required.

The proposed Project would maintain the existing north-to-south drainage pattern on the Project site. In addition, the Project site would be graded to maintain a minimum 1.5 percent slope in all locations on the Project site to ensure adequate on-site drainage so that on-site flooding does not occur. As discussed in Response 4.9 (c), the proposed Project would include BMPs to capture storm water runoff to reduce runoff volume and velocity. Therefore, the Project would not exceed the capacity of the downstream storm drain lines or result in off-site flooding. In addition, BMPs and on-site storm drain facilities included in the Project design would be sized to accommodate storm water runoff from the Project site so that on-site flooding would not occur. Finally, the proposed Project would not alter the course of a stream or river. As such, operational impacts related to on-site or off-site flooding would be less than significant, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (e) Would the Project create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

As discussed previously, construction of the proposed Project has the potential to introduce pollutants to the storm drainage system from erosion, siltation, and accidental spills. However, as discussed above in Response 4.9 (a), because of the small amount of ground disturbance during construction, Project construction activities have a low potential to impact water quality and any additional pollutants in storm water runoff from the Project site would be minimal. Due to the depth of groundwater, it is unlikely that groundwater would be encountered during construction. However, in the unlikely event that groundwater is encountered during construction and would require disposal in the storm drain system, any groundwater dewatering would be minimal, short-term, and would not be anticipated to exceed the capacity of the storm drain system. In addition, any groundwater dewatering during excavation would be conducted in accordance with one of the Santa Ana RWQCB groundwater dewatering permits, which would

require testing and treatment (as necessary) of groundwater encountered during dewatering or groundwater well construction prior to release so as not to provide additional sources of polluted runoff to the storm drain system.

As discussed previously, the Project would maintain the existing north-to-south drainage pattern on the Project site. In addition, the proposed Project would increase the impervious surface area compared to existing conditions that would increase the volume of storm water runoff and more effectively transport pollutants to receiving waters. However, the Project would include BMPs to target and remove pollutants of concern and capture storm water runoff to reduce runoff volume and velocity. Therefore, impacts related to the creation or contribution of runoff water that would exceed the capacity of existing or planned storm water drainage systems or the provision of substantial additional sources of polluted runoff would be less than significant and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (f) Would the Project otherwise substantially degrade water quality?

Refer to Response 4.9 (a). The proposed Project would not result in impacts beyond those discussed in Response 4.9 (a).

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (g) Would the Project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

According to the Federal Emergency Management Agency Flood Insurance Rate Map, the Project site is not located within a 100-year floodplain. The Project site is mapped as Zone X, which is defined as the area determined to be outside the 0.2 percent annual change floodplain (500-year floodplain) (Map No. 06059C0284J; December 3, 2009). According to the City of Irvine General Plan, Safety Element, the Project site is not within a Flood Hazard Area. In addition, the Project does not involve any housing development. Therefore, the proposed Project would not place housing within a 100-year flood hazard area. The proposed Project would have no impact related to placement of housing in a flood hazard area, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (h) Would the Project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

As stated above in Response 4.9 (g), the Project site is not located within a 100-year floodplain or Flood Hazard Area. The proposed Project would have no impact related to placement of structures in a flood hazard area, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (i) Would the Project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

As stated above in Response 4.9 (g), the Project site is not located within a 100-year floodplain or Flood Hazard Area. Therefore, the proposed Project would not expose people or structures to flooding during a storm event. The closest unenclosed water retention facilities to the Project site include Rattlesnake Reservoir, Peter's Canyon Reservoir, and Irvine Lake (Santiago Reservoir), which are all located more than 1 mile north of the Project site. In addition, based on a review of inundation maps for the area, should the dams associated with these reservoirs fail, the Project site is not located within the inundation areas of these reservoirs.^{1,2} As such, the Project would not expose people or structures to loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. No impact related to exposure of people or structures to risk of flooding would occur, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (j) Would the Project cause inundation by seiche, tsunami, or mudflow?

Seiching is a phenomenon that occurs when seismic ground shaking induces standing waves (seiches) inside water retention facilities (e.g., reservoirs and water tanks). Such waves can cause retention structures to fail and flood downstream properties. No enclosed water retention facilities are located in close proximity to the Project site. The closest unenclosed water retention facilities include Rattlesnake Reservoir, Peter's Canyon Reservoir, and Irvine Lake (Santiago Reservoir), which are all located more than 1 mile from the Project site. Due to the distance of these waterbodies, the Project site would not be inundated should a seiche occur. The risk associated with possible seiche waves is, therefore, not considered a potential hazard of the Project.

Tsunamis are generated ocean wave trains generally caused by tectonic displacement of the sea floor associated with shallow earthquakes, sea floor landslides, rockfalls, and exploding volcanic

¹ Rancho Santiago Community College District inundation maps.

² County of Orange, General Plan Safety Element.

islands. The Project site is located approximately 10 miles from the ocean shoreline. In addition, according to the Tsunami Inundation Map for Emergency Planning, the Project site is not in a tsunami inundation area. The risk associated with tsunamis is, therefore, not considered a potential hazard for the Project.

Mudflow is described as a shallower type of slope failure usually affecting the upper soil mantle or weathered bedrock underlying natural slopes and triggered by surface or shallow subsurface saturation. The project site is relatively flat and not susceptible to mudflows. The risk associated with mudflow is, therefore, not considered a potential hazard for the Project.

Based on the information provided above, potential Project impacts related to seiche, tsunamis, or mudflow would be less than significant, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

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4.10 LAND USE/PLANNING

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, planned community, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Analysis:

(a) Would the Project physically divide an established community?

The proposed Project site is located on the corner of Jeffrey Road and Irvine Boulevard in an area that is planned for development. In general, the Project site is surrounded by existing and/or planned residential development and an open space trail (Jeffrey Open Space Trail). Given the existing urbanized setting, the proposed Project would not physically divide an established community.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

(b) Would the Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, planned community, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The proposed Project is designated Medium Density Residential under the Irvine General Plan, and is zoned Medium Density Residential (2.31). Utility buildings and facilities are conditional permitted uses in the Medium Density Residential (2.31) zone. Water facilities are not subject to city zoning regulations per Government Code 53091. The proposed Project does not propose changes to the land use or zoning designations of the site and would not require any variances. Therefore, the Project would not conflict with any applicable land use plan, policy, or regulation and a less than significant impact would occur.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (c) Would the Project conflict with any applicable habitat conservation plan or natural community conservation plan?

Although the Project site is located within the greater Orange County Central Coast NCCP/HCP Plan Area, the Project site itself is actually not located in a reserve area and is intended for development. As shown in Exhibit 4-15 of the Northern Sphere EIR, the Project site is not considered to be open space or an area for protection of special-status plant and animal species covered in the NCCP/HCP. As such, implementation of the proposed Project would not conflict with the provisions of an HCP, NCCP, or other habitat conservation plan, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

4.11 MINERAL RESOURCES

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Analysis:

(a) Would the Project 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?

In 1975, the California Legislature enacted the Surface Mining and Reclamation Act which, among other things, provided guidelines for the classification and designation of mineral lands. Areas are classified on the basis of geologic factors without regard to existing land use and land ownership. The areas are categorized into four Mineral Resource Zones (MRZ):

- **MRZ-1:** An area where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence
- **MRZ-2:** An area where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence
- **MRZ-3:** An area containing mineral deposits, the significance of which cannot be evaluated
- **MRZ-4:** An area where available information is inadequate for assignment to any other MRZ zone

Of the four categories, lands classified as MRZ-2 are of the greatest importance. Such areas are underlain by demonstrated mineral resources or are located where geologic data indicate that significant measured or indicated resources are present. MRZ-2 areas are designated by the Mining and Geology Board as being “regionally significant.” Such designations require that a Lead Agency’s land use decisions involving designated areas be made in accordance with its mineral resource management policies and that it consider the importance of the mineral resource to the region or the State as a whole, not just to the Lead Agency’s jurisdiction.

The proposed Project occurs in a location where no mineral resources have been previously identified. According to Figure 3.11-1 of the City of Irvine CEQA Guidelines, the City does not have any MRZ 2 areas. Implementation of the proposed Project would not result in the loss of

availability of known mineral resources or a locally important mineral resource recovery site. No impact would occur, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (b) Would the Project 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?

As stated in Section 4.11.a, no known valuable mineral resources exist on or near the Project site. In addition, the Project site is not identified on a local General Plan, Specific Plan, or other land use plan as a location of a locally important mineral resource. The proposed Project would not result in the loss of a locally important mineral resource recovery site. Therefore, no significant impacts related to mineral resources would result from Project implementation, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

4.12 NOISE

Would the project result in:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
(a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Technical Background:

The following section is based on noise modeling and analysis conducted by LSA (June 2017) for the proposed Project. The discussion and analysis provided in this section describes the potential short-term construction noise and vibration impacts associated with the proposed Project, as well as long-term operational noise impacts.

The following provides an overview of the characteristics of sound and vibration as well as the regulatory framework that applies to noise and vibration in the vicinity of the Project site.

Characteristics of Noise. Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep.

Several noise measurement scales exist that are used to describe noise in a particular location. A decibel is a unit of measurement that indicates the relative intensity of a sound. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels (dB) represents a tenfold increase in acoustic energy, while 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness; similarly, each 10 dB decrease in sound level is perceived as half as loud. Sound intensity is normally

measured through the A-weighted decibel (dBA) sound level. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive.

As noise spreads from a source, it loses energy; therefore, the farther away the noise receiver is from the noise source, the lower the perceived noise level. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise-sensitive receptor of concern.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq} , the community noise equivalent level (CNEL), and the day-night average level (L_{dn}) based on A-weighted decibels. CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noise occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours. CNEL and L_{dn} are within 1 dBA of each other and are normally interchangeable. The City of Irvine uses the CNEL noise scale for long-term noise impact assessment.

Characteristics of Vibration. Vibration refers to ground-borne noise and perceptible motion. Ground-borne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem where the motion may be discernible, but there is less adverse reaction without the effects associated with the shaking of a building. Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as motion of building surfaces, the rattling of items on shelves or hanging on walls, or a low-frequency rumbling noise, otherwise referred to as ground-borne noise. Typically, sources that have the potential to generate ground-borne noise are likely to produce airborne noise impacts that mask the radiated ground-borne noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less. This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of ground-borne vibration are construction activities (e.g., blasting, pile driving, and operating heavy-duty earthmoving equipment) and occasional traffic on rough roads. Ground-borne vibration and noise from these sources are usually localized to areas within approximately 100 ft of the vibration source. When roadways are smooth, vibration from traffic, even heavy trucks, is rarely perceptible. For most projects, it is assumed that the roadway surface will be smooth enough that ground-borne vibration from street traffic will not exceed the impact criteria; however, construction of the Project could result in temporary ground-borne vibration.

Ground-borne vibration has the potential to disturb people as well as damage buildings. Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). RMS is best for characterizing human response to building vibration, and PPV is used to characterize the potential for damage. Decibel notation acts to

compress the range of numbers required to describe vibration. Vibration velocity level in decibels is defined as:

$$L_v = 20 \log_{10} [V/V_{ref}]$$

where L_v is the velocity in decibels (VdB), “V” is the RMS velocity amplitude, and “Vref” is the reference velocity amplitude, or 1×10^{-6} inches per second used in the United States. Table 4.12.A, Human Response to Different Levels of Ground-Borne Noise and Vibration, illustrates the human response to various vibration levels.

Table 4.12.A: Human Response to Different Levels of Ground-Borne Noise and Vibration

Vibration Velocity Level	Noise Level		Human Response
	Low-Frequency ¹	Mid-Frequency ²	
65 VdB	25 dBA	40 dBA	Approximate threshold of perception for many humans. Low-frequency sound usually inaudible; mid-frequency sound excessive for quiet sleeping areas.
75 VdB	35 dBA	50 dBA	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find transit vibration at this level annoying. Low-frequency noise acceptable for sleeping areas; mid-frequency noise annoying in most quiet occupied areas.
85 VdB	45 dBA	60 dBA	Vibration acceptable only if there are an infrequent number of events per day. Low-frequency noise annoying for sleeping areas; mid-frequency noise annoying even for infrequent events with institutional land uses such as schools and churches.

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Table 7-1 (2006).

¹ Approximate noise level when vibration spectrum peak is near 30 Hz.

² Approximate noise level when vibration spectrum peak is near 60 Hz.

dBA = A-weighted decibels

Hz = Hertz

FTA = Federal Transit Administration

VdB = vibration velocity decibels

Factors that influence ground-borne vibration and noise include the following:

- **Vibration Source:** Vehicle suspension, wheel types and condition, track/roadway surface, track support system, speed, transit structure, and depth of vibration source
- **Vibration Path:** Soil type, rock layers, soil layering, depth to water table, and frost depth
- **Vibration Receiver:** Foundation type, building construction, and acoustical absorption

Among the factors listed above, there are significant differences in the vibration characteristics when the source is underground compared to at the ground surface. In addition, soil conditions are known to have a strong influence on the levels of ground-borne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock.

Experience with ground-borne vibration indicates that (1) vibration propagation is more efficient in stiff clay soils than in loose sandy soils, and (2) shallow rock seems to concentrate the vibration energy close to the surface and can result in ground-borne vibration problems at large distances from the track. Factors such as layering of the soil and depth to the water table can have significant effects on the propagation of ground-borne vibration. Soft, loose, sandy soils tend to attenuate more vibration energy than hard, rocky materials. Vibration propagation through groundwater is more efficient than through sandy soils.

Applicable Noise and Vibration Standards. The City regulates noise based on the criteria presented in the Noise Element of the General Plan as well as the Municipal Code. As discussed below, the City does not have adopted construction noise thresholds; therefore, Federal Transit Administration (FTA) criteria will be used to assess potential construction noise impacts.

City of Irvine Noise Element of the General Plan. The noise standards specified on Figure N-1 of the City's General Plan Noise Element are used as a guideline to evaluate the acceptability of the noise levels generated by traffic. These standards are for the assessment of long-term vehicular traffic noise impacts. The City has exterior noise criteria for outdoor living areas associated with single-family and multifamily residential uses such that exterior active-use areas should not exceed 65 dBA CNEL. Additionally, the City has exterior noise criteria for park areas such that exterior active-use areas should not exceed 65 dBA CNEL.

City of Irvine Noise Ordinance. Section 6-8-204 of the City Municipal Code provides the residential noise standards shown in Table 4.12.B, Residential Noise Standards (dBA L_{eq}), for both exterior and interior, which represent the maximum acceptable noise levels as measured from any residential property in the City. Accordingly, it is unlawful to cause the noise level on any residential property to exceed the exterior noise standards:

- For a cumulative period of more than 30 minutes in any hour;
- Plus 5 dB(A) for a cumulative period of more than 15 minutes in any hour;
- Plus 10 dB(A) for a cumulative period of more than 5 minutes in any hour;
- Plus 15 dB(A) for a cumulative period of more than 1 minute in any hour; or
- Plus 20 dB(A) for any period of time.

In addition, it is unlawful to cause the noise level on any residential property to exceed the interior noise standards:

- For a cumulative period of more than 5 minutes in any hour;
- Plus 5 dB(A) for a cumulative period of more than 1 minute in any hour; or
- Plus 10 dB(A) for any period of time.
- In the event the alleged offensive noise consists entirely of impact, predominant tone noise, or for noises consisting of speech or music, each of the above noise levels is reduced by 5 dBA.

Section 6-8.205, Special Provisions, of the City Municipal Code regulates the timing of construction activities and includes special provisions for sensitive land uses. According to the Municipal Code,

Table 4.12.B: Residential Noise Standards (dBA L_{eq})

Land Use Type	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime 10:00 p.m. to 7:00 a.m.)
Residential Exterior Noise Standards	55	50
Residential Interior Noise Standards	55	45
Office and Institutional Exterior Noise Standards	55	-
Office and Institutional Interior Noise Standards	55	-
Commercial Exterior Noise Standards	55	-
Commercial Interior Noise Standards	55	-
Industrial Exterior Noise Standards	70	-
Industrial Interior Noise Standards	55	-

Source: City of Irvine Municipal Code, Section 6-8-204.

Notes: Standards are based on measurements taken from any residential property in the City of Irvine.

dBA = A-weighted decibels

L_{eq} = equivalent continuous sound level

construction activities shall not take place between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, between 6:00 p.m. and 9:00 a.m. on Saturdays, or at any time on Sundays or a federal holiday, except Columbus Day. Trucks, vehicles, and equipment that are making or are involved with material deliveries, loading, or transfer of materials, equipment service, maintenance of any devices or appurtenances for or within any construction project in the City shall not be operated or driven on City streets outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the City.

The City Noise Element and Municipal Code do not provide specific noise level requirements or vibration impact criteria associated with construction activities; therefore, the FTA criteria will be used in this analysis. The criteria account for variation in project types as well as the frequency of events, which differ widely among projects. When there are fewer events per day, it takes higher vibration levels to evoke the same community response. This is accounted for in the criteria by distinguishing between projects with frequent and infrequent events, in which the term “frequent events” is defined as more than 70 events per day.

The criteria for environmental impact from ground-borne vibration and noise are based on the maximum levels for a single event. Table 4.12.C, Construction Vibration Damage Criteria, lists the potential vibration building damage criteria associated with construction activities, as suggested in the FTA’s *Transit Noise and Vibration Impact Assessment* (2006). FTA guidelines show that a vibration level of up to 102 VdB (equivalent to 0.5 inch/inches per second [in/sec] in PPV) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a nonengineered timber and masonry building, the construction building vibration damage criterion is 94 VdB (0.2 in/sec in PPV).

Thresholds of Significance. A project would normally have a significant effect on the environment related to noise and vibration if it would substantially increase the ambient noise levels for adjoining areas or conflict with the adopted environmental plans and the goals of the community in which the Project is located. The applicable noise standards governing this project site are the criteria in the City’s Noise Ordinance and the FTA Manual.

Table 4.12.C: Construction Vibration Damage Criteria

Building Category	PPV (in/sec)	Approximate L _v (VdB) ¹
Reinforced concrete, steel, or timber (no plaster)	0.50	102
Engineered concrete and masonry (no plaster)	0.30	98
Non-engineered timber and masonry	0.20	94
Buildings extremely susceptible to vibration damage	0.12	90

Source: Table 12-3, Transit Noise and Vibration Impact Assessment (FTA 2006).

¹ RMS VdB re 1 μin/sec.

μin/sec = microinches per second
 FTA = Federal Transit Administration
 in/sec = inches per second
 LV = velocity in decibels

PPV = peak particle velocity
 RMS = root-mean-square
 VdB = vibration velocity in decibels

Project Description, Affected Environment, and Impact Analysis Assumptions. The proposed Project includes the construction of the ERW PS to serve multiple pressure zones, provide operational flexibility, and maximize the recycled water system. The proposed ERW PS would ultimately house 14 new pumps within one building and would also include the installation of three new surge tanks, installed slightly below grade, with a removable roof structure. The Project site has an existing 6 ft high CMU screening wall around its perimeter, with access to the site from the northwest via an existing opening in the CMU screening wall. The Project is located on the northwest corner of the Jeffrey Road/Irvine Boulevard intersection in the City of Irvine. The Project site is bounded by Jeffrey Road to the east, Irvine Boulevard to the south, and a residential development currently under construction to the north and west. Adjacent land uses include medium-density residential uses to the north and west, and to the south across Irvine Boulevard; the Jeffrey Open Space Trail to the east of Jeffrey Road; and medium-density residential uses farther eastward. The ERW PS Project site is zoned medium-density residential and designated medium-density residential in the City’s General Plan. The ERW PS is a conditionally allowed use under the medium-density residential zone.

While the proposed Project is located next to major arterial roadways, Jeffrey Road and Irvine Boulevard, it is expected that ambient noise levels during the early morning hours will be low due to limited traffic volumes. To provide a conservative analysis, noise impacts associated with new sources will be compared to the nighttime stationary noise source requirements in the Municipal Code.

Impact Analysis:

- (a) Would the Project result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction Noise Impacts. Short-term noise impacts would occur during construction of the proposed Project. Construction-related, short-term noise levels would be higher than existing ambient noise levels in the study area, but would cease once project construction is completed.

Two types of short-term noise impacts could occur during project construction. First, construction crew commutes and the transport of construction equipment and materials to the Project site would incrementally increase noise levels on roads accessing the Project site. Although there would be a relatively high single-event noise exposure potential from truck pass-bys, 84 dBA L_{max} at 50 ft as shown in Table 4.12.D, Typical Maximum Construction Equipment Noise Levels (L_{max}), the effect on longer-term (hourly or daily) ambient noise levels would be small when compared to existing hourly and daily traffic volumes on Irvine Boulevard and Jeffrey Road. Since construction-related vehicle trips would not approach hourly and daily traffic volumes mentioned above, traffic noise would not increase by 3 dBA. A noise level increase of less than 3 dBA would not be perceptible to the human ear in an outdoor environment. Therefore, short-term construction-related worker commutes and equipment transport noise impacts would be less than significant.

The second type of short-term noise impact is related to noise generated during project construction. Construction is conducted in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics and the character of the noise generated on site. Therefore, the noise levels will vary as construction progresses. Despite the variety in the types and sizes of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 4.12.D lists the maximum noise levels for noise impact assessments for typical construction equipment based on a distance of 50 ft between the equipment and a noise receptor.

Table 4.12.D: Typical Maximum Construction Equipment Noise Levels (L_{max})

Type of Equipment	Acoustical Usage Factor	Suggested Maximum Sound Levels for Analysis (dBA L_{max} at 50 ft)
Air Compressor	40	80
Backhoe	40	80
Cement Mixer	50	80
Concrete/Industrial Saw	20	90
Crane	16	85
Dozer	40	85
Excavator	40	85
Forklift	40	85
Generator	50	82
Grader	40	85
Front-End Loader	40	80
Paver	50	85
Roller	20	85
Rubber Tire Dozer	40	85
Scraper	40	85
Tractor	40	84
Truck	40	84
Welder	40	73

Source: Federal Highway Administration. 2006. *Roadway Construction Noise Model*.

dBA = A-weighted decibel

ft = feet/foot

L_{max} = maximum noise level

Typical maximum noise levels range up to 85 dBA L_{max} at 50 ft during the noisiest construction phases. Site preparation, which includes excavation and grading, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavators, bulldozers, backhoes and front loaders. Earthmoving and compacting equipment includes graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

Construction of the proposed Project is expected to require on-site use of front-end loaders, bulldozers and graders. Noise associated with the use of construction equipment is estimated to be between 80 and 85 dBA L_{max} at a distance of 50 ft from the active construction area during grading. As shown in Table 4.12.D, the maximum noise level generated by each bulldozer is assumed to be approximately 85 dBA L_{max} at 50 ft from the bulldozer. Each front-end loader would generate approximately 80 dBA L_{max} at 50 ft. The maximum noise level generated by grader is approximately 85 dBA L_{max} at 50 ft from the grader. Each doubling of the sound source with equal strength increases the noise level by 3 dBA. Each piece of construction equipment operates as an individual point source. For example, two of the same pieces of construction equipment operating at the same location and generating a noise level of 85 dBA L_{max} at a distance of 50 ft would result in a noise level of 88 dBA L_{max} (85 dBA + 85 dBA = 88 dBA). Therefore, the worst-case composite noise level at a distance of 50 ft from the active construction area would be 89 dBA L_{max} (85 dBA + 80 dBA + 85 dBA = 89 dBA).

The sensitive receptors in the vicinity of the Project site are the residential uses located to the north and west of the Project site. The residential uses within 50 ft of the project construction boundary may be subject to short-term exterior noise reaching 89 dBA L_{max} or higher generated by construction activities. Although construction activities may occur closer than 50 ft from the residences resulting in higher noise level impacts, activities will vary and may also be located further away, thus resulting in a lower noise level impact. In general, doubling the distance would decrease noise levels by 6 dBA while halving the distance would increase noise levels by 6 dBA.

Compliance with the City's Noise Ordinance would ensure that construction noise does not disturb the residential uses during hours when ambient noise levels are likely to be lower (i.e., at night). Although construction noise would be higher than the ambient noise in the Project vicinity, construction noise would cease to occur once project construction is completed.

Mitigation Measure NOI-1 would limit construction hours and require the implementation of noise-reducing measures during construction. Therefore, with implementation of mitigation, construction activity noise impacts would be less than significant.

On-Site Operational Related Impacts. Noise impacts associated with the long-term operation-related noise impacts must comply with the standards presented in Section 6-8-204 of the City's Municipal Code, which were described in Table 4.12.B. Section 2.5 of this document provides a detailed description of the operations associated with the proposed Project. The major sources of noise include the operation of 14 pumps that would be housed within a CMU structure on site at the Ultimate Phase.

In order to remain conservative and for the purpose of the SoundPlan model, it is assumed that all equipment above is operating outside, simultaneously, and for the duration of an entire hour. However, the project includes a building and due to operational considerations, no more than eight pumps are anticipated to actually operate concurrently for an extended period of time. Graphics showing the results of the SoundPlan modeling are provided in Appendix B, Noise, for the operation of the equipment identified in Table 4.12.E, Pump Reference Power Level Values. The results show that the noise levels on the residential-facing side of the existing perimeter wall at the property lines have the potential to approach 68 dBA Leq at first-floor receptors and 72 dBA Leq at second-floor receptors, not taking into account the proposed building that would house the equipment and other noise attenuation features. In addition to the proposed building, noise attenuation features would be incorporated into the final design of the Project to reduce noise levels to achieve compliance with the City of Irvine Noise Ordinance. Noise attenuation features may include, but would not be limited to, acoustical panels, sound traps, acoustical louvers, and acoustical doors. With incorporation of **Mitigation Measure NOI-2**, potential impacts related to operational noise would be reduced to a less than significant level.

Table 4.12.E: Pump Reference Power Level Values

Pump Service	Horse-power	Quantity	Calculated Octave Band Power Level (PWL) Per Unit								Source	
			31.5	63	125	250	500	1000	2000	4000		8000
A to B	250	3	86	87	88	90	90	93	90	86	80	Goulds 24ELC
A to Syphon	350	4	86	87	88	90	90	93	90	86	80	Goulds 24ELC
A to C	400	3	91	92	93	95	95	98	95	91	85	Goulds 16RGLC
Syphon to C	400	4	86	87	88	90	90	93	90	86	80	Goulds 16RGLC

Source: Goulds Pumps (2017).

Off-Site Transportation Related Impacts. The long-term operational and short-term construction traffic impacts were determined as part of the transportation analysis for this project. The results of the analyses show that during construction of the proposed Project, the traffic volume on adjacent roadways is expected to increase by 38 vehicles and during the operational or routine maintenance activities associated with the proposed Project the volume would increase by four vehicles. Due to the extremely low volume of vehicles added to roadways with significantly higher existing volumes, the increase in noise to off-site sensitive receptors would not be perceptible thus resulting in a less than significant impact and requiring no mitigation.

Mitigation Measures: The following measures would reduce short-term, construction-related noise impacts resulting from the proposed Project to a less than significant level.

NOI-1: Construction Noise. Prior to commencement of grading activities, Irvine Ranch Water District (or its contractor), shall verify that grading and construction plans include the following requirements to ensure that the greatest distance between

noise sources and sensitive receptors during construction activities has been achieved.

- Construction activities occurring as part of the Project shall be subject to the limitations and requirements of the City of Irvine Municipal Code, which states that construction activities are prohibited between 7:00 p.m. and 7:00 a.m. on weekdays, between 6:00 p.m. and 9:00 a.m. on Saturdays, or at any time on Sundays or a federal holiday, except Columbus Day.
- During all project area excavation and on-site grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project area.
- Construction staging areas shall be located as far away from sensitive receptors as possible during all phases of construction.

NOI-2: Operational Noise. The Project shall be designed to ensure that operational noise levels at the property line of neighboring receptors would be in compliance with the City of Irvine's Noise Ordinance.

Significance Determination: Less than Significant with Mitigation Incorporated

- (b) Would the Project result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Construction Impacts. Vibration generated by construction equipment can result in varying degrees of ground vibration, depending on the equipment. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings on soil near an active construction area respond to these vibrations, which range from imperceptible to low rumbling sounds with perceptible vibrations and slight damage at the highest vibration levels. Vibration and groundborne noise impacts tend to occur when physically forceful or ground-penetrating equipment is used (e.g., pile drivers) or where blasting is necessary. The proposed construction activities include excavation and earth-moving vehicles, but no pile driving or percussive impact construction methods would be needed.

Bulldozers and trucks used for construction of the proposed Project would generate the highest ground-borne vibration levels. Based on the Caltrans' *Transportation and Construction Vibration Guidance Manual* (2013), a large bulldozer and loaded trucks would generate vibration levels of 0.089 PPV (in/sec) and 0.076 PPV (in/sec), respectively, when measured at 25 ft, the approximate distance to the nearest buildings. Other construction equipment and activities would generate vibration levels much lower than those of bulldozers and loaded trucks and would, therefore, result in lower vibration levels. This vibration level would be below the

strongly perceptible and the damage thresholds for new and older residential buildings; therefore, no substantial ground-borne vibration levels from construction activities would occur. Short-term construction impacts related to ground-borne vibration or ground-borne noise would be temporary in nature and would cease upon construction. Therefore, construction vibration impact areas would be considered less than significant, and no mitigation is required.

Operational Impacts. Due to the distance of the proposed equipment and buildings associated with the proposed Project to the nearest residential uses, operation of the proposed Project would not generate ground-borne noise or vibration. Therefore, no ground-borne noise and ground-borne vibration impacts would occur, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (c) Would the Project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

The results of the analyses show that during construction of the proposed Project, the traffic volume on adjacent roadways is expected to increase by 38 vehicles and during the operational or routine maintenance activities associated with the proposed Project the volume would increase by four vehicles. As previously stated, the proposed Project would generate a nominal increase in traffic noise during construction and operation due to the minor increase in vehicular traffic. Potential long-term permanent noise impacts associated with project operations, as stated above in Response 4.12 (a), would be in compliance with the City's Noise Ordinance; therefore, the proposed Project would result in a less than significant impact with the implementation of **Mitigation Measure NOI-1**.

Mitigation Measures: Refer to Mitigation Measure NOI-1

Significance Determination: Less Than Significant Impact with Mitigation Incorporated

- (d) Would the Project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Refer to Response 4.12 (a) discussed above. Compliance with construction hours specified in the City's Municipal Code and required in **Mitigation Measure NOI-1** would ensure that potential short-term increases in ambient noise levels due to construction activities would be reduced to a less than-significant level.

Mitigation Measures: Refer to Mitigation Measure NOI-1

Significance Determination: Less Than Significant Impact with Mitigation Incorporated

- (e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The project site is not within an airport land use plan. The closest airport to the project site is the John Wayne/Santa Ana International Airport, which is located approximately 6.5 miles southwest of the project site. Furthermore, the proposed Project would be located outside of the 65 dBA impact zone associated with the John Wayne/Santa Ana International Airport. Therefore, people working at the site would not be exposed to excessive noise levels generated by the airport, and no impacts would occur.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The proposed Project is not located in the vicinity of a private airstrip. As a result, the proposed Project would not expose working in the Project area to excessive noise levels from aircraft. Therefore, no noise impacts related to the site's proximity to a private airstrip would occur, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

4.13 POPULATION AND HOUSING

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Analysis:

- (a) Would the Project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The proposed Project includes construction and operation of booster pumps to meet increasing demand in the recycled water service area by increasing the efficiency and capacity of the existing recycled water system and to meet future demands. There is no housing component proposed as part of the Project; therefore, the Project would not directly induce population growth in the region. There would not be any full time staff associated with the proposed Project; existing IRWD employees would provide maintenance and operations for the facility. Finally, the proposed Project does not include the extension of roadways or other infrastructure that could indirectly induce substantial population growth in the area. Therefore, the proposed Project would not directly or indirectly induce substantial population growth, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (b) Would the Project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

The proposed Project site is currently vacant and undeveloped. Therefore, the proposed Project would not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. Therefore, no impact would occur with regards to the displacement of substantial numbers of existing housing.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (c) Would the Project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The proposed Project site is currently vacant and undeveloped. Therefore, the proposed Project would not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. Therefore, no impact would occur with regards to the displacement of substantial numbers of people.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

4.14 PUBLIC SERVICES

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Would the project result in substantial adverse physical impacts associated with the provision of or 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:				
i) Fire Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Analysis:

The following impact analysis applies to Thresholds 4.14 (a) (i) through 4.14 (a) (v).

The proposed Project would provide recycled water supply to IRWD’s Zone B and Zone C recycled water service areas, would provide a high degree of operational flexibility, and would maximize the use of recycled water. The proposed Project would not require additional public services, such as fire protection, police protection, schools, or parks beyond what currently exists. Therefore, the proposed Project would have no impact on public services and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation would be required

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4.15 RECREATION

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Analysis:

(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?

and

(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?

The proposed Project would provide recycled water supply to IRWD’s Zone B and Zone C recycled water service areas, would provide a high degree of operational flexibility, and would maximize the use of recycled water. The proposed Project would not result in the increased use, construction, or expansion of parks and recreational facilities beyond what currently exists. Therefore, there would be no impact to parks or recreation resources and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation would be required

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4.16 TRANSPORTATION/TRAFFIC

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
(a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impact Analysis:

- (a) Would the Project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

The long-term operational impacts and short-term construction impacts of the proposed Project were based on the Project's trip generation. The City's *Traffic Impact Analysis Guidelines* (August 2004) establishes a 50 peak-hour trip threshold for requiring preparation of a Traffic Impact Analysis (TIA). The discussion below examines the peak trip generation potential during the operational and construction periods.

Short-Term Construction Impacts. Construction of the proposed Project would include the delivery of construction equipment (at the beginning of the construction period) and daily worker trips. During construction, workers would arrive at the site at 7:00 a.m. and leave the

site at 5:00 p.m. In order to present the worst-case trip generation, no carpooling was assumed for construction workers, and all are assumed to arrive during the a.m. peak hour and leave during the p.m. peak hour each day.

Equipment required at the site during construction includes a crane, an excavator, dump trucks, and pick-up trucks. A scraper and paving equipment would also be present for a shorter duration. All equipment would be stored on site during construction and equipment deliveries would not be a daily occurrence. Therefore, equipment deliveries are not included in the trip generation for construction trips.

It is expected that approximately 4,000 cubic yards of material would be exported to accommodate the wall footings, building slab, conduits, pipes, engineered backfill, pump cans, paving and the excavation area for the surge tanks. The Project assumes that hauling trucks with 22 cubic yards of capacity would be used to remove cut materials. This equates to less than four hauling trucks (and less than eight hauling trips) per day. For trip generation purposes, it is assumed that one hauling truck would arrive in the a.m. peak hour and one hauling truck would leave during the p.m. peak hour. The remaining six hauling trips (three inbound and three outbound) would occur in between the peak hours.

Table 4.16.A, Construction Trip Generation, summarizes the trip generation for construction of the Project. As shown in Table 4.16.A, the proposed Project is expected to generate 38 daily trips, 16 inbound trips in the a.m. peak hour, and 16 outbound trips in the p.m. peak hour during construction. Because the construction trip generation does not meet the trip threshold for a TIA, temporary construction activities associated with Project implementation can be assumed to have a less than significant impact related to compliance with applicable plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system. No mitigation is required.

Table 4.16.A: Construction Trip Generation

Trip Type	ADT	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Construction Workers	30	15	0	15	0	15	15
Hauling Trucks	8	1	0	1	0	1	1
Total	38	16	0	16	0	16	16

ADT = average daily traffic

Long-Term Operational Impacts. Although operation of the Project would be conducted remotely and there would be no full-time dedicated staff at the Project site, it is likely that staff would visit the site for routine maintenance or emergencies. It is anticipated that any daily visit by one or two staff members would last no more than approximately 2 hours, depending on the maintenance required. Because these visits are not scheduled, the trips may occur at any time throughout the day, including either the a.m. or p.m. peak hour. For conservative, worst-case analysis purposes, it is assumed that two workers would arrive and depart during the a.m. peak hour and the p.m. peak hour.

Table 4.16.B, Operational Trip Generation, summarizes the trip generation for regular Project operations. As shown in Table 4.16.B, the proposed Project is expected to generate four daily trips and four trips (two inbound and two outbound) during the a.m. and p.m. peak hours. Because the operational trip generation does not meet the trip threshold for a TIA, routine operational activities of the proposed Project would have a less than significant impact related to compliance with applicable plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system. No mitigation is required.

Table 4.16.B: Operational Trip Generation

Trip Type	ADT	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Maintenance	8	2	2	4	2	2	4

ADT = average daily traffic

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (b) Would the Project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

As the Congestion Management Agency (CMA) for Orange County, the Orange County Transportation Authority (OCTA) is responsible for establishing, implementing, and monitoring the County’s Congestion Management Program (CMP). Through its implementation of the CMP, OCTA works to ensure that roadways operate at acceptable levels of service (LOS) and reviews development proposals to ensure that transportation impacts are minimized. Irvine Boulevard is identified as a CMP facility. As described above, Project construction is anticipated to generate 16 temporary peak-hours trips and Project operation is anticipated to generate 4 peak-hour trips. The addition of 4 peak-hour trips is not likely to create an impact because the peak-hour capacity of a lane (roadway or intersection) is 1,700 vehicles per hour per lane. Eight peak-hour trips represent only 0.4 percent of the lane capacity. Because the four peak-hour trips added to Irvine Boulevard would not affect the roadway LOS, the Project would not conflict with the applicable CMP, and Project impacts would be less than significant. No mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (c) Would the Project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The nearest airport to the project site is John Wayne Airport, located approximately 6.5 miles southwest of the site. The proposed Project does not include any structures that would interfere

with air traffic patterns, nor would it increase traffic levels. There would be no impact related to air traffic. The proposed Project is not located within the flight paths for these airports and is not located in an Airport Hazard Area. Therefore, the Project site would not result in a change to air traffic patterns, or a change in location that results in substantial safety risk. No mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

- (d) Would the Project substantially increase hazards due to a design feature (e. g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Vehicular traffic to and from the Project site would utilize the existing network of regional and local roadways that serve the Project site area. Access to the Project site would be provided via an existing access drive on the northwest side of the Project site. The width of the access drive is sufficient to allow all necessary construction equipment as well as IRWD equipment and vehicles needed for operation of the Project to access the site. At the start of construction, equipment would be delivered to the site. Construction equipment would be staged on-site until that particular equipment is no longer needed or construction is complete. During construction, any traffic control measures would be consistent with those published in the *California Joint Utility Traffic Control Manual* (2014).¹ Implementing measures contained within the *California Joint Utility Traffic Control Manual* would facilitate safe passage of both construction vehicles and private vehicles. Once construction is complete, employees accessing the Project site are anticipated to use passenger vehicles or IRWD fleet vehicles. Such vehicles would not be incompatible with adjacent residential uses. Therefore, the proposed Project would not substantially increase hazards for vehicles due to a design feature or incompatible uses.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (e) Would the Project result in inadequate emergency access?

Construction. As discussed under Response 4.8 (g), the proposed Project would require the temporary lane closures on Irvine Boulevard to connect the on-site piping to the existing Irvine Lake Pipeline (ILP) which underlies Irvine Boulevard. Temporary lane closures would be implemented consistent with the recommendations of the *California Joint Utility Traffic Control Manual*. Among other things, the manual recommends early coordination with affected agencies to ensure that emergency vehicle access is maintained. In this manner, officials could plan and respond appropriately in the event emergency vehicles would be required to access Irvine Boulevard in the vicinity of the Project site. In addition, as described in **Mitigation Measure TRA-1**, IRWD would be required to prepare and implement a Construction Traffic

¹ California Inter-Utility Coordinating Committee. 2014. *California Joint Utility Traffic Control Manual*, 6th Edition. Website: <https://www.sce.com/nrc/aboutsce/regulatory/distributionmanuals/tcm.pdf>.

Control Plan. The Traffic Control Plan would require certain conditions (e.g., providing warning signs, lights, and devices) and would require that the Irvine Police Department be notified a minimum of 24 hours in advance of any lane closures or roadway work. Therefore, with implementation of **Mitigation Measures TRA-1**, impacts to emergency access during construction would be reduced to a less than significant level.

Operation. As discussed in Section 2.0, Project Description, emergency vehicles would be able to enter and exit the Project site via the gated-access driveway at the northwest corner of the site. The gate control would be operable by a Knox emergency override key switch. In addition, a remote gate-opening device would be installed on both electronically operated gates. The remote opening systems currently available from the OCFA are either optical or radio-controlled. The gated entry would be equipped with automatic entry for the police and fire departments during an emergency. Therefore, implementation of the proposed Project would not result in inadequate emergency access, and no mitigation is required.

Mitigation Measures:

- TRA-1** **Construction Traffic Management Plan.** Prior to commencement of construction, a Construction Traffic Management Plan shall be prepared and provided to the City of Irvine for review. The plan shall:
- Include the name and phone number of a contact person who can be reached 24 hours per day regarding construction traffic complaints or emergency situations;
 - Identify hours of construction and hours for deliveries;
 - Include a discussion of haul routes, work area delineation, limits on the length of open trench, traffic control and flagging;
 - Identify all access and parking restrictions, pavement markings and signage requirements (e.g., speed limit, temporary loading zones);
 - Maintain access to residential driveways, public facilities, and recreational resources at all times to the extent feasible. Access disruptions to residences should be minimized to the extent feasible;
 - Lay out a plan for notifications and a process for communication with affected residents and public transit agencies prior to the start of construction;
 - Include a plan to coordinate all construction activities in public right-of-way with emergency service providers in the City. Emergency service providers shall be notified of the timing, location, and duration of construction activities in public right-of-way 30 days in advance. All roads shall remain passable to emergency service vehicles at all times;

- Coordination with other construction projects in the vicinity shall be implemented to minimize conflicts; and
- The Irvine Police Department shall be notified a minimum of 24 hours in advance of any lane closures or other roadway work.

Significance Determination: Less Than Significant with Mitigation Impact Incorporated

- (f) Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

The Project would not affect adopted policies supporting alternative transportation and would be subject to compliance with policies, plans, and programs of the City and other applicable agencies regarding alternative modes of transportation. Pedestrians accessing the Project may use pedestrian facilities (e.g., sidewalks and crosswalks) that are part of the surrounding street system. Sidewalks are provided along both sides of Irvine Boulevard and on the west side of Jeffrey Road. On the east side of Jeffrey Road is the Jeffrey Open Space Trail, which provides separate facilities for walking and cycling. The intersection of Jeffrey Road and Irvine Boulevard provides connection points to OCTA Routes 167. The Project would not remove or relocate any alternative transportation access points. Therefore, the Project does not conflict with adopted plans, policies, or programs supporting alternative transportation, and no mitigation is required.

Significance Determination: No Impact

Mitigation Measures: No mitigation is required

4.17 TRIBAL CULTURAL RESOURCES

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:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) 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)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource 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)?

and

(b) Would the project cause a substantial adverse change in the significance of 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 Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Chapter 532, Statutes of 2014 (i.e., AB 52), requires that Lead Agencies evaluate a project’s potential to impact “tribal cultural resources.” Such resources include “[s]ites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are eligible for inclusion in the California Register of Historical Resources or included in a local register of historical resources.” AB 52 also gives Lead Agencies the discretion to determine, supported by substantial evidence, whether a resource qualifies as a “tribal cultural resource.”

Also per AB 52 (specifically PRC 21080.3.1), Native American consultation is required upon request by a California Native American tribe that has previously requested that IRWD provide it with notice of such projects.

Three California Native American Tribes previously contacted IRWD to request receipt of notices for projects subject to the requirements of AB 52. These Tribes are:

- Gabrieleno Band of Mission Indians – Kizh Nation, Andrew Salas, Chairman
- Gabrieleno/Tongva San Gabriel Band of Mission Indians-Kizh Nation, Anthony Morales, Chief
- Juaneño Band of Mission Indians Acjachemen Nation – Joyce Stanfield Perry, Tribal Manager

IRWD sent letters for the purposes of AB 52 consultation to all of the people listed above on May 19, 2017.

In a letter dated June 2, 2017, Mr. Salas, Chairperson, Gabrieleno Band of Mission Indians – Kizh Nation, requested AB 52 consultation with the City regarding the proposed Project. Mr. Salas stated that the Project lies within the ancestral territories of the Kizh Gabrieleno. Mr. Salas also suggested that IRWD contact him to conduct consultation by phone or face-to-face meeting. IRWD staff followed up on Mr. Salas's consultation request and emailed Mr. Salas on June 6, 2017, with available dates and times for consultation. IRWD staff sent a second follow-up email to Mr. Salas on June 16, 2017, regarding consultation efforts and indicated that if no response was received by July 5, 2017, IRWD would conclude that consultation is complete. No additional responses or requests for consultation have been received.

As discussed in Section 4.5 (a), the property does not contain any buildings or structures that meet any of the California Register criteria or qualify as "historical resources" as defined by CEQA. Therefore, the proposed Project would not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the *State CEQA Guidelines* or PRC 5020.1(k).

As discussed in Sections 4.5 (b) and 4.5 (c) the Project site is not designated as a historical/archaeological landmark and the site is designated as a low sensitivity zone for paleontological resources in the City of Irvine General Plan. Further, there is a low likelihood to destroy archaeological and paleontological resources due to the prior agricultural uses and disturbance of the site. Nevertheless, ground-disturbing construction activities could uncover yet to be discovered archaeological and paleontological resources. Implementation of **Mitigation Measures CUL-1 and CUL-2** would ensure that potential impacts to archaeological and paleontological resources, respectively, that may be encountered during Project activities would be reduced to a less than significant level.

No evidence has been provided to IRWD to indicate that the Project site contains a tribal cultural resource. There are no known tribal cultural resources on the Project site. Therefore, based on the lack of substantial evidence and the fact that there are no known archaeological or historic resources on the site, IRWD has concluded that the proposed Project would not result in substantial adverse change in the significance of a known tribal cultural resource. In the unlikely event that ground-disturbing construction activities uncover a yet to be discovered tribal

cultural resource, implementation of Mitigation Measure CUL-1 would require that construction activities in the vicinity of the find be halted until the find can be assessed for significance by a qualified archaeologist. Implementation of Mitigation Measure CUL-1 would reduce any potential impacts to previously undiscovered tribal cultural resources to a less than significant level. No additional mitigation is required.

Significance Determination: Potentially Significant ~~Less than Significant Impact~~

Mitigation Measures: Refer to Mitigation Measure CUL-1 ~~No mitigation is required~~

Significance Determination: Less than Significant with Mitigation Incorporated

4.18 UTILITIES/SERVICE SYSTEMS

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(g) Comply with federal, state, and local statutes and regulations related to solid wastes?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact Analysis:

- (a) Would the Project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The proposed Project is not a wastewater treatment facility and is, therefore, not subject to the wastewater treatment requirements of the Santa Ana RWQCB.

The purpose of the proposed Project is to improve the conveyance of recycled water throughout IRWD's service area for greater efficiency and to meet existing and future demands for recycled water. The proposed Project would construct a structure to house booster pumps and would be operated remotely; therefore, staff visits to the site would be limited to periods of routine maintenance and to periodically check on facilities. The generation of wastewater would be limited to occasional restroom use and cleaning. Such incidental use would be well within the available treatment capacity of the wastewater treatment plant receiving wastewater from the Project site. Additionally, wastewater generated from the proposed Project would be typical of wastewater flows in the City. Therefore, the minor increased wastewater flows from the proposed Project can be accommodated by the existing wastewater treatment plant and would

not result in an exceedance of the applicable wastewater treatment requirements. Therefore, impacts related to wastewater treatment requirements would be less than significant, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (b) Would the Project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The purpose of the proposed Project is to improve the conveyance of recycled water throughout IRWD's service area for greater efficiency and to meet existing and future demands for recycled water. The Project would not in and of itself result in the construction of new water or wastewater treatment facilities given that it would consist of a single structure to house booster pumps and would be operated remotely. There would be no full time employees at the Project site during operation of the Project. Therefore, any increase in water demand or wastewater generation would be minimal and incidental to the overall IRWD system. Therefore, a less than significant impact would occur, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (c) Would the Project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The City of Irvine is a co-permittee on the North Orange County MS4 permit issued by the Santa Ana RWQCB pursuant to the National Pollutant Discharge Elimination System program under Section 402(p) of the federal Clean Water Act. This permit regulates urban storm water runoff, surface runoff, and drainage that flow into the MS4 system. The City is responsible for regulating inflows to and discharges from its municipal storm drainage system.

As discussed in detail in Section 4.9, Hydrology and Water Quality, in the existing condition, the Project would maintain the existing north to south drainage pattern on the Project site. The Project design includes BMPs and on-site storm drain facilities to accommodate and convey storm water runoff on the Project site. The Project would increase the impervious surface area on the project site by approximately 0.75 acre compared to existing conditions, which would increase runoff peak flow generated on the Project site. However, the BMPs would comply with the requirements of North Orange County MS4 Permit and would be designed to capture storm water runoff to reduce runoff volume and velocity so that the capacity of the downstream storm drain lines is not exceeded. Therefore, the proposed Project would not contribute additional runoff to the downstream storm water drainage facilities or cause the expansion of existing

facilities. Impacts to storm water drainage facilities would be less than significant, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (d) Would the Project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The purpose of the proposed Project is to improve the conveyance of recycled water throughout IRWD's service area for greater efficiency and to meet existing and future demands for recycled water. As described in the Project Description, the proposed Project would construct a structure to house booster pumps and would be operated remotely; therefore, there would be no staff on the site on a full-time basis. During construction, water may be required for things such as dust control or cleaning purposes; however, water usage would be temporary and minimal during the construction phase. Water use during operation of the Project would be limited to occasional restroom use and cleaning. There would be no full time employees at the Project site during operation of the Project. Therefore, any increase in water demand would be minimal and incidental to the overall IRWD system. Therefore, a less than significant impact would occur, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (e) Would the Project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The purpose of the proposed Project is to improve the conveyance of recycled water throughout IRWD's service area for greater efficiency and to meet existing and future demands for recycled water. As described in the Project Description, the proposed Project would construct a structure to house booster pumps and would be operated remotely; therefore, staff visits to the site would be limited to periods of routine maintenance and to periodically check on facilities. The generation of wastewater would be limited to occasional restroom use and cleaning. Such incidental use would be well within the service capacity of IRWD. Therefore, a less than significant impact would occur, and no mitigation is required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

The existing site is vacant, undeveloped, and has already been mass graded as a result of a previous project. Therefore, the proposed Project is not expected to generate significant amounts of solid waste during construction given that there are no structures or features to demolish. Although some solid waste could be generated such as disposing of packaging or other construction materials, these amounts would not likely be significant enough to have a meaningful impact, if at all, on nearby landfills. Further, because operation of the Project would occur remotely and there would be no full-time staff on the site, the Project would not generate substantial amounts of solid waste during its operational phase. Therefore, solid waste generated by the proposed Project would not cause the capacity of the Frank Bowerman Landfill to be exceeded. The proposed Project would result in a less than significant impact to solid waste and landfill facilities, and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (g) Would the Project comply with federal, state, and local statutes and regulations related to solid wastes?

The California Integrated Waste Management Act (AB 939) changed the focus of solid waste management from landfill to diversion strategies (e.g., source reduction, recycling, and composting). The purpose of the diversion strategies is to reduce dependence on landfills for solid waste disposal. AB 939 established mandatory diversion goals of 25 percent by 1995 and 50 percent by 2000.

Although the proposed Project is not expected to generate substantial amounts of solid waste during construction or operation, some solid waste would nevertheless be generated. As such, the proposed Project would be required to comply with applicable federal, State, and local regulations related to solid waste disposal.

The proposed Project would comply with existing and future statutes and regulations, including waste diversion programs mandated by City, State, or federal law. In addition, as discussed above, the proposed Project would not result in an excessive production of solid waste that would exceed the capacity of the existing landfill serving the Project site. Therefore, the proposed Project would not result in an impact related to federal, State, and local statutes and regulations related to solid wastes, and no mitigation would be required.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

4.19 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact Analysis:

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

The existing site is vacant, undeveloped, and has already been mass graded as a result of a previous project. The purpose of the proposed Project is to improve the conveyance of recycled water throughout IRWD’s service area for greater efficiency and to meet existing and future demands for recycled water. As described throughout the analysis in Section 4.0, with the incorporation of the identified mitigation measures, implementation of the proposed Project would not degrade the quality of the environment; would not substantially reduce the habitats of fish or wildlife species; would not cause a fish or wildlife population to drop below self-sustaining levels; would not threaten to eliminate a plant or animal; and would not eliminate important examples of major periods of California history or prehistory. With respect to the quality of the environment, the Project would not preclude the ability to achieve long-term environmental goals.

Significance Determination: Less Than Significant with Mitigation Incorporated

Mitigation Measures: Refer to Mitigation Measures CUL-1, CUL-2, CUL-3, NOI-1, and TRA-1

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

The existing site is vacant, undeveloped, and has already been mass graded as a result of a previous project. The purpose of the proposed Project is to improve the conveyance of recycled water throughout IRWD’s service area for greater efficiency and to meet existing and future demands for recycled water. The proposed Project would rely on and can be accommodated by the existing road system, public parks, public services, and utilities. The proposed Project would not result in or contribute to a significant biological or cultural impact. Based on the Project Description and the preceding responses, impacts related to the proposed Project are less than significant or can be reduced to less than significant levels with incorporation of mitigation measures. The proposed Project’s contribution to any significant cumulative impacts would be less than cumulatively considerable.

Significance Determination: Less than Significant Impact

Mitigation Measures: No mitigation is required

- (c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

The existing site is vacant, undeveloped, and has already been mass graded as a result of a previous project. The purpose of the proposed Project is to improve the conveyance of recycled water throughout IRWD’s service area for greater efficiency and to meet existing and future demands for recycled water. Based on the Project Description and the preceding responses, development of the proposed Project would not cause substantial adverse effects to human beings because all potentially significant impacts of the proposed Project can be mitigated to a less than significant level.

Significance Determination: Less Than Significant with Mitigation Incorporated

Mitigation Measures: Refer to Mitigation Measures CUL-1, CUL-2, CUL-3, NOI-1, and TRA-1

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5.0 MITIGATION MONITORING AND REPORTING PROGRAM

5.1 MITIGATION MONITORING REQUIREMENTS

Public Resources Code (PRC) Section 21081.6 (enacted by the passage of Assembly Bill [AB] 3180) mandates that the following requirements shall apply to all reporting or mitigation monitoring programs:

- The public agency shall adopt a reporting or monitoring program for the changes made to the Project or conditions of Project approval in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during Project implementation. For those changes which have been required or incorporated into the Project at the request of a Responsible Agency or a public agency having jurisdiction by law over natural resources affected by the Project, that agency shall, if so requested by the Lead Agency or a Responsible Agency, prepare and submit a proposed reporting or monitoring program.
- The Lead Agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based. A public agency shall provide the measures to mitigate or avoid significant effects on the environment that are fully enforceable through permit conditions, agreements, or other measures. Conditions of Project approval may be set forth in referenced documents which address required mitigation measures or in the case of the adoption of a plan, policy, regulation, or other Project, by incorporating the mitigation measures into the plan, policy, regulation, or Project design.
- Prior to the close of the public review period for a draft Environmental Impact Report (EIR) or MND, a Responsible Agency, or a public agency having jurisdiction over natural resources affected by the Project, shall either submit to the Lead Agency complete and detailed performance objectives for mitigation measures which would address the significant effects on the environment identified by the Responsible Agency or agency having jurisdiction over natural resources affected by the Project, or refer the Lead Agency to appropriate, readily available guidelines or reference documents. Any mitigation measures submitted to a Lead Agency by a Responsible Agency or an agency having jurisdiction over natural resources affected by the Project shall be limited to measures which mitigate impacts to resources which are subject to the statutory authority of, and definitions applicable to, that agency. Compliance or noncompliance by a Responsible Agency or agency having jurisdiction over natural resources affected by a Project with that requirement shall not limit that authority of the Responsible Agency or agency having jurisdiction over natural resources affected by a Project, or the authority of the Lead Agency, to approve, condition, or deny Projects as provided by this division or any other provision of law.

5.2 MITIGATION MONITORING PROCEDURES

The mitigation monitoring and reporting program has been prepared in compliance with PRC Section 21081.6. The program describes the requirements and procedures to be followed by Irvine Ranch Water District to ensure that all mitigation measures adopted as part of the proposed Project would be carried out as described in this Initial Study/Mitigated Negative Declaration (IS/MND). Table 5.A lists each of the mitigation measures specified in this IS/MND and identifies the party or parties responsible for implementation and monitoring of each measure.

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
4.1 Aesthetics		
The proposed Project would not result in significant adverse impacts related to aesthetics. No mitigation would be required.		
4.2 Agriculture and Forest Resources		
The proposed Project would not result in significant adverse impacts related to agriculture. No mitigation would be required.		
4.3 Air Quality		
The proposed Project would not result in significant adverse impacts related to air quality. No mitigation would be required.		
4.4 Biological Resources		
The proposed Project would not result in significant adverse impacts related to biological resources. No mitigation would be required.		
4.5 Cultural Resources		
CUL-1 Archeological Resources and Tribal Cultural Resources. Prior to the initiation of construction, IRWD shall retain a qualified Archeologist to be available “on-call” throughout the duration of ground-disturbing activities. The Archeologist shall be present at the pre-construction grade conference; shall, in conjunction with IRWD, establish procedures for archeological resource and tribal cultural resource surveillance; and shall establish, in consultation with IRWD, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the artifacts as appropriate. If the archeological resources is are found to be significant, the Archeologist shall determine appropriate actions, in consultation with IRWD, for exploration, avoidance, and/or salvage. Following the completion of the earth-disturbance activities, the Archeologist shall furnish a report to IRWD.	Irvine Ranch Water District	Prior to commencement of grading activities
CUL-2 Paleontological Resources. Prior to the initiation of construction, IRWD shall retain a qualified Paleontologist to be available “on-call” throughout the duration of grading activities. In the event that pre-historic or historic subsurface cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the resources shall be halted and IRWD shall consult with the qualified paleontologist to assess the significance of the find according to CEQA Guidelines Section 15064.5. If any find is determined to be significant, IRWD and the paleontologist shall meet to determine the appropriate avoidance measures or other appropriate mitigation. IRWD shall make the final determination. All significant paleontological materials recovered shall be, as necessary and at the discretion of the paleontologist, subject to scientific analysis and professional standards. The qualified paleontologist shall consult with IRWD to review the project design plans so collectively they can decide where and when monitoring is required. Based on observations, monitoring may be reduced or discontinued if the qualified paleontologist determines that the possibility of encountering fossiliferous deposits is low. The qualified paleontologist shall prepare a final monitoring report to submit to IRWD.	Irvine Ranch Water District	Prior to commencement of grading activities

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
<p>CUL-3 Human Remains. In the unlikely event that human remains are encountered on the Project site, California Health and Safety Code 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to California Public Resources Code Section 5097.98. The county coroner shall be notified immediately if any human remains are found. If the remains are determined to be prehistoric, the coroner shall notify the Native American Heritage Commission, which will determine and notify the most likely descendant. With the permission of IRWD or an authorized representative, the most likely descendant may inspect the site of discovery. IRWD shall meet and confer with the most likely descendant regarding their recommendations prior to disturbing the site by further construction activity.</p>	Irvine Ranch Water District	During grading activities
<p>4.6 Geology and Soils</p>		
<p>The proposed Project would not result in significant adverse impacts related to geology and soils. No mitigation would be required.</p>		
<p>4.7 Greenhouse Gas Emissions</p>		
<p>The proposed Project would not result in significant adverse impacts related to greenhouse gas emissions. No mitigation would be required.</p>		
<p>4.8 Hazards and Hazardous Materials</p>		
<p>The proposed Project would not result in a potentially significant adverse impacts related to greenhouse gas emissions emergency response and evacuation plans during construction of the proposed Project. No mitigation would be required. Refer to Mitigation Measure TRA-1.</p>		
<p>4.9 Hydrology and Water Quality</p>		
<p>The proposed Project would not result in significant adverse impacts related to hydrology and water quality. No mitigation would be required.</p>		
<p>4.10 Land Use/Planning</p>		
<p>The proposed Project would not result in significant adverse impacts related to land use/planning. No mitigation would be required.</p>		
<p>4.11 Mineral Resources</p>		
<p>The proposed Project would not result in significant adverse impacts related to mineral resources. No mitigation would be required.</p>		
<p>4.12 Noise</p>		
<p>NOI-1: Construction Noise. Prior to commencement of grading activities, Irvine Ranch Water District (or its contractor), shall verify that grading and construction plans include the following requirements to ensure that the greatest distance between noise sources and sensitive receptors during construction activities has been achieved.</p> <ul style="list-style-type: none"> • Construction activities occurring as part of the Project shall be subject to the limitations and requirements of the City of Irvine Municipal Code, which states that construction activities are prohibited between 7:00 p.m. and 7:00 a.m. on weekdays, between 6:00 p.m. and 9:00 a.m. on Saturdays, or at any time on Sundays or a federal holiday, except Columbus Day. • During all project area excavation and on-site grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards. 	Irvine Ranch Water District	Prior to commencement of grading activities

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
<ul style="list-style-type: none"> The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project area. Construction staging areas shall be located as far away from sensitive receptors as possible during all phases of construction. 		
<p>NOI-2: Operational Noise. The Project shall be designed to ensure that operational noise levels at the property line of neighboring receptors would be in compliance with the City of Irvine’s Noise Ordinance.</p>	Irvine Ranch Water District	Post construction
<p>4.13 Population and Housing</p>		
<p>The proposed Project would not result in significant adverse impacts related to public services or utilities. No mitigation would be required.</p>		
<p>4.14 Public Services and Utilities</p>		
<p>The proposed Project would not result in significant adverse impacts related to public services or utilities. No mitigation would be required.</p>		
<p>4.15 Recreation</p>		
<p>The proposed Project would not result in significant adverse impacts related to recreation. No mitigation would be required.</p>		
<p>4.16 Transportation/Traffic</p>		
<p>TRA-1: Construction Traffic Management Plan. Prior to commencement of construction, a Construction Traffic Management Plan shall be prepared and provided to the City of Irvine for review. The plan shall:</p> <ul style="list-style-type: none"> Include the name and phone number of a contact person who can be reached 24 hours per day regarding construction traffic complaints or emergency situations; Identify hours of construction and hours for deliveries; Include a discussion of haul routes, work area delineation, limits on the length of open trench, traffic control and flagging; Identify all access and parking restrictions, pavement markings and signage requirements (e.g. speed limit, temporary loading zones); Maintain access to residential driveways, public facilities, and recreational resources at all times to the extent feasible. Access disruptions to residences should be minimize; Layout a plan for notifications and a process for communication with affected residents and public transit agencies prior to the start of construction; Include a plan to coordinate all construction activities in public right-of-way with emergency service providers in the City. Emergency service providers shall be notified of the timing, location, and duration of construction activities in public right-of-way 30 days in advance. All roads shall remain passable to emergency service vehicles at all times; Coordination with other construction projects in the vicinity shall be implemented to minimize conflicts; 	Irvine Ranch Water District	Prior to commencement of construction

Table 5.A: Mitigation and Monitoring Reporting Program

Mitigation Measures	Responsible Party	Timing for PDF or Mitigation Measure
<ul style="list-style-type: none"> The Irvine Police Department shall be notified a minimum of 24 hours in advance of any lane closures or other roadway work. 		
4.17 Utilities/Service Systems		
The proposed Project would not result in significant adverse impacts related to utilities/service systems. No mitigation would be required.		
4.18 Tribal Cultural Resources		
The proposed Project could would not result in <u>potentially</u> significant adverse impact to <u>unknown buried tribal cultural resources</u> . Refer to Mitigation Measure CUL-1. s related to tribal cultural resources. No mitigation would be required.		

6.0 LIST OF PREPARERS

6.1 IRVINE RANCH WATER DISTRICT

Jo Ann Corey	Environmental Compliance Specialist
Fiona Sanchez	Director of Water Resources
Kellie Welch	Water Resources Manager
Richard Mori	Principal Engineer
Joseph McGehee	Engineer
Toni Lynch	Assistant Engineer

6.2 CONSULTANTS

6.2.1 LSA

Nicole Dubois	Principal/Project Manager – Environmental
Amy Fischer	Principal – Air Quality/Noise
David Atwater	Senior Environmental Planner/Environmental Task Lead
Nicole West, CPSWQ, QSD/QSP	Associate – Environmental
Dean Arizabal	Associate – Transportation/Circulation
Ricky Caperton	Senior Environmental Planner
JT Stephens	Senior Noise Analyst
Donson Lui, TE	Senior Traffic Engineer
Autumn Galambos	Environmental Planner
Alyssa Helper	Environmental Planner
Cara Carlucci	Environmental Planner
Sarah Halterman	Assistant Environmental Planner
Matt Wiswell	Assistant Environmental Planner
Jade Dean	GIS Analyst
Gary Dow	Graphics Technician
Lauren Johnson	Technical Editor
Ana Hernandez	Word Processor

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8.0 COMMENTS LETTERS

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NATIVE AMERICAN HERITAGE COMMISSION

Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710
Fax (916) 373-5471



October 30, 2017

Jo Ann Corey
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

Sent via e-mail: corey@irwd.com

Re: SCH# 2017101051, Eastwood Recycled Water Pump Station Project, City of Irvine; Orange County, California

Dear Ms. Corey:

The Native American Heritage Commission (NAHC) has reviewed the Mitigated Negative Declaration prepared for the project referenced above. The review included the Introduction and Project Description, and the Environmental Checklist and Evaluation of Environmental Impacts, section 4.5 Cultural Resources and section 4.17 Tribal Cultural Resources, prepared by LSA for the Irvine Ranch Water District. We have the following concerns:

- 1. There are no mitigation measures specifically addressing Tribal Cultural Resources separately and distinctly from Archaeological Resources. Mitigation measures must take Tribal Cultural Resources into consideration as required under AB-52, with or without consultation occurring. Mitigation language for archaeological resources is not always appropriate for or similar to measures specifically for handling Tribal Cultural Resources. For sample mitigation measures, please refer to California Natural Resources Agency (2016) "Final Text for tribal cultural resources update to Appendix G: Environmental Checklist Form," http://resources.ca.gov/ceqa/docs/ab52/Clean-final-AB-52-App-G-text-Submitted.pdf
2. Tribal Cultural Resources assessments are not documented. These should adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources. The lack of documented resources does not preclude inadvertent finds, which should be addressed in the mitigation measures.

ADDITIONAL INFORMATION:

The California Environmental Quality Act (CEQA), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended in 2014 by Assembly Bill 52. (AB 52). AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015. AB 52 created a separate category for "tribal cultural resources", that now includes "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment." Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. Your project may also be subject to Senate Bill 18 (SB 18) (Burton, Chapter 905, Statutes of 2004), Government Code 65352.3, if it also involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space. Both SB 18 and AB 52 have tribal consultation requirements. Additionally, if your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 may also apply.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

1 Pub. Resources Code § 21000 et seq.
2 Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b); CEQA Guidelines Section 15064.5 (b)
3 Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd.(a)(1); CEQA Guidelines § 15064 (a)(1)
4 Government Code 65352.3
5 Pub. Resources Code § 21074
6 Pub. Resources Code § 21084.2
7 Pub. Resources Code § 21084.3 (a)
8 154 U.S.C. 300101, 36 C.F.R. § 800 et seq.

Agencies should be aware that AB 52 does not preclude agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52. For that reason, we urge you to continue to request Native American Tribal Consultation Lists and Sacred Lands File searches from the NAHC. The request forms can be found online at: <http://nahc.ca.gov/resources/forms/>. Additional information regarding AB 52 can be found online at http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf, entitled "Tribal Consultation Under AB 52: Requirements and Best Practices".

The NAHC recommends lead agencies consult with all California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources.

A brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments is also attached.

Please contact me at gayle.totton@nahc.ca.gov or call (916) 373-3714 if you have any questions.

Sincerely,



Gayle Totton, B.S., M.A., Ph.D
Associate Governmental Project Analyst

Attachment

cc: State Clearinghouse

Pertinent Statutory Information:**Under AB 52:**

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a **lead agency** shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice.

A **lead agency** shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.⁹ and **prior to the release of a negative declaration, mitigated negative declaration or environmental impact report.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18).¹⁰

The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- a. Alternatives to the project.
- b. Recommended mitigation measures.
- c. Significant effects.¹¹

1. The following topics are discretionary topics of consultation:

- a. Type of environmental review necessary.
- b. Significance of the tribal cultural resources.
- c. Significance of the project's impacts on tribal cultural resources.

If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency.¹²

With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process **shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10.** Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.¹³

If a project may have a significant impact on a tribal cultural resource, **the lead agency's environmental document shall discuss** both of the following:

- a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
- b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource.¹⁴

Consultation with a tribe shall be considered concluded when either of the following occurs:

- a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
- b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.¹⁵

Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 **shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program,** if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable.¹⁶

If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, **the lead agency shall consider feasible mitigation** pursuant to Public Resources Code section 21084.3 (b).¹⁷

An environmental impact report **may not be certified,** nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

- a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
- b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
- c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days.¹⁸

⁹ Pub. Resources Code § 21080.3.1, subds. (d) and (e)

¹⁰ Pub. Resources Code § 21080.3.1 (b)

¹¹ Pub. Resources Code § 21080.3.2 (a)

¹² Pub. Resources Code § 21080.3.2 (a)

¹³ Pub. Resources Code § 21082.3 (c)(1)

¹⁴ Pub. Resources Code § 21082.3 (b)

¹⁵ Pub. Resources Code § 21080.3.2 (b)

¹⁶ Pub. Resources Code § 21082.3 (a)

¹⁷ Pub. Resources Code § 21082.3 (e)

¹⁸ Pub. Resources Code § 21082.3 (d)

This process should be documented in the Tribal Cultural Resources section of your environmental document.

Under SB 18:

Government Code § 65352.3 (a) (1) requires consultation with Native Americans on general plan proposals for the purposes of "preserving or mitigating impacts to places, features, and objects described § 5097.9 and § 5091.993 of the Public Resources Code that are located within the city or county's jurisdiction. Government Code § 65560 (a), (b), and (c) provides for consultation with Native American tribes on the open-space element of a county or city general plan for the purposes of protecting places, features, and objects described in Sections 5097.9 and 5097.993 of the Public Resources Code.

- SB 18 applies to **local governments** and requires them to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf
- **Tribal Consultation:** If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.**¹⁹
- **There is no Statutory Time Limit on Tribal Consultation under the law.**
- **Confidentiality:** Consistent with the guidelines developed and adopted by the Office of Planning and Research,²⁰ the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction.²¹
- **Conclusion Tribal Consultation:** Consultation should be concluded at the point in which:
 - The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
 - Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation.²²

NAHC Recommendations for Cultural Resources Assessments:

- Contact the NAHC for:
 - A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
 - A Native American Tribal Contact List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.
 - The request form can be found at <http://nahc.ca.gov/resources/forms/>.
- Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
 - If part or the entire APE has been previously surveyed for cultural resources.
 - If any known cultural resources have been already been recorded on or adjacent to the APE.
 - If the probability is low, moderate, or high that cultural resources are located in the APE.
 - If a survey is required to determine whether previously unrecorded cultural resources are present.
- If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
 - The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

Examples of Mitigation Measures That May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

- Avoidance and preservation of the resources in place, including, but not limited to:
 - Planning and construction to avoid the resources and protect the cultural and natural context.
 - Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

¹⁹ (Gov. Code § 65352.3 (a)(2)).

²⁰ pursuant to Gov. Code section 65040.2,

²¹ (Gov. Code § 65352.3 (b)).

²² (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

- Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - Protecting the cultural character and integrity of the resource.
 - Protecting the traditional use of the resource.
 - Protecting the confidentiality of the resource.
- Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
- Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed.²³
- Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated.²⁴

The lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

- Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources.²⁵ In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
- Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
- Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subs. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

²³ (Civ. Code § 815.3 (c)).

²⁴ (Pub. Resources Code § 5097.991).

²⁵ per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)).

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November 21, 2017

Ms. Jo Ann Corey
Water Resources Department
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

Subject: Notice of Intent to adopt a Mitigated Negative Declaration for the Eastwood Recycled Water Pump Station

Dear Ms. Corey:

Thank you for the opportunity to comment on the Initial Study and Negative Declaration for the Eastwood Recycled Water Station project. The City has reviewed the project and does not have any comments.

If you have any questions, please contact me at 949 724-6364 or via email at jequina@cityofirvine.org

Sincerely,

Justin Equina
Associate Planner

cc: Bill Jacobs, Principal Planner

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WATER RESOURCES

November 22, 2017

NOV 28 2017 NCL-17-061

Jo Ann Corey, MPA
 Water Resources & Environmental Compliance
 Irvine Ranch Water District
 15600 San Canyon Avenue
 Irvine, CA 92618

**IRVINE RANCH
 WATER DISTRICT**

Subject: Notice of Intent to Adopt a Mitigated Negative Declaration for the Eastwood Recycled Water Pump Station Project

Dear Ms. Corey:

Thank you for the opportunity to comment on the Notice of Intent for the Eastwood Recycled Water Pump Station Project. The County of Orange offers the following comments for your consideration.

The proposed project site is in the vicinity of the Orange County Flood Control District's (OCFCD) sub-regional facility, F25S05.

- 1. Increases in impermeable areas caused by construction of concrete foundation, three surge tanks with a roof structure and asphalt concrete parking lot and access road will likely increase the amount of runoff entering local and OCFCD drainage facilities. The project's potential impacts, if any, to OCFCD flood control facilities should be identified and appropriately mitigated. 1
- 2. Any work related to the proposed project within OCFCD right-of-way will require an encroachment permit from the County's Public Property Permits Section. In addition, all work within OCFCD right-of-way should be performed in a manner that will not adversely impact the hydraulic flow conditions, access and/or maintenance requirements of OCFCD facilities. Information regarding permit application is available on our website - http://www.ocpublicworks.com/ds/permits/encroachment_permits. 2

If you have any questions regarding these comments, please contact Robert McLean at (714) 647-3951 or Anna Brzezicki at (714) 647-3989 in OC Infrastructure Programs/Flood Program Support Division, or Ashley Brodtkin at (714) 667-8854 in OC Development Services.

Sincerely,



Richard Vuong, Manager, Planning Division
OC Public Works Service Area/OC Development Services
300 North Flower Street
Santa Ana, California 92702-4048
Richard.Vuong@ocpw.ocgov.com

cc: Robert McLean, OC Flood Programs
Anna Brzezicki, OC Flood Programs

9.0 RESPONSES TO COMMENTS

This section comprises the Responses to Comments for the Final Initial Study/Mitigated Negative Declaration (IS/MND) for the proposed Eastwood Recycled Water Pump Station Project (Project). The purpose of this document is to respond to all comments received by Irvine Ranch Water District (IRWD) regarding the environmental information and analyses contained in the IS/MND.

As required by California Environmental Quality Act (CEQA) Guidelines Section 15073, a Notice of Intent (NOI) to adopt an MND was sent to the responsible agencies, trustee agencies, various public agencies, and interested individuals concerned with the Project. In addition, the NOI was filed with the Orange County Clerk and the State Clearinghouse on October 24, 2017.

The Draft IS/MND was circulated for public review for a period of 30 days, from October 24 to November 22, 2017. Copies of the Draft IS/MND were made available for public review at IRWD District Office, one area library, and on the internet, via IRWD's website.

Comments were accepted for a period of 30 days in order to ensure adequate time for residents and agencies to comment on the Draft IS/MND. Three comment letters were received during the public review period. In addition, a letter was received from the State Clearinghouse acknowledging that IRWD complied with State Clearinghouse review requirements pursuant to CEQA.

IRWD, as the Lead Agency, is required to consider agency and public comments on a negative declaration. Although preparation of responses to comments received on an IS/MND is not required by CEQA, responses have been prepared.

Information provided in this Response to Comments document clarifies, amplifies, or makes minor modifications to the IS/MND. No significant changes have been made to the information contained in the IS/MND as a result of the responses to comments, and no significant new information has been added that would require recirculation of the document.

A revised version of the IS/MND has been prepared to make minor corrections and clarifications to the public draft IS/MND as a result of comments received during the public review period. Revisions to the public draft IS/MND are shown in tracked changes in Sections 1 through 7 of this document. Text that has been added is underlined (underlined) and text that has been deleted is shown with strikethrough (~~strikethrough~~).

Together, the responses to comments and the revised text of the IS/MND are collectively referred to as the Final IS/MND. The Final IS/MND will be submitted for consideration by IRWD's Board of Directors prior to a vote to approve the Final IS/MND.

INDEX OF COMMENTS RECEIVED

The following is an index list of the agencies that commented on the IS/MND prior to the close of the public comment period or immediately thereafter. The comments received have been organized in a manner that facilitates finding a particular comment or set of comments. Each comment letter received is indexed with a number below. The comment index numbers are provided in the upper

right corner of each comment letter, and individual points within each letter are numbered along the right-hand margin of each letter. Indexed comment letters are provided in Section 8 of this document.

Comment Code	Signatory	Date
State		
S-1	State of California, Native American Heritage Commission	10/30/17
Local		
L-1	City of Irvine	11/21/17
L-2	County of Orange, Public Works Department	11/22/17

FORMAT OF RESPONSES TO COMMENTS

Responses to each of the comment letters are provided on the following pages. IRWD's responses to each comment letter correspond to the index numbers in the margins as shown in Section 8. As noted in some of the responses, the proposed Final IS/MND (Sections 1 through 7) includes text revisions that provide corrections and clarifications to the public Draft IS/MND.

LETTER CODE: S-1

COMMENTER: Native American Heritage Commission

DATE: October 30, 2017

RESPONSE S-1-1

The comment states that the Native American Heritage Commission (NAHC) reviewed the following chapters/sections of the IS/MND: Introduction, Project Description, Section 4.5 Cultural Resources, and Section 4.17 Tribal Cultural Resources. The comment is introductory and does not contain any substantive comments or questions about the IS/MND. This comment will be made available to the decision-makers. No further response is required.

RESPONSE S-1-2

The comment states that the Draft IS/MND did not include mitigation measures that specifically address tribal cultural resources separately and distinctly from archaeological resources. The comment further states that mitigation measures must take tribal cultural resources into consideration as required by Assembly Bill 52 (AB 52) and that mitigation language for archaeological resources is not always appropriate for or similar to measures specifically for handling tribal cultural resources.

As described in Section 4.17 of the IS/MND, AB 52 defines a tribal cultural resource as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that is either on or eligible for the California Register of Historical Resources (California Register) or a local register of historical resources, OR a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be a tribal cultural resource pursuant to criteria set for in subdivision C of Public Resource Code Section 5024.1.

There is no site, feature, place, cultural landscape, sacred place, or object on the Project site that has been identified as having cultural value to a Tribe. Further, as discussed in Sections 4.5(a) and 4.17, the property does not contain any buildings or structures that meet any of the California Register criteria or qualify as "historical resources" as defined by CEQA. Therefore, the proposed Project would not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the State CEQA Guidelines or Public Resources Code (PRC) 5020.1. In addition, as discussed in Sections 4.5(b), 4.5(c), and 4.17, the Project site is not designated as a historical/archaeological landmark by the City of Irvine. Finally, the site was previously mass graded and was historically used for agricultural activities where heavy ground disturbance likely occurred. As such, there are no known tribal cultural resources on the Project site, and the proposed Project would not result in a substantial adverse impact to a tribal cultural resource.

CEQA does not require mitigation for effects that are not found to be significant (State CEQA Guidelines Section 15126.4[3]). Because there are no known tribal cultural resources on the Project and the Project would not result in a significant impact to any known tribal cultural resources, separate and distinct mitigation for tribal cultural resources is not required.

RESPONSE S-1-3

The comment states that tribal cultural resource assessments are not documented and that such assessments should document the existence and significance of tribal cultural resources and plan for avoidance, preservation in place or, barring both, mitigation of project-related impacts to tribal cultural resources. The comment concludes that the lack of documented resources does not preclude inadvertent finds, which should be addressed in the mitigation measures.

Please refer to response to comment S-1-2. There are no known tribal cultural resources on the Project site, and the site was previously mass graded and historically used for agricultural activities, where heavy ground disturbance likely occurred. However, Mitigation Measure CUL-1 has been amended to address the unlikely event a tribal cultural resource could be discovered during proposed ground-disturbing activities. If a tribal cultural resource is discovered at any time during construction, those activities would be halted in the vicinity of the find until the find can be assessed for significance by a qualified archaeologist. Implementation of Mitigation Measure CUL-1 would reduce any potential impacts to previously undiscovered tribal cultural resources to a less than significant level. The revisions to Mitigation Measure CUL-1 are shown in track changes below.

CUL-1 **Archaeological Resources and Tribal Cultural Resources.** Prior to the initiation of construction, IRWD shall retain a qualified Archeologist to be available “on-call” throughout the duration of ground-disturbing activities. The Archeologist shall be present at the pre-construction grade conference; shall, in conjunction with IRWD, establish procedures for archaeological resource and tribal cultural resource surveillance; and shall establish, in consultation with IRWD, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the artifacts as appropriate. If the ~~archaeological resources are~~ is found to be significant, the Archeologist shall determine appropriate actions, in consultation with IRWD, for exploration, avoidance, and/or salvage. Following the completion of the earth-disturbance activities, the Archeologist shall furnish a report to IRWD.

RESPONSE S-1-4

The comment provides additional background information pertaining to AB 52 and Senate Bill 18 (SB 18). The comment also concludes the comment letter and provides contact information for staff at the NAHC.

The comment does not contain any substantive comments or questions about the IS/MND. This comment will be made available to the decision-makers. No further response is required.

LETTER CODE: L-1

COMMENTER: City of Irvine

DATE: November 21, 2017

RESPONSE L-1-1

The comment states that the City of Irvine thanks IRWD for the opportunity to comment on the Notice of Intent to adopt an IS/MND for the proposed Eastwood Recycled Water Pump Station Project. The comment also states that City of Irvine staff reviewed the submittal and have no comments at this time.

The comment does not contain any substantive comments or questions about the IS/MND. This comment will be made available to the decision-makers. No further response is required.

LETTER CODE: L-2

COMMENTER: County of Orange, Department of Public Works

DATE: November 22, 2017

RESPONSE L-2-1

The comment states that the proposed Project site is in the vicinity of the Orange County Flood Control District's (OCFCD) sub-regional facility F25S05 and that the proposed Project would likely increase the amount of runoff entering local and OCFCD drainage facilities. The comment further states that the Project's potential impacts, if any, to OCFCD flood control facilities should be identified and appropriately mitigated.

As discussed in Section 4.9 Hydrology and Water Resources of the Draft IS/MND, the proposed Project would increase the impervious surface area by approximately 0.75 acre (32,670 square feet), compared to existing conditions, which would increase the volume of storm water runoff generated on the Project site. However, the Project would include Best Management Practices (BMPs) to capture storm water runoff to reduce runoff volume and velocity in compliance with the North Orange County MS4. With implementation of BMPs, the proposed Project would not substantially increase runoff entering local or OCFCD drainage facilities, including sub-regional facility F25S05.

RESPONSE L-2-2

The comment states that any work related to the proposed Project within OCFCD right-of-way would require an encroachment permit and that all work performed within OCFCD right-of-way should be completed in a manner that will not adversely impact hydraulic flow conditions, access, and/or maintenance requirements of OCFCD facilities.

The proposed Project does not include work within OCFCD facilities; therefore, an encroachment permit from OCFCD is not required. Because no work would occur within OCFCD right-of-way, the proposed improvements would not affect the hydraulic flow conditions, access, or maintenance requirements of the OCFCD facilities.

APPENDIX A

AIR QUALITY AND GREENHOUSE GAS

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Eastwood Recycled Water Pump Station
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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	6.80	1000sqft	0.16	6,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction is anticipated to take approximately 17 months, beginning in December 2017 and completed by April 2019.

Trips and VMT - Construction of the project is expected to generate 30 daily worker trips and 8 daily hauling trips for a total of 38 trips per day.

Grading - 4,000 CY of export

Vehicle Trips - The project is expected to generate 4 daily trips

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	100.00	250.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	10.00
tblGrading	AcresOfGrading	5.00	0.50
tblGrading	MaterialExported	0.00	4,000.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	500.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	1.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	30.00
tblTripsAndVMT	WorkerTripNumber	5.00	30.00
tblTripsAndVMT	WorkerTripNumber	10.00	30.00
tblTripsAndVMT	WorkerTripNumber	3.00	30.00
tblTripsAndVMT	WorkerTripNumber	18.00	30.00
tblTripsAndVMT	WorkerTripNumber	1.00	30.00
tblVehicleTrips	ST_TR	1.32	0.59
tblVehicleTrips	SU_TR	0.68	0.59
tblVehicleTrips	WD_TR	6.97	0.59

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2.0 Emissions Summary

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2.1 Overall Construction

Unmitigated 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					
2017	0.0139	0.1079	0.0954	1.6000e-004	3.9000e-003	7.3500e-003	0.0113	9.7000e-004	7.0100e-003	7.9800e-003	0.0000	14.2582	14.2582	2.2500e-003	0.0000	14.3145
2018	0.1608	1.4380	1.1777	1.9500e-003	0.0512	0.0905	0.1417	0.0157	0.0835	0.0992	0.0000	177.3069	177.3069	0.0423	0.0000	178.3644
2019	0.0559	0.1960	0.1989	3.6000e-004	9.9000e-003	0.0116	0.0215	2.6300e-003	0.0108	0.0134	0.0000	31.4981	31.4981	6.3500e-003	0.0000	31.6569
Maximum	0.1608	1.4380	1.1777	1.9500e-003	0.0512	0.0905	0.1417	0.0157	0.0835	0.0992	0.0000	177.3069	177.3069	0.0423	0.0000	178.3644

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					
2017	0.0139	0.1079	0.0954	1.6000e-004	3.9000e-003	7.3500e-003	0.0113	9.7000e-004	7.0100e-003	7.9800e-003	0.0000	14.2582	14.2582	2.2500e-003	0.0000	14.3144
2018	0.1608	1.4380	1.1777	1.9500e-003	0.0512	0.0905	0.1417	0.0157	0.0835	0.0992	0.0000	177.3067	177.3067	0.0423	0.0000	178.3642
2019	0.0559	0.1960	0.1989	3.6000e-004	9.9000e-003	0.0116	0.0215	2.6300e-003	0.0108	0.0134	0.0000	31.4980	31.4980	6.3500e-003	0.0000	31.6569
Maximum	0.1608	1.4380	1.1777	1.9500e-003	0.0512	0.0905	0.1417	0.0157	0.0835	0.0992	0.0000	177.3067	177.3067	0.0423	0.0000	178.3642

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	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	12-4-2017	3-3-2018	0.3762	0.3762
2	3-4-2018	6-3-2018	0.4078	0.4078
3	6-4-2018	9-3-2018	0.4076	0.4076
4	9-4-2018	12-3-2018	0.4037	0.4037
5	12-4-2018	3-3-2019	0.3319	0.3319
6	3-4-2019	6-3-2019	0.0383	0.0383
		Highest	0.4078	0.4078

2.2 Overall Operational

Unmitigated Operational

	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					
Area	0.0277	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004
Energy	7.7000e-004	6.9900e-003	5.8700e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	26.2858	26.2858	9.2000e-004	3.0000e-004	26.3978
Mobile	1.7100e-003	0.0100	0.0257	9.0000e-005	6.7500e-003	1.0000e-004	6.8500e-003	1.8100e-003	9.0000e-005	1.9000e-003	0.0000	7.9036	7.9036	4.1000e-004	0.0000	7.9138
Waste						0.0000	0.0000		0.0000	0.0000	1.7112	0.0000	1.7112	0.1011	0.0000	4.2395
Water						0.0000	0.0000		0.0000	0.0000	0.4989	6.5239	7.0228	0.0515	1.2700e-003	8.6877
Total	0.0302	0.0170	0.0317	1.3000e-004	6.7500e-003	6.3000e-004	7.3800e-003	1.8100e-003	6.2000e-004	2.4300e-003	2.2101	40.7135	42.9235	0.1540	1.5700e-003	47.2390

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2.2 Overall Operational

Mitigated Operational

	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					
Area	0.0277	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004
Energy	7.7000e-004	6.9900e-003	5.8700e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	26.2858	26.2858	9.2000e-004	3.0000e-004	26.3978
Mobile	1.7100e-003	0.0100	0.0257	9.0000e-005	6.7500e-003	1.0000e-004	6.8500e-003	1.8100e-003	9.0000e-005	1.9000e-003	0.0000	7.9036	7.9036	4.1000e-004	0.0000	7.9138
Waste						0.0000	0.0000		0.0000	0.0000	1.7112	0.0000	1.7112	0.1011	0.0000	4.2395
Water						0.0000	0.0000		0.0000	0.0000	0.4989	6.5239	7.0228	0.0515	1.2700e-003	8.6877
Total	0.0302	0.0170	0.0317	1.3000e-004	6.7500e-003	6.3000e-004	7.3800e-003	1.8100e-003	6.2000e-004	2.4300e-003	2.2101	40.7135	42.9235	0.1540	1.5700e-003	47.2390

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/4/2017	12/29/2017	5	20	
2	Site Preparation	Site Preparation	12/30/2017	1/12/2018	5	10	
3	Grading	Grading	1/13/2018	2/9/2018	5	20	
4	Building Construction	Building Construction	2/10/2018	1/25/2019	5	250	
5	Paving	Paving	1/26/2019	2/22/2019	5	20	
6	Architectural Coating	Architectural Coating	2/23/2019	3/22/2019	5	20	

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: 10,200; Non-Residential Outdoor: 3,400; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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	4	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

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3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated 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	0.0121	0.1050	0.0792	1.2000e-004		7.3200e-003	7.3200e-003		6.9800e-003	6.9800e-003	0.0000	10.6985	10.6985	2.1000e-003	0.0000	10.7511
Total	0.0121	0.1050	0.0792	1.2000e-004		7.3200e-003	7.3200e-003		6.9800e-003	6.9800e-003	0.0000	10.6985	10.6985	2.1000e-003	0.0000	10.7511

Unmitigated 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	2.5000e-004	0.0000	7.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3111	0.3111	2.0000e-005	0.0000	0.3117
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	1.7900e-003	1.5000e-003	0.0160	4.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	3.0000e-005	9.0000e-004	0.0000	3.2486	3.2486	1.2000e-004	0.0000	3.2517
Total	1.8300e-003	2.8800e-003	0.0162	4.0000e-005	3.3600e-003	4.0000e-005	3.4000e-003	8.9000e-004	4.0000e-005	9.3000e-004	0.0000	3.5597	3.5597	1.4000e-004	0.0000	3.5634

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3.2 Demolition - 2017

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	0.0121	0.1050	0.0792	1.2000e-004		7.3200e-003	7.3200e-003		6.9800e-003	6.9800e-003	0.0000	10.6985	10.6985	2.1000e-003	0.0000	10.7511
Total	0.0121	0.1050	0.0792	1.2000e-004		7.3200e-003	7.3200e-003		6.9800e-003	6.9800e-003	0.0000	10.6985	10.6985	2.1000e-003	0.0000	10.7511

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	2.5000e-004	0.0000	7.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3111	0.3111	2.0000e-005	0.0000	0.3117
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	1.7900e-003	1.5000e-003	0.0160	4.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	3.0000e-005	9.0000e-004	0.0000	3.2486	3.2486	1.2000e-004	0.0000	3.2517
Total	1.8300e-003	2.8800e-003	0.0162	4.0000e-005	3.3600e-003	4.0000e-005	3.4000e-003	8.9000e-004	4.0000e-005	9.3000e-004	0.0000	3.5597	3.5597	1.4000e-004	0.0000	3.5634

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3.3 Site Preparation - 2017

Unmitigated 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	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	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
Total	0.0000	0.0000	0.0000	0.0000	4.9000e-004	0.0000	4.9000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated 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	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	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	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
Total	0.0000	0.0000	0.0000	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Annual

3.3 Site Preparation - 2017

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	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	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
Total	0.0000	0.0000	0.0000	0.0000	4.9000e-004	0.0000	4.9000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	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	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
Total	0.0000	0.0000	0.0000	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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3.3 Site Preparation - 2018

Unmitigated 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	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9300e-003	0.0488	0.0213	5.0000e-005		2.0900e-003	2.0900e-003		1.9200e-003	1.9200e-003	0.0000	4.4575	4.4575	1.3900e-003	0.0000	4.4922
Total	3.9300e-003	0.0488	0.0213	5.0000e-005	4.9000e-004	2.0900e-003	2.5800e-003	6.0000e-005	1.9200e-003	1.9800e-003	0.0000	4.4575	4.4575	1.3900e-003	0.0000	4.4922

Unmitigated 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	1.2700e-003	2.4000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3086	0.3086	2.0000e-005	0.0000	0.3091
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	8.0000e-004	6.5000e-004	7.0000e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5788	1.5788	5.0000e-005	0.0000	1.5801
Total	8.4000e-004	1.9200e-003	7.2400e-003	2.0000e-005	1.7200e-003	1.0000e-005	1.7300e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.8873	1.8873	7.0000e-005	0.0000	1.8892

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3.3 Site Preparation - 2018

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	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9300e-003	0.0488	0.0213	5.0000e-005		2.0900e-003	2.0900e-003		1.9200e-003	1.9200e-003	0.0000	4.4575	4.4575	1.3900e-003	0.0000	4.4922
Total	3.9300e-003	0.0488	0.0213	5.0000e-005	4.9000e-004	2.0900e-003	2.5800e-003	6.0000e-005	1.9200e-003	1.9800e-003	0.0000	4.4575	4.4575	1.3900e-003	0.0000	4.4922

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	1.2700e-003	2.4000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3086	0.3086	2.0000e-005	0.0000	0.3091
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	8.0000e-004	6.5000e-004	7.0000e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5788	1.5788	5.0000e-005	0.0000	1.5801
Total	8.4000e-004	1.9200e-003	7.2400e-003	2.0000e-005	1.7200e-003	1.0000e-005	1.7300e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.8873	1.8873	7.0000e-005	0.0000	1.8892

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3.4 Grading - 2018

Unmitigated 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					7.5300e-003	0.0000	7.5300e-003	4.1400e-003	0.0000	4.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.0943	0.0778	1.2000e-004		6.2300e-003	6.2300e-003		5.9400e-003	5.9400e-003	0.0000	10.6082	10.6082	2.0400e-003	0.0000	10.6593
Total	0.0106	0.0943	0.0778	1.2000e-004	7.5300e-003	6.2300e-003	0.0138	4.1400e-003	5.9400e-003	0.0101	0.0000	10.6082	10.6082	2.0400e-003	0.0000	10.6593

Unmitigated 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	1.2700e-003	2.4000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3086	0.3086	2.0000e-005	0.0000	0.3091
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	1.5900e-003	1.3000e-003	0.0140	3.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	3.1575	3.1575	1.1000e-004	0.0000	3.1602
Total	1.6300e-003	2.5700e-003	0.0142	3.0000e-005	3.3600e-003	3.0000e-005	3.3900e-003	8.9000e-004	2.0000e-005	9.2000e-004	0.0000	3.4661	3.4661	1.3000e-004	0.0000	3.4693

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3.4 Grading - 2018

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					7.5300e-003	0.0000	7.5300e-003	4.1400e-003	0.0000	4.1400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0106	0.0943	0.0778	1.2000e-004		6.2300e-003	6.2300e-003		5.9400e-003	5.9400e-003	0.0000	10.6082	10.6082	2.0400e-003	0.0000	10.6593
Total	0.0106	0.0943	0.0778	1.2000e-004	7.5300e-003	6.2300e-003	0.0138	4.1400e-003	5.9400e-003	0.0101	0.0000	10.6082	10.6082	2.0400e-003	0.0000	10.6593

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	1.2700e-003	2.4000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3086	0.3086	2.0000e-005	0.0000	0.3091
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	1.5900e-003	1.3000e-003	0.0140	3.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	3.1575	3.1575	1.1000e-004	0.0000	3.1602
Total	1.6300e-003	2.5700e-003	0.0142	3.0000e-005	3.3600e-003	3.0000e-005	3.3900e-003	8.9000e-004	2.0000e-005	9.2000e-004	0.0000	3.4661	3.4661	1.3000e-004	0.0000	3.4693

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3.5 Building Construction - 2018

Unmitigated 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	0.1253	1.2742	0.8953	1.3200e-003		0.0819	0.0819		0.0753	0.0753	0.0000	120.1335	120.1335	0.0374	0.0000	121.0684
Total	0.1253	1.2742	0.8953	1.3200e-003		0.0819	0.0819		0.0753	0.0753	0.0000	120.1335	120.1335	0.0374	0.0000	121.0684

Unmitigated 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	3.0000e-005	1.1700e-003	2.2000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2851	0.2851	2.0000e-005	0.0000	0.2856
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	0.0184	0.0151	0.1617	4.0000e-004	0.0380	3.1000e-004	0.0383	0.0101	2.8000e-004	0.0104	0.0000	36.4692	36.4692	1.2400e-003	0.0000	36.5003
Total	0.0185	0.0162	0.1619	4.0000e-004	0.0381	3.1000e-004	0.0384	0.0101	2.8000e-004	0.0104	0.0000	36.7543	36.7543	1.2600e-003	0.0000	36.7860

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3.5 Building Construction - 2018

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	0.1253	1.2742	0.8953	1.3200e-003		0.0819	0.0819		0.0753	0.0753	0.0000	120.1333	120.1333	0.0374	0.0000	121.0683
Total	0.1253	1.2742	0.8953	1.3200e-003		0.0819	0.0819		0.0753	0.0753	0.0000	120.1333	120.1333	0.0374	0.0000	121.0683

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	3.0000e-005	1.1700e-003	2.2000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2851	0.2851	2.0000e-005	0.0000	0.2856
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	0.0184	0.0151	0.1617	4.0000e-004	0.0380	3.1000e-004	0.0383	0.0101	2.8000e-004	0.0104	0.0000	36.4692	36.4692	1.2400e-003	0.0000	36.5003
Total	0.0185	0.0162	0.1619	4.0000e-004	0.0381	3.1000e-004	0.0384	0.0101	2.8000e-004	0.0104	0.0000	36.7543	36.7543	1.2600e-003	0.0000	36.7860

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3.5 Building Construction - 2019

Unmitigated 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	9.1000e-003	0.0933	0.0717	1.1000e-004		5.7500e-003	5.7500e-003		5.2900e-003	5.2900e-003	0.0000	9.7185	9.7185	3.0700e-003	0.0000	9.7954
Total	9.1000e-003	0.0933	0.0717	1.1000e-004		5.7500e-003	5.7500e-003		5.2900e-003	5.2900e-003	0.0000	9.7185	9.7185	3.0700e-003	0.0000	9.7954

Unmitigated 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	9.0000e-005	2.0000e-005	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0232	0.0232	0.0000	0.0000	0.0232
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	1.3800e-003	1.0900e-003	0.0119	3.0000e-005	3.1300e-003	2.0000e-005	3.1500e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.9050	2.9050	9.0000e-005	0.0000	2.9073
Total	1.3800e-003	1.1800e-003	0.0119	3.0000e-005	3.1800e-003	2.0000e-005	3.2000e-003	8.4000e-004	2.0000e-005	8.6000e-004	0.0000	2.9282	2.9282	9.0000e-005	0.0000	2.9305

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3.5 Building Construction - 2019

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	9.1000e-003	0.0933	0.0717	1.1000e-004		5.7500e-003	5.7500e-003		5.2900e-003	5.2900e-003	0.0000	9.7185	9.7185	3.0700e-003	0.0000	9.7954
Total	9.1000e-003	0.0933	0.0717	1.1000e-004		5.7500e-003	5.7500e-003		5.2900e-003	5.2900e-003	0.0000	9.7185	9.7185	3.0700e-003	0.0000	9.7954

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	9.0000e-005	2.0000e-005	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0232	0.0232	0.0000	0.0000	0.0232
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	1.3800e-003	1.0900e-003	0.0119	3.0000e-005	3.1300e-003	2.0000e-005	3.1500e-003	8.3000e-004	2.0000e-005	8.5000e-004	0.0000	2.9050	2.9050	9.0000e-005	0.0000	2.9073
Total	1.3800e-003	1.1800e-003	0.0119	3.0000e-005	3.1800e-003	2.0000e-005	3.2000e-003	8.4000e-004	2.0000e-005	8.6000e-004	0.0000	2.9282	2.9282	9.0000e-005	0.0000	2.9305

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3.6 Paving - 2019

Unmitigated 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	8.3000e-003	0.0785	0.0715	1.1000e-004		4.4300e-003	4.4300e-003		4.1100e-003	4.1100e-003	0.0000	9.5725	9.5725	2.7400e-003	0.0000	9.6409
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.3000e-003	0.0785	0.0715	1.1000e-004		4.4300e-003	4.4300e-003		4.1100e-003	4.1100e-003	0.0000	9.5725	9.5725	2.7400e-003	0.0000	9.6409

Unmitigated 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	3.0000e-005	1.2000e-003	2.3000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3050	0.3050	2.0000e-005	0.0000	0.3055
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	1.4500e-003	1.1500e-003	0.0125	3.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	3.0579	3.0579	1.0000e-004	0.0000	3.0603
Total	1.4800e-003	2.3500e-003	0.0127	3.0000e-005	3.3600e-003	3.0000e-005	3.3900e-003	8.9000e-004	2.0000e-005	9.2000e-004	0.0000	3.3628	3.3628	1.2000e-004	0.0000	3.3658

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3.6 Paving - 2019

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	8.3000e-003	0.0785	0.0715	1.1000e-004		4.4300e-003	4.4300e-003		4.1100e-003	4.1100e-003	0.0000	9.5724	9.5724	2.7400e-003	0.0000	9.6409
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.3000e-003	0.0785	0.0715	1.1000e-004		4.4300e-003	4.4300e-003		4.1100e-003	4.1100e-003	0.0000	9.5724	9.5724	2.7400e-003	0.0000	9.6409

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	3.0000e-005	1.2000e-003	2.3000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3050	0.3050	2.0000e-005	0.0000	0.3055
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	1.4500e-003	1.1500e-003	0.0125	3.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	3.0579	3.0579	1.0000e-004	0.0000	3.0603
Total	1.4800e-003	2.3500e-003	0.0127	3.0000e-005	3.3600e-003	3.0000e-005	3.3900e-003	8.9000e-004	2.0000e-005	9.2000e-004	0.0000	3.3628	3.3628	1.2000e-004	0.0000	3.3658

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3.7 Architectural Coating - 2019

Unmitigated 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					
Archit. Coating	0.0315					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6600e-003	0.0184	0.0184	3.0000e-005		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	2.5533	2.5533	2.2000e-004	0.0000	2.5587
Total	0.0342	0.0184	0.0184	3.0000e-005		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	2.5533	2.5533	2.2000e-004	0.0000	2.5587

Unmitigated 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	3.0000e-005	1.2000e-003	2.3000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3050	0.3050	2.0000e-005	0.0000	0.3055
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	1.4500e-003	1.1500e-003	0.0125	3.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	3.0579	3.0579	1.0000e-004	0.0000	3.0603
Total	1.4800e-003	2.3500e-003	0.0127	3.0000e-005	3.3600e-003	3.0000e-005	3.3900e-003	8.9000e-004	2.0000e-005	9.2000e-004	0.0000	3.3628	3.3628	1.2000e-004	0.0000	3.3658

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3.7 Architectural Coating - 2019

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					
Archit. Coating	0.0315					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6600e-003	0.0184	0.0184	3.0000e-005		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	2.5533	2.5533	2.2000e-004	0.0000	2.5586
Total	0.0342	0.0184	0.0184	3.0000e-005		1.2900e-003	1.2900e-003		1.2900e-003	1.2900e-003	0.0000	2.5533	2.5533	2.2000e-004	0.0000	2.5586

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	3.0000e-005	1.2000e-003	2.3000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3050	0.3050	2.0000e-005	0.0000	0.3055
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	1.4500e-003	1.1500e-003	0.0125	3.0000e-005	3.2900e-003	3.0000e-005	3.3200e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	3.0579	3.0579	1.0000e-004	0.0000	3.0603
Total	1.4800e-003	2.3500e-003	0.0127	3.0000e-005	3.3600e-003	3.0000e-005	3.3900e-003	8.9000e-004	2.0000e-005	9.2000e-004	0.0000	3.3628	3.3628	1.2000e-004	0.0000	3.3658

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	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					
Mitigated	1.7100e-003	0.0100	0.0257	9.0000e-005	6.7500e-003	1.0000e-004	6.8500e-003	1.8100e-003	9.0000e-005	1.9000e-003	0.0000	7.9036	7.9036	4.1000e-004	0.0000	7.9138
Unmitigated	1.7100e-003	0.0100	0.0257	9.0000e-005	6.7500e-003	1.0000e-004	6.8500e-003	1.8100e-003	9.0000e-005	1.9000e-003	0.0000	7.9036	7.9036	4.1000e-004	0.0000	7.9138

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	4.01	4.01	4.01	17,766	17,766
Total	4.01	4.01	4.01	17,766	17,766

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.546418	0.044132	0.199182	0.124467	0.017484	0.005870	0.020172	0.031831	0.001999	0.002027	0.004724	0.000704	0.000991

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5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	18.6763	18.6763	7.7000e-004	1.6000e-004	18.7431
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	18.6763	18.6763	7.7000e-004	1.6000e-004	18.7431
NaturalGas Mitigated	7.7000e-004	6.9900e-003	5.8700e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.6095	7.6095	1.5000e-004	1.4000e-004	7.6547
NaturalGas Unmitigated	7.7000e-004	6.9900e-003	5.8700e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.6095	7.6095	1.5000e-004	1.4000e-004	7.6547

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	142596	7.7000e-004	6.9900e-003	5.8700e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.6095	7.6095	1.5000e-004	1.4000e-004	7.6547
Total		7.7000e-004	6.9900e-003	5.8700e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.6095	7.6095	1.5000e-004	1.4000e-004	7.6547

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	142596	7.7000e-004	6.9900e-003	5.8700e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.6095	7.6095	1.5000e-004	1.4000e-004	7.6547
Total		7.7000e-004	6.9900e-003	5.8700e-003	4.0000e-005		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	7.6095	7.6095	1.5000e-004	1.4000e-004	7.6547

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	58616	18.6763	7.7000e-004	1.6000e-004	18.7431
Total		18.6763	7.7000e-004	1.6000e-004	18.7431

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	58616	18.6763	7.7000e-004	1.6000e-004	18.7431
Total		18.6763	7.7000e-004	1.6000e-004	18.7431

6.0 Area Detail

6.1 Mitigation Measures Area

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	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					
Mitigated	0.0277	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004
Unmitigated	0.0277	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.1500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0246					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004
Total	0.0277	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004

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6.2 Area by SubCategory

Mitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.1500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0246					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004
Total	0.0277	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.0228	0.0515	1.2700e-003	8.6877
Unmitigated	7.0228	0.0515	1.2700e-003	8.6877

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	1.5725 / 0	7.0228	0.0515	1.2700e-003	8.6877
Total		7.0228	0.0515	1.2700e-003	8.6877

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	1.5725 / 0	7.0228	0.0515	1.2700e-003	8.6877
Total		7.0228	0.0515	1.2700e-003	8.6877

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.7112	0.1011	0.0000	4.2395
Unmitigated	1.7112	0.1011	0.0000	4.2395

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	8.43	1.7112	0.1011	0.0000	4.2395
Total		1.7112	0.1011	0.0000	4.2395

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	8.43	1.7112	0.1011	0.0000	4.2395
Total		1.7112	0.1011	0.0000	4.2395

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

Eastwood Recycled Water Pump Station
South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	6.80	1000sqft	0.16	6,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction is anticipated to take approximately 17 months, beginning in December 2017 and completed by April 2019.

Trips and VMT - Construction of the project is expected to generate 30 daily worker trips and 8 daily hauling trips for a total of 38 trips per day.

Grading - 4,000 CY of export

Vehicle Trips - The project is expected to generate 4 daily trips

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	100.00	250.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	10.00
tblGrading	AcresOfGrading	5.00	0.50
tblGrading	MaterialExported	0.00	4,000.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	500.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	1.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	30.00
tblTripsAndVMT	WorkerTripNumber	5.00	30.00
tblTripsAndVMT	WorkerTripNumber	10.00	30.00
tblTripsAndVMT	WorkerTripNumber	3.00	30.00
tblTripsAndVMT	WorkerTripNumber	18.00	30.00
tblTripsAndVMT	WorkerTripNumber	1.00	30.00
tblVehicleTrips	ST_TR	1.32	0.59
tblVehicleTrips	SU_TR	0.68	0.59
tblVehicleTrips	WD_TR	6.97	0.59

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

2.0 Emissions Summary

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated 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					
2017	1.3956	10.9141	9.6525	0.0161	0.5428	0.7353	1.0776	0.1287	0.7010	0.7918	0.0000	1,590.158 5	1,590.158 5	0.3253	0.0000	1,596.370 4
2018	1.2467	11.1573	9.3043	0.0160	1.0951	0.7114	1.7210	0.5046	0.6545	1.1018	0.0000	1,569.427 2	1,569.427 2	0.3696	0.0000	1,575.433 0
2019	3.5685	9.9323	8.8930	0.0151	0.3423	0.6080	0.9491	0.0909	0.5594	0.6497	0.0000	1,484.676 2	1,484.676 2	0.3680	0.0000	1,493.877 3
Maximum	3.5685	11.1573	9.6525	0.0161	1.0951	0.7353	1.7210	0.5046	0.7010	1.1018	0.0000	1,590.158 5	1,590.158 5	0.3696	0.0000	1,596.370 4

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					
2017	1.3956	10.9141	9.6525	0.0161	0.5428	0.7353	1.0776	0.1287	0.7010	0.7918	0.0000	1,590.158 5	1,590.158 5	0.3253	0.0000	1,596.370 4
2018	1.2467	11.1573	9.3043	0.0160	1.0951	0.7114	1.7210	0.5046	0.6545	1.1018	0.0000	1,569.427 2	1,569.427 2	0.3696	0.0000	1,575.433 0
2019	3.5685	9.9323	8.8930	0.0151	0.3423	0.6080	0.9491	0.0909	0.5594	0.6497	0.0000	1,484.676 2	1,484.676 2	0.3680	0.0000	1,493.877 3
Maximum	3.5685	11.1573	9.6525	0.0161	1.0951	0.7353	1.7210	0.5046	0.7010	1.1018	0.0000	1,590.158 5	1,590.158 5	0.3696	0.0000	1,596.370 4

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

2.2 Overall Operational

Unmitigated Operational

	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					
Area	0.1520	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003
Energy	4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348
Mobile	0.0100	0.0525	0.1495	4.9000e-004	0.0378	5.4000e-004	0.0383	0.0101	5.1000e-004	0.0106		49.8480	49.8480	2.5200e-003		49.9109
Total	0.1662	0.0908	0.1824	7.2000e-004	0.0378	3.4500e-003	0.0412	0.0101	3.4200e-003	0.0135		95.8111	95.8111	3.4000e-003	8.4000e-004	96.1472

Mitigated Operational

	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					
Area	0.1520	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003
Energy	4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348
Mobile	0.0100	0.0525	0.1495	4.9000e-004	0.0378	5.4000e-004	0.0383	0.0101	5.1000e-004	0.0106		49.8480	49.8480	2.5200e-003		49.9109
Total	0.1662	0.0908	0.1824	7.2000e-004	0.0378	3.4500e-003	0.0412	0.0101	3.4200e-003	0.0135		95.8111	95.8111	3.4000e-003	8.4000e-004	96.1472

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	12/4/2017	12/29/2017	5	20	
2	Site Preparation	Site Preparation	12/30/2017	1/12/2018	5	10	
3	Grading	Grading	1/13/2018	2/9/2018	5	20	
4	Building Construction	Building Construction	2/10/2018	1/25/2019	5	250	
5	Paving	Paving	1/26/2019	2/22/2019	5	20	
6	Architectural Coating	Architectural Coating	2/23/2019	3/22/2019	5	20	

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: 10,200; Non-Residential Outdoor: 3,400; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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	4	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated 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	1.2100	10.4978	7.9182	0.0120		0.7318	0.7318		0.6978	0.6978		1,179.3075	1,179.3075	0.2319		1,185.1047
Total	1.2100	10.4978	7.9182	0.0120		0.7318	0.7318		0.6978	0.6978		1,179.3075	1,179.3075	0.2319		1,185.1047

Unmitigated 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	3.9800e-003	0.1332	0.0245	3.2000e-004	6.9900e-003	7.2000e-004	7.7100e-003	1.9200e-003	6.9000e-004	2.6000e-003		34.5456	34.5456	2.4100e-003		34.6058
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	0.1816	0.1330	1.7098	3.7800e-003	0.3353	2.7700e-003	0.3381	0.0889	2.5500e-003	0.0915		376.3054	376.3054	0.0142		376.6598
Total	0.1856	0.2662	1.7343	4.1000e-003	0.3423	3.4900e-003	0.3458	0.0909	3.2400e-003	0.0941		410.8510	410.8510	0.0166		411.2656

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.2 Demolition - 2017

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	1.2100	10.4978	7.9182	0.0120		0.7318	0.7318		0.6978	0.6978	0.0000	1,179.3075	1,179.3075	0.2319		1,185.1047
Total	1.2100	10.4978	7.9182	0.0120		0.7318	0.7318		0.6978	0.6978	0.0000	1,179.3075	1,179.3075	0.2319		1,185.1047

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	3.9800e-003	0.1332	0.0245	3.2000e-004	6.9900e-003	7.2000e-004	7.7100e-003	1.9200e-003	6.9000e-004	2.6000e-003		34.5456	34.5456	2.4100e-003		34.6058
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	0.1816	0.1330	1.7098	3.7800e-003	0.3353	2.7700e-003	0.3381	0.0889	2.5500e-003	0.0915		376.3054	376.3054	0.0142		376.6598
Total	0.1856	0.2662	1.7343	4.1000e-003	0.3423	3.4900e-003	0.3458	0.0909	3.2400e-003	0.0941		410.8510	410.8510	0.0166		411.2656

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.3 Site Preparation - 2017

Unmitigated 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					0.0983	0.0000	0.0983	0.0126	0.0000	0.0126			0.0000			0.0000
Off-Road	0.8524	10.5148	4.3533	9.7700e-003		0.4726	0.4726		0.4347	0.4347		999.5201	999.5201	0.3063		1,007.1764
Total	0.8524	10.5148	4.3533	9.7700e-003	0.0983	0.4726	0.5708	0.0126	0.4347	0.4473		999.5201	999.5201	0.3063		1,007.1764

Unmitigated 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	7.9700e-003	0.2664	0.0490	6.4000e-004	0.1092	1.4400e-003	0.1106	0.0272	1.3700e-003	0.0286		69.0913	69.0913	4.8200e-003		69.2117
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	0.1816	0.1330	1.7098	3.7800e-003	0.3353	2.7700e-003	0.3381	0.0889	2.5500e-003	0.0915		376.3054	376.3054	0.0142		376.6598
Total	0.1896	0.3994	1.7588	4.4200e-003	0.4445	4.2100e-003	0.4487	0.1161	3.9200e-003	0.1201		445.3967	445.3967	0.0190		445.8715

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.3 Site Preparation - 2017

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					0.0983	0.0000	0.0983	0.0126	0.0000	0.0126			0.0000			0.0000
Off-Road	0.8524	10.5148	4.3533	9.7700e-003		0.4726	0.4726		0.4347	0.4347	0.0000	999.5201	999.5201	0.3063		1,007.1764
Total	0.8524	10.5148	4.3533	9.7700e-003	0.0983	0.4726	0.5708	0.0126	0.4347	0.4473	0.0000	999.5201	999.5201	0.3063		1,007.1764

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	7.9700e-003	0.2664	0.0490	6.4000e-004	0.1092	1.4400e-003	0.1106	0.0272	1.3700e-003	0.0286		69.0913	69.0913	4.8200e-003		69.2117
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	0.1816	0.1330	1.7098	3.7800e-003	0.3353	2.7700e-003	0.3381	0.0889	2.5500e-003	0.0915		376.3054	376.3054	0.0142		376.6598
Total	0.1896	0.3994	1.7588	4.4200e-003	0.4445	4.2100e-003	0.4487	0.1161	3.9200e-003	0.1201		445.3967	445.3967	0.0190		445.8715

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.3 Site Preparation - 2018

Unmitigated 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					0.0983	0.0000	0.0983	0.0126	0.0000	0.0126			0.0000			0.0000
Off-Road	0.7858	9.7572	4.2514	9.7600e-003		0.4180	0.4180		0.3846	0.3846		982.7113	982.7113	0.3059		990.3596
Total	0.7858	9.7572	4.2514	9.7600e-003	0.0983	0.4180	0.5163	0.0126	0.3846	0.3971		982.7113	982.7113	0.3059		990.3596

Unmitigated 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	6.9400e-003	0.2463	0.0456	6.4000e-004	0.0140	9.5000e-004	0.0149	3.8300e-003	9.1000e-004	4.7400e-003		68.5429	68.5429	4.6900e-003		68.6601
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	0.1617	0.1159	1.5053	3.6800e-003	0.3353	2.6700e-003	0.3380	0.0889	2.4600e-003	0.0914		365.8055	365.8055	0.0125		366.1173
Total	0.1686	0.3622	1.5509	4.3200e-003	0.3493	3.6200e-003	0.3529	0.0928	3.3700e-003	0.0961		434.3484	434.3484	0.0172		434.7774

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.3 Site Preparation - 2018

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					0.0983	0.0000	0.0983	0.0126	0.0000	0.0126			0.0000			0.0000
Off-Road	0.7858	9.7572	4.2514	9.7600e-003		0.4180	0.4180		0.3846	0.3846	0.0000	982.7113	982.7113	0.3059		990.3596
Total	0.7858	9.7572	4.2514	9.7600e-003	0.0983	0.4180	0.5163	0.0126	0.3846	0.3971	0.0000	982.7113	982.7113	0.3059		990.3596

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	6.9400e-003	0.2463	0.0456	6.4000e-004	0.0140	9.5000e-004	0.0149	3.8300e-003	9.1000e-004	4.7400e-003		68.5429	68.5429	4.6900e-003		68.6601
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	0.1617	0.1159	1.5053	3.6800e-003	0.3353	2.6700e-003	0.3380	0.0889	2.4600e-003	0.0914		365.8055	365.8055	0.0125		366.1173
Total	0.1686	0.3622	1.5509	4.3200e-003	0.3493	3.6200e-003	0.3529	0.0928	3.3700e-003	0.0961		434.3484	434.3484	0.0172		434.7774

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.4 Grading - 2018

Unmitigated 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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943		1,169.350 2	1,169.350 2	0.2254		1,174.985 7
Total	1.0643	9.4295	7.7762	0.0120	0.7528	0.6228	1.3755	0.4138	0.5943	1.0081		1,169.350 2	1,169.350 2	0.2254		1,174.985 7

Unmitigated 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	3.4700e-003	0.1232	0.0228	3.2000e-004	6.9900e-003	4.7000e-004	7.4600e-003	1.9200e-003	4.5000e-004	2.3700e-003		34.2715	34.2715	2.3400e-003		34.3301
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	0.1617	0.1159	1.5053	3.6800e-003	0.3353	2.6700e-003	0.3380	0.0889	2.4600e-003	0.0914		365.8055	365.8055	0.0125		366.1173
Total	0.1651	0.2391	1.5281	4.0000e-003	0.3423	3.1400e-003	0.3455	0.0909	2.9100e-003	0.0938		400.0770	400.0770	0.0148		400.4474

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.4 Grading - 2018

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943	0.0000	1,169.350 2	1,169.350 2	0.2254		1,174.985 7
Total	1.0643	9.4295	7.7762	0.0120	0.7528	0.6228	1.3755	0.4138	0.5943	1.0081	0.0000	1,169.350 2	1,169.350 2	0.2254		1,174.985 7

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	3.4700e-003	0.1232	0.0228	3.2000e-004	6.9900e-003	4.7000e-004	7.4600e-003	1.9200e-003	4.5000e-004	2.3700e-003		34.2715	34.2715	2.3400e-003		34.3301
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	0.1617	0.1159	1.5053	3.6800e-003	0.3353	2.6700e-003	0.3380	0.0889	2.4600e-003	0.0914		365.8055	365.8055	0.0125		366.1173
Total	0.1651	0.2391	1.5281	4.0000e-003	0.3423	3.1400e-003	0.3455	0.0909	2.9100e-003	0.0938		400.0770	400.0770	0.0148		400.4474

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.5 Building Construction - 2018

Unmitigated 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	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520		1,146.5323	1,146.5323	0.3569		1,155.4555
Total	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520		1,146.5323	1,146.5323	0.3569		1,155.4555

Unmitigated 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	2.8000e-004	9.8500e-003	1.8200e-003	3.0000e-005	5.9000e-004	4.0000e-005	6.3000e-004	1.6000e-004	4.0000e-005	2.0000e-004		2.7417	2.7417	1.9000e-004		2.7464
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	0.1617	0.1159	1.5053	3.6800e-003	0.3353	2.6700e-003	0.3380	0.0889	2.4600e-003	0.0914		365.8055	365.8055	0.0125		366.1173
Total	0.1619	0.1257	1.5071	3.7100e-003	0.3359	2.7100e-003	0.3386	0.0891	2.5000e-003	0.0916		368.5472	368.5472	0.0127		368.8637

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.5 Building Construction - 2018

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	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520	0.0000	1,146.5323	1,146.5323	0.3569		1,155.4555
Total	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520	0.0000	1,146.5323	1,146.5323	0.3569		1,155.4555

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	2.8000e-004	9.8500e-003	1.8200e-003	3.0000e-005	5.9000e-004	4.0000e-005	6.3000e-004	1.6000e-004	4.0000e-005	2.0000e-004		2.7417	2.7417	1.9000e-004		2.7464
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	0.1617	0.1159	1.5053	3.6800e-003	0.3353	2.6700e-003	0.3380	0.0889	2.4600e-003	0.0914		365.8055	365.8055	0.0125		366.1173
Total	0.1619	0.1257	1.5071	3.7100e-003	0.3359	2.7100e-003	0.3386	0.0891	2.5000e-003	0.0916		368.5472	368.5472	0.0127		368.8637

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.5 Building Construction - 2019

Unmitigated 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	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892
Total	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892

Unmitigated 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	2.6000e-004	9.3200e-003	1.7800e-003	3.0000e-005	5.7000e-003	3.0000e-005	5.7400e-003	1.4200e-003	3.0000e-005	1.4500e-003		2.7098	2.7098	1.8000e-004		2.7144
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	0.1469	0.1022	1.3480	3.5600e-003	0.3353	2.6100e-003	0.3379	0.0889	2.4000e-003	0.0913		354.2967	354.2967	0.0111		354.5737
Total	0.1472	0.1116	1.3498	3.5900e-003	0.3410	2.6400e-003	0.3437	0.0904	2.4300e-003	0.0928		357.0065	357.0065	0.0113		357.2882

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.5 Building Construction - 2019

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	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892
Total	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892

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	2.6000e-004	9.3200e-003	1.7800e-003	3.0000e-005	5.7000e-003	3.0000e-005	5.7400e-003	1.4200e-003	3.0000e-005	1.4500e-003		2.7098	2.7098	1.8000e-004		2.7144
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	0.1469	0.1022	1.3480	3.5600e-003	0.3353	2.6100e-003	0.3379	0.0889	2.4000e-003	0.0913		354.2967	354.2967	0.0111		354.5737
Total	0.1472	0.1116	1.3498	3.5900e-003	0.3410	2.6400e-003	0.3437	0.0904	2.4300e-003	0.0928		357.0065	357.0065	0.0113		357.2882

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.6 Paving - 2019

Unmitigated 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	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106		1,055.1823	1,055.1823	0.3016		1,062.7231
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106		1,055.1823	1,055.1823	0.3016		1,062.7231

Unmitigated 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	3.2900e-003	0.1165	0.0223	3.1000e-004	6.9900e-003	4.3000e-004	7.4200e-003	1.9200e-003	4.1000e-004	2.3300e-003		33.8727	33.8727	2.3100e-003		33.9305
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	0.1469	0.1022	1.3480	3.5600e-003	0.3353	2.6100e-003	0.3379	0.0889	2.4000e-003	0.0913		354.2967	354.2967	0.0111		354.5737
Total	0.1502	0.2187	1.3703	3.8700e-003	0.3423	3.0400e-003	0.3454	0.0909	2.8100e-003	0.0937		388.1694	388.1694	0.0134		388.5042

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.6 Paving - 2019

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	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106	0.0000	1,055.1823	1,055.1823	0.3016		1,062.7231
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106	0.0000	1,055.1823	1,055.1823	0.3016		1,062.7231

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	3.2900e-003	0.1165	0.0223	3.1000e-004	6.9900e-003	4.3000e-004	7.4200e-003	1.9200e-003	4.1000e-004	2.3300e-003		33.8727	33.8727	2.3100e-003		33.9305
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	0.1469	0.1022	1.3480	3.5600e-003	0.3353	2.6100e-003	0.3379	0.0889	2.4000e-003	0.0913		354.2967	354.2967	0.0111		354.5737
Total	0.1502	0.2187	1.3703	3.8700e-003	0.3423	3.0400e-003	0.3454	0.0909	2.8100e-003	0.0937		388.1694	388.1694	0.0134		388.5042

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.7 Architectural Coating - 2019

Unmitigated 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					
Archit. Coating	3.1518					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	3.4182	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

Unmitigated 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	3.2900e-003	0.1165	0.0223	3.1000e-004	6.9900e-003	4.3000e-004	7.4200e-003	1.9200e-003	4.1000e-004	2.3300e-003		33.8727	33.8727	2.3100e-003		33.9305
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	0.1469	0.1022	1.3480	3.5600e-003	0.3353	2.6100e-003	0.3379	0.0889	2.4000e-003	0.0913		354.2967	354.2967	0.0111		354.5737
Total	0.1502	0.2187	1.3703	3.8700e-003	0.3423	3.0400e-003	0.3454	0.0909	2.8100e-003	0.0937		388.1694	388.1694	0.0134		388.5042

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

3.7 Architectural Coating - 2019

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					
Archit. Coating	3.1518					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	3.4182	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423

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	3.2900e-003	0.1165	0.0223	3.1000e-004	6.9900e-003	4.3000e-004	7.4200e-003	1.9200e-003	4.1000e-004	2.3300e-003		33.8727	33.8727	2.3100e-003		33.9305
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	0.1469	0.1022	1.3480	3.5600e-003	0.3353	2.6100e-003	0.3379	0.0889	2.4000e-003	0.0913		354.2967	354.2967	0.0111		354.5737
Total	0.1502	0.2187	1.3703	3.8700e-003	0.3423	3.0400e-003	0.3454	0.0909	2.8100e-003	0.0937		388.1694	388.1694	0.0134		388.5042

4.0 Operational Detail - Mobile

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

4.1 Mitigation Measures Mobile

	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					
Mitigated	0.0100	0.0525	0.1495	4.9000e-004	0.0378	5.4000e-004	0.0383	0.0101	5.1000e-004	0.0106		49.8480	49.8480	2.5200e-003		49.9109
Unmitigated	0.0100	0.0525	0.1495	4.9000e-004	0.0378	5.4000e-004	0.0383	0.0101	5.1000e-004	0.0106		49.8480	49.8480	2.5200e-003		49.9109

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	4.01	4.01	4.01	17,766	17,766
Total	4.01	4.01	4.01	17,766	17,766

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.546418	0.044132	0.199182	0.124467	0.017484	0.005870	0.020172	0.031831	0.001999	0.002027	0.004724	0.000704	0.000991

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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					
NaturalGas Mitigated	4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348
NaturalGas Unmitigated	4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	390.674	4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348
Total		4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.390674	4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348
Total		4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348

6.0 Area Detail

6.1 Mitigation Measures Area

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

	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					
Mitigated	0.1520	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003
Unmitigated	0.1520	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0173					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1346					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.0000e-005	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003
Total	0.1520	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

6.2 Area by SubCategory

Mitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0173					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1346					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.0000e-005	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003
Total	0.1520	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Summer

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

Eastwood Recycled Water Pump Station
South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	6.80	1000sqft	0.16	6,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2019
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction is anticipated to take approximately 17 months, beginning in December 2017 and completed by April 2019.

Trips and VMT - Construction of the project is expected to generate 30 daily worker trips and 8 daily hauling trips for a total of 38 trips per day.

Grading - 4,000 CY of export

Vehicle Trips - The project is expected to generate 4 daily trips

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	100.00	250.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	10.00
tblGrading	AcresOfGrading	5.00	0.50
tblGrading	MaterialExported	0.00	4,000.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	500.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	1.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	30.00
tblTripsAndVMT	WorkerTripNumber	5.00	30.00
tblTripsAndVMT	WorkerTripNumber	10.00	30.00
tblTripsAndVMT	WorkerTripNumber	3.00	30.00
tblTripsAndVMT	WorkerTripNumber	18.00	30.00
tblTripsAndVMT	WorkerTripNumber	1.00	30.00
tblVehicleTrips	ST_TR	1.32	0.59
tblVehicleTrips	SU_TR	0.68	0.59
tblVehicleTrips	WD_TR	6.97	0.59

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

2.0 Emissions Summary

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated 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					
2017	1.4114	10.9310	9.4997	0.0159	0.5428	0.7353	1.0776	0.1287	0.7010	0.7918	0.0000	1,565.347 4	1,565.347 4	0.3246	0.0000	1,571.540 5
2018	1.2608	11.1685	9.1633	0.0157	1.0951	0.7114	1.7210	0.5046	0.6545	1.1018	0.0000	1,545.210 7	1,545.210 7	0.3688	0.0000	1,551.199 4
2019	3.5816	9.9421	8.7613	0.0149	0.3423	0.6080	0.9491	0.0909	0.5594	0.6497	0.0000	1,461.727 0	1,461.727 0	0.3673	0.0000	1,470.910 2
Maximum	3.5816	11.1685	9.4997	0.0159	1.0951	0.7353	1.7210	0.5046	0.7010	1.1018	0.0000	1,565.347 4	1,565.347 4	0.3688	0.0000	1,571.540 5

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					
2017	1.4114	10.9310	9.4997	0.0159	0.5428	0.7353	1.0776	0.1287	0.7010	0.7918	0.0000	1,565.347 4	1,565.347 4	0.3246	0.0000	1,571.540 5
2018	1.2608	11.1685	9.1633	0.0157	1.0951	0.7114	1.7210	0.5046	0.6545	1.1018	0.0000	1,545.210 7	1,545.210 7	0.3688	0.0000	1,551.199 4
2019	3.5816	9.9421	8.7613	0.0149	0.3423	0.6080	0.9491	0.0909	0.5594	0.6497	0.0000	1,461.727 0	1,461.727 0	0.3673	0.0000	1,470.910 2
Maximum	3.5816	11.1685	9.4997	0.0159	1.0951	0.7353	1.7210	0.5046	0.7010	1.1018	0.0000	1,565.347 4	1,565.347 4	0.3688	0.0000	1,571.540 5

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

2.2 Overall Operational

Unmitigated Operational

	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					
Area	0.1520	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003
Energy	4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348
Mobile	9.5700e-003	0.0541	0.1388	4.6000e-004	0.0378	5.5000e-004	0.0383	0.0101	5.1000e-004	0.0106		47.2069	47.2069	2.4900e-003		47.2691
Total	0.1658	0.0924	0.1716	6.9000e-004	0.0378	3.4600e-003	0.0412	0.0101	3.4200e-003	0.0135		93.1700	93.1700	3.3700e-003	8.4000e-004	93.5055

Mitigated Operational

	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					
Area	0.1520	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003
Energy	4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348
Mobile	9.5700e-003	0.0541	0.1388	4.6000e-004	0.0378	5.5000e-004	0.0383	0.0101	5.1000e-004	0.0106		47.2069	47.2069	2.4900e-003		47.2691
Total	0.1658	0.0924	0.1716	6.9000e-004	0.0378	3.4600e-003	0.0412	0.0101	3.4200e-003	0.0135		93.1700	93.1700	3.3700e-003	8.4000e-004	93.5055

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

	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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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	12/4/2017	12/29/2017	5	20	
2	Site Preparation	Site Preparation	12/30/2017	1/12/2018	5	10	
3	Grading	Grading	1/13/2018	2/9/2018	5	20	
4	Building Construction	Building Construction	2/10/2018	1/25/2019	5	250	
5	Paving	Paving	1/26/2019	2/22/2019	5	20	
6	Architectural Coating	Architectural Coating	2/23/2019	3/22/2019	5	20	

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: 10,200; Non-Residential Outdoor: 3,400; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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	4	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	30.00	0.00	8.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated 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	1.2100	10.4978	7.9182	0.0120		0.7318	0.7318		0.6978	0.6978		1,179.3075	1,179.3075	0.2319		1,185.1047
Total	1.2100	10.4978	7.9182	0.0120		0.7318	0.7318		0.6978	0.6978		1,179.3075	1,179.3075	0.2319		1,185.1047

Unmitigated 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	4.1000e-003	0.1352	0.0265	3.2000e-004	6.9900e-003	7.3000e-004	7.7200e-003	1.9200e-003	7.0000e-004	2.6100e-003		33.9456	33.9456	2.5200e-003		34.0086
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	0.1973	0.1458	1.5550	3.5400e-003	0.3353	2.7700e-003	0.3381	0.0889	2.5500e-003	0.0915		352.0943	352.0943	0.0133		352.4272
Total	0.2014	0.2810	1.5815	3.8600e-003	0.3423	3.5000e-003	0.3458	0.0909	3.2500e-003	0.0941		386.0399	386.0399	0.0158		386.4357

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.2 Demolition - 2017

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	1.2100	10.4978	7.9182	0.0120		0.7318	0.7318		0.6978	0.6978	0.0000	1,179.3075	1,179.3075	0.2319		1,185.1047
Total	1.2100	10.4978	7.9182	0.0120		0.7318	0.7318		0.6978	0.6978	0.0000	1,179.3075	1,179.3075	0.2319		1,185.1047

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	4.1000e-003	0.1352	0.0265	3.2000e-004	6.9900e-003	7.3000e-004	7.7200e-003	1.9200e-003	7.0000e-004	2.6100e-003		33.9456	33.9456	2.5200e-003		34.0086
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	0.1973	0.1458	1.5550	3.5400e-003	0.3353	2.7700e-003	0.3381	0.0889	2.5500e-003	0.0915		352.0943	352.0943	0.0133		352.4272
Total	0.2014	0.2810	1.5815	3.8600e-003	0.3423	3.5000e-003	0.3458	0.0909	3.2500e-003	0.0941		386.0399	386.0399	0.0158		386.4357

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.3 Site Preparation - 2017

Unmitigated 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					0.0983	0.0000	0.0983	0.0126	0.0000	0.0126			0.0000			0.0000
Off-Road	0.8524	10.5148	4.3533	9.7700e-003		0.4726	0.4726		0.4347	0.4347		999.5201	999.5201	0.3063		1,007.1764
Total	0.8524	10.5148	4.3533	9.7700e-003	0.0983	0.4726	0.5708	0.0126	0.4347	0.4473		999.5201	999.5201	0.3063		1,007.1764

Unmitigated 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	8.1900e-003	0.2704	0.0531	6.3000e-004	0.1092	1.4600e-003	0.1106	0.0272	1.4000e-003	0.0286		67.8911	67.8911	5.0400e-003		68.0171
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	0.1973	0.1458	1.5550	3.5400e-003	0.3353	2.7700e-003	0.3381	0.0889	2.5500e-003	0.0915		352.0943	352.0943	0.0133		352.4272
Total	0.2055	0.4162	1.6080	4.1700e-003	0.4445	4.2300e-003	0.4487	0.1161	3.9500e-003	0.1201		419.9854	419.9854	0.0184		420.4443

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.3 Site Preparation - 2017

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					0.0983	0.0000	0.0983	0.0126	0.0000	0.0126			0.0000			0.0000
Off-Road	0.8524	10.5148	4.3533	9.7700e-003		0.4726	0.4726		0.4347	0.4347	0.0000	999.5201	999.5201	0.3063		1,007.1764
Total	0.8524	10.5148	4.3533	9.7700e-003	0.0983	0.4726	0.5708	0.0126	0.4347	0.4473	0.0000	999.5201	999.5201	0.3063		1,007.1764

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	8.1900e-003	0.2704	0.0531	6.3000e-004	0.1092	1.4600e-003	0.1106	0.0272	1.4000e-003	0.0286		67.8911	67.8911	5.0400e-003		68.0171
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	0.1973	0.1458	1.5550	3.5400e-003	0.3353	2.7700e-003	0.3381	0.0889	2.5500e-003	0.0915		352.0943	352.0943	0.0133		352.4272
Total	0.2055	0.4162	1.6080	4.1700e-003	0.4445	4.2300e-003	0.4487	0.1161	3.9500e-003	0.1201		419.9854	419.9854	0.0184		420.4443

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.3 Site Preparation - 2018

Unmitigated 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					0.0983	0.0000	0.0983	0.0126	0.0000	0.0126			0.0000			0.0000
Off-Road	0.7858	9.7572	4.2514	9.7600e-003		0.4180	0.4180		0.3846	0.3846		982.7113	982.7113	0.3059		990.3596
Total	0.7858	9.7572	4.2514	9.7600e-003	0.0983	0.4180	0.5163	0.0126	0.3846	0.3971		982.7113	982.7113	0.3059		990.3596

Unmitigated 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	7.1400e-003	0.2498	0.0495	6.2000e-004	0.0140	9.7000e-004	0.0150	3.8300e-003	9.2000e-004	4.7600e-003		67.3134	67.3134	4.9000e-003		67.4360
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	0.1758	0.1270	1.3623	3.4400e-003	0.3353	2.6700e-003	0.3380	0.0889	2.4600e-003	0.0914		342.2038	342.2038	0.0117		342.4957
Total	0.1829	0.3767	1.4118	4.0600e-003	0.3493	3.6400e-003	0.3530	0.0928	3.3800e-003	0.0962		409.5171	409.5171	0.0166		409.9317

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.3 Site Preparation - 2018

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					0.0983	0.0000	0.0983	0.0126	0.0000	0.0126			0.0000			0.0000
Off-Road	0.7858	9.7572	4.2514	9.7600e-003		0.4180	0.4180		0.3846	0.3846	0.0000	982.7113	982.7113	0.3059		990.3596
Total	0.7858	9.7572	4.2514	9.7600e-003	0.0983	0.4180	0.5163	0.0126	0.3846	0.3971	0.0000	982.7113	982.7113	0.3059		990.3596

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	7.1400e-003	0.2498	0.0495	6.2000e-004	0.0140	9.7000e-004	0.0150	3.8300e-003	9.2000e-004	4.7600e-003		67.3134	67.3134	4.9000e-003		67.4360
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	0.1758	0.1270	1.3623	3.4400e-003	0.3353	2.6700e-003	0.3380	0.0889	2.4600e-003	0.0914		342.2038	342.2038	0.0117		342.4957
Total	0.1829	0.3767	1.4118	4.0600e-003	0.3493	3.6400e-003	0.3530	0.0928	3.3800e-003	0.0962		409.5171	409.5171	0.0166		409.9317

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.4 Grading - 2018

Unmitigated 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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943		1,169.350 2	1,169.350 2	0.2254		1,174.985 7
Total	1.0643	9.4295	7.7762	0.0120	0.7528	0.6228	1.3755	0.4138	0.5943	1.0081		1,169.350 2	1,169.350 2	0.2254		1,174.985 7

Unmitigated 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	3.5700e-003	0.1249	0.0247	3.1000e-004	6.9900e-003	4.8000e-004	7.4700e-003	1.9200e-003	4.6000e-004	2.3800e-003		33.6567	33.6567	2.4500e-003		33.7180
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	0.1758	0.1270	1.3623	3.4400e-003	0.3353	2.6700e-003	0.3380	0.0889	2.4600e-003	0.0914		342.2038	342.2038	0.0117		342.4957
Total	0.1793	0.2518	1.3870	3.7500e-003	0.3423	3.1500e-003	0.3455	0.0909	2.9200e-003	0.0938		375.8605	375.8605	0.0141		376.2137

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.4 Grading - 2018

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					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	1.0643	9.4295	7.7762	0.0120		0.6228	0.6228		0.5943	0.5943	0.0000	1,169.350 2	1,169.350 2	0.2254		1,174.985 7
Total	1.0643	9.4295	7.7762	0.0120	0.7528	0.6228	1.3755	0.4138	0.5943	1.0081	0.0000	1,169.350 2	1,169.350 2	0.2254		1,174.985 7

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	3.5700e-003	0.1249	0.0247	3.1000e-004	6.9900e-003	4.8000e-004	7.4700e-003	1.9200e-003	4.6000e-004	2.3800e-003		33.6567	33.6567	2.4500e-003		33.7180
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	0.1758	0.1270	1.3623	3.4400e-003	0.3353	2.6700e-003	0.3380	0.0889	2.4600e-003	0.0914		342.2038	342.2038	0.0117		342.4957
Total	0.1793	0.2518	1.3870	3.7500e-003	0.3423	3.1500e-003	0.3455	0.0909	2.9200e-003	0.0938		375.8605	375.8605	0.0141		376.2137

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.5 Building Construction - 2018

Unmitigated 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	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520		1,146.5323	1,146.5323	0.3569		1,155.4555
Total	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520		1,146.5323	1,146.5323	0.3569		1,155.4555

Unmitigated 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	2.9000e-004	9.9900e-003	1.9800e-003	2.0000e-005	5.9000e-004	4.0000e-005	6.3000e-004	1.6000e-004	4.0000e-005	2.0000e-004		2.6925	2.6925	2.0000e-004		2.6974
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	0.1758	0.1270	1.3623	3.4400e-003	0.3353	2.6700e-003	0.3380	0.0889	2.4600e-003	0.0914		342.2038	342.2038	0.0117		342.4957
Total	0.1760	0.1370	1.3643	3.4600e-003	0.3359	2.7100e-003	0.3386	0.0891	2.5000e-003	0.0916		344.8963	344.8963	0.0119		345.1931

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.5 Building Construction - 2018

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	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520	0.0000	1,146.5323	1,146.5323	0.3569		1,155.4555
Total	1.0848	11.0316	7.7512	0.0114		0.7087	0.7087		0.6520	0.6520	0.0000	1,146.5323	1,146.5323	0.3569		1,155.4555

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	2.9000e-004	9.9900e-003	1.9800e-003	2.0000e-005	5.9000e-004	4.0000e-005	6.3000e-004	1.6000e-004	4.0000e-005	2.0000e-004		2.6925	2.6925	2.0000e-004		2.6974
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	0.1758	0.1270	1.3623	3.4400e-003	0.3353	2.6700e-003	0.3380	0.0889	2.4600e-003	0.0914		342.2038	342.2038	0.0117		342.4957
Total	0.1760	0.1370	1.3643	3.4600e-003	0.3359	2.7100e-003	0.3386	0.0891	2.5000e-003	0.0916		344.8963	344.8963	0.0119		345.1931

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.5 Building Construction - 2019

Unmitigated 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	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892
Total	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569		1,127.6696	1,127.6696	0.3568		1,136.5892

Unmitigated 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	2.7000e-004	9.4400e-003	1.9300e-003	2.0000e-005	5.7000e-003	4.0000e-005	5.7400e-003	1.4200e-003	3.0000e-005	1.4500e-003		2.6606	2.6606	1.9000e-004		2.6655
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	0.1600	0.1120	1.2162	3.3300e-003	0.3353	2.6100e-003	0.3379	0.0889	2.4000e-003	0.0913		331.3967	331.3967	0.0104		331.6556
Total	0.1602	0.1214	1.2181	3.3500e-003	0.3410	2.6500e-003	0.3437	0.0904	2.4300e-003	0.0928		334.0574	334.0574	0.0105		334.3210

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.5 Building Construction - 2019

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	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892
Total	0.9576	9.8207	7.5432	0.0114		0.6054	0.6054		0.5569	0.5569	0.0000	1,127.6696	1,127.6696	0.3568		1,136.5892

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	2.7000e-004	9.4400e-003	1.9300e-003	2.0000e-005	5.7000e-003	4.0000e-005	5.7400e-003	1.4200e-003	3.0000e-005	1.4500e-003		2.6606	2.6606	1.9000e-004		2.6655
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	0.1600	0.1120	1.2162	3.3300e-003	0.3353	2.6100e-003	0.3379	0.0889	2.4000e-003	0.0913		331.3967	331.3967	0.0104		331.6556
Total	0.1602	0.1214	1.2181	3.3500e-003	0.3410	2.6500e-003	0.3437	0.0904	2.4300e-003	0.0928		334.0574	334.0574	0.0105		334.3210

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.6 Paving - 2019

Unmitigated 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	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106		1,055.1823	1,055.1823	0.3016		1,062.7231
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106		1,055.1823	1,055.1823	0.3016		1,062.7231

Unmitigated 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	3.3800e-003	0.1180	0.0241	3.1000e-004	6.9900e-003	4.4000e-004	7.4300e-003	1.9200e-003	4.2000e-004	2.3400e-003		33.2580	33.2580	2.4200e-003		33.3184
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	0.1600	0.1120	1.2162	3.3300e-003	0.3353	2.6100e-003	0.3379	0.0889	2.4000e-003	0.0913		331.3967	331.3967	0.0104		331.6556
Total	0.1634	0.2300	1.2403	3.6400e-003	0.3423	3.0500e-003	0.3454	0.0909	2.8200e-003	0.0937		364.6547	364.6547	0.0128		364.9740

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.6 Paving - 2019

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	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106	0.0000	1,055.1823	1,055.1823	0.3016		1,062.7231
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8300	7.8446	7.1478	0.0113		0.4425	0.4425		0.4106	0.4106	0.0000	1,055.1823	1,055.1823	0.3016		1,062.7231

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	3.3800e-003	0.1180	0.0241	3.1000e-004	6.9900e-003	4.4000e-004	7.4300e-003	1.9200e-003	4.2000e-004	2.3400e-003		33.2580	33.2580	2.4200e-003		33.3184
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	0.1600	0.1120	1.2162	3.3300e-003	0.3353	2.6100e-003	0.3379	0.0889	2.4000e-003	0.0913		331.3967	331.3967	0.0104		331.6556
Total	0.1634	0.2300	1.2403	3.6400e-003	0.3423	3.0500e-003	0.3454	0.0909	2.8200e-003	0.0937		364.6547	364.6547	0.0128		364.9740

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.7 Architectural Coating - 2019

Unmitigated 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					
Archit. Coating	3.1518					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	3.4182	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423

Unmitigated 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	3.3800e-003	0.1180	0.0241	3.1000e-004	6.9900e-003	4.4000e-004	7.4300e-003	1.9200e-003	4.2000e-004	2.3400e-003		33.2580	33.2580	2.4200e-003		33.3184
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	0.1600	0.1120	1.2162	3.3300e-003	0.3353	2.6100e-003	0.3379	0.0889	2.4000e-003	0.0913		331.3967	331.3967	0.0104		331.6556
Total	0.1634	0.2300	1.2403	3.6400e-003	0.3423	3.0500e-003	0.3454	0.0909	2.8200e-003	0.0937		364.6547	364.6547	0.0128		364.9740

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

3.7 Architectural Coating - 2019

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					
Archit. Coating	3.1518					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	3.4182	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423

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	3.3800e-003	0.1180	0.0241	3.1000e-004	6.9900e-003	4.4000e-004	7.4300e-003	1.9200e-003	4.2000e-004	2.3400e-003		33.2580	33.2580	2.4200e-003		33.3184
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	0.1600	0.1120	1.2162	3.3300e-003	0.3353	2.6100e-003	0.3379	0.0889	2.4000e-003	0.0913		331.3967	331.3967	0.0104		331.6556
Total	0.1634	0.2300	1.2403	3.6400e-003	0.3423	3.0500e-003	0.3454	0.0909	2.8200e-003	0.0937		364.6547	364.6547	0.0128		364.9740

4.0 Operational Detail - Mobile

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

4.1 Mitigation Measures Mobile

	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					
Mitigated	9.5700e-003	0.0541	0.1388	4.6000e-004	0.0378	5.5000e-004	0.0383	0.0101	5.1000e-004	0.0106		47.2069	47.2069	2.4900e-003		47.2691
Unmitigated	9.5700e-003	0.0541	0.1388	4.6000e-004	0.0378	5.5000e-004	0.0383	0.0101	5.1000e-004	0.0106		47.2069	47.2069	2.4900e-003		47.2691

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	4.01	4.01	4.01	17,766	17,766
Total	4.01	4.01	4.01	17,766	17,766

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.546418	0.044132	0.199182	0.124467	0.017484	0.005870	0.020172	0.031831	0.001999	0.002027	0.004724	0.000704	0.000991

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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					
NaturalGas Mitigated	4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348
NaturalGas Unmitigated	4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	390.674	4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348
Total		4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.390674	4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348
Total		4.2100e-003	0.0383	0.0322	2.3000e-004		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003		45.9616	45.9616	8.8000e-004	8.4000e-004	46.2348

6.0 Area Detail

6.1 Mitigation Measures Area

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

	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					
Mitigated	0.1520	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003
Unmitigated	0.1520	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0173					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1346					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.0000e-005	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003
Total	0.1520	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

6.2 Area by SubCategory

Mitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0173					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.1346					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.0000e-005	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003
Total	0.1520	1.0000e-005	7.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.4900e-003	1.4900e-003	0.0000		1.5900e-003

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Eastwood Recycled Water Pump Station - South Coast AQMD Air District, Winter

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

APPENDIX B

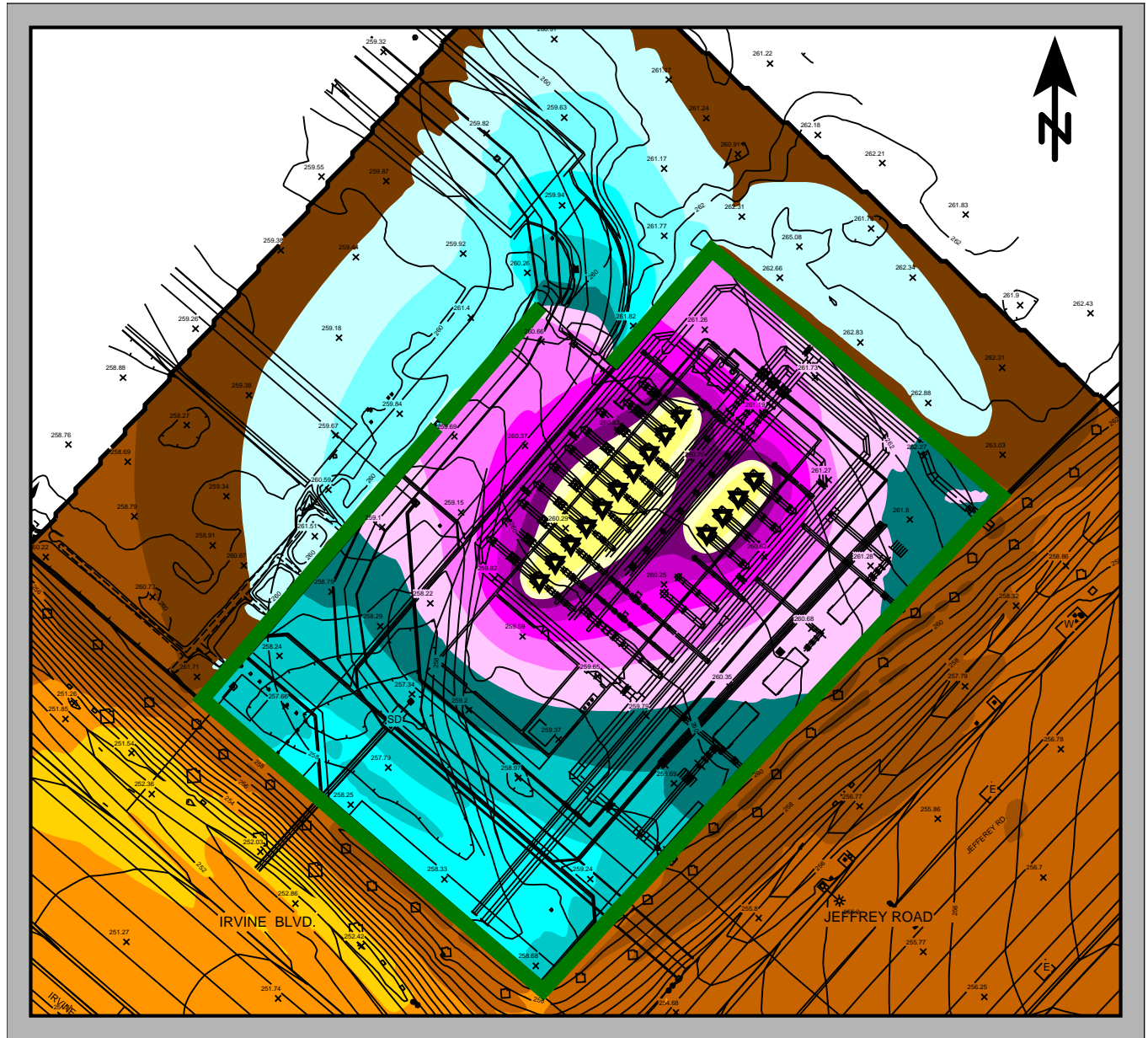
NOISE

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Eastwood Recycled Water Pump Station

Project No. IRW1601

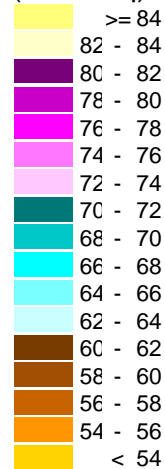
Proposed Operational Impacts



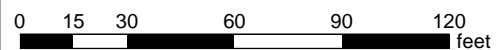
Signs and symbols

- Point source
- Wall
- Noise calculation area

Noise Levels (dBA Leq)



Length scale 1:50



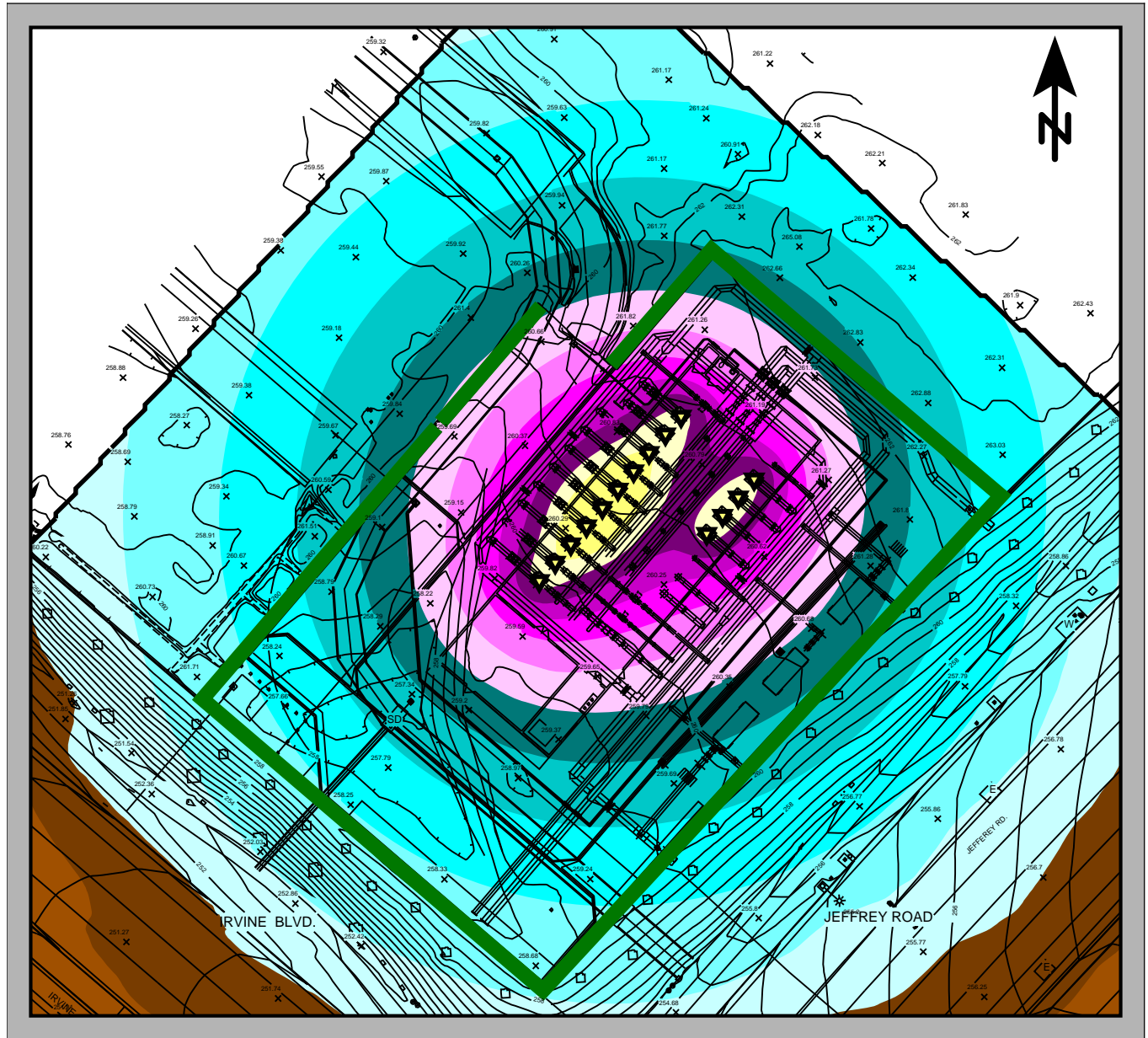
Date: 10/17/2017

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Eastwood Recycled Water Pump Station

Project No. IRW1601

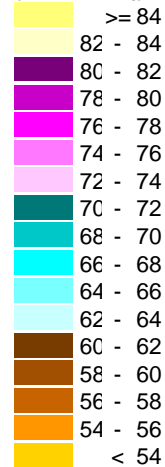
Proposed Operational Impacts - 2nd Floor



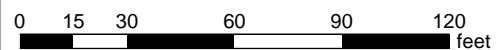
Signs and symbols

-  Point source
-  Wall
-  Noise calculation area

Noise Levels (dBA Leq)



Length scale 1:50



Date: 10/17/2017

B -254