Appendix A

Detailed Route Mapset

Attachment A: Detailed Route Map 1 of 32

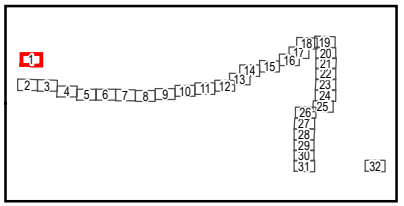
Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure

- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
- Distribution Removal
- Underground to Overhead Conversion with Distribution Underbuild
- Underground Distribution Intercept

- Approximate Disturbance Area*
- Staging Yard
- Access Road Turnaround/Staging Yard
- Pulling Site
- Stringing Site

- Existing Access Road
- Overland Travel Route
- Access Road Modification



* Area is equivalent to the total estimated square footage of disturbance at each pole, but the actual shape of the work area will be determined during the final design.

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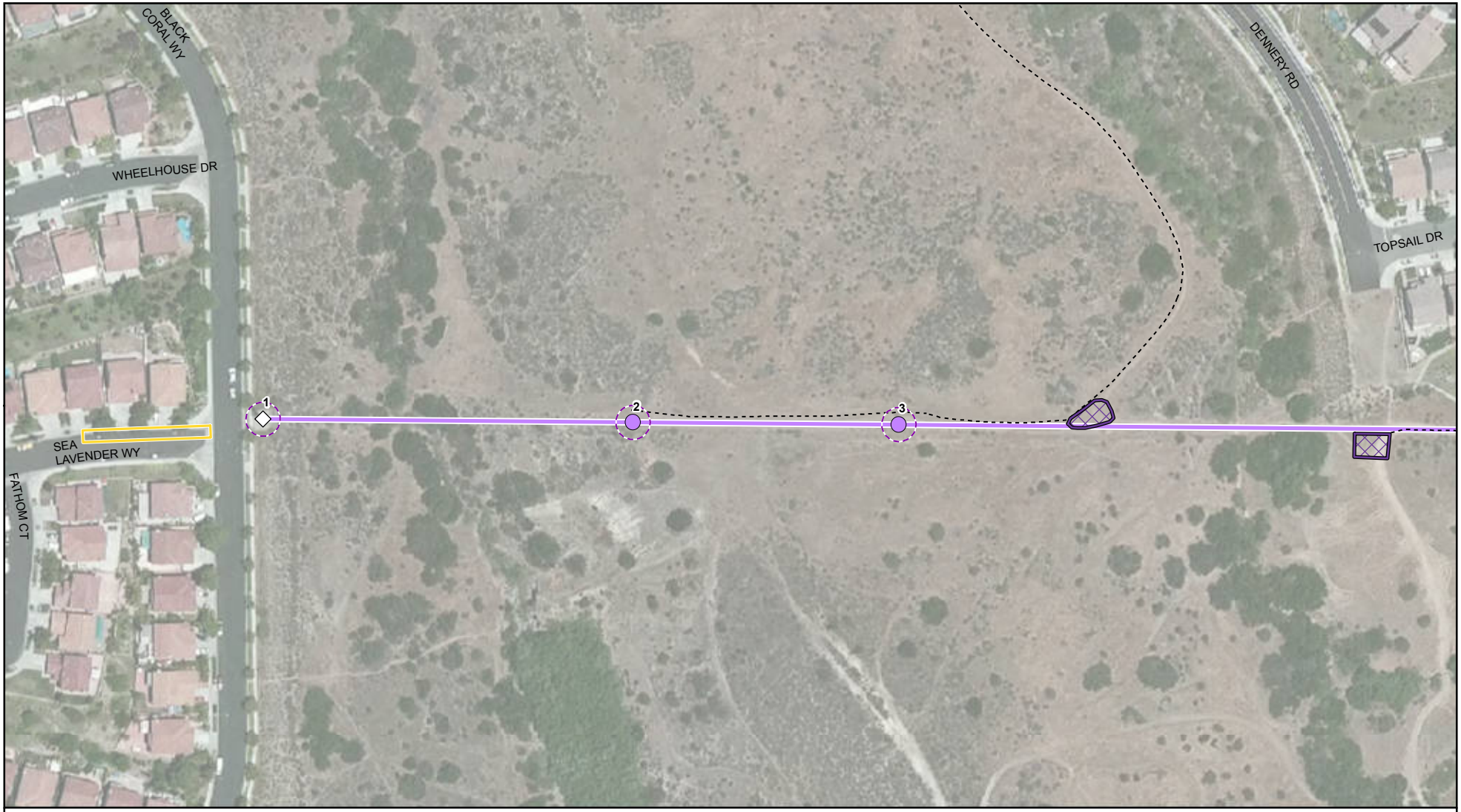
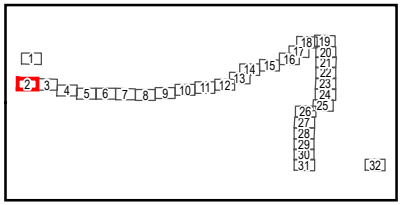
0 200 400 Feet



Attachment A: Detailed Route Map 2 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
- Distribution Removal
- Underground to Overhead Conversion with Distribution Underbuild
- Underground Distribution Intercept
- Approximate Disturbance Area*
- Staging Yard
- Access Road Turnaround/Staging Yard
- Pulling Site
- Stringing Site
- Existing Access Road
- Overland Travel Route
- Access Road Modification



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0 200 400 Feet

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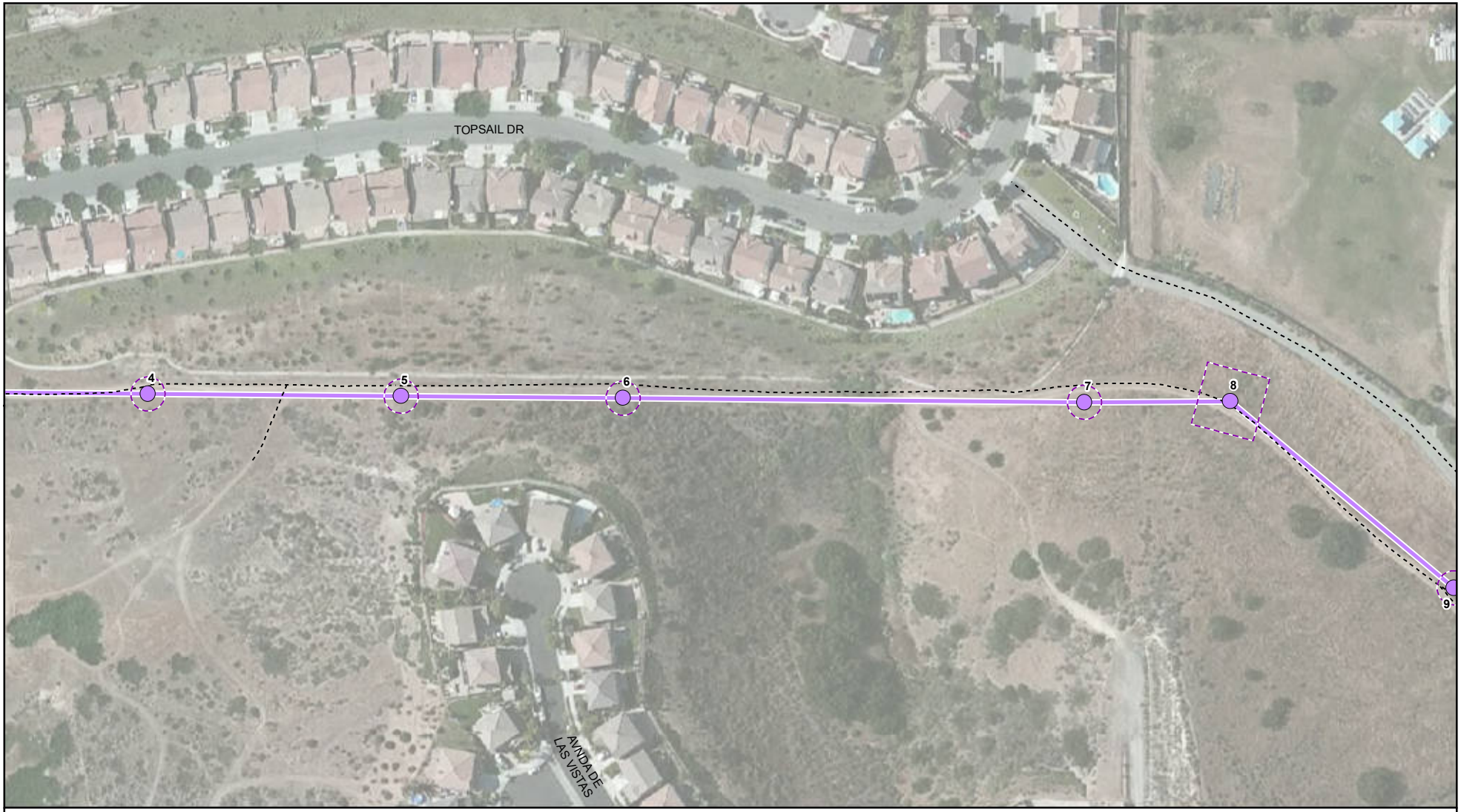
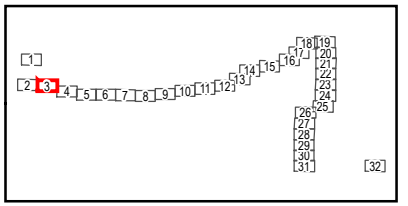


Attachment A: Detailed Route Map 3 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
- Distribution Removal
- Underground to Overhead Conversion with Distribution Underbuild
- Underground Distribution Intercept
- Approximate Disturbance Area*
- Staging Yard
- Access Road Turnaround/Staging Yard
- Pulling Site
- Stringing Site
- Existing Access Road
- Overland Travel Route
- Access Road Modification



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0 200 400 Feet

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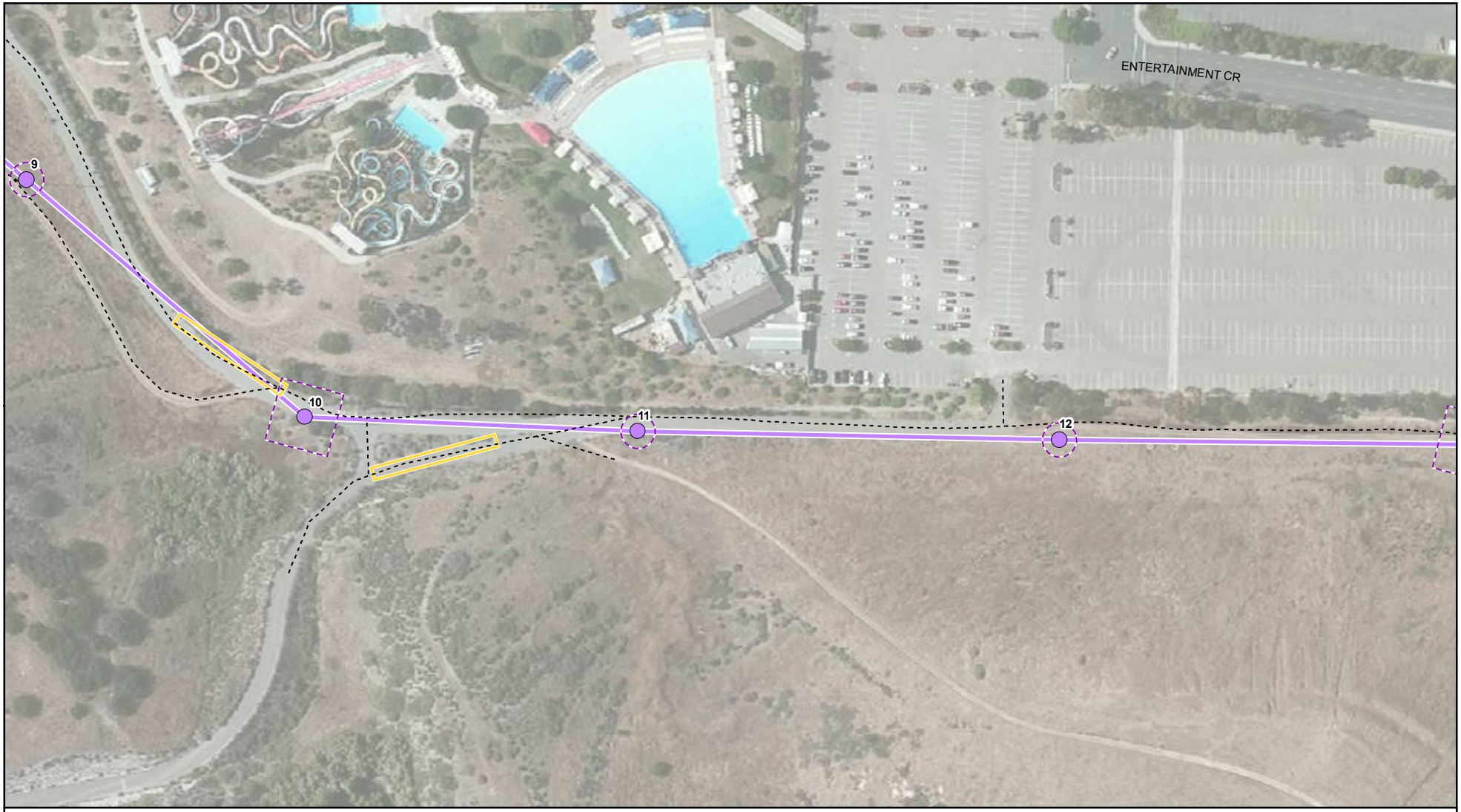
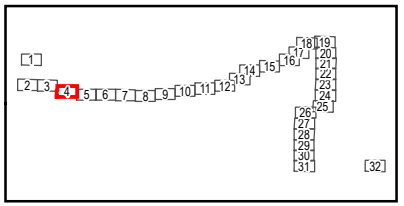
INSIGNIA ENVIRONMENTAL



Attachment A: Detailed Route Map 4 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
- Distribution Removal
- Underground to Overhead Conversion with Distribution Underbuild
- Underground Distribution Intercept
- Approximate Disturbance Area*
- Staging Yard
- Access Road Turnaround/Staging Yard
- Pulling Site
- Stringing Site
- Existing Access Road
- Overland Travel Route
- Access Road Modification



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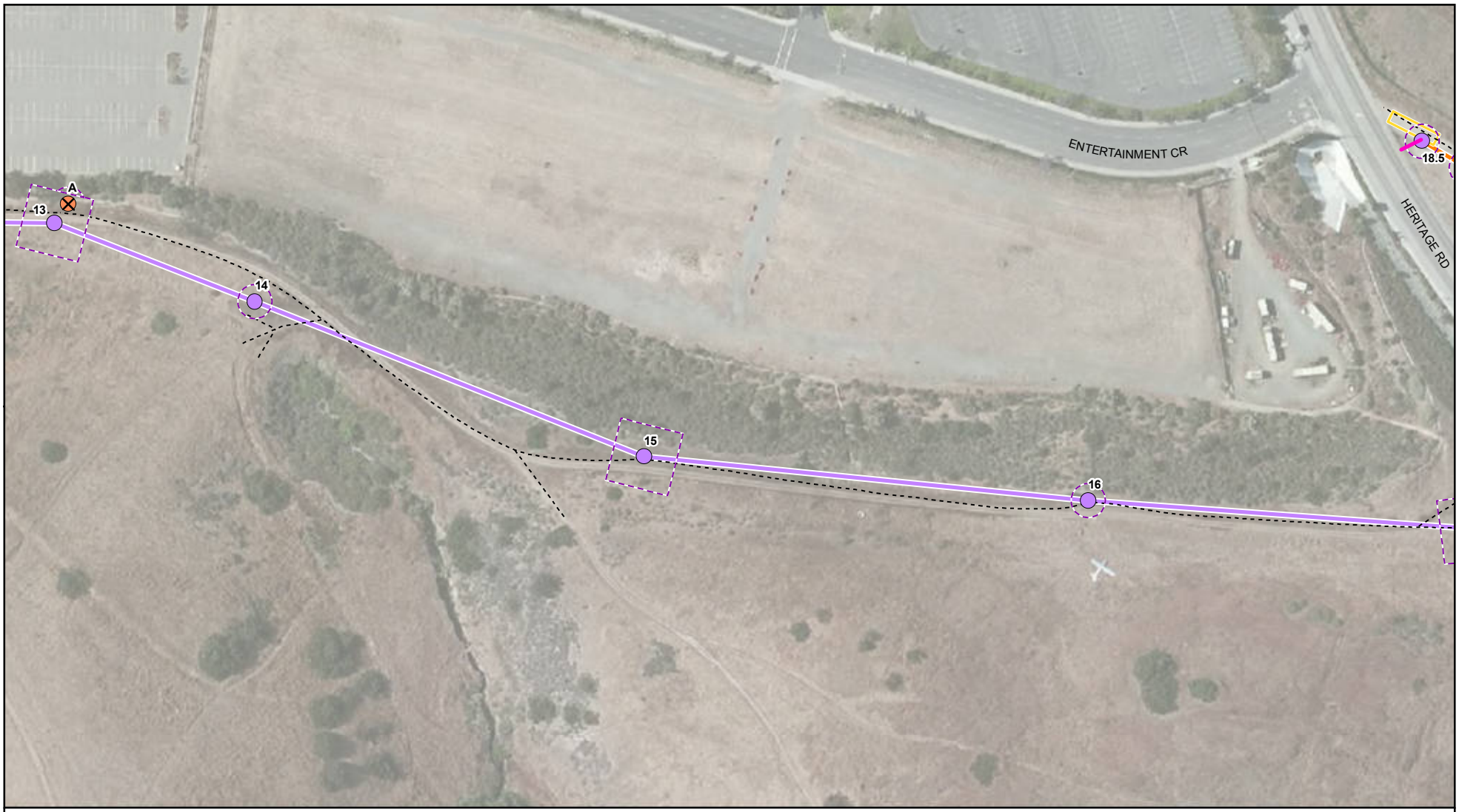
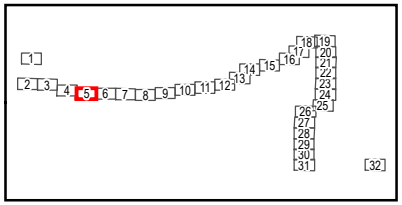


Attachment A: Detailed Route Map 5 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
- Distribution Removal
- Underground to Overhead Conversion with Distribution Underbuild
- Underground Distribution Intercept
- Approximate Disturbance Area*
- Staging Yard
- Access Road Turnaround/Staging Yard
- Pulling Site
- Stringing Site
- Existing Access Road
- Overland Travel Route
- Access Road Modification



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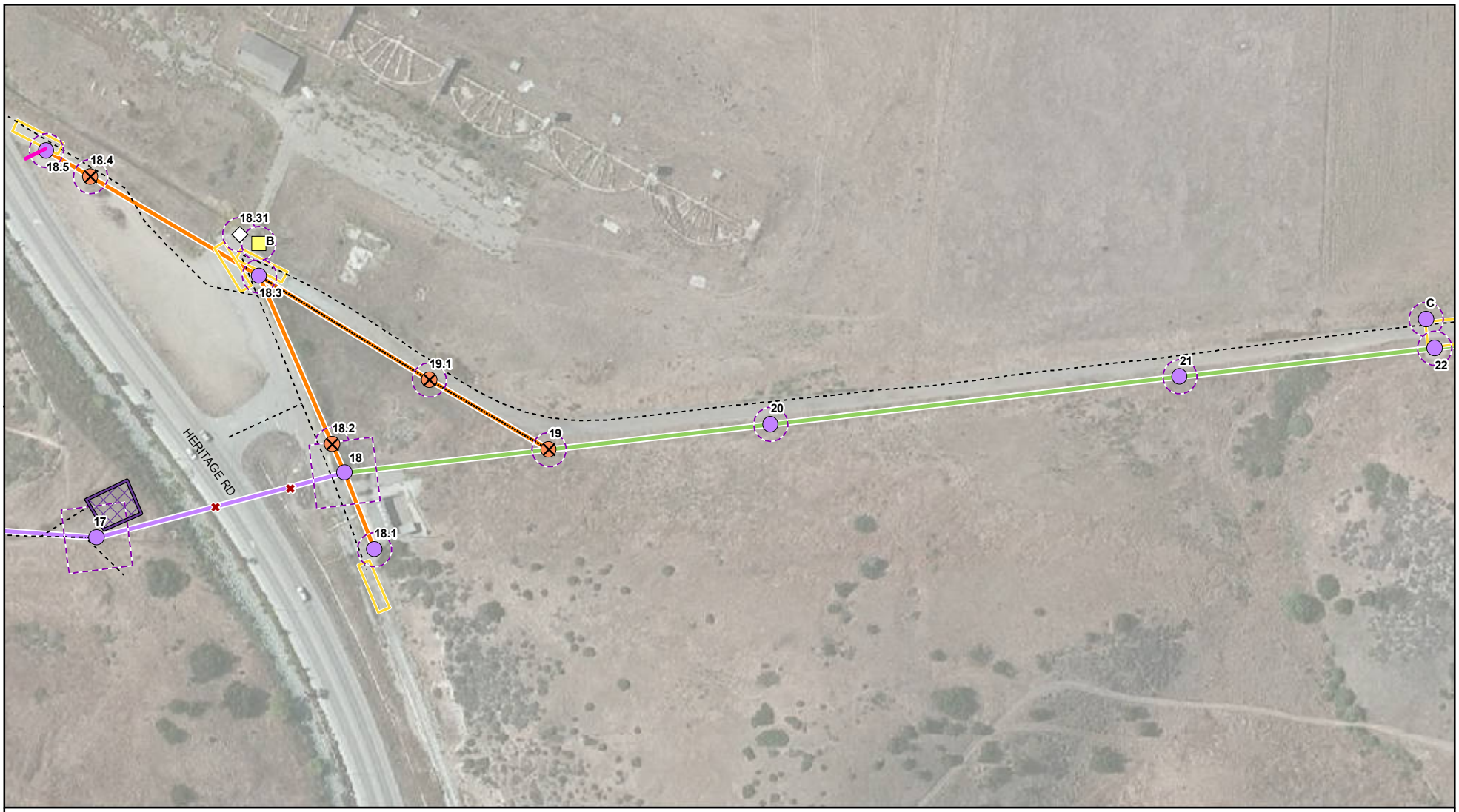

Attachment A: Detailed Route Map 6 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
- Distribution Removal
- Underground to Overhead Conversion with Distribution Underbuild
- Underground Distribution Intercept
- Approximate Disturbance Area*
- Staging Yard
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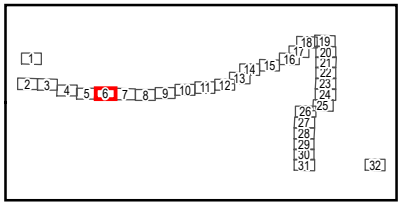
- Existing Access Road
- Overland Travel Route
- Access Road Modification



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0 200 400 Feet

Attachment A: Detailed Route Map 7 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
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- Staging Yard
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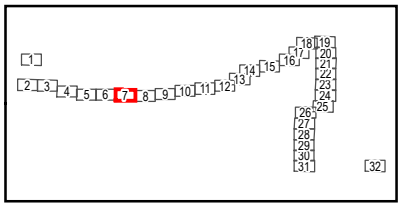
- Stringing Site
- Existing Access Road
- Overland Travel Route
- Access Road Modification



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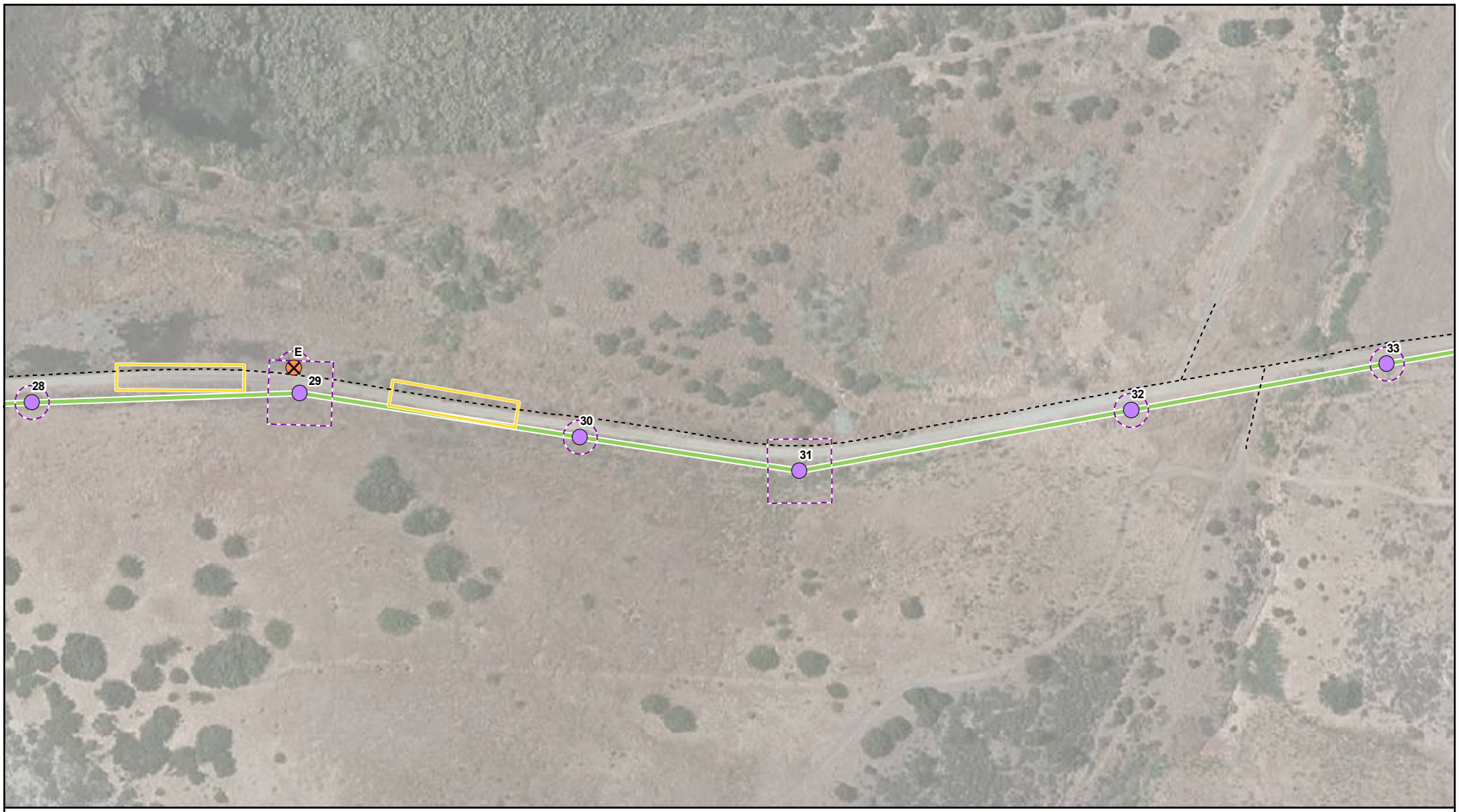

Attachment A: Detailed Route Map 8 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
- Distribution Removal
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- Access Road Turnaround/Staging Yard
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- Stringing Site
- Existing Access Road
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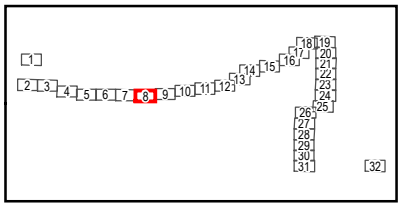
- Access Road Modification



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0 200 400 Feet

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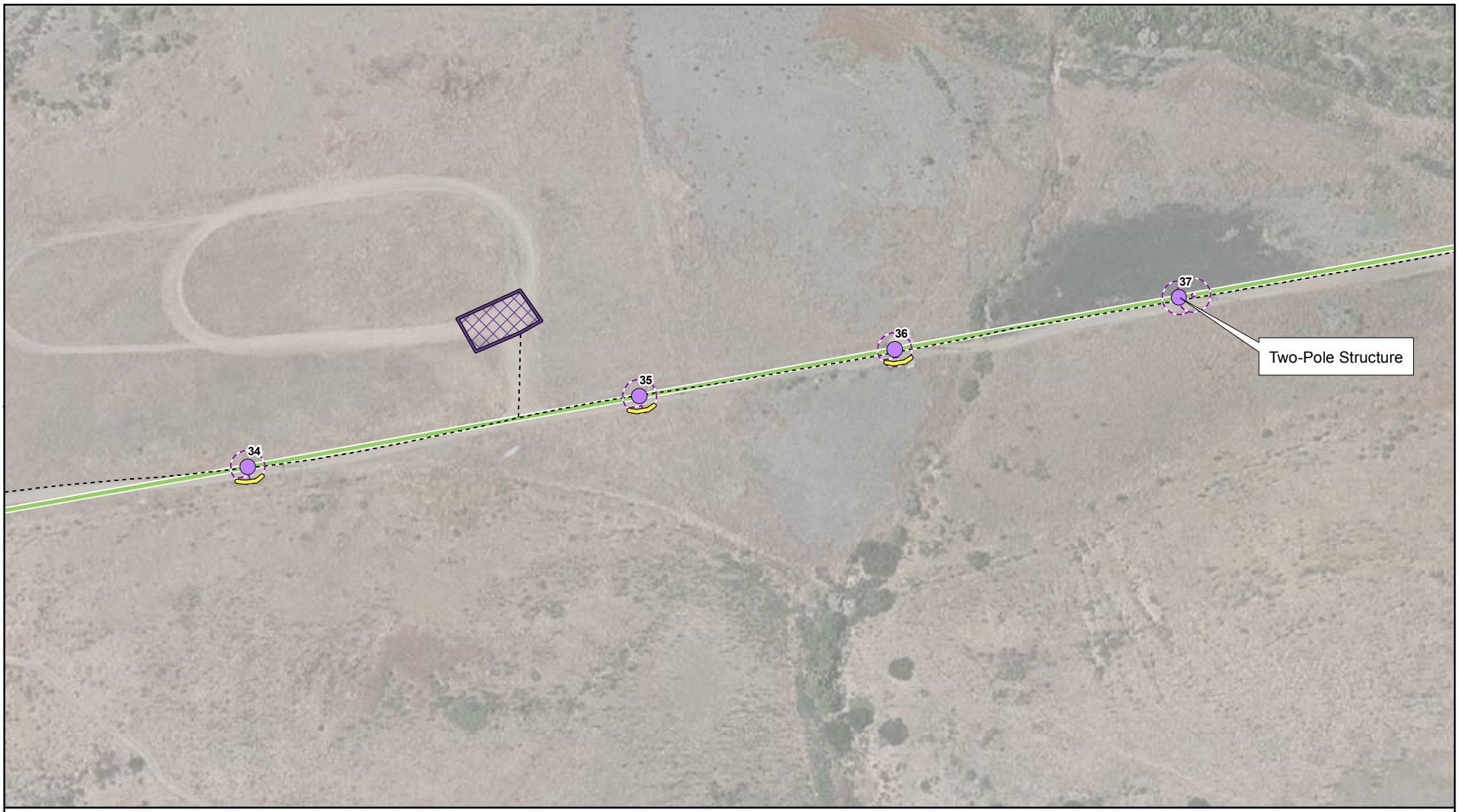

Attachment A: Detailed Route Map 9 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
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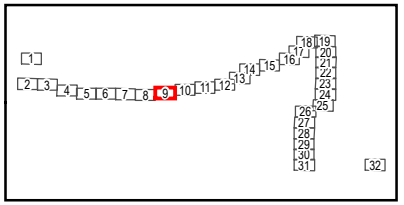
- Underground Distribution Intercept
- Approximate Disturbance Area*
- Staging Yard
- Access Road Turnaround/Staging Yard
- Pulling Site
- Stringing Site
- Existing Access Road
- Overland Travel Route
- Access Road Modification



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0 200 400 Feet

Attachment A: Detailed Route Map 10 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
- Distribution Removal
- Underground to Overhead Conversion with Distribution Underbuild
- Underground Distribution Intercept
- Approximate Disturbance Area*
- Staging Yard
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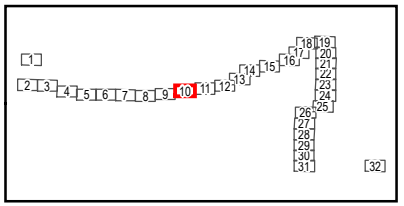
- Stringing Site
- Existing Access Road
- Overland Travel Route
- Access Road Modification



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0 200 400 Feet

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Attachment A: Detailed Route Map 11 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
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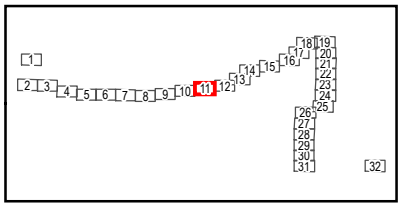
- Approximate Disturbance Area*
- Staging Yard
- Access Road Turnaround/Staging Yard
- Pulling Site
- Stringing Site
- Existing Access Road
- Overland Travel Route
- Access Road Modification



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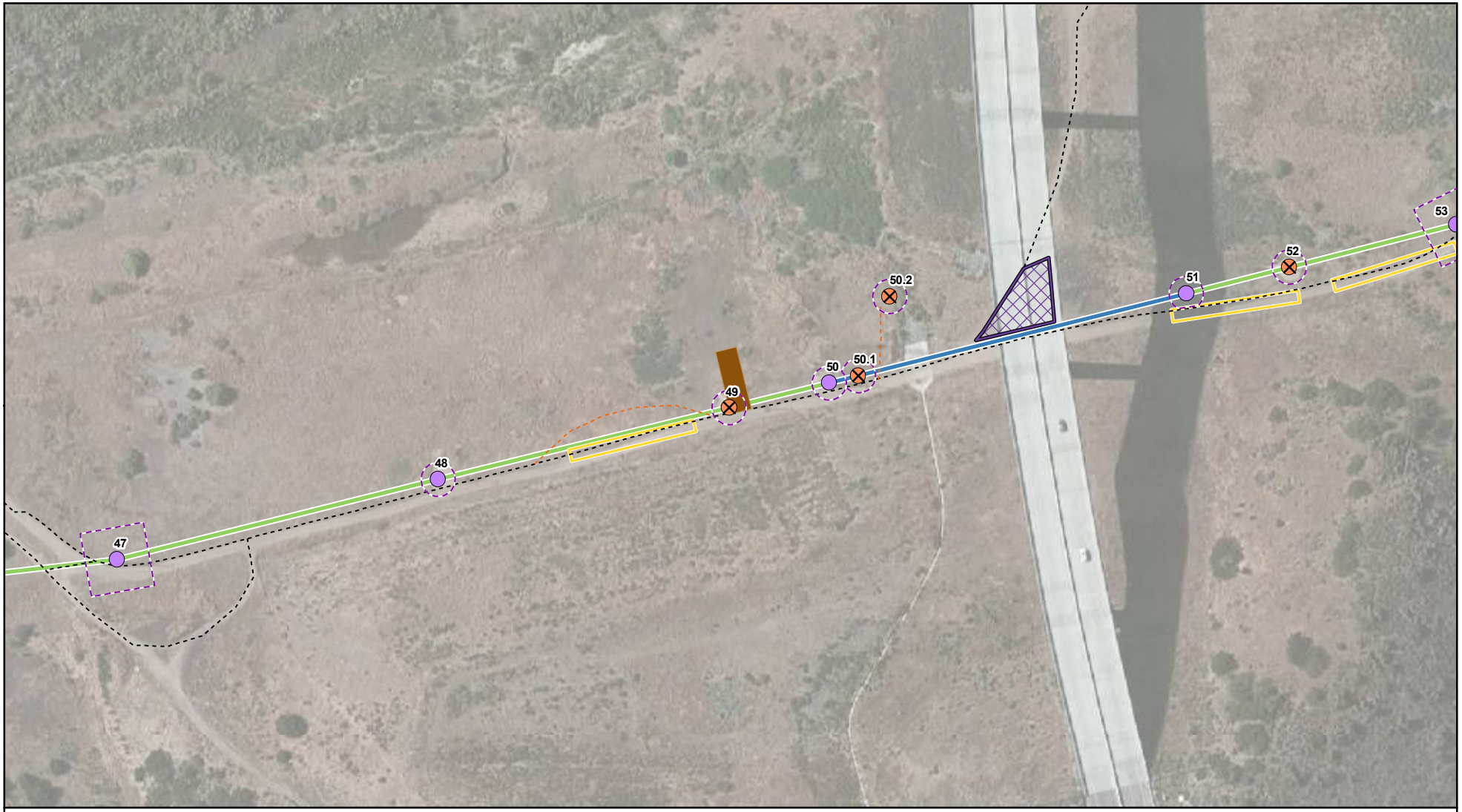
0 200 400 Feet



Attachment A: Detailed Route Map 12 of 32

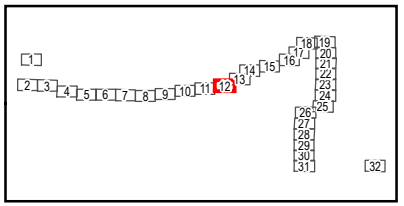
Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure

- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
- Distribution Removal
- Underground to Overhead Conversion with Distribution Underbuild
- Underground Distribution Intercept

- Approximate Disturbance Area*
- Staging Yard
- Access Road Turnaround/Staging Yard
- Pulling Site
- Stringing Site

- Existing Access Road
- Overland Travel Route
- Access Road Modification



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0 200 400 Feet

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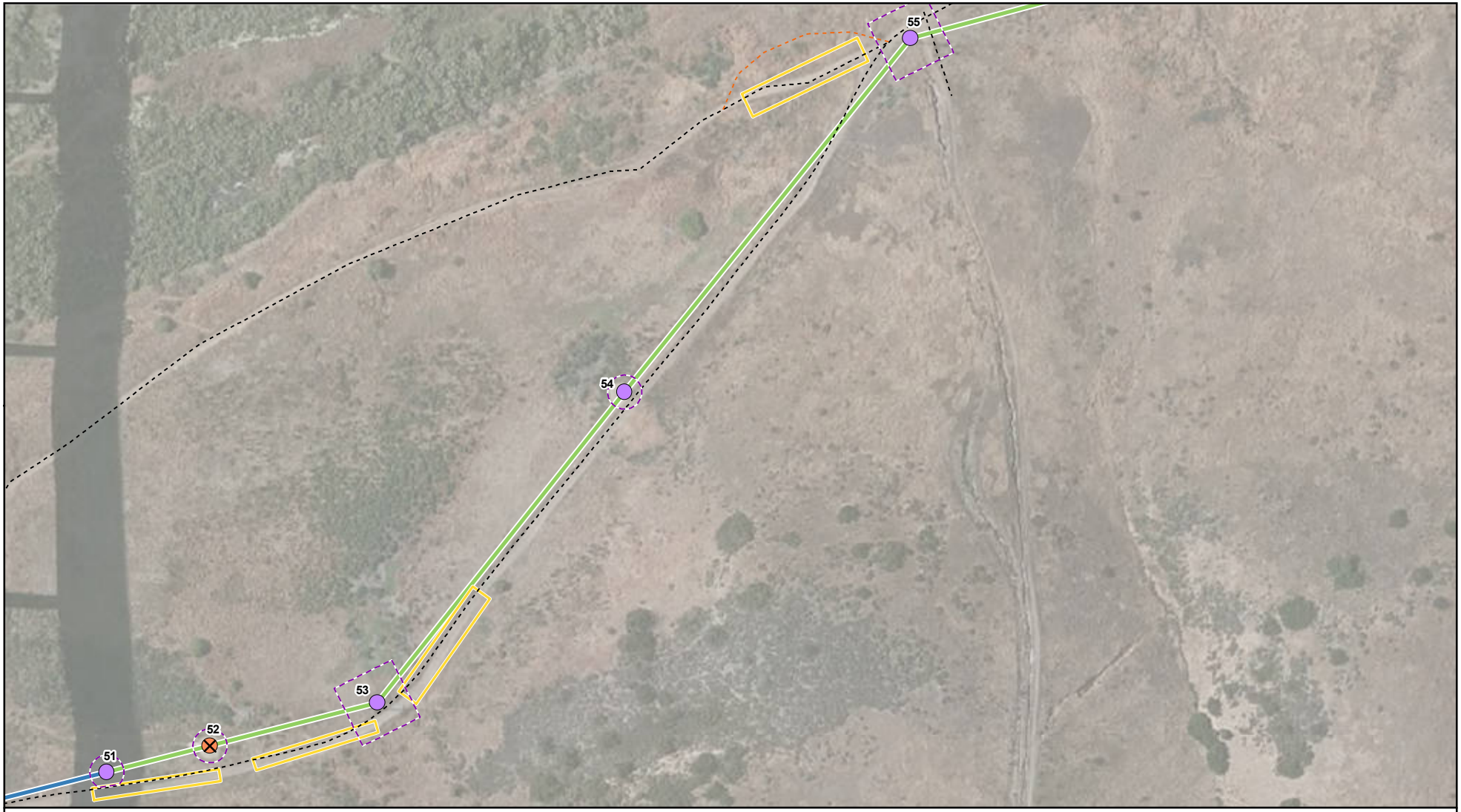
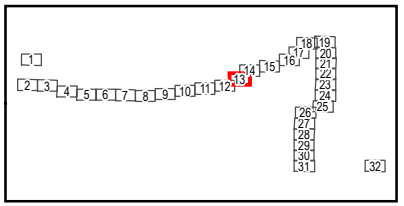


Attachment A: Detailed Route Map 13 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
- Distribution Removal
- Underground to Overhead Conversion with Distribution Underbuild
- Underground Distribution Intercept
- Approximate Disturbance Area*
- Staging Yard
- Access Road Turnaround/Staging Yard
- Pulling Site
- Stringing Site
- Existing Access Road
- Overland Travel Route
- Access Road Modification



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1:2,000

0 200 400 Feet

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Attachment A: Detailed Route Map 14 of 32

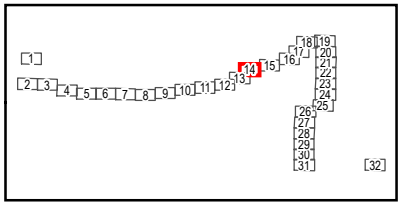
Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure

- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
- Distribution Removal
- Underground to Overhead Conversion with Distribution Underbuild
- Underground Distribution Intercept

- Approximate Disturbance Area*
- Staging Yard
- Access Road Turnaround/Staging Yard
- Pulling Site
- Stringing Site

- Existing Access Road
- Overland Travel Route
- Access Road Modification



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0 200 400 Feet

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INSIGNIA ENVIRONMENTAL

Attachment A: Detailed Route Map 15 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure

- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
- Distribution Removal
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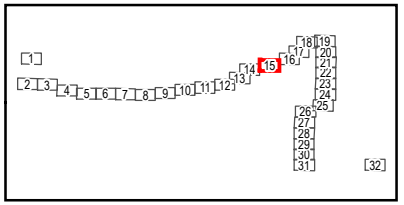
- Approximate Disturbance Area*
- Staging Yard
- Access Road Turnaround/Staging Yard
- Pulling Site
- Stringing Site

- Existing Access Road
- Overland Travel Route
- Access Road Modification



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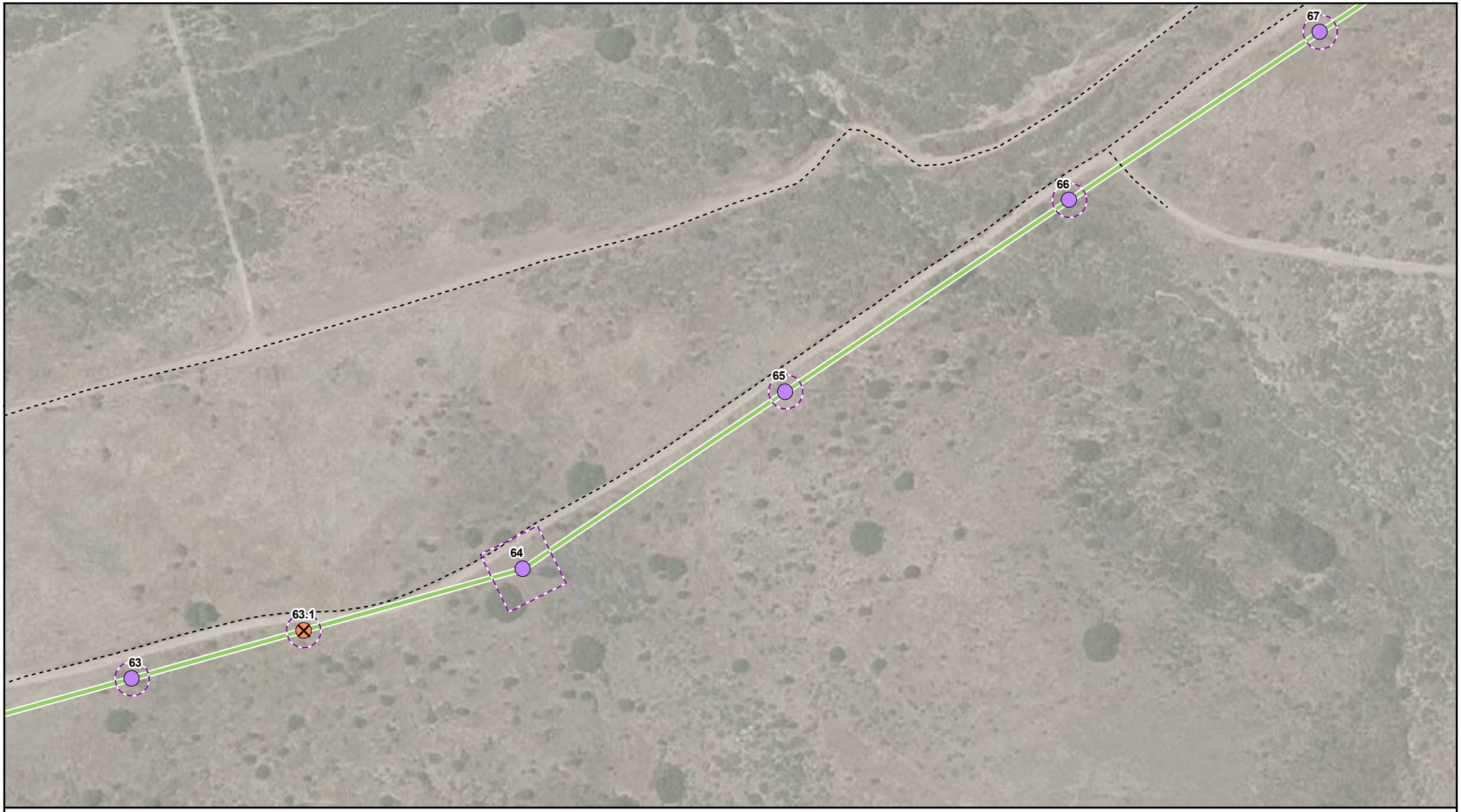
0 200 400 Feet



Attachment A: Detailed Route Map 16 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
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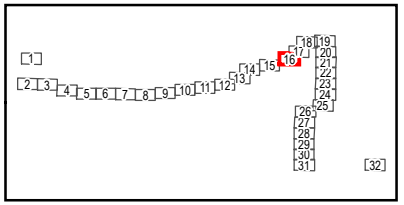
- Access Road Modification



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1:2,000

0 200 400 Feet

Attachment A: Detailed Route Map 17 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
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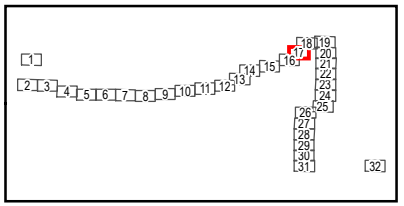

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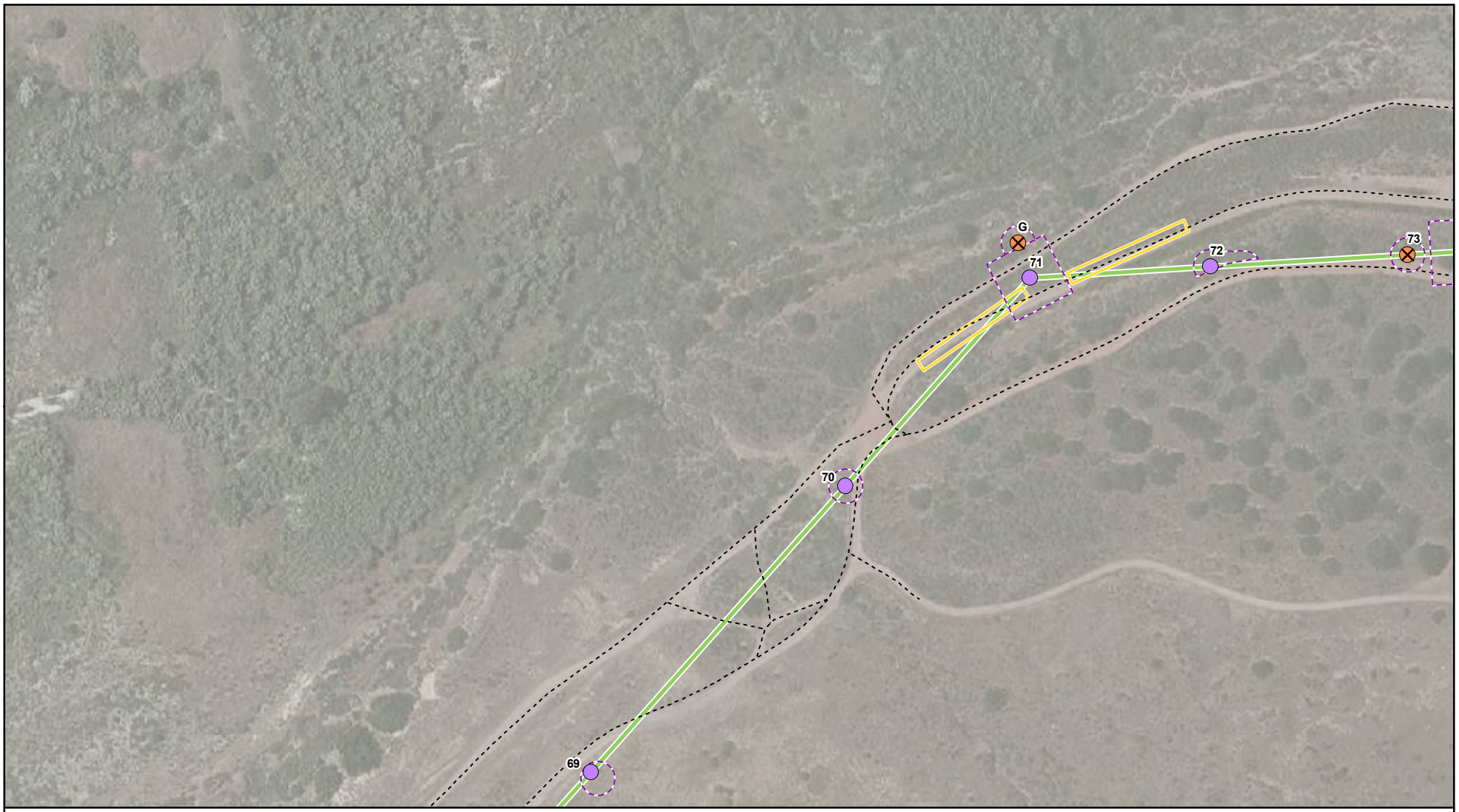
SDGE A Sempra Energy utility
INSIGNIA ENVIRONMENTAL



Attachment A: Detailed Route Map 18 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
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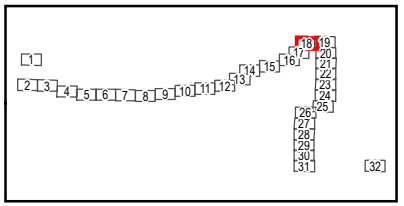
- Pulling Site
- Stringing Site
- Existing Access Road
- Overland Travel Route
- Access Road Modification



* Area is equivalent to the total estimated square footage of disturbance at each pole, but the actual shape of the work area will be determined during the final design.

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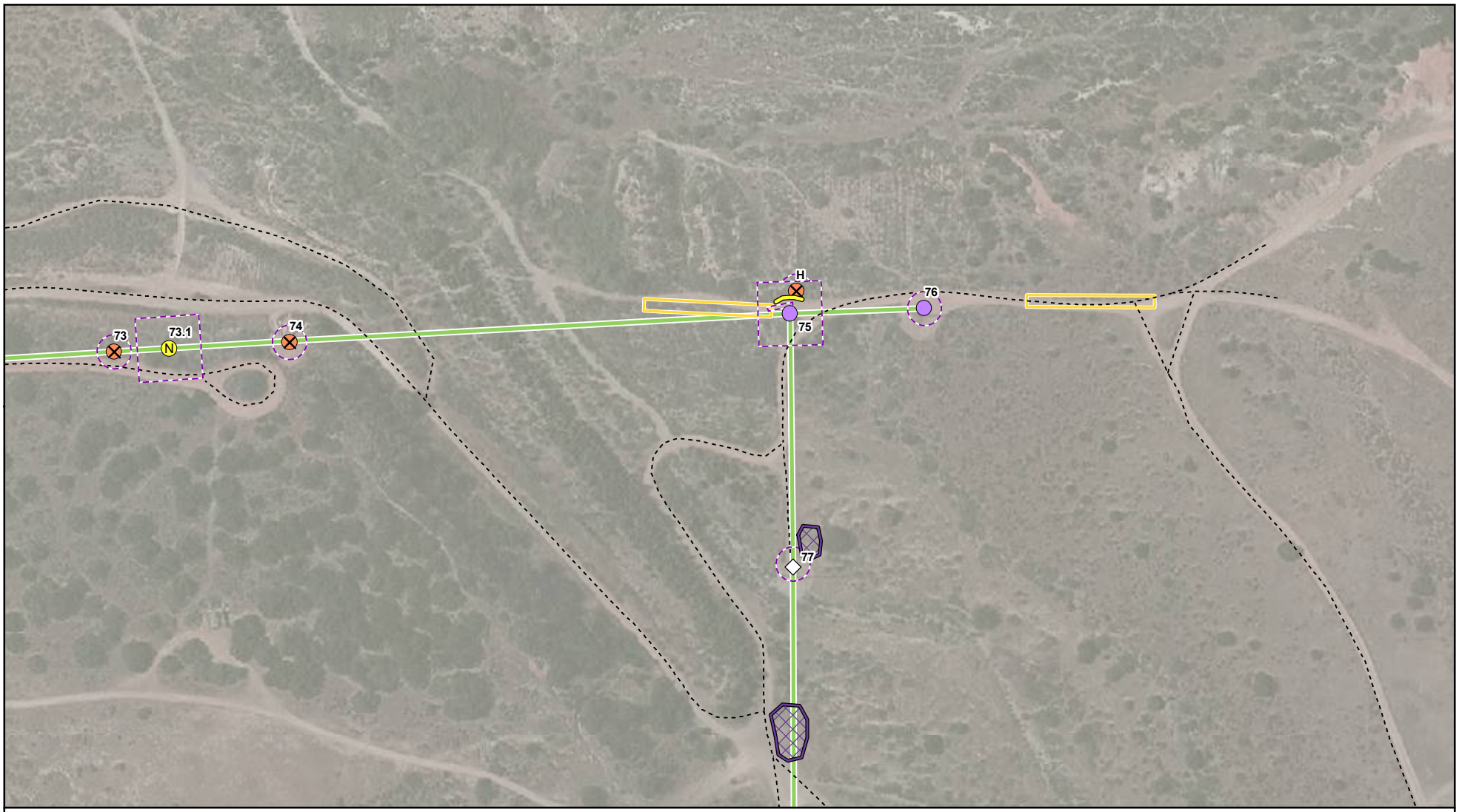


Attachment A: Detailed Route Map 19 of 32

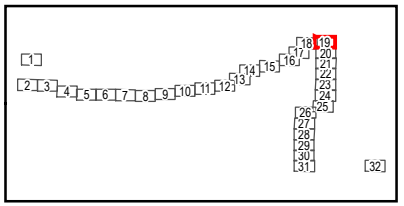
Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure

- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Wood-to-Steel Replacement Distribution Only
- Distribution Removal
- Underground to Overhead Conversion with Distribution Underbuild
- Underground Distribution Intercept

- Approximate Disturbance Area*
- Staging Yard
- Access Road Turnaround/Staging Yard
- Pulling Site
- Stringing Site

- Existing Access Road
- Overland Travel Route
- Access Road Modification



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Attachment A: Detailed Route Map 20 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
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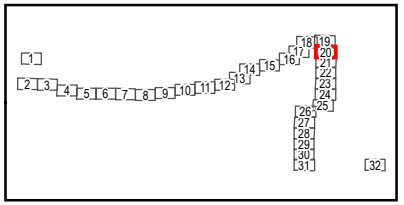

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INSIGNIA ENVIRONMENTAL

Attachment A: Detailed Route Map 21 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure

- Wood-to-Steel Replacement
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- Stringing Site

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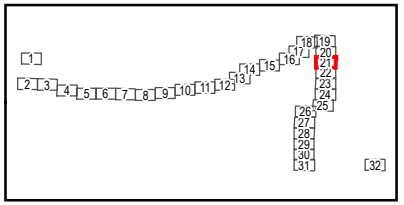
- Access Road Modification



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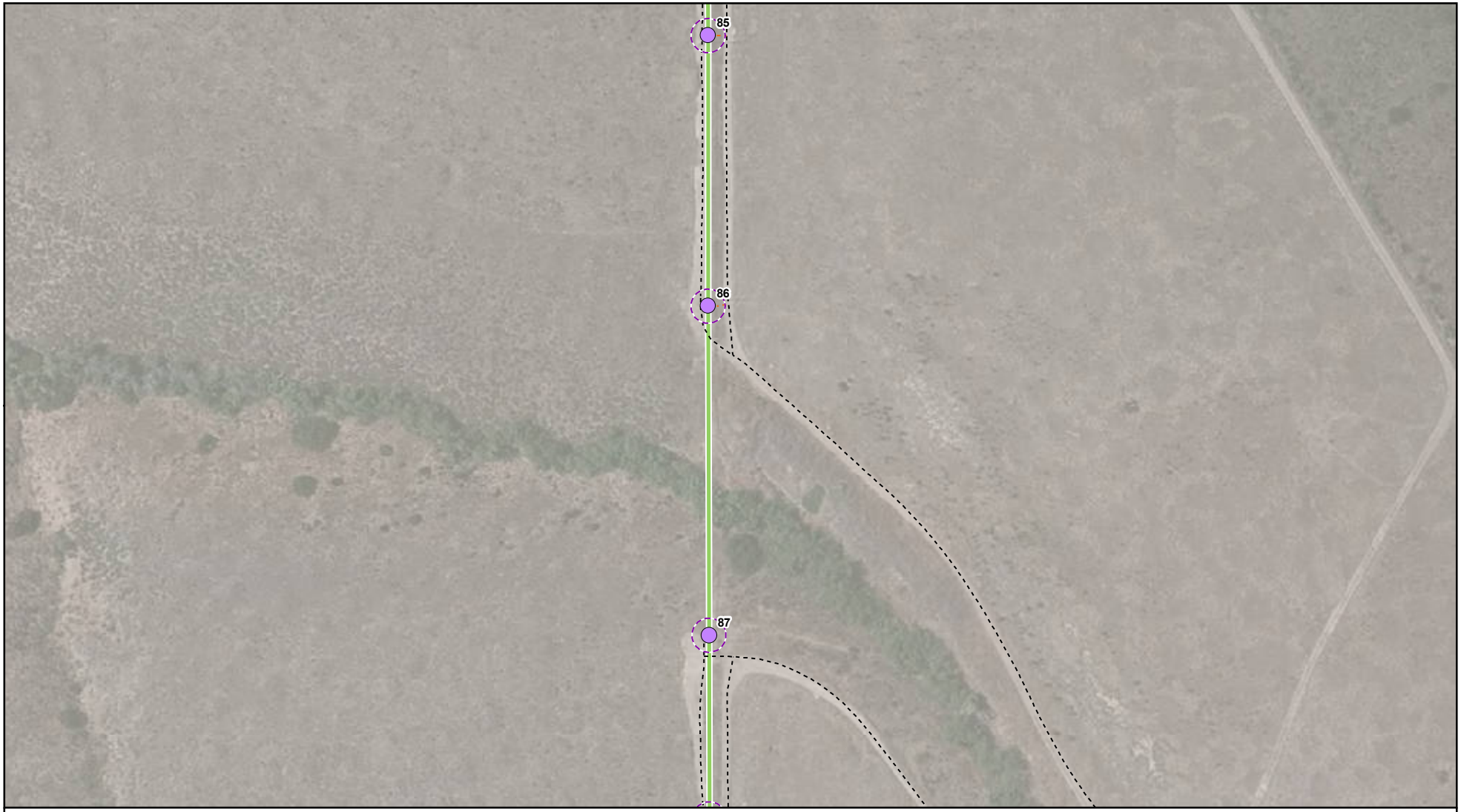

Attachment A: Detailed Route Map 22 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure

- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
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- Staging Yard
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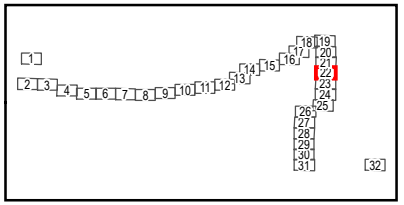
- Stringing Site

- Existing Access Road
- Overland Travel Route
- Access Road Modification



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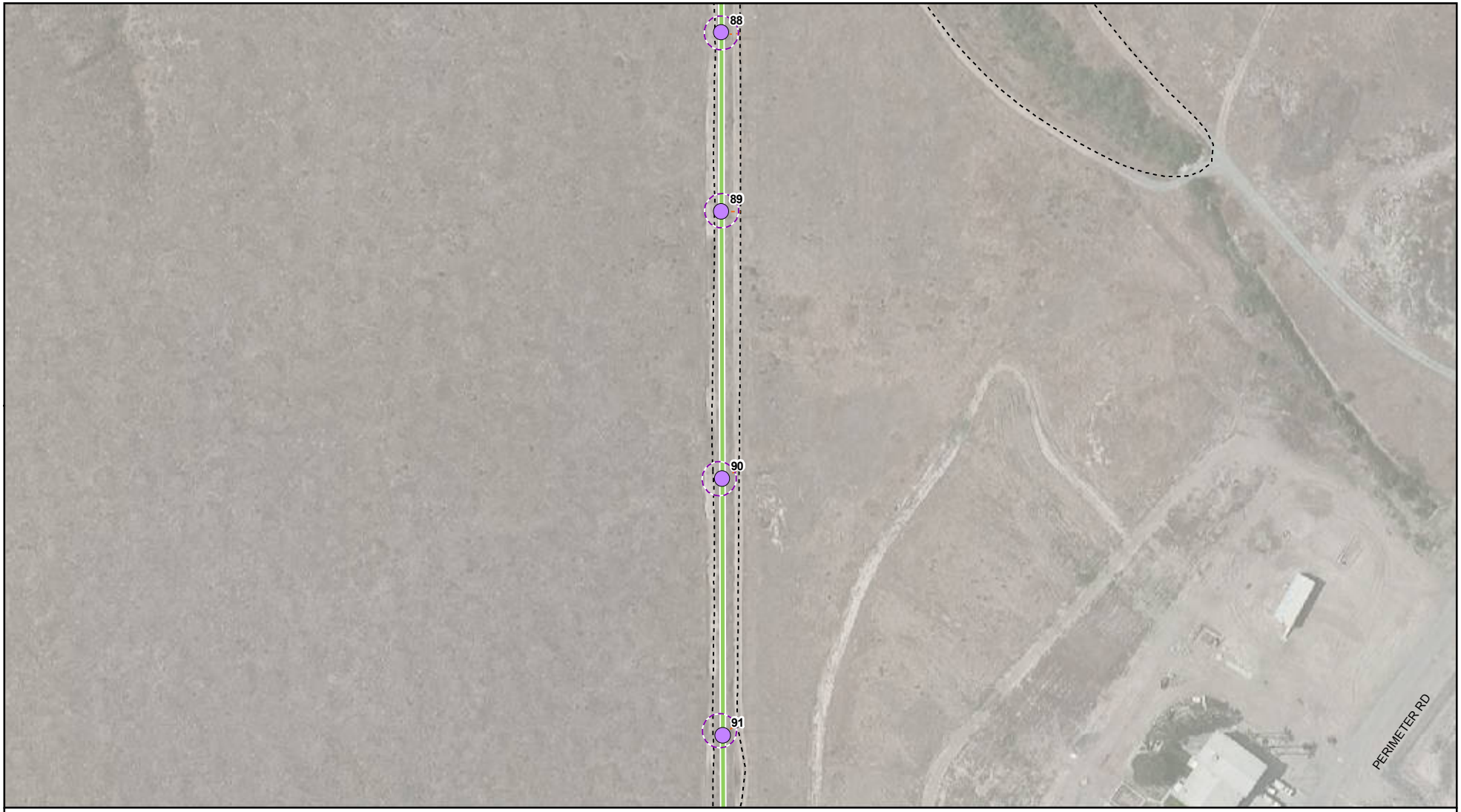
SDGE A Sempra Energy utility

INSIGNIA ENVIRONMENTAL



Attachment A: Detailed Route Map 23 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure

- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
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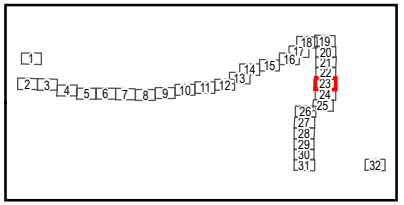

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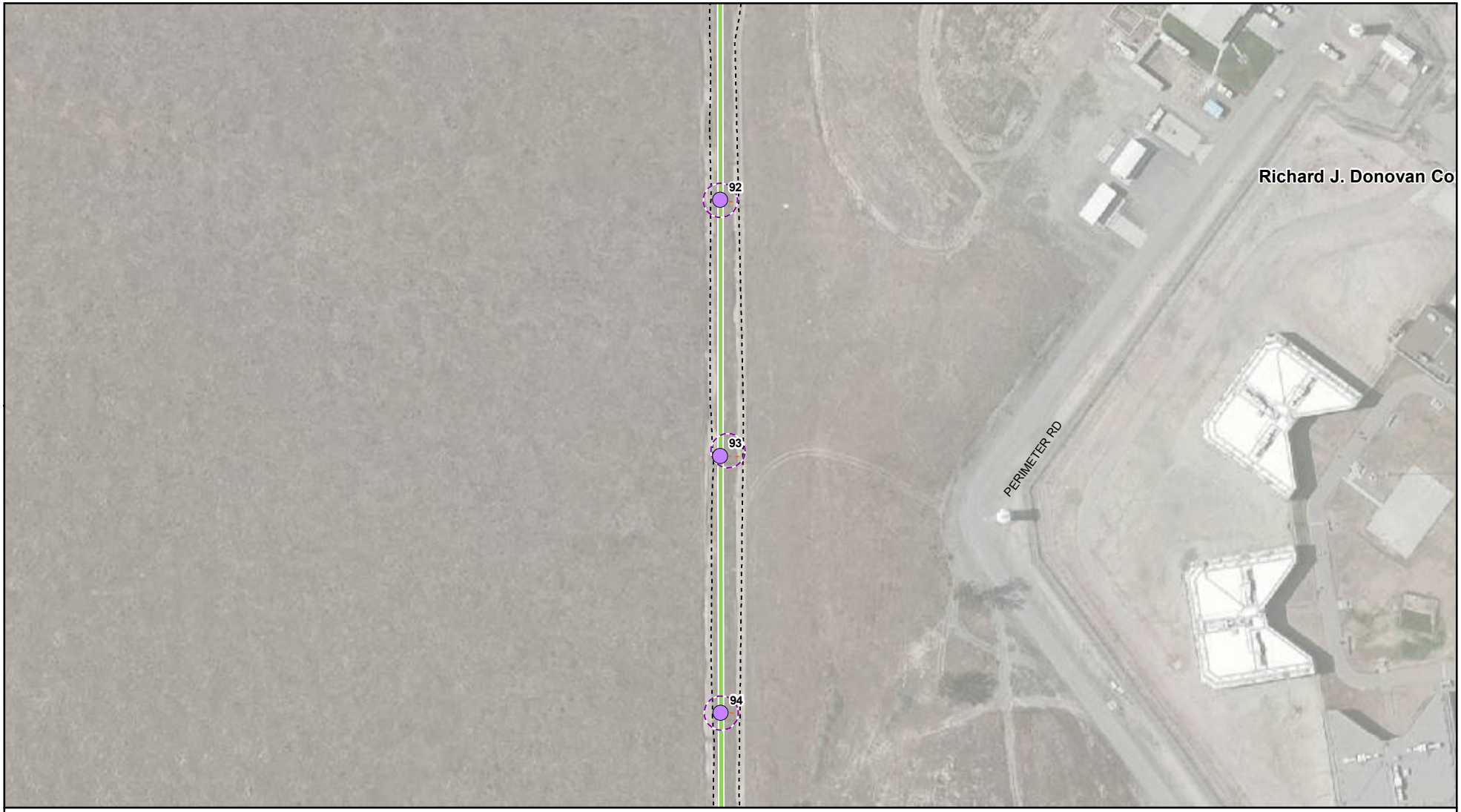

Attachment A: Detailed Route Map 24 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
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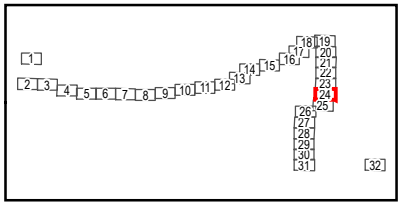
- Access Road Modification



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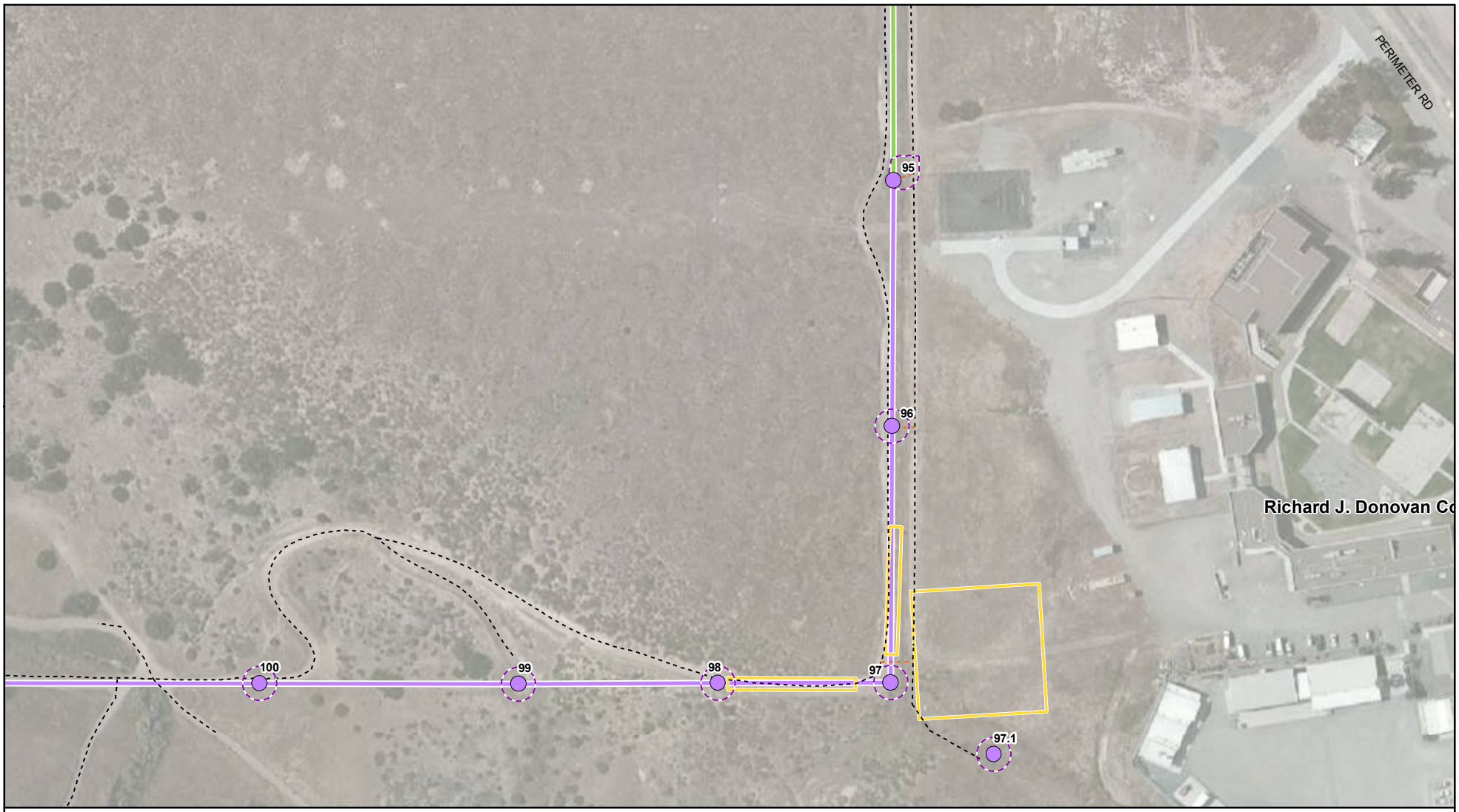

Attachment A: Detailed Route Map 25 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
- Wood-to-Steel Replacement
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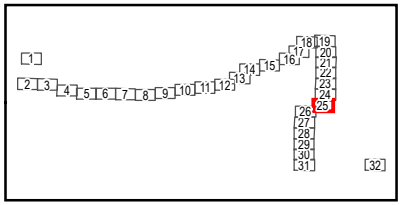

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0 200 400 Feet

Attachment A: Detailed Route Map 26 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure
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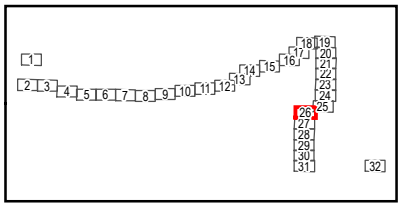

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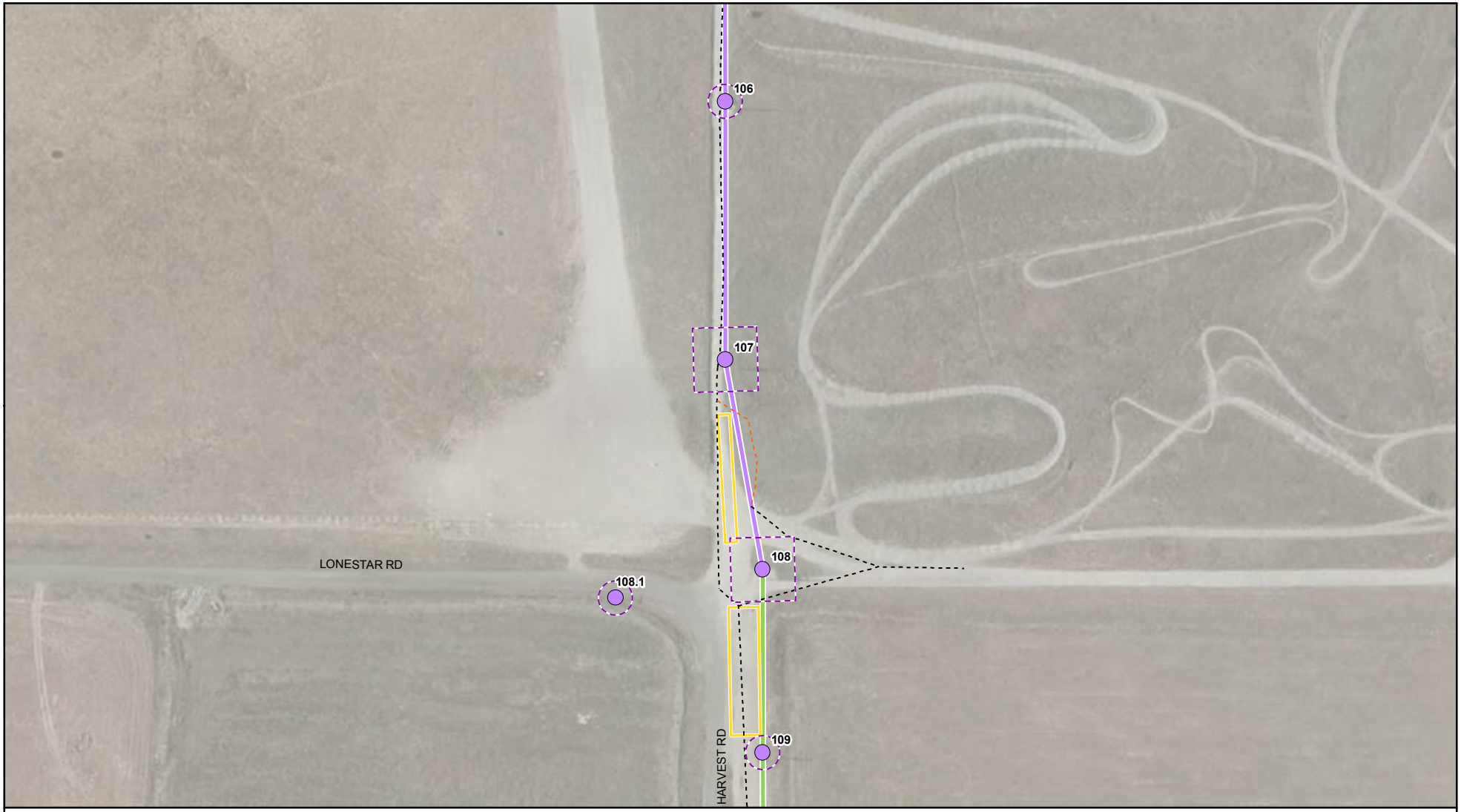

Attachment A: Detailed Route Map 27 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
- Guard Structure

- Wood-to-Steel Replacement
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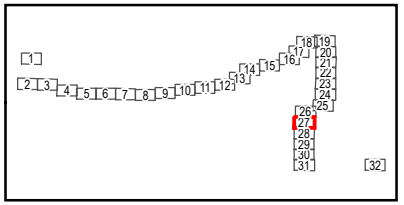

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0 200 400 Feet

Attachment A: Detailed Route Map 28 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
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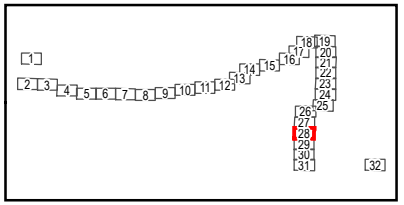

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0 200 400 Feet

Attachment A: Detailed Route Map 29 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
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- Wood-to-Steel Replacement
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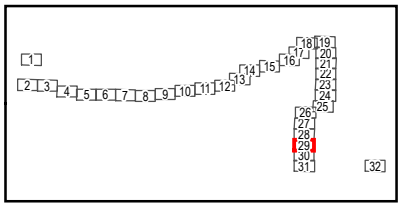

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0 200 400 Feet

Attachment A: Detailed Route Map 30 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
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- Pole Removal
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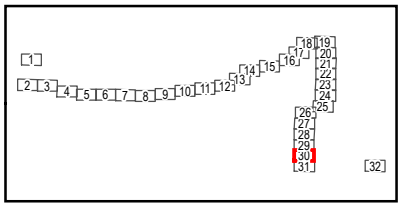

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0 200 400 Feet

Attachment A: Detailed Route Map 31 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
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- Wood-to-Steel Replacement
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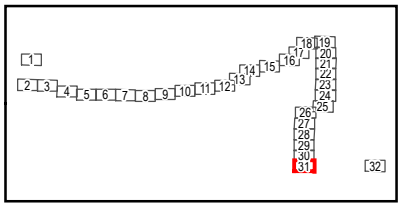

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SDGE A Sempra Energy utility

INSIGNIA ENVIRONMENTAL

Attachment A: Detailed Route Map 32 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- New Stub Pole
- New Steel Pole
- Wood-to-Steel Replacement Pole
- Overhead Work Only
- Pole Removal
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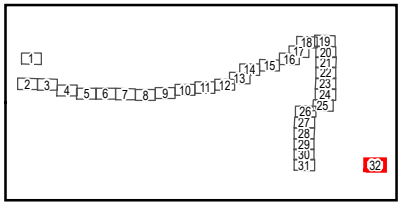

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Appendix B

Otay Water District Will-Serve Letter

...Dedicated to Community Service
2554 SWEETWATER SPRINGS BOULEVARD, SPRING VALLEY, CALIFORNIA 91978-2004
TELEPHONE: 670-2222, AREA CODE 619 www.otaywater.gov

Sent via electronic mail to: arenger@semprautilities.com

April 4, 2016

Project: P1438-010000
Activity: 3111

Andy Renger
Project Manager
San Diego Gas & Electric Company
8315 Century Park Court, CP21C
San Diego, CA 92123

SUBJECT: SDG&E 649 Project

Dear Mr. Renger:

Otay Water District (District) is in receipt of your email dated March 23, 2016, regarding water availability for the proposed SDG&E 649 Project starting at Heritage Road in Chula Vista heading eastbound towards SR-125 and then south past Donovan State Prison (Project). Our understanding is that water usage for the Project is estimated at 4.5 million gallons for the duration of construction.

The District has no objections with providing water for construction purposes for the above mentioned Project. San Diego Gas & Electric (SDG&E) and/or the Construction Contractor working on behalf of SDG&E will be responsible for all costs associated with obtaining temporary construction meter(s) and water usage during construction. The temporary construction meter(s) applications (**TEMPORARY WATER METERS (FOR USE ON HYDRANT)**) can be obtained from the District's web page at http://www.otaywater.gov/engineering/public services.

Water availability is subject to all District requirements in effect at the time of application. You are strongly encouraged to adopt water conservation measures throughout the development. In response to Governor Brown's declaration of a statewide drought, calling on all Californians to save water, the District adopted Ordinance No. 551 on June 3, 2015 declaring a State Drought Emergency and calling for mandatory conservation to attain the State established target for the Otay Water District to reduce total potable water use by 20 percent of 2013 levels.

The applicant should contact all necessary agencies, including the Fire Department and sewer purveyors, for any requirements. The District should then be contacted at (619) 670-2241 regarding any other conditions that may have arisen since this letter was written for this Project.

Should you have any questions, please contact Public Services at (619) 670-2241 or via e-mail at pscounter@otaywater.gov.

Sincerely,
OTAY WATER DISTRICT

Dan Martin, P.E.
Engineering Manager

DM:jf

Enclosures: Code of Ordinances Sections 27, 31, 39, and 40
Code of Ordinances Appendix A Section 31 Fees

Appendix C

Mitigation, Monitoring, and Reporting Program

Appendix C: Mitigation Monitoring and Reporting Plan

The Mitigation Monitoring and Reporting Plan (MMRP) summary table includes mitigation measures identified in the Tie Line 649 Wood-to-Steel Replacement Project Initial Study/Mitigated Negative Declaration. For each mitigation measure, the summary table identifies monitoring and reporting actions that shall be carried out, the party responsible for implementing these actions, and the monitoring schedule.

Summary Table Acronyms and Abbreviations

BMPs	Best Management Practices
BOMMP	Burrowing Owl Monitoring and Mitigation Plan
BUOW	Burrowing Owl
CAGN	California Gnatcatcher
CAL FIRE	California Department of Forestry and Fire Protection
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CWA	Clean Water Act
db	decibels
dBA	A-weighted decibels
DTSC	Department of Toxic Substances Control
FUDS	Formerly Used Defense Site
LBVI	Least Bell's Vireo
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MMRP	Mitigation Monitoring and Reporting Plan
NAHC	Native American Heritage Commission
NML	Nest Monitoring Log
PRC	Public Resources Code
QCB	Quino Checkerspot Butterfly
ROW	Right-of-way
SDG&E	San Diego Gas & Electric
SVP	Society of Vertebrae Paleontology
SWPPP	Stormwater Pollution Prevention Plan
TCR	tribal cultural resource
USFWS	U.S. Fish and Wildlife Service
UXO	Unexploded Ordnance

Mitigation Monitoring and Reporting Plan Summary Table

Mitigation Measure		Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
Aesthetics				
AES-1	*Nighttime Construction Lighting.* If nighttime construction lighting is required near residential areas, the construction contractor shall shield and orient lighting downward to minimize effects on nearby receptors. Lighting shall be directed toward active construction areas only, and shall have the minimum brightness necessary to ensure worker safety.	1. Confirm that lighting is oriented downward. 2. Confirm that lighting is directed toward active construction areas only, and with the minimum brightness necessary.	1. San Diego Gas & Electric (SDG&E) 2. SDG&E	1. During construction. 2. During construction.
Agriculture and Forestry Resources				
None.				
Air Quality				
AQ-1	*Implement BMPs for Construction Air Quality.* SDG&E or its contractor shall implement the following BMPs to reduce construction equipment emissions, specifically nitrogen oxides, to ensure compliance with all applicable NOx significance thresholds, including the emissions less than a total of 100 lbs NOx/day: Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13 CCR § 2485). Clear signage regarding this requirement shall be provided for construction workers at all access points. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. SDG&E or its contractor shall ensure all off-road diesel-powered construction equipment used during each construction phase shall meet U.S. Environmental Protection Agency Tier 3 off-road emissions standards. A copy of each unit's certified Tier Specification shall be provided to the CPUC at the time of mobilization of each applicable unit of equipment. In the event that Tier 3 off-road emission standards are not available for a particular piece of equipment (i.e., specialized equipment), the next available tier will be used. In addition, if Tier 3 equipment is not available, SDG&E or its contractor will provide detailed information on anticipated daily usage for all ~~equipment types (Tier 3 and~~ non-Tier 3 equipment~~)~~, including the anticipated hours of usage per day, quantities and types of equipment, revisions to construction phasing, and/or altering daily equipment use (i.e., reducing number of hours of use), as well as any other necessary information for the CPUC to confirm that the applicable NOx significance thresholds will be met.	1. Confirm that idling times are minimized and clear signage is provided at all access points. 2. Confirm that construction equipment is maintained and tuned. 3. Confirm that off-road construction equipment meets applicable standards. 4. Review and approve the use of any equipment that does not meet Tier 3 off-road emission standards prior to use.	1. SDG&E 2. SDG&E 3. SDG&E 4. CPUC	1. During construction. 2. During construction. 3. During construction. 4. Prior to and during construction.
Biological Resources				
BIO-1	*Focused Surveys for Special-Status Plants.* ~~During the appropriate blooming seasons for special status plants beginning in April 2018, a CPUC-approved botanist(s) shall perform focused surveys for special-status plant species that occur, and have the potential to occur, in the proposed project's temporary and permanent work areas to determine impacts to these species. Floristic surveys shall be performed according to the Protocols for Surveying and Evaluating Impacts to Specials Status Native Plant Populations and Natural Communities (California Department of Fish and Game [CDFG] 2009 or current version). Floristic surveys shall be performed during the~~	~~1. Retain qualified botanist to perform surveys.~~ ~~2. Confirm that surveys are performed according to current protocols.~~ ~~3. Confirm surveys are conducted during appropriate blooming period.~~ 4. Confirm implementation of Mitigation Measure BIO-5 if special-status plants are found within 50 feet of approved work areas.	~~1. SDG&E~~ ~~2. SDG&E/botanist~~ ~~3. SDG&E/botanist~~ 4. SDG&E/botanist	~~1. Prior to construction.~~ ~~2. Prior to construction, during survey period.~~ ~~3. Prior to construction, during survey period.~~ 4. Prior to construction, during survey period.

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	~~appropriate bloom period(s) for each species.~~ The results of the 2018 floristic surveys shall be submitted to the CPUC for review prior to construction. If special-status plants ~~are~~ were detected within 50 feet of approved work areas, Mitigation Measure BIO-5 shall be implemented.			
BIO-2	*Pre-construction Surveys.* The CPUC-approved qualified biologist(s) shall conduct pre-construction surveys for all activities occurring off of access roads in sensitive habitats. The pre-construction surveys shall be conducted no earlier than 30 days prior to surface disturbance. The results of the pre-construction surveys shall be documented by the CPUC-approved qualified biologist in a pre-construction survey report. Documentation of the pre-construction survey submittal shall be provided to the California Public Utility Commission (CPUC) for review and approval prior to the start of construction. The results shall be submitted to the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW), jointly referred to as regulatory agencies as required by any regulatory permits or approvals. The pre-construction study report shall include the following: ▪ Type, location, and size of project ▪ Date, time, weather, surrounding land uses ▪ Evaluation of type and quality of habitat ▪ Work description and methods for avoidance or minimization of ground disturbance, including biological monitoring during construction ▪ Anticipated impacts and proposed mitigation ▪ Map of location of work area In those situations where the CPUC-approved qualified biologist cannot make a definitive species identification, the biologist shall make a determination based on available evidence and professional expertise. In order to ensure that habitats are not adversely affected, the CPUC-approved biologist shall flag boundaries of habitat, which must be avoided. When necessary, the CPUC-approved biologist shall also demark appropriate equipment laydown areas, vehicle turn around areas, and pads for placement of large construction equipment, such as cranes, bucket trucks, and augers. When appropriate, the CPUC-approved biologist shall make office and/or field presentations to field staff to review and become familiar with natural resources to be protected on a project site-specific basis. The CPUC-approved biologist shall be contacted to perform a pre-activity survey when vegetation trimming is planned in sensitive habitats. Whenever possible, vegetation in sensitive habitats, such as California sagebrush-California buckwheat scrub and purple needlegrass grassland shall be scheduled for trimming in non-sensitive times (i.e., outside of breeding or nesting seasons). SDG&E shall maintain a library of special-status plant species locations; known to SDG&E, occurring within the project survey area. “Known” means a verified population either extant or documented using record data. Information on known sites may come from a variety of record data sources including local agency habitat conservation plans, focused plant surveys, pre-construction surveys, or biological surveys conducted for environmental compliance of the proposed project. Plant inventories shall be consulted as part of pre-construction survey procedures.	1. Retain qualified biologist to conduct surveys. 2. Confirm surveys are conducted no more than 30 days prior to ground disturbing activities. 3. Prepare documentation of surveys. Include required information and submit to CPUC. 4. Flag habitat to be avoided. 5. Demarcate equipment lay down areas, vehicle turn-around areas, and pads for construction equipment storage, when necessary. 6. Conduct office and/or field presentations on natural resources, when necessary. 7. Contact biologist when trimming is going to be conducted in sensitive habitat. Conduct pre-activity survey. 8. Confirm vegetation trimming is conducted during non-sensitive times, if possible. 9. Maintain library of special-status plant locations.	1. SDG&E 2. SDG&E/biologist 3. Biologist 4. Biologist 5. Biologist 6. Biologist 7. SDG&E/biologist 8. SDG&E/biologist 9. SDG&E	1. Prior to construction. 2. Prior to construction. 3. Prior to construction. 4. Prior to construction. 5. Prior to construction, during construction (when necessary). 6. Prior to construction, during construction (when necessary). 7. Before trimming begins. 8. Before trimming begins. 9. Prior to construction, during construction.

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
BIO-3	*Employee Biological Training.* All SDG&E personnel working (deliveries of materials excluded) within the project area shall participate in an employee training program conducted by SDG&E, with annual updates. The program shall describe special-status plant and wildlife species and habitats that could occur within the proposed project work areas; protection afforded to these species and their habitats, and; avoidance and minimization measures required to avoid and/or minimize impacts from the project. A fact sheet conveying this shall also be distributed to all employees working in the project area. Each employee shall be given a decal to indicate that he/she has attended the training. Penalties for violations of environmental laws shall also be incorporated into the training session. The roles and responsibilities of a CPUC-approved qualified biologist and other environmental representatives shall be identified in the Mitigation Monitoring and Reporting Plan and discussed during training. A copy of the training and training materials shall be provided to CPUC for review and approval at least 30 days prior to the start of construction. Training logs and sign-in sheets shall be provided to CPUC on a monthly basis. As needed, in-field training shall be provided to new on-site construction personnel by the SDG&E environmental representative or a qualified individual who shall be identified by SDG&E's Project Biologist, or initial training shall be recorded and played for new personnel.	1. Confirm that all on-site SDG&E construction personnel undergo training. 2. Confirm that training is conducted in accordance with this mitigation measure. 3. Confirm that a copy of the training and training materials is provided to CPUC for review and approval at least 30 days prior to the start of construction. 4. Confirm submittal of sign-in sheets to CPUC on monthly basis. 5. Confirm in-field training conducted on an as-needed basis.	1. SDG&E 2. SDG&E 3. SDG&E 4. SDG&E 5. SDG&E	1. Prior to construction. 2. Prior to construction, during construction. 3. Prior to construction, during construction. 4. During construction. 5. During construction.
BIO-4	*Biological Construction Monitoring.* A CPUC-authorized biological monitor must be present at the project site during all initial ground-disturbing and vegetation-removal activities. After the initial ground-disturbing and vegetation-removal activities, the monitor will coordinate with CPUC and SDG&E to determine often a monitor will need to be present at the project site. The monitor shall survey the construction sites and surrounding areas for compliance with all environmental specifications.Weekly biological monitoring reports shall be prepared and submitted to CPUC throughout the duration of project construction to document compliance with environmental requirements. In the event any work occurs beyond the approved limits, it shall be reported by SDG&E's compliance team in accordance with the MMRP.	1. Retain a biological monitor familiar with resources and issues at the project site. 2. Confirm the presence of a biological monitor during ground disturbing and vegetation-removal activities. 3. Confirm that the biological monitor conducts surveys in accordance with this measure. 4. Confirm that if work occurs beyond approved limits, it will be reported in accordance with this MMRP.	1. SDG&E 2. SDG&E/biological monitor 3. SDG&E/biological monitor 4. SDG&E	1. Prior to construction. 2. During construction. 3. During construction. 4. During construction.
BIO-5	*Avoid or Minimize Impacts on Special-Status Plant Species During Construction* All special-status federally and/or State-listed and/or CRPR Rare Plant Rank 1B or 2B species plant populations detected within 50 feet of the approved work area or within a 10-foot radius of access roads shall be staked, flagged, or fenced by a qualified biologist approved by the CPUC. The plants shall be monitored throughout the duration of construction to determine whether the project has resulted in adverse effects (direct or indirect), as determined by a CPUC-approved qualified botanist. If the botanist determines that special-status plants have been adversely affected, SDG&E shall implement measures to compensate for the impacts as described in Mitigation Measure BIO-6. All stakes, flagging, and fencing shall be removed no later than 30 days after construction is complete. Additional avoidance and minimization measures include restricting vehicles to existing roads unless supervised by an onsite biological monitor, minimizing impacts by defining the disturbance areas, and designing the construction activities to avoid or minimize new disturbance and erosion.	1. Retain a qualified biologist to stake/flag/fence special-status plants. 2. Retain a qualified botanist to assist in determining effects/no effects to plants. 3. If plants are adversely affected, implement Mitigation Measure BIO-6. 4. Confirm stakes/flagging/fencing are removed no later than 30 days after construction is complete. 5. Confirm implementation of additional avoidance measures as specified in this measure.	1. SDG&E/biologist 2. SDG&E/botanist 3. SDG&E 4. SDG&E/biologist 5. SDG&E/biologist	1. Prior to construction. 2. During construction. 3. During construction, and following construction. 4. Following construction. 5. During construction.

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
BIO-6	*Compensate for Construction-Related Impacts to Special-status Federally and/or State-listed and/or CRPR Rare Plant Rank 1B or 2B Species (special-status plants)* If avoidance is not feasible, SDG&E shall implement measures to compensate for impacts on special-status plants. Where impacts to special-status plant species are unavoidable, the impact shall be quantified and compensated through mitigation consistent with the measures established in the SDG&E Low-Effect Habitat Conservation Plan (LE HCP) and/or Natural Community Conservation Plan (NCCP), or through off-site land preservation and/or plant salvage and relocation per the direction of the CDFW. Where off-site land preservation is biologically preferred, the land shall contain comparable special-status plant resources as the affected lands and shall include long-term management and legal protection assurances to the satisfaction of the CPUC. Off-site mitigation land shall be identified prior to the start of construction. The establishment of long-term land management and legal protection assurances must be completed within 36 months of construction start. Where salvage and relocation are demonstrated to be feasible and biologically preferred by the wildlife agencies, it shall be conducted pursuant to a CPUC approved salvage and relocation plan that details the methods for salvage, stockpiling, and replanting, as well as the characteristics of the receiver sites. The salvage and relocation plan shall also define the monitoring strategy with a minimum of annual monitoring for 5 years or until success criteria are met. If the salvage and relocation fail to meet the established success criteria after 5 years, maintenance and monitoring shall extend beyond the 5-year period until the criteria are met, or unless otherwise approved by the CPUC. Success criteria shall include a minimum of: ▪ A surveyed population size count roughly equal to or greater than the number of individuals transplanted (this total may include both transplanted individuals that have survived as well as any additional supplemental plantings following the initial transplantation that have survived at least two growing seasons), and ▪ Less than 5 percent cover of invasive weeds not already pervasive within the project area. Any salvage and relocation plans must be approved by CPUC at least 30 days prior to project construction.	1. Confirm whether to compensate for impacts to special-status plants through off-site land preservation and/or plant salvage and relocation, per the direction of CDFW. 2. If off-site land preservation is chosen, confirm that off-site location contains comparable special-status plant resources and meets CPUC requirements. 3. If salvage and relocation is deemed feasible, confirm that a CPUC-approved salvage and relocation plan is prepared with the strategy and success criteria outlined in this measure. 4. Confirm that salvage and relocation plans are approved by CPUC at least 30 days prior to project construction.	1. SDG&E 2. SDG&E 3. SDG&E 4. SDG&E	1. Prior to construction. 2. Prior to construction. 3. Prior to construction. 4. Prior to construction.
BIO-7	*Implement Fire Prevention Best Management Practices (BMPs) during Construction Activities.* Fire prevention BMPs shall be implemented during construction of the proposed project as specified by the Construction Fire Prevention/Protection Plan (see Mitigation Measure HAZ-4: Prepare and Implement a Project-Specific Construction Fire Prevention Plan). In the event that a state- or federally listed plant species is located within the area required to be cleared for fire protection purposes, SDG&E shall notify CDFW, in writing, of the plant's identity and location and of the proposed activity, which shall result in a take of such plant. Notification shall occur 10 working days prior to such activity, during which time the U.S. Fish and Wildlife Service (USFWS) or CDFW may remove such plant(s). If neither USFWS nor CDFW have removed such plant(s) within 10 working days following the notice, SDG&E may proceed to complete its fire clearing and cause a take of such plant(s) consistent with SDG&E's take coverage for the federal Endangered Species Act- or California Endangered Species Act-listed plants. When fire clearing is necessary in instances other than around power poles, and the potential for impacts to special-status species exist, SDG&E shall follow the pre-construction survey and notification procedures in Mitigation Measure BIO-2,	1. Confirm that fire prevention BMPs are being implemented as detailed in Mitigation Measure HAZ-4. 2. Notify the CDFW if a state- or federally listed plant is located in an area to be cleared for fire protection purposes. Notification to be made 10 working days prior to activity. 3. Follow pre-construction survey and notification procedures outlined in Mitigation Measure BIO-2 when fire clearing occurs in areas other than around poles.	1. SDG&E 2. SDG&E 3. SDG&E	1. During construction activities. 2. During construction activities 3. During construction activities

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	above. Wire stringing shall be allowed year-round in sensitive habitats if the conductor does not drag on the ground or in brush and vehicles remain on access roads.			
BIO-8	*Cover and/or Provide Escape Routes for Wildlife.* All steep trenches and excavations during construction shall be inspected twice daily (i.e., morning and evening) by the CPUC-authorized biologist or trained project personnel to monitor for wildlife entrapment. Large/steep excavations shall be covered. If fully covering the excavations is impractical, ramps will be used to provide a means of escape for wildlife that enter the excavations, or open holes will be securely fenced with exclusion fencing. If common wildlife species are found in an excavation or hole, the CPUC-authorized biologist shall immediately be informed and the animal(s) removed. If the animal(s) is/are a sensitive species that require(s) special handling authorization, a qualified biologist (agency-permitted or approved to handle a specific species) shall remove the animal before resumption of work in that immediate area.	1. Confirm that all steep trenches and excavations are inspected twice daily for wildlife. 2. Ensure that large/steep excavations are covered, fenced, or contain an escape ramp nightly to prevent entrapment. Ensure that trapped wildlife is removed by biologist 3.	1. Biologist/trained project personnel 2. Biologist	1. During construction. 2. During construction.
BIO-9	*Survey Work Protocols.* SDG&E shall implement the following measures during survey work: • Brush clearing for foot path or line-of-sight cutting shall not be allowed from February through September without prior approval from the CPUC-, USFWS-, and CDFW-approved biologist, who would ensure the brush clearing activity, does not adversely affect a special-status species or nesting birds. • SDG&E survey personnel shall keep vehicles on existing access roads. • Hiking off roads or paths for survey data collection shall be allowed year-round as long as other protocols are met.	1. Confirm that brush clearing does not occur from February through September without prior approval from a qualified biologist. 2. Ensure that brush clearing does not adversely affect a special-status species or nesting bird. 3. Ensure that all vehicles are kept on existing access roads. 4. Confirm that hiking off roads or paths for survey data collection is allowed year-round as long as other protocols are met.	1. SDG&E 2. SDG&E/biologist 3. SDG&E 4. SDG&E/biologist	1. Prior to construction, during construction. 2. Prior to construction, during construction. 3. Prior to construction, during construction. 4. Prior to construction, during construction.
BIO-10	*Enforce Speed Limits.* Vehicles shall not exceed 15 miles per hour (mph) on unpaved roads and the right-of-way accessing the construction site or 10 mph during the night.	1. Confirm that vehicles do not exceed 15 mph on unpaved roads and the right-of-way (ROW) accessing the construction site or 10 mph during the night.	1. SDG&E	1. During construction and operation and maintenance activities.
BIO-11	*Minimize Night Construction Lighting Adjacent to Native Habitats.* Lighting of construction areas at night shall be the minimum necessary for personnel safety and shall be low illumination, selectively placed, and directed/shielded appropriately to minimize lighting in adjacent native habitats.	1. Confirm that lighting of construction areas follows the requirements detailed in this measure.	1. SDG&E	1. During construction
BIO-12	*Prohibit Littering and Remove Trash from Construction Areas Daily.* Littering shall not be allowed. All food-related trash and garbage shall be removed from the construction sites on a daily basis or secured in a closed container.	1. Ensure that there is no littering and that all food-related trash and garbage is removed from the construction site on a daily basis or secured in a closed container.	1. SDG&E	1. During construction.
BIO-13	*Prohibit the Harm, Harassment, Collection-of, or Feeding-of Wildlife.* Project personnel shall not harm, harass, collect, or feed wildlife. No pets shall be allowed in the construction areas.	1. Ensure that project personnel do not harm, harass, collect, or feed wildlife. 2. Ensure that no pets are allowed in construction areas.	1. SDG&E 2. SDG&E	1. During construction. 2. During construction.

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
BIO-14	*Implement the Terms of Agency Permit(s) with Jurisdictional Federal or State-listed Species.* The applicant shall utilize the SDG&E LE HCP and/or NCCP for impacts to federally listed wildlife species and state-listed wildlife species resulting from this project, if applicable. Avoidance and minimization measures will be implemented per these permits including the potential use of helicopters if appropriate. The terms and conditions included in these authorizations shall be implemented, which may include seasonal restrictions, relocation, monitoring/reporting specifications, and/or habitat compensation through restoration or acquisition of suitable habitat.	1. Implement USFWS permits 2. Avoid impacts to State-listed species	1. SDG&E	1. Prior to construction, during construction.
BIO-15	*Special-Status Bat Species Mitigation.* Prior to construction, suitable special-status bat habitat shall be assessed by a CPUC approved, qualified biologist in trees within a 50-foot buffer of active work areas and in any structures with suitable special-status bat roosting habitat within a 100-foot buffer of active work areas (e.g., bridges). If an active special-status bat maternity roost is found in a tree or structure, the approved biologist shall define an appropriate limited or no-work exclusion buffer surrounding the special-status bat maternity roost based on the bat species, numbers, and roost type (i.e., individuals, small group, or potential maternal colony), the type of work to occur, and the duration of the work-related disturbance. The limited work or exclusion areas shall remain in effect until the approved biologist determines that the work would no longer be a disturbance to the roost. A reduction in the buffer may be approved by the qualified biologist if there is a change in the type of work to be conducted. The limited work or exclusion buffer shall not apply to construction-related traffic using existing roads where the use of the road is not limited to project-specific use, such as where the public has access or other entities use the road). In addition, the exclusion buffer shall not apply if the roost(s) is/are located in a residential, commercial, or industrial area. The boundaries of the limited or no work buffer shall be clearly marked by the approved biologist. The approved biologist shall inspect construction and roost sites when construction is occurring to ensure the integrity of the limited or no-work buffer and to ensure that the size of the buffer is adequate based on-site conditions and construction generated noise, dust, etc. All bat roosts documented during pre-construction surveys shall be reported through the MMRP.	1. Retain a qualified biologist to assess suitable special-status bat habitat in trees and structures in accordance with this measure. 2. Ensure that no-work exclusion buffers are placed around active special-status bat maternity roosts in accordance with this measure. 3. Ensure that all buffers and buffer reduction requirements are implemented in accordance with this measure. 4. Confirm that all bat roosts are documented and reported through the MMRP.	1. SDG&E/biologist 2. SDG&E/biologist 3. SDG&E/biologist 4. SDG&E/biologist	1. Prior to construction. 2. Prior to construction. 3. During construction. 4. Prior to construction.
BIO-16	*Avoid and Minimize Impacts to Special-Status Raptors, Passerine Species, and other Birds Protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (sections 3503, 3513, and 3800)* If ground and vegetation disturbing activities occur during the nesting bird season (generally between January 15 and August 31, but may be earlier or later depending on species, location, and weather conditions), a survey for nesting birds shall be conducted according to the following provisions: ▪ Nest surveys shall occur within 5 days prior to the start of ground-disturbing construction or vegetation trimming or removal activities. If there is no work in an area for 7 days, it shall be considered a new work area if construction, vegetation trimming, or vegetation removal begins again. ▪ Surveys shall be conducted with sufficient survey duration and intensity of effort necessary for the identification of active nests (a nest containing eggs or chicks). A nest is no longer an “active nest” if abandoned by the adult birds or once fledglings are no longer dependent on the nest.	1. Retain a qualified biologist to conduct nesting bird surveys according to the provisions detailed in this measure. 2. Ensure that buffers are established around all active nests according to the provisions in this measure. 3. Confirm that buffer reductions are in accordance with the provisions in this measure. 4. Ensure that all nests and buffers are monitored and recorded in accordance with the provisions in this measure. 5. Confirm that specific requirements are followed in accordance with the provisions in this measure for the CAGN and LBVI. 6. Confirm that specific requirements are followed in accordance with the provisions in this measure for the BUOW.	1. SDG&E/biologist 2. SDG&E/biologist 3. SDG&E/biologist 4. SDG&E/biologist 5. SDG&E/biologist 6. SDG&E/biologist	1. Prior to construction. 2. Prior to construction, during construction. 3. During construction. 4. Prior to construction, during construction. 5. Prior to construction, during construction. 6. Prior to construction, during construction.

Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
▪ Surveys shall include nests of protected species within vegetation identified for removal and/or pruning, and within the following buffers of active work areas: 500 feet for raptors and listed passerine birds (including the coastal California gnatcatcher [CAGN] and least Bell's vireo [LBVI]). Appropirate buffers for non-listed birds protected under the MBTA and Fish and Game Code will be established by the CPUC-approved biologist. ▪ Surveys shall be conducted during locally appropriate dates for nesting seasons determined in consultation with the USFWS and CDFW; note that generally the season is between January 15 and August 31 but may be earlier or later depending on species, location, and weather conditions. Species-specific nesting seasons for some species are identified below. ▪ The surveys shall be conducted by a CPUC- approved qualified biologist. ▪ Survey results shall be provided to CPUC. ▪ Work areas within which significant noise is not generated, such as work performed manually, by hand or on foot, and/or that would not cause significant disturbances to nesting birds (e.g., driving on access roads, and activities at staging and laydown areas) do not need to be surveyed prior to use. None of these activities shall result in physical contact with a nest. ▪ If active nests are detected during these surveys, no vegetation removal activities should be conducted until nestlings have fledged or the nest fails. If the activity must occur, the CPUC-approved biologist will establish a buffer zone around the nest and no activities will occur within that zone until nestlings have fledged and left the nest area. <u>Buffers</u> ▪ Buffers around active nests shall be established: 500 feet for raptors and listed passerine birds. Buffer distances for non-listed birds under the MBTA and California Fish and Game Code will be established by the CPUC-approved biologist. The CPUC-approved biologist will take into consideration if there are natural landforms that create a barrier between the work area and the nest or if there are urban distractions, such as roadways, that are closer and create a greater potential disturbance for nesting activities. In the absence of natural barriers or urban distractions, buffer reductions must be approved on a case-by-case basis as required below. ▪ Buffers shall not apply to construction-related traffic using existing roads where the use of such roads is not limited to project-specific use. Where road use is limited to project-specific use, a buffer reduction or approval to drive through a buffer shall be obtained as described below under "Buffer Reduction." ▪ As appropriate, exclusion techniques may be used for any construction equipment that is left unattended for more than 24 hours to reduce the possibility of birds nesting in the construction equipment. An example of an exclusion technique is covering equipment with tarps. <u>Buffer Reduction</u> The specified buffers from nesting birds may be reduced on a case-by-case basis if, based on compelling biological or ecological reasoning (e.g., the biology of the bird species, concealment of the nest site by topography, land use type, vegetation, level of project activity, and level of pre-existing disturbance on site), it is determined by a CPUC-approved qualified biologist that implementation of a specified smaller buffer distance would still avoid nest abandonment and failure. This requirement includes buffer reductions or temporary buffer incursions for project-related use of roads where no stopping, standing, or other work activities			

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	shall occur in the buffer. Requests to reduce standard buffers or for temporary buffer incursions must be submitted to CPUC's independent biologist for review. Requests to reduce buffers must include: ▪ Species ▪ Location ▪ Pre-existing conditions present on site ▪ Description of the work to be conducted within the reduced buffer ▪ Size and expected duration of proposed buffer reduction ▪ Reason for the buffer reduction ▪ Name and contact information of the CPUC-approved qualified biologist(s) who requested the buffer reduction and would conduct subsequent monitoring ▪ Proposed frequency and methods of monitoring necessary for the nest given the type of bird and surrounding conditions CPUC shall respond to SDG&E's request for a buffer reduction (and buffer reduction terms) within 1 business day; if a response is not received, SDG&E may proceed with the buffer reduction until CPUC's independent biologist can review and approve or deny the buffer reduction request. If SDG&E proceeds with a reduced buffer, nests shall be monitored on a daily basis during construction activities. If the buffer reduction request is denied, or if the qualified biologist determines that the nesting bird(s) are not tolerant of project activity, the specified buffer(s) listed above in this measure shall be implemented. Non-special status species found building nests within the work areas after specific project activities begin may be tolerant of that specific project activity; however, the CPUC-approved qualified biologist shall implement an appropriate buffer or other appropriate measures to protect the nest after taking into consideration the position of the nest, the bird species nesting on site, the type of work to be conducted, and duration of the construction disturbance. In these cases, the proposed buffer or other measures must be approved by CPUC's independent biologist through the buffer reduction process outlined in this measure, if buffers are less than those specified in this measure. These nests shall be monitored on a daily basis and only during construction activities (no monitoring required during periods when no work is conducted) by a qualified biologist until the qualified biologist has determined that the young have fledged or construction ends within the work area (whichever occurs first). If the qualified biologist determines that the nesting bird(s) are not tolerant of project activity, the buffer outlined above in this measure shall be implemented. <u>Monitoring and Reporting</u> Each nest identified in the project area should be included in a Nest Monitoring Log (NML). The NMLs should be updated daily and submitted to the CPUC on a weekly basis. The NMLs should provide a summary of each nest identified, including the species, status of the nest, buffer information, and fledge or failure data. The NMLs would allow for tracking the success and failure of the buffers and would provide data on the adequacy of the buffers for certain species. Nest locations and exclusion buffers shall be mapped (using GIS) for all nests identified. This information shall be maintained in a database and shall be provided to CPUC. A final report shall be submitted to CPUC at the end of each nesting season summarizing all avian-related monitoring results and outcomes for the duration of project construction.			

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	Specific Requirements for Coastal California Gnatcatcher and Least Bell's Vireo Prior to commencing construction activities, SDG&E shall conduct surveys for CAGN and LBVI in accordance with USFWS' Coastal California Gnatcatcher (USFWS 1997) and Least Bell's Vireo Survey Guidelines (USFWS 2001). If CAGN or LBVI are detected during the surveys, SDG&E shall consult with the USFWS to determine appropriate avoidance measures. The performance standard for avoidance shall be no potential impacts to an established CAGN or LBVI nest. This shall be accomplished by establishing a no-disturbance buffer around the active nest. The no-disturbance buffer shall be a minimum of 500 feet, but may be larger depending on site specific conditions and consultation with USFWS. During the nesting season, pre-construction surveys are required where there is potential for nesting habitat for the coastal CAGN or LBVI within or adjacent to the proposed project area. If an active nest is found, 500-foot nesting buffers are required. The following measures shall be adhered to when project activities during the breeding season occur within habitats that may support LBVI and CAGN: ▪ A biologist knowledgeable of LBVI and/or CAGN biology and ecology, approved by the CPUC would survey within the project impact footprint and a 500-foot buffer before clearing vegetation or project construction to check for LBVI and/or CAGN nesting activity. Should an active nest be located in the impact footprint, then work would be suspended until the nest is vacated. ▪ For project activities occurring during the breeding season adjacent to known occupied LBVI and/or CAGN nesting habitat, the biologist would monitor nesting bird activity. If the biologist determines that nesting birds are being disrupted by project activities, then work would be suspended until effective minimization measures (e.g., noise attenuation structures) developed in coordination with the CPUC, USFWS, and CDFW are in place or until after the breeding season is completed. ▪ Any lighting required during project activities would be shielded and directed away from vireo and/or flycatcher habitat to ensure that these areas are not artificially illuminated. Specific Requirements for Western Burrowing Owl The 2014 survey effort indicated that western burrowing owls (BUOWs) were not nesting in the survey area (see the Burrowing Owl Survey Report in Appendix I of the Biological Technical Survey Report, Chambers 2015 (see Appendix G). However, there is high quality suitable habitat for this species in the survey area, and this species may occur in future years. If this species were present in the survey area, direct and indirect impacts could occur. Implementation of Mitigation Measure BIO-20: Avoid or Minimize Impacts on Burrowing Owls would reduce impacts to a level that is less than significant with mitigation.			
BIO-17	*Avoid or Minimize Impacts on Burrowing Owls.* SDG&E shall prepare a BUOW Monitoring and Mitigation Plan (BOMMP) consistent with the CDFW Staff Report on Burrowing Owl Mitigation (CDFG 2012). SDG&E shall submit the BOMMP to CDFW and CPUC. SDG&E shall be required to obtain approval from CDFW on the BOMMP prior to construction. SDG&E shall provide the approved BOMMP to the CPUC 30 days prior to construction. In accordance with the CDFW Staff Report on Burrowing Owl Mitigation (CDFG 2012) and the BOMMP, SDG&E shall conduct take avoidance pre-construction	1. Confirm that preparation of a BUOW BOMMP is consistent with 2012 CDFW Staff Report. 2. Confirm CDFW's approval on BOMMP. 3. Confirm submittal of BOMMP to CPUC 30 days prior to start of construction. 4. Retain a qualified biologist to conduct take avoidance preconstruction surveys for BUOW. 5. Confirm that periodic BUOW surveys are conducted in January and February. 6. Ensure that if BUOW is found, BOMMP and all of its provisions are implemented.	1. SDG&E 2. SDG&E 3. SDG&E 4. SDG&E/biologist 5. SDG&E/biologist 6. SDG&E/biologist	1. Prior to construction. 2. Prior to construction. 3. Prior to construction. 4. Prior to construction. 5. Prior to construction, during construction.

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	surveys for the BUOW within 30 days prior to initiating ground disturbance activities. In addition to preconstruction surveys, SDG&E will conduct periodic BUOW surveys in January and February in areas with suitable burrowing owl habitat. If BUOWs are detected, SDG&E shall implement the CDFW-approved BOMMP in coordination with CDFW. The BOMMP shall state that disturbance to active burrows shall be avoided during the nesting season (February 1 through August 31). Buffers shall be established around occupied burrows in accordance with guidance provided in the CDFW Staff Report on Burrowing Owl Mitigation (CDFG 2012) and the BOMMP. If work in these habitats is delayed or suspended for more than 30 days after the take avoidance pre-construction surveys, the site shall be resurveyed.	7. Confirm that if work is delayed or suspended for more than 30 days after pre-construction surveys, site shall be resurveyed.	7. SDG&E/biologist	6. Prior to construction, during construction. 7. Prior to construction.
BIO-18	*Provide Habitat Compensation or Restoration for Permanent Impacts to Native Vegetation Communities.* Permanent impacts to all native vegetation communities shall be compensated through SDG&E's LE HCP and/or NCCP at a 2:1 ratio.	1. Confirm that permanent impacts to all native vegetation communities are compensated according to this measure.	1. SDG&E	1. Prior to construction, during construction.
BIO-19	*Avoid Impacts to Special-Status Fairy Shrimp.* Jurisdictional vernal pools adjacent to the project footprint, plus a five-foot buffer (where feasible, and not including those located within Project-related access roads) around the vernal pools and the entire vernal pool watershed (where feasible), shall be fenced with orange safety fencing to ensure no people or equipment impact the vernal pools or the surrounding watershed during construction activities. A silt fence shall be installed along the base of the roadway and also around areas of ground disturbance to prevent increased erosion or sedimentation during construction in vernal pool and vernal pool watershed areas. Gravel bags shall be placed along the bottom of the fence to minimize erosion or sedimentation into vernal pools, and removed upon completion of construction. During construction in areas containing the delineated vernal pools and surrounding vernal pool watershed, including access roads adjacent to vernal pools and the vernal pool watershed, a biological monitor shall be present in order to avoid and minimize potential impacts to sensitive resources. Vehicle trips in areas that contain the delineated vernal pools and surrounding vernal pool watershed shall be limited to the extent feasible. Crews shall carpool and/or walk in to limit trips. Guidance shall be provided by the qualified biological monitor. The Environmental Surveyor will check to verify compliance, including observing that flagged areas have been avoided. Also, at completion of work, the Environmental Surveyor is responsible for removing all habitat flagging from the construction site. The biological monitor shall document all accidental or unanticipated impacts to vernal pools and the vernal pool watershed. The impacts shall be provided to the CPUC, CDFW and USFWS in a post-construction report within 30 days of project completion. SDG&E shall assume presence of special-status fairy shrimp in vernal pool road-ruts located between poles 84 and 96. These vernal pools shall be avoided when ponded or wet. Construction access shall be allowed in these vernal pool areas when CPUC-approved biologist determines that the vernal pools are dry. No parking, staging, or other use of the areas that have vernal pools are permitted. Steel plates may be placed over delineated vernal pool road ruts when they are dry in order to avoid and minimize potential impacts or temporary disturbance, to vernal pools from project vehicles To the extent feasible, all construction equipment shall be fueled and maintained at least 100 feet from the nearest vernal pools. No project-related staging,	1. Retain a qualified biologist to ensure orange safety fencing is properly installed to protect vernal pools and vernal pool watershed. 2. Confirm that silt fencing is properly installed according to this measure. 3. Confirm that gravel bags are properly installed according to this measure. 4. Ensure that a biological monitor is present on site during construction in areas, and adjacent access roads, containing delineated vernal pools and the vernal pool watershed. 5. Confirm that construction access in the access roads where vernal pool road-ruts occur is conducted when pools are dry and in accordance with this measure. 6. Confirm that steel plates are placed over delineated vernal pools if appropriate. 7. Confirm that refueling occurs at least 100 feet away from vernal pools, to the extent feasible. 8. Confirm that no staging, parking, or storage occurs within or directly adjacent to delineated vernal pools.	1. SDG&E/biologist 2. SDG&E/biologist 3. SDG&E/biologist 4. SDG&E/biologist 5. SDG&E/biologist 6. SDG&E/biologist 7. SDG&E/biologist 8. SDG&E/biologist	1. Prior to construction. 2. Prior to construction. 3. Prior to construction. 4. During construction. 5. During construction. 6. During construction. 7. During construction. 8. During construction

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	parking or storage shall occur within or directly adjacent to delineated vernal pools.			
BIO-20	*Minimize and Compensate for Impacts to Special-Status Fairy Shrimp and Their Habitat.* If direct or indirect impacts to habitat (vernal pools and road rut vernal pools) supporting special-status fairy shrimp cannot be avoided then the following measures shall be implemented: ▪ Impacts to jurisdictional vernal pools (with or without special-status shrimp), basins, and road rut vernal pools supporting listed San Diego fairy shrimp shall require mitigation through an off-site approved vernal pool restoration area or restoration plan as described below, and no mitigation would be required for road rut vernal pools that do not support special-status species. ▪ Impacts to jurisdictional vernal pools, with or without covered species present, shall be mitigated at a 3:1 ratio for all impacts. Mitigation may occur onsite provided that a sufficient number of degraded pools exist in the vicinity and have been approved by the CPUC, CDFW and USFWS for restoration and /or enhancement. Otherwise, mitigation shall be implemented offsite at the pre-approved vernal pool restoration area. Mitigation credits, as approved by CPUC, CDFW and USFWS, may be accumulated and used through past or advance creation, restoration, and enhancement of a vernal pool basin area. The areas pre-approved by the CPUC, CDFW and USFWS for creation, restoration, and/or enhancement of vernal pool basin area shall be of high quality (e.g., Carmel Mesa and Otay Mesa) and shall support special-status species affected by the project. Pre-approved vernal pool mitigation areas must be managed and monitored pursuant to a management plan approved by CPUC, CDFW and USFWS. If SDG&E does not mitigate at a pre-approved vernal pool restoration area, then CPUC, CDFW and USFWS concurrence on an acceptable mitigation site is required prior to any impacts to vernal pools. Recognizing that restoration efforts may vary; if impacts to vernal pools are necessary or if unanticipated impacts to vernal pools occur as a part of construction, SDG&E shall prepare a detailed vernal pool restoration plan based on a generalized approach for vernal pool restoration which has been previously approved by CDFW and USFWS. This plan shall be provided prior to impacts to vernal pools or no later than 30 days following an unanticipated impact. If further requirements to this generalized approach are necessary, CPUC, CDFW and USFWS shall respond to the restoration plan within 30 days. No planned impacts to vernal pools shall occur until adequate mitigation for impacts to vernal pools and special-status vernal pool species has been secured off-site or a restoration plan has been approved by the CPUC, CDFW and USFWS for any mitigation outside of pre-approved vernal pool restoration areas. Where access roads containing pools are used, the following measures shall apply during project construction: ▪ The delineation of all jurisdictional pool boundaries (i.e., the pool exclusion/buffer zone) that occur off of roadways shall be staked/flagged prior to the start of work Jurisdictional pools that occur within roadways or road-rut vernal pools will be pre-surveyed, mapped and avoided when wet. A qualified biological monitor shall be present to monitor access road use.	1. Confirm that minimization and, if needed, compensation for direct and indirect impacts to special-status fairy shrimp and their habitat is conducted in accordance with this measure. 2. Retain a qualified biologist to monitor the construction areas. 3. Confirm that proper mitigation is implemented for impacts to vernal pools, basins, and road rut vernal pools according to this measure. 4. Confirm that there will be no planned impacts to vernal pools until adequate mitigation for impacts to vernal pools and special-status vernal pool species has been secured off-site or a restoration plan has been approved by the CPUC, CDFW and USFWS for any mitigation outside of pre-approved vernal pool restoration areas.	1. SDG&E/biologist 2. SDG&E/biologist 3. SDG&E biologist 4. SDG&E/biologistSDG &E/biologist	1. Prior to construction, during construction. 2. During construction. 3. Prior to construction. 4. Prior to construction.

Mitigation Measure		Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	▪ The qualified biological monitor shall have the authority to halt any project activity that is deemed to be affecting, or potentially affecting, a pool. The qualified biological monitor shall consult with the work supervisor, and if necessary, ~~the~~ CDFW and USFWS to resolve the issue. ▪ All staking/flagging shall be removed by the biological monitor following completion of the work. ▪ A minimum of 150 feet shall be provided between pools and all long- term staging. ▪ Implement a stormwater pollution prevention plan (SWPPP) to reduce the potential for sediments and contaminants to enter pools or depressions where vernal pool branchiopods may occur).			
BIO-21	Conduct Protocol Surveys for Quino Checkerspot Butterfly (QCB). Per SDG&E's Quino Checkerspot Butterfly Low-Effect Habitat Conservation Plan (QCB HCP), a USFWS-permitted biologist shall conduct pre-construction protocol surveys for QCB within 2 years prior to construction activities, or as required by the USFWS, in the project survey area. The permitted biologist shall perform the surveys in accordance with the most currently accepted protocol survey method. Results shall be reported to the USFWS within 45 days of the completion of the survey.	1. Confirm with USFWS if protocol surveys need to be conducted for QCB. 2. Retain a qualified biologist to conduct pre-construction protocol surveys for QCB in accordance with the most current protocol survey method. 3. Confirm that the results of the survey are reported to the USFWS within 45 days of completion of the survey.	1. SDG&E 2. SDG&E/biologist 3. SDG&E/biologist	1. Prior to construction. 2. Prior to construction. 3. Prior to construction.
BIO-22	Avoid Host Plants for QCB. SDG&E shall avoid host plants, dot-seed plantain (*Plantago erecta*) and purple owl's clover (*Castilleja exserta*), to the maximum extent possible. The CPUC-approved biological monitor shall flag these plants within construction work areas for avoidance during a pre-construction survey.	1. Confirm that QCB host plants are avoided to the maximum extent possible. 2. Confirm that plants are flagged for avoidance during pre-construction survey.	1. SDG&E 2. SDG&E/biologist	1. During construction, during operation and maintenance activities. 2. Prior to construction.
BIO-23	*Mitigate for Impacts to QCB.* Temporary and permanent impacts to QCB shall be compensated through SDG&E's QCB HCP. Occupied habitat shall be mitigated for at a 2:1 ratio, while un-occupied habitat shall be mitigated for at a 1:1 ratio.	1. Confirm that temporary and permanent impacts to QCB are compensated through SDG&E's QCB HCP	1. SDG&E	1. Prior to construction, during construction, following construction.
BIO-24	*Minimize Area of Disturbance of Sensitive Habitat.* The disturbance or removal of vegetation shall not exceed the minimum necessary to complete construction and shall only occur within the defined work area. Boundaries of habitats to be avoided shall be clearly flagged, and turnaround and stringing areas shall be clearly marked.	1. Confirm that disturbance or vegetation removal does not exceed the minimum necessary and only occurs within defined work areas. 2. Confirm that boundaries of habitats are flagged for avoidance and turnaround and stringing areas are clearly marked.	1. SDG&E 2. SDG&E	1. During construction 2. Prior to construction.
BIO-25	*Restore All Temporary Construction Areas Pursuant to a Habitat Restoration Plan.* All temporary work areas not subject to long-term use or ongoing vegetation maintenance shall be mitigated or restored per SDG&E's LE HCP and/or NCCP. If restored, the sites shall be revegetated with native species characteristic of the adjacent native vegetation communities in accordance with a Habitat Restoration Plan as described in SDG&E NCCP 7.2 Habitat Enhancement Measures. Restoration techniques may include: hydroseeding, hand-seeding, imprinting, and soil and plant salvage. The Habitat Restoration Plan shall include success criteria and monitoring specifications and shall be approved by the CPUC prior to construction of the project. At the completion of project construction, all construction materials shall be completely removed from the site. Topsoil located in areas to be restored would be conserved and stockpiled during the excavation process for use in the restoration. Wherever possible, vegetation would be left in	1. Confirm that temporary work areas are mitigated or revegetated according to the Habitat Restoration Plan. 2. Confirm that the Habitat Restoration Plan incorporates specifications as detailed in this measure. 3. Confirm that all construction materials are removed from the site at the completion of construction. 4. Confirm that topsoil is conserved and stockpiled. 5. Confirm that whenever possible, vegetation is left in place. 6. Confirm that temporary impacts are compensated.	1. SDG&E 2. SDG&E/habitat restoration specialist 3. SDG&E 4. SDG&E 5. SDG&E 6. SDG&E	1. After construction. 2. Prior to construction. 3. Following construction. 4. During construction. 5. During construction. 6. Following construction.

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	place to avoid excessive root damage to allow for natural recruitment following construction. Temporary impacts shall be either mitigated per the LE HCP and/or NCCP or restored sufficient to compensate for the impact. If restoration of temporary impact areas do not achieve the success criteria per the Habitat Restoration Plan, the temporary impact shall be considered a permanent impact and compensated accordingly.			
BIO-26	*Avoid and Minimize Impacts to Federally Protected Wetlands.* To the extent feasible, project-related activities shall avoid federally protected wetlands. A SWPPP shall be implemented to reduce the potential for sediments and contaminants to enter wetlands and waters. After construction, surface topography and drainage shall be restored to pre-construction conditions. Where appropriate, revegetation shall be implemented with site-adapted native species.	1. Confirm that impacts to federally protected wetlands are avoided and minimized. 2. Confirm implementation of a SWPPP. 3. Confirm that after construction, surface topography and drainage is restored to pre-construction conditions. 4. Confirm implementation of revegetation with site-adapted native species, where appropriate.	1. SDG&E 2. SDG&E 3. SDG&E 4. SDG&E	1. During construction. 2. During construction. 3. Following construction. 4. Following construction.
BIO-27	*Obtain Regulatory Permits for Work Activities Taking Place in Wetlands and Waters of the United States and the State.* Work within areas defined as waters of the U.S. that includes placement of fill shall require a CWA Section 404 permit and Section 401 Water Quality Certification. All work proposed in jurisdictional waters of the U.S. shall be authorized under these permits, and the work shall comply with the general and regional conditions of the permits. In areas where disturbance to jurisdictional waters or wetlands occurs, SDG&E shall implement mitigation consistent with the terms of a Clean Water Act (CWA) Nationwide Permit and/or the Final Rule on Compensatory Mitigation for Losses of Aquatic Resources (73 C.F.R. 19594). Compensatory mitigation may include creation, re-establishment, or enhancement of wetlands in the proposed project area or at an off-site location. Compensatory mitigation may also include purchase of credits at an approved mitigation bank or contribution to an approved in-lieu fee program.	1. Confirm that regulatory permits (CWA Section 404 and Section 401 Water Quality Certification) are obtained for work within areas defined as waters of the U.S. 2. Confirm that project activities conform to general and regional conditions in the permits. 3. Confirm that mitigation is consistent with terms of permits.	1. SDG&E 2. SDG&E 3. SDG&E	1. Prior to construction. 2. During construction. 3. During construction, following construction.
Cultural Resources				
CR-1	*Prepare and Implement an Archaeological Treatment Plan for Site CA-SDI-9976 Prior to Construction.* Prior to proposed project construction, SDG&E shall prepare an archaeological treatment plan to conduct data recovery excavations in portions of Site CA-SDI-9976 scheduled to be impacted by construction. The treatment plan shall include provisions for monitoring at CA-SDI-9976 during construction by an archaeologist and a Kumeyaay Native American monitor. The implementation of the treatment plan shall be overseen by an archaeologist who meets the Secretary of Interior's professional standards in archaeology under contract to SDG&E, after approval of the plan by CPUC. A report shall be prepared to document the methods used for the data recovery program and the results of the study; the final report shall be submitted to the CPUC and filed with the South Coastal Information Center of the California Historical Resources Information System (CHRIS).	1. Confirm preparation of an archaeological treatment plan. 2. Retain an archaeologist(s) to implement the treatment plan. 3. Confirm preparation of a report that documents methods and results. 4. Confirm submittal of the report to the CPUC and with the South Coastal Information Center of the CHRIS.	1. SDG&E/archaeologist 2. SDG&E/archaeologist 3. SDG&E/archaeologist 4. SDG&E/archaeologist	1. Prior to construction. 2. Prior to construction. 3. Prior to construction 4. Prior to construction.
CR-2	*Conduct Cultural and Paleontological Resource Training to Workers Prior to Construction.* Prior to initiation of ground-disturbing activities, SDG&E, contractor, and subcontractor proposed project personnel shall receive training about the kinds of archaeological and paleontological materials that could be present above and below the ground surface within the project area, and the protocols to be followed, should any such materials be uncovered during construction. Training materials shall be prepared by a professional archaeologist, paleontologist, or	1. Retain a professional archaeologist, paleontologist, or paleontological monitor to prepare cultural and paleontological resource training. 2. Confirm submittal of a sign-in sheet to the CPUC on a weekly basis.	1. SDG&E/archaeological or paleontological monitor 2. SDG&E	1. Prior to construction. 2. Prior to construction, during construction.

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	paleontological monitor. Training may be required during different phases of construction to educate new construction staff personnel. A sign-in sheet of contractor and subcontractor project personnel who have received training shall be provided to the CPUC on a weekly basis.			
CR-3	*Immediately Halt Construction if Cultural Resources are Discovered, Evaluate All Identified Cultural Resources for Eligibility for Inclusion in the California Register of Historical Resources (CRHR), and Implement Appropriate Mitigation Measures for Eligible Resources.* The large number of archaeological sites recorded along the proposed project alignment points to the sensitivity of the region for these resources. As a result, initial construction ground disturbance within 50 feet of an archaeological site will be monitored by an archaeologist and Native American monitor under the direction of a Qualified Archaeologist who meets the Secretary of Interior's professional standards in archaeology. If the Qualified Archaeologist determines that the potential for cultural resources is low after initial ground disturbance, the Qualified Archaeologist may determine that monitoring is no longer required in that location. If cultural resources, such as structural features, unusual amounts of bone or shell, flaked or ground stone artifacts, historic-era artifacts, human remains, or architectural remains are encountered during project construction activities, work shall be suspended immediately at the location of the find and within a radius of at least 50 feet and SDG&E and the CPUC shall be contacted immediately. Isolates will not constitute a discovery. All previously unevaluated cultural resources uncovered during construction within the project site shall be evaluated for eligibility for inclusion in the CRHR if they cannot be avoided by project design. Resource evaluations shall be overseen by an archaeologist who meets the U.S. Secretary of the Interior's professional standards in archaeology, history, or architectural history, as appropriate. If any of the resources meet the eligibility criteria identified in 36 Code of Federal Regulations (CFR) 60.4, or Public Resources Code (PRC) Section 5024.1 or California Environmental Quality Act (CEQA) Section 21083.2(g), mitigation measures shall be implemented in accordance with CEQA Guidelines Section 15126.4(b) before construction resumes. If the resource is not eligible or is able to be avoided, construction may resume immediately. For CRHR-eligible resources that would be impacted by project construction, mitigation measures for archaeological resources may include (but are not limited to) avoidance; incorporation of sites within parks, greenspace, or other open space; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. Mitigation for Native American resources will be implemented in consultation with a Native American monitor who has a traditional and cultural affiliation with the project area. Implementation of the mitigation would be required before resuming any construction activity in the vicinity of the finds.	1. Retain a qualified archaeologist and Native American monitor to monitor initial construction ground disturbance within 50 feet of a known resource. 2. Confirm preparation of a monitoring plan that describes responsibilities of monitors and reporting protocols. 3. Ensure that construction activities are suspended immediately, and within at least 50 feet, upon discovery of cultural resources and that SDG&E and the CPUC are contacted immediately. 4. Confirm that all cultural resources uncovered during construction shall be evaluated for eligibility for inclusion in the CRHR as described in the measure. 5. Confirm that if any of the resources meet the eligibility criteria identified in 36 CFR 60.4, or PRC Section 5024.1 or CEQA Section 21083.2(g), mitigation measures shall be developed and implemented in accordance with CEQA Guidelines Section 15126.4(b) before construction resumes. 6. Confirm that for CRHR-eligible resources that would be rendered ineligible by the effects of project construction, additional mitigation measures are implemented as discussed in this measure. 7. Confirm that mitigation measures for Native American resources will be developed in consultation with the Native American monitor who has a traditional and cultural affiliation with the project area. 8. Confirm implementation of the approved mitigation before resuming any construction activity within 50 feet of the finds.	1. SDG&E/archaeologist/ Native American monitor 2. SDG&E 3. SDG&E/archaeologist/ Native American monitor 4. SDG&E/archaeologist 5. SDG&E/archaeologist 6. SDG&E/archaeologist 7. SDG&E/Native American monitor 8. SDG&E/archaeologist/ Native American monitor	1. Prior to construction. 2. Prior to construction. 3. During construction. 4. During construction. 5. During construction. 6. During construction. 7. During construction. 8. During construction.
CR-4	*Conduct Paleontological Monitoring During Excavations, and Immediately Halt Construction if Paleontological Resources are Discovered and Determine Their Significance.* A paleontological monitor shall work under the direction of a qualified paleontologist and shall be on-site to observe excavation operations that involve the initial excavation of previously undisturbed deposits for the 100 poles located within paleontologically sensitive (moderate to high) formations (i.e., late Pleistocene to Holocene-age older terrace deposits, middle to late Pleistocene-age old alluvial floodplain deposits, early to middle Pleistocene-age Lindavista Formation, all late Oligocene Otay Formation members, and the middle Eocene-	1. Retain a paleontological monitor and a qualified paleontologist. 2. Confirm that a paleontological monitor is on-site to observe excavation operations in accordance with this measure. 3. Ensure that if fossils are encountered, the correct protocol will be followed in accordance with this measure. 4. Confirm that a final summary report shall be completed and submitted to the CPUC within 60 days of completion of monitoring, and discusses the items detailed in this measure.	1. SDG&E 2. SDG&E/paleontological monitor 3. Paleontological monitor/SDG&E's Cultural Resource Specialist	1. Prior to construction. 2. During construction. 3. During construction. 4. Following construction.

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	age Mission Valley Formation). The information indicating which poles are located in these moderate to highly sensitive formations is included in Table 1 of the paleontological resources study conducted for this project (San Diego Natural History Museum Department of PaleoServices. 2013. Paleontological record search – SDG&E TL 649 Wood to Steel, Revised [eTS #8357]). A paleontological monitor works under the direction of a qualified paleontologist and is an individual who has experience in the collection and salvage of fossil materials. A qualified paleontologist is defined as an individual with experience meeting the Society of Vertebrate Paleontology's (SVP's) guidelines (SVP 2010). In the event that fossils are encountered, the paleontological monitor shall have the authority to divert or temporarily halt construction activities in the area of discovery to allow recovery of fossil remains in a timely fashion. The paleontologist shall contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery, who will then notify the CPUC of the find. The paleontologist, in consultation with SDG&E's Cultural Resource Specialist, shall determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager shall concur with the evaluation procedures to be performed before construction activities would be allowed to resume. Because of the potential for recovery of small fossil remains, it may be necessary to set up a screen-washing operation on site. If fossils are discovered, the qualified paleontologist (or paleontological monitor) shall recover them along with pertinent stratigraphic data. Because of the potential for recovery of small fossil remains, recovery of bulk sedimentary-matrix samples for off-site wet screening from specific strata may be necessary, as determined in the field. Fossil remains collected during monitoring and salvage shall be cleaned, repaired, sorted, catalogued, and deposited in a scientific institution with permanent paleontological collections. A final summary report that outlines the results of the recovery program shall be completed and submitted to the CPUC within 60 days of the completion of monitoring. The report would discuss the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.		4. Paleontologist/Paleontological monitor	
CR-5	*Immediately Halt Construction if Human Remains Are Discovered and Implement Applicable Provisions of the California Health and Safety Code.* If human remains are discovered during the project's construction activities, the requirements of California Health and Human Safety Code Section 7050.5 shall be followed. Potentially damaging excavation shall halt in the project site of the remains, with a minimum radius of 100 feet, and the San Diego County coroner shall be notified. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code Section 7050.5[b]). If the coroner, or their representative, determines that the remains are those of a Native American, he or she must contact the California Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). Pursuant to the provisions of PRC Section 5097.98, the NAHC shall identify a Most Likely Descendent (MLD). The MLD designated by the NAHC shall have at least 48 hours to inspect the site and propose treatment and disposition of the remains and any associated grave goods. The project proponent shall work with the landowner and the MLD to ensure that the remains are treated with dignity and to come to a decision on the final disposition of the remains. If there are disputes between the landowner and the MLD, the NAHC will mediate the dispute to attempt to find a resolution.	1. Confirm that the requirements of California Health and Human Safety Code 7050.5 are followed if human remains are discovered. 2. Confirm that potentially damaging excavation is halted in the area where remains are found, with a minimum radius of 100 feet, and that the San Diego County coroner is notified. 3. Confirm that the protocol detailed in this measure is followed should human remains be found.	1. SDG&E 2. SDG&E 3. SDG&E/coroner/NAHC/MLD	1. During construction. 2. During construction. 3. During construction.

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
CR-6	*Prepare Treatment Plans for any Tribal Cultural Resources (TCRs) Identified in the Proposed Project Area.* No TCRs are currently identified within the project area. If TCRs are identified in the proposed project area, the CPUC would consult with the Viejas Band and/or other tribes with a traditional and cultural affiliation to the resource, as appropriate, to develop feasible alternatives to avoid or substantially lessen the impacts on identified TCRs pursuant to PRC 21083.b.2, or in accordance with PRC 21084.3. If necessary, SDG&E would prepare the treatment plan once treatment has been agreed upon by the CPUC, SDG&E, the Viejas Band, and other tribes, as appropriate, for submittal to the CPUC.	1. Confirm consultation with the Viejas Band and/or other tribes should TCRs be identified in the proposed project areas. 2. Confirm preparation of a treatment plan for submittal to the CPUC.	1. CPUC 2. SDG&E	1. Prior to construction, during construction. 2. Prior to construction, during construction.
GEO-1	*Incorporate Report Recommendations from the Geotechnical Investigation into Design Level Geotechnical Foundation Design Report.* SDG&E and/or its design contractor shall require in contract documents that a site-specific, design-level geotechnical foundation investigation and corresponding report be required before final design approval. The geotechnical investigation shall be conducted by a qualified geotechnical engineer, or team of geotechnical engineers, to evaluate subsurface soil and geologic conditions at the project site. The geotechnical report shall be document the results of that investigation and provides conclusions and recommendations that address site-specific soil parameters into final pole foundation designs and address ground and slope stability issues at each pole location. Recommendations shall address site and geologic conditions with a focus on the expansion, shrink/swell potential, liquefiable soils, physical instability, and corrosivity of underlying soils, as well as any other geologic hazards that are identified during the course of the investigation. The report shall provide design criteria to address any geotechnical issues and ensure that the proposed project's structures and facilities remain stable. The report may incorporate the findings of previous geotechnical reports (e.g., Geocon Inc. 2014). The design-level geotechnical evaluation report shall be certified by a licensed professional geotechnical engineer or certified engineering geologist and adhere to design requirements set forth in the California Building Code and all applicable state and local code requirements. All design measures, recommendations, design criteria, and specifications set forth in the design-level geotechnical evaluation shall be implemented as a condition of project approval.	1. Confirm that contract documents include a site-specific, design-level geotechnical foundation investigation and corresponding report before final design. 2. Retain a qualified geotechnical engineer, or team of geotechnical engineers, to conduct geotechnical investigation. 3. Confirm that the geotechnical report includes all provisions detailed in this measure. 4. Confirm that the geotechnical report is certified by a licensed professional geotechnical engineer or certified engineering geologist and adheres to all requirements in this measure.	1. SDG&E/design contractor 2. SDG&E/geotechnical engineers 3. SDG&E/geotechnical engineers 4. SDG&E/ geotechnical engineer/engineering geologist	1. Prior to construction. 2. Prior to construction. 3. Prior to construction. 4. Prior to construction.
Greenhouse Gases				
None.				
Hazards and Hazardous Materials				
HAZ-1	*Perform Unexploded Ordnance Awareness Training and On-Site Unexploded Ordinance (UXO) Construction Monitoring.* SDG&E or a qualified SDG&E contractor shall provide project-specific daily awareness training regarding UXO identification and response procedures to all project personnel performing ground disturbing work in potential UXO hazard areas. A UXO technician shall be on site during all earth-disturbing activities in potential munitions hazards areas within the Formerly Used Defense Site (FUDS) boundary to monitor the work and ensure that hazardous areas are avoided. If a UXO is discovered during proposed project related construction activities, excavation activities in the vicinity shall cease and the on-site UXO technician shall assess the condition of the munition. Upon discovery, the San Diego County Sheriff's Bomb/Arson Unit would be notified. Excavation activities in the	1. Conduct daily awareness training regarding UXO identification and response procedures. 2. Retain a UXO technician to be onsite during all earth disturbing activities in potential munition hazards areas within FUDS boundary. 3. Confirm that all excavation activities are ceased upon UXO discovery and assess condition of munition. 4. Confirm contact with the San Diego County Sheriff's Bomb/Arson Unit upon discovery. 5. Ensure excavation activities cease until UXO has been removed. 6. Confirm contact with DTSC upon discovery.	1. SDG&E/contractor 2. SDG&E/UXO technician 3. SDG&E/UXO technician 4. SDG&E/UXO technician 5. SDG&E/UXO technician	1. During construction. 2. During construction. 3. During construction. 4. During construction. 5. During construction. 6. During construction.

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	vicinity shall not resume until the UXO has been removed. SDG&E shall also notify the Department of Toxic Substance Control (DTSC) if UXO is discovered.		6. SDG&E/UXO technician	
HAZ-2	*Personnel Training.* Prior to the start of construction, all SDG&E, contractor, and subcontractor project personnel shall receive environmental training regarding the appropriate work practices necessary to effectively implement hazardous materials procedures and protocols and to ensure compliance with SDG&E's Project Design Features and Ordinary Construction/Operating Restrictions and applicable hazardous materials-related laws and regulations. Construction workers that would be involved in the handling of hazardous waste shall receive appropriate training as required by CFR, Title 29, Section 1910.120 (e.g., Hazardous Waste Operations and Emergency Response training). Training shall include, but would not be limited to the following: ▪ Review of health and safety plans prepared for the proposed project, including warnings about exposure to hazardous substances that may be used or encountered; ▪ Hazardous materials storage, handling, and disposal procedures; ▪ Hazardous materials spill prevention and response measures (e.g., specified locations for construction vehicle and equipment refueling, daily vehicle and equipment inspections to identify leaking fuels and/or oils as early as possible, and spill containment); and ▪ Availability and use of safety equipment, including personal protective equipment. ▪ A sign-in sheet of project personnel who have received training shall be provided to CPUC on a weekly basis.	1. Confirm that all SDG&E, contractors, and subcontractor project personnel receive training. 2. Confirm that construction workers receive appropriate training that includes the specifications detailed in this measure.	1. SDG&E 2. SDG&E	1. Prior to construction. 2. Prior to construction.
HAZ-3	*Perform Soil Sampling and Soil Management Procedures.* The following measures shall be implemented: ▪ Soil testing for metals contamination shall be conducted for all excavation activities within 500 feet of the former Brown Field Bombing Range FUDS eligible property boundary (e.g., excavation activities occurring at Pole Nos. 63 through 96). In addition, an unanticipated soil contamination handling plan shall be prepared to address the procedures to be followed if contaminated soils are encountered during testing or excavation activities. This plan shall contain guidelines for the characterization, any necessary removal, transport, and disposal of contaminated soil requiring excavation during construction. The plan shall emphasize that all activities within or in close proximity to contaminated areas shall adhere to all applicable federal, state, and local environmental and hazardous waste laws and regulations.	1. Confirm that soil testing for metals contamination is conducted for all excavation activities within 500 feet of the former Brown Field Bombing Range FUDS boundary. 2. Confirm preparation of an unanticipated soil contamination handling plan. 3. Ensure that the handling plan incorporates all provisions detailed in this measure. 4. Confirm that work will stop should contaminated soil be encountered in other areas or the proposed project during excavation activities, and soil is evaluated by a qualified environmental professional. 5. Confirm that suspect soil is sampled and analyzed in place or containerized and managed in accordance with all applicable regulations. 6. Ensure that if there is evidence of contamination in the exposed soil, a report is prepared and actions taken; report shall be submitted to the CPUC for each event. 7. Confirm that a report is submitted within 30 days of receipt of laboratory data.	1. SDG&E 2. SDG&E 3. SDG&E 4. SDG&E/ professional engineer/professional geologist 5. SDG&E/ professional engineer/professional geologist 6. SDG&E 7. SDG&E	1. During construction. 2. Prior to construction/during construction. 3. Prior to construction. 4. During construction. 5. During construction. 6. During construction. 7. During construction.

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	▪ If soil that is stained, discolored, odorous, or otherwise suspected to be contaminated is encountered in other areas of the proposed project during excavation activities for project construction or operation, work shall be stopped and a qualified environmental professional shall evaluate the suspect soil. The qualified environmental professional shall be a professional engineer or professional geologist registered in California, with applicable experience in the evaluation and remediation of hazardous waste, or someone under their direct supervision, or have a Baccalaureate degree or higher in science or engineering and five years of relevant full-time work experience; or ten years of relevant full-time work experience. The suspect soil shall either be sampled in place and analyzed to determine appropriate management options or containerized and managed in accordance with all applicable federal, state, and local regulations. Based on the results of observation and analysis, the contractor's health and safety officer or the appropriate SDG&E representative shall decide whether to remove or avoid the contaminated soil. If during excavation work, the contractor observes visual or olfactory evidence of contamination in the exposed soil, a report of the location and the potential contamination, results of laboratory testing, recommended mitigation (if contamination is verified), and actions taken shall be submitted to the CPUC for each event. This report shall be submitted within 30 days of receipt of laboratory data.			
HAZ-4	*Prepare and Implement a Project-Specific Construction Fire Prevention Plan.* The following measures shall be implemented: • SDG&E shall prepare a project-specific construction fire prevention plan which shall include the following: - A description of the procedures for minimizing fire potential (e.g., vegetation removal and disposal procedures). - The requirements of Title 14, California Forest Practice Rules of the CCR. - Relevant components of the SDG&E Fire Prevention Plan (SDG&E 2014). - The firefighting equipment (e.g., shovels, pulaskis, and backpack pumps) that must be maintained on site and in vehicles for the duration of construction. - The appropriate timing and use of fire-protective mats or shields during grinding and welding operations. - Emergency response and reporting procedures. - Relevant emergency contact information. ▪ Prior to construction, SDG&E shall submit the project-specific construction fire prevention plan to the CPUC for record keeping purposes. ▪ Prior to the start of construction activities, SDG&E shall assess the work areas, access roads, and ROW for wildland fire risk and fire hazard reduction (e.g., vegetation removal and disposal) shall be performed in accordance with the project-specific Construction Fire Prevention Plan. ▪ The project-specific construction fire prevention plan shall be implemented throughout construction of the proposed project.	1. Confirm preparation of a project-specific fire prevention plan in accordance with the provisions in this measure. 2. Confirm submittal of the fire prevention plan to the CPUC. 3. Prior to the start of construction activities, SDG&E shall assess the work areas, access roads, and ROW for wildland fire risk and fire hazard reduction (e.g., vegetation removal and disposal) shall be performed in accordance with the project-specific Construction Fire Prevention Plan. 4. Confirm implementation of the fire prevention plan throughout the duration of construction.	1. SDG&E 2. SDG&E 3. SDG&E 4. SDG&E	1. Prior to construction. 2. Prior to construction. 3. Prior to construction. 4. During construction.

Mitigation Measure		Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
Hydrology and Water Quality				
HYD/WQ-1	*Implement Construction BMPs for Erosion Control.* SDG&E and/or its contractor(s) shall implement the following measures during the proposed project construction, or shall implement alternative measures that are equally or more effective: ▪ Implement practices to reduce erosion of exposed soil and stockpiles, including: - watering for dust control, - establishing perimeter silt fences, - applying hydraulic mulch and/or hydroseed, - covering stockpiles when not in use, - installation of fiber rolls, - installation of sediment basins and/or traps, and - placement of gravel bag berms. - Minimize soil disturbance areas. - Preserve existing vegetation, where feasible. - Implement practices to maintain water quality, including silt fences, stabilized construction entrances, and storm-drain inlet protection. - Where feasible, limit construction to dry periods. - Revegetate disturbed areas, as necessary. The performance standard for these erosion control measures is to use the best available technology that is economically achievable. These measures may be included in SWPPP requirements, as appropriate.	1. Confirm implementation of BMPs for erosion control (or alternative measures that are equally or more effective) as discussed in this measure.	1. SDG&E	1. During construction.
HYD/WQ-2	*Implement Measures to Protect Aquatic Resources During Project Construction.* The following measures shall be implemented by SDG&E or its contractors: ▪ Jurisdictional drainage crossings shall be avoided during periods of high flow, as determined by the CPUC-approved aquatic resource monitor. After each rain event, drainage crossings shall be evaluated for surface flows and ponding by the aquatic resource monitor to determine if a dry-out period of 24 hours or more (full avoidance of the crossing) is required to avoid substantial impacts to the drainage crossings. If it becomes necessary to place a temporary bridge over a jurisdictional drainage during construction, as determined by the aquatic resource monitor, the bridge shall be placed over the drainage, spanning the channel from bank to bank, above the ordinary high-water mark, and allowing natural flow to continue downstream. An aquatic resource monitor shall be present during placement and removal of any temporary bridges. ▪ When a pole location or staging yard is located within 25 feet of a drainage feature that qualifies as a federal and/or state jurisdictional aquatic feature, the following constraints shall apply: - A CPUC-approved aquatic resource monitor, with the authority to stop work if necessary, shall be present on site as needed to ensure minimization and avoidance measures are complied with. Monitoring shall be conducted at aquatic features in particular	1. Retain a CPUC-approved aquatic resource monitor to be onsite as needed. 2. Ensure that jurisdictional drainage crossings are avoided during periods of high flow as determined by the CPUC-approved aquatic resource monitor. After rain events, confirm protection of drainages as detailed in this measure. 3. Confirm implementation of constraints detailed in this measure when a pole location or staging yard is adjacent to a drainage feature that qualifies as a federal and/or state jurisdictional aquatic feature.	1. SDG&E/aquatic resource monitor 2. SDG&E/aquatic resource monitor 3. SDG&E/aquatic resource monitor	1. Prior to construction, during construction. 2. Prior to construction, during construction. 3. Prior to construction, during construction, following construction.

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	during BMP installation, spot checking during construction, and at the end of construction. - Prior to construction activity, the aquatic resource monitor or SDG&E Environmental Representative shall provide an Environmental Tailgate meeting to the crew to review all construction restrictions. - Parking of vehicles and staging of equipment shall not occur within jurisdictional aquatic features. - If work is conducted at pole locations during the rainy season (October 1 through May 1), before scheduling proposed project activities, the weather forecast shall be monitored. Work shall not be scheduled if a greater than 40 percent chance of rain is forecasted during the time needed to complete the activity. If rain does occur unexpectedly during proposed project activities, the site shall be secured using BMPs (e.g., fiber rolls) to prevent sedimentation and erosion. - Stockpiled material shall not be placed within the jurisdictional drainage or where it could be washed into the jurisdictional drainage feature during a storm event. If stockpile is within 25 feet of a jurisdictional drainage and left overnight, the stockpile shall be covered with plastic and secured. - Any vegetation that has been mowed or trimmed to provide access or work space shall not be discharged within a jurisdictional drainage or placed where it could be washed into a jurisdictional drainage during a storm event. - At the end of construction, all unused construction material and debris shall be removed and disposed-of at an appropriate licensed facility, and in accordance with all applicable federal, State, and local regulations.			
HYD/WQ-3	*Implement General Construction Dewatering Procedures.* SDG&E or its contractors shall use the following general construction dewatering procedures: ▪ A submersible pump shall be installed. ▪ If the groundwater shall be discharged to an upland area, as necessary, it shall be pumped in accordance with state permitting requirements. ▪ If the groundwater is pumped to a baker tank for discharge to surface waters, the water shall be tested to ensure compliance with the applicable Regional Water Quality Control Board or State Water Resources Control Board National Pollutant Discharge Elimination System permit requirements. If the water quality does not meet permit requirements, additional baker tanks shall be used and/or additional treatment or filtering shall be performed until the applicable requirements are met. ▪ If the groundwater shall not be discharged to an upland area or surface waters in the area, or if the water quality does not meet permit requirements, the water shall be disposed of at an approved SDG&E disposal site that is licensed to handle wastewater.	1. Confirm installation of a submersible pump. 2. Confirm that groundwater is pumped in accordance with state law. 3. Confirm that groundwater in a baker tank is tested to ensure compliance with applicable permits. 4. Confirm proper disposal of groundwater.	1. SDG&E/contractors 2. SDG&E/contractors 3. SDG&E/contractors 4. SDG&E/contractors	1. During construction. 2. During construction. 3. During construction. 4. During construction.

Mitigation Measure		Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
Land Use				
None.				
Mineral Resources				
None.				
Noise				
NOI-1	*Restrict Construction Work Periods.* Construction equipment operation shall be limited to the hours of 7 a.m. to 7 p.m., Monday through Saturday, and no construction operation shall occur on Sundays or holidays. If construction activities are required outside of these hours, SDG&E shall obtain written authorization from the City of Chula Vista, City of San Diego, or County of San Diego, as appropriate, to perform construction activities outside of the allowed hours stipulated in the applicable municipal ordinance. Official copies of the written authorization shall be submitted to the CPUC before initiating any work outside the hours listed above.	1. Confirm that construction equipment operation is limited to the days/times specified in this measure. 2. Confirm that if construction activities need to occur outside of set days/hours, the process outlined in this measure is followed. 3. Obtain written authorization from the local municipality if work must occur outside of hours outlined in this measure.	1. SDG&E 2. SDG&E 3. SDG&E	1. During construction. 2. During construction. 3. During construction.
NOI-2	*Notify Local Landowners of Construction Activities.* Residences and landowners within 100 feet of the proposed project alignment (e.g. those near the stringing site at Sea Lavender Way and near Pole Nos. 4 through 7) shall be provided written notice of the planned construction activity at least two days prior to the commencement of work. In addition, residents and landowners within 100 feet of any planned helicopter use along the alignment shall be provided written notice of the helicopter use at least seven days prior to the commencement of work. The notice shall state the date of planned construction activity in proximity to that landowner's property and the range of hours during which maximum noise levels may be anticipated. If nighttime work is anticipated, the notification outlined in this measure shall be provided at least seven days prior to commencement of work to all residences and landowners located within 500 feet of the anticipated work area.	1. Confirm that residences and landowners within 100 feet of the alignment are provided with a written notice of planned construction at least two days prior to the commencement of work, and at least seven days prior for planned helicopter use. 2. Confirm that the notification includes all specifications outlined in this measure.	1. SDG&E 2. SDG&E	1. Prior to construction. 2. Prior to construction.
NOI-3	*Construction Noise Complaints.* The proposed project applicant shall submit to CPUC for review and approval a set of procedures for responding to and tracking complaints received pertaining to construction noise, and shall implement the procedures during construction. At a minimum, the procedures shall include: a) Designation of a Public Liaison dedicated to the project to track and respond to noise complaints for the project; b) Protocols for receiving, responding to, and tracking received noise complaints; and c) Maintenance of a noise complaint log that records received complaints and how complaints were addressed, which shall be submitted to the CPUC for review upon request.	1. Confirm submittal to the CPUC a set of procedures for responding to and tracking complaints pertaining to construction noise. 2. Confirm implementation of procedures as detailed in this measure.	1. SDG&E 2. SDG&E	1. Prior to construction. 2. During construction.
NOI-4	*Construction Noise.* For construction activities within 100 feet of residential or other sensitive uses (i.e., residences near the stringing site at Sea Lavender Way, and the residences near Pole Nos. 4 through 7), the project applicant shall implement noise	1. Confirm implementation of noise reduction measures in accordance with this measure for construction activities within 100 feet of residential or sensitive uses.	1. SDG&E	1. During construction.

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	reduction measures to reduce noise impacts due to construction. Noise reduction measures include the following: a) Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds) wherever feasible. b) Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 A-weighted decibels (dBA). External jackets on the tools themselves shall be used, if such jackets are commercially available, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with required construction procedures. c) Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled or use other measures to provide equivalent noise reduction.			
NOI-5	*Project-Specific Construction Noise Reduction Measures.* For construction activities within 100 feet of residential or other sensitive uses (i.e., residences near the stringing site at Sea Lavender Way, and the residences near Pole Nos. 4 through 7), the project applicant shall submit a Construction Noise Management Plan prepared by a qualified acoustical consultant. The plan shall be submitted to the CPUC for review and approval. The plan shall contain a set of site-specific noise attenuation measures to reduce construction noise to less than 75 dBA during a 12-hour period or to the maximum extent practicable.	1. Confirm submittal of a Construction Noise Management Plan to the CPUC for construction activities occurring within 100 feet of residential or other sensitive areas.	1. SDG&E	1. Prior to construction.
NOI-6	*Vibration Impact Assessment.* A structural engineer or other qualified professional shall be retained to prepare a vibration impact assessment (assessment) for the water pump station near the project alignment between Pole Nos. 18 and 18.1. The assessment shall take into account project-specific information, such as the composition of the structures, location of the various types of equipment used during each phase of the project, and the soil characteristics in the project area, to determine whether project construction may cause damage to this structure. If the assessment finds that the project may cause damage to this structure, the structural engineer or other qualified professional shall recommend design means and methods of construction to avoid the potential damage, if feasible. The assessment and its recommendations shall be reviewed and approved by the CPUC. If there are no feasible design means and methods to eliminate the potential for damage, the structural engineer or other appropriate professional shall undertake an existing condition study (study) of any structures (or, in case of large buildings, of the portions of the structures) that may experience damage. The study will establish the baseline condition of these structures, including, but not limited to, the location and extent of any visible cracks or spalls. The study shall include written descriptions and photographs. The study shall be reviewed and approved by CPUC. Upon completion of the project, the structures (or, in case of large buildings, of the portions of the structures) previously inspected will be resurveyed, and any new cracks or other changes shall be compared to pre-construction conditions and a determination shall be made as to whether the proposed project caused the damage. The findings shall be submitted to CPUC for review. If the study determines that project construction has resulted in	1. Retain a structural engineer or other qualified professional to prepare a vibration impact assessment for water pump station. 2. Confirm that the assessment includes the details discussed in this measure. 3. Confirm that recommendations and assessment are reviewed and approved by the CPUC. 4. Confirm that a study is conducted of any structures that may experience damage. 5. Confirm that the study includes the details discussed in this measure, and is approved by the CPUC. 6. After the project is completed, confirm that all structures are resurveyed and compared to pre-construction conditions, and confirm that findings are submitted to the CPUC. 7. Ensure that any structures that are damaged, are repaired.	1. SDG&E/structural engineer or qualified professional 2. SDG&E/structural engineer or qualified professional 3. SDG&E/structural engineer or qualified professional 4. SDG&E/structural engineer or qualified professional 5. SDG&E/structural engineer or qualified professional 6. SDG&E/structural engineer or qualified professional 7. SDG&E/structural engineer or qualified professional	1. Prior to construction. 2. Prior to construction. 3. Prior to construction. 4. Prior to construction. 5. Prior to construction. 6. Following construction. 7. Following construction.

	Mitigation Measure	Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	damage to the structure, the damage shall be repaired to the pre-existing condition by the project sponsor, provided that the property owner approves of the repair.			
Population and Housing				
None.				
Public Services				
None.				
Recreation				
None.				
Transportation and Traffic				
TRA-1	*Implementation of Construction Traffic BMPs.* SDG&E shall implement the following BMPs: ▪ Develop circulation and detour plans to minimize impacts to local street circulation. This shall include the use of signing and flagging to guide motor vehicles, bicycles, and pedestrians through and/or around the construction zone. ▪ Schedule closures of collector and arterial roads to occur outside of peak morning and evening commute hours. ▪ Schedule lane closures and obstructions on collector and arterial roads to occur outside of peak morning and evening commute hours. ▪ Include detours for bicycles and pedestrians in all areas potentially affected by project construction. ▪ Install traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones. ▪ Prior to any closure of public roadways, notification would be posted and/or circulated to the public within a four-block radius at least 5 days in advance of anticipated closures, or as required by the local jurisdiction. ▪ SDG&E or its contractor shall employ adequate control devices, signage, a detour route, and flaggers, as necessary. ▪ Coordinate with local transit agencies for the temporary relocation of routes or bus stops in work zones as necessary.	1. Confirm implementation of construction traffic BMPs outlined in this measure.	1. SDG&E	1. Prior to construction, during construction.
TRA-2	*Emergency Coordination and Access Considerations* SDG&E or its contractor shall implement the following measures: ▪ When work is conducted on roads and may have the potential to affect traffic flow, work shall be coordinated with local emergency service providers, as necessary, to ensure that emergency vehicle access and response is not impeded.	1. Ensure coordination with emergency service providers for work conducted on roads that may affect traffic flow. 2. Ensure access to residences and businesses is maintained at all times. 3. Confirm notification to property owners if access needs to be temporarily blocked.	1. SDG&E 2. SDG&E 3. SDG&E	1. During construction. 2. During construction. 3. During construction.

Mitigation Measure		Monitoring and Reporting Action	Monitoring Responsibility	Monitoring Schedule
	▪ Access to residences and businesses shall be maintained at all times. Access for driveways and private roads shall be maintained to the extent feasible. If construction work would temporarily block access to a driveway or private road, affected property owners shall be notified a minimum of 7 days prior to construction activities.			
Utilities and Service Systems				
None.				

Appendix D

SDG&E Proponent's Environmental Assessment for the Tie Line 649 Wood-to-Steel Replacement Project

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August 6, 2015

Mr. Michael Zelazo
Energy Division – Infrastructure Planning and Permitting
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

RE: San Diego Gas & Electric's Permit to Construct (PTC) Proponent's Environmental Assessment (PEA) for Tie Line 649 Wood-to-Steel Replacement Project (A. 13-09-XXX)

Dear Mr. Zelazo,

San Diego Gas & Electric (SDG&E) will file its Permit to Construct (PTC) Application for Tie Line 649 Wood-to-Steel Replacement Project (Proposed Project) to the California Public Utilities Commission (CPUC) on August 10, 2015 (referenced as "Volume I"). Accompanying the Application, and attached here are 3 CD-ROM copies of the Proponent's Environmental Assessment (PEA) (referenced as "Volume II"). One CD copy is for you, and please distribute the other two to your consultant and the assigned ALJ. Hard copies of the PEA will be mailed to you shortly.

Also, SDG&E has submitted to the CPUC docket office a check as an application deposit in accordance with the CPUC Rules of Practice and Procedure. According to Rule 2.5, SDG&E's PTC application for the Tie Line 649 Wood-to-Steel Replacement Project requires a deposit of $46,500.00 dollars, which is the full deposit. The purpose of this deposit is to provide funding for the CPUC's preparation of the Environmental Impact Report (EIR) in this application proceeding.

If you have any questions regarding this deposit, application, or the PEA please do not hesitate to contact me at the number or email referenced above.

Sincerely,

Shivani Ballesteros

Shivani Ballesteros

Enclosures

cc Allen Trial, Attorney for SDG&E
Andy Renger, SDG&E Project Manager

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ATTACHMENTS

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1 – PROPONENT'S ENVIRONMENTAL ASSESSMENT SUMMARY

Consistent with California Public Utilities Commission (CPUC) General Order 131-D, this Proponent's Environmental Assessment (PEA) has been prepared by San Diego Gas & Electric Company (SDG&E) to support SDG&E's application for a Permit to Construct the Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project).

1.0 PROJECT COMPONENTS

The Proposed Project involves the following components:

- wood-to-steel replacement of existing wood poles with new steel poles,
- transferring the existing power line conductors to the new poles,
- replacing portions of the existing distribution line conductors on the new poles,
- transferring portions of the existing distribution line conductors to the new poles,
- removing approximately 400 feet of distribution line,
- transferring existing telecommunications lines to the new poles,
- converting approximately 430 feet of underground power line cable to an overhead configuration,
- intercepting existing underground distribution lines in two locations, and
- modifying existing access roads in four locations.

1.1 PROJECT LOCATION

The Proposed Project is located in the southeastern portion of San Diego County, California, approximately 12 miles southeast of downtown San Diego and approximately 1.5 miles north of the United States- (U.S.-) Mexico border. The portion of the power line that will be replaced is approximately seven miles long and is located between the Otay and Border substations.

1.2 PROJECT NEED AND ALTERNATIVES

As described further in Chapter 2 – Project Purpose and Need, the Proposed Project is being proposed to meet the following three objectives:

- Objective 1: Increase the fire safety and service reliability of TL 649.
- Objective 2: Minimize potential adverse environmental effects.
- Objective 3: Locate proposed facilities within existing utility corridors to the extent feasible.

Although the primary purpose of the Proposed Project is to replace the existing wood poles with steel poles to make them more resilient to fires, alternatives were considered during the development of the Proposed Project. The Proposed Project was ultimately selected because it best meets all of the objectives and is the most cost effective when compared to all alternatives.

1.3 AGENCY COORDINATION

1.3.0 Otay Water District

SDG&E has been in communication with Otay Water District in regards to water supply availability during construction of the Proposed Project. Otay Water District provided a Will-Serve letter on September 29, 2014, stating that the district has adequate capacity to meet the water demands of the Proposed Project. Further discussion is provided in Section 4.17 Utilities and Service Systems, and the Will-Serve letter is provided in Attachment 4.17-A: Otay Water District Will-Serve Letter.

1.3.1 California Department of Transportation

SDG&E contacted the California Department of Transportation (Caltrans) on September 3, 2014 regarding the underground to overhead conversion of the power line located underneath the State Route 125 bridge within the existing right-of-way (ROW). On September 29, 2014, SDG&E received a response from Caltrans indicating that underground to overhead conversion may be applied for through the encroachment permit process.

1.3.2 Native American Heritage Commission

A Sacred Land File (SLF) search for the Area of Potential Effect (APE) was requested from the California Native American Heritage Commission (NAHC) on April 12, 2010 and on May 28, 2015. The SLF search results prepared by the NAHC indicating the presence of any Native American cultural resources within the APE will appear as an addendum to the Cultural Resources Technical Report.

Follow-up correspondence will be conducted with all individuals and groups indicated by the NAHC as having affiliation with the APE. Follow-up correspondence will consist of a letter describing the Project and a detailed map indicating the APE. Recipients will be requested to reply with any information they are able to share about Native American resources that might be adversely affected by the Proposed Project. The results of this outreach effort will be included as an addendum to the Cultural Resources Technical Report.

1.4 PROPONENT'S ENVIRONMENTAL ASSESSMENT CONTENTS

This PEA was prepared in accordance with the PEA Checklist issued by the CPUC on November 24, 2008, and is divided into the following five sections:

- Chapter 1 – PEA Summary discusses the contents and conclusions of the PEA and describes SDG&E's ongoing and past coordination efforts.

- Chapter 2 – Project Purpose and Need outlines the Proposed Project's three objectives, which have been discussed previously.

- Chapter 3 – Project Description provides a detailed description of the Proposed Project. This discussion includes specifics regarding the following:

    - Proposed Project location

- Existing system
- Proposed Project components
- Permanent and temporary land/ROW requirements
- Construction methods
- Construction schedule
- Anticipated operation and maintenance activities
- Federal, state, and local permits that will be obtained for the Proposed Project
- Project Design Features and Ordinary Construction/Operating Restrictions

- Chapter 4 – Environmental Impact Assessment includes an environmental impact assessment summary and a discussion of the existing conditions and the potential and anticipated impacts of the Proposed Project for each of the following resource areas:

  - Aesthetics
  - Agriculture and Forestry Resources
  - Air Quality
  - Biological Resources
  - Cultural Resources
  - Geology and Soils
  - Greenhouse Gas (GHG) Emissions
  - Hazards and Hazardous Materials
  - Hydrology and Water Quality
  - Land Use and Planning
  - Mineral Resources
  - Noise
  - Population and Housing
  - Public Services
  - Recreation
  - Transportation and Traffic
  - Utilities and Service Systems

  The CPUC's PEA Checklist indicates that the environmental setting section can be provided separately or combined with the impacts. SDG&E has elected to combine the existing conditions and impacts for each resource area in Chapter 4 – Environmental Impact Assessment. This chapter also include a Cumulative Analysis, which discusses past, present, and reasonably foreseeable future projects within the Proposed Project area, as well as the Proposed Project's potential to contribute to a significant cumulative effect.

- Chapter 5 – Detailed Discussion of Significant Impacts identifies that there are no potentially significant impacts that will result from the Proposed Project, evaluates alternatives to the Proposed Project, describes the justification for the preferred alternative, and discusses the Proposed Project's potential to induce growth in the area.

Throughout the PEA, SDG&E addresses every item requested in the CPUC's PEA Checklist. To facilitate confirmation of this and review of the PEA, Table 1-1: PEA Checklist Key identifies the sections in which each checklist item is addressed.

1.5 PROPONENT'S ENVIRONMENTAL ASSESSMENT CONCLUSIONS

The PEA analyzes the potential environmental impacts associated with construction, operation, and maintenance of the Proposed Project. The resource areas discussed in Chapter 4 – Environmental Impact Assessment will not be impacted by the Proposed Project or will experience less-than-significant impacts.

1.6 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

There have been no areas of controversy for the Proposed Project to date, and no controversy is anticipated, particularly because the Proposed Project is limited to replacing existing poles with new poles at nearly the same locations. There are no existing issues that require resolution.

1.7 PUBLIC OUTREACH EFFORTS

SDG&E plans to meet with local government officials as necessary to inform them of the Proposed Project. In addition, a fact sheet will be made available at applicable public meetings/events and will be placed on SDG&E's website. SDG&E will strive to inform area residents and property owners, government officials, and interested stakeholders about the scope of the Proposed Project, major milestones and timelines, and Proposed Project updates as necessary. An SDG&E contact will be established to allow residents and property owners to make direct communication with the Proposed Project team. Information for the SDG&E contact will be included on the Proposed Project fact sheet, SDG&E website, and construction notifications. During construction, SDG&E will make every effort to minimize disruptions such as construction traffic, dust, noise, and potential power outages.

Table 1-1: PEA Checklist Key

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
Chapter 1 – PEA Summary		
	Include major conclusions of the PEA.	Section 1.5 Proponent's Environmental Assessment Conclusions
	List any areas of controversy.	Section 1.6 Areas of Controversy and Issues to Be Revolved
	Include a description of inter-agency coordination, if any.	Section 1.3 Agency Coordination
	Include a description of public outreach efforts, if any.	Section 1.7 Public Outreach Efforts
	Identify any major issues that must be resolved, including the choice among reasonably feasible alternatives and mitigation measures, if any.	Section 1.6 Areas of Controversy and Issues to Be Resolved
Chapter 2 – Project Purpose and Need		
2.1 Overview	Include an analysis of Proposed Project objectives and purpose and need that is sufficiently detailed so that the Commission can independently evaluate the Proposed Project need and benefits in order to accurately consider them in light of the potential environmental impacts.	Section 2.0 Overview Section 2.1 Project Objectives
	Explain the objective(s) and/or purpose and need for implementing the Proposed Project.	Section 2.0 Overview Section 2.1 Project Objectives
2.2 Project Objectives	Include an analysis of the reason why attainment of these objectives is necessary or desirable. Such analysis must be sufficiently detailed to inform the Commission in its independent formulation of Proposed Project objectives which will aid any appropriate California Environmental Quality Act alternatives screening process.	Section 2.1 Project Objectives

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
Chapter 3 – Project Description		
3.1 Project Location	Identify geographical location: County, City (provide Proposed Project location map[s]).	Section 3.1 Project Location Figure 3-1: Project Location Map Attachment 3-A: Detailed Route Map
	Provide a general description of land uses within the Proposed Project site (e.g., residential, commercial, agricultural, recreation, vineyards, farms, open space, number of stream crossings, etc.).	Section 3.1 Project Location Section 4.10.2 Existing Conditions
	Describe if the Proposed Project is located within an existing property owned by the Applicant, traverses existing ROW, or requires new ROW. Provide the approximate area of the property or the length of the Proposed Project that is in an existing ROW or which requires new ROWs.	Section 3.6 Permanent Land/Right-of-Way Requirements
3.2 Existing System	Describe the local system to which the Proposed Project relates. Include all relevant information about substations, transmission lines, and distribution circuits.	Section 3.2 Existing System
	Provide a schematic diagram and map of the existing system.	Figure 3-2: Regional System Map will be submitted under separate cover due to its confidential nature. Figure 3-3: Existing and Proposed System Configuration will be submitted under separate cover due to its confidential nature.
	Provide a schematic diagram that illustrates the system as it would be configured with the implementation of the Proposed Project.	Figure 3-3: Existing and Proposed System Configuration will be submitted under separate cover due to its confidential nature.
3.4 Proposed Project	Describe the whole of the Proposed Project. Is it an upgrade, a new line, new substations, etc.?	Section 3.4 Proposed Project Section 3.5 Project Components
	Describe how the Proposed Project fits into the regional system. Does it create a loop for reliability, etc.?	Section 3.2 Existing System Section 3.3 Project Objectives

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.4 Proposed Project (cont.)	Describe all reasonably foreseeable future phases or other reasonably foreseeable consequences of the Proposed Project.	Section 3.4 Proposed Project
	Provide the capacity increase in megawatts. If the Proposed Project does not increase capacity, state that.	Section 3.4 Proposed Project
	Provide geographic information system (GIS) (or equivalent) data layers for the Proposed Project preliminary engineering, including estimated locations of all physical components of the Proposed Project, as well as those related to construction.	A CD containing the relevant GIS data for the Proposed Project has been submitted under separate cover as part of this PEA package.
3.5 Project Components		
3.5.1 Transmission Line	Describe what type of line exists and what type of line is proposed (e.g., single-circuit, double-circuit, upgrade 69 kV to 115 kV).	Section 3.2 Existing System
	Identify the length of the upgraded alignment, the new alignment, etc.	Section 3.1 Project Location
	Describe whether construction would require one-for-one pole replacement, new poles, steel poles, etc.?	Section 3.5 Project Components
	Describe what would occur to other lines and utilities that may be collocated on the poles to be replaced (e.g., distribution, communication, etc.).	Section 3.4 Proposed Project
3.5.2 Poles/Towers	Provide information for each pole/tower that would be installed and for each pole/tower that would be removed.	Section 3.5 Project Components Table 3-1: Proposed Project Pole Summary (Approximate Values) Attachment 3-A: Detailed Route Map

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.5.2 Poles/Towers (cont.)	Provide a unique identification number to match GIS database information.	Attachment 3-A: Detailed Route Map A CD containing the relevant GIS data, which includes unique identification numbers for poles, has been submitted under separate cover as part of this PEA package.
	Provide a structural diagram and, if available, photos of existing structure. Preliminary diagram or "typical" drawings and, if possible, photos of proposed structure. Also provide a written description of the most common types of structures and their use (e.g., tangent poles would be used when the run of poles continues in a straight line, etc.). Describe if the pole/tower design meets raptor safety requirements.	Section 3.5 Project Components Attachment 3-B: Typical Drawings Figure 4.1-1: Visual Characterization Viewpoints and Key Observation Points Section 4.4.3 Impacts
	Provide the type of pole (e.g., wood, steel, etc.) or tower (e.g., self-supporting, lattice, etc.).	Section 3.5 Project Components Attachment 3-B: Typical Drawings Table 3-1: Proposed Project Pole Summary (Approximate Values)
	Identify typical total pole lengths, the approximate length to be embedded, and the approximate length that would be above ground surface; for towers, identify the approximate height above ground surface and approximate base footprint area.	Section 3.5 Project Components Section 3.7.4 Methods Attachment 3-B: Typical Drawings Table 3-1: Proposed Project Pole Summary (Approximate Values)
	Describe any specialty poles or towers; note where they would be used (e.g., angle structures, heavy angle lattice towers, stub guys, etc.); make sure to note if any guying would likely be required across a road.	Section 3.5 Project Components Section 3.7.4 Methods Attachment 3-B: Typical Drawings Table 3-1: Proposed Project Pole Summary (Approximate Values)

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.5.2 Poles/Towers (cont.)	If the Proposed Project includes pole-for-pole replacement, describe the approximate location of where the new poles would be installed relative to the existing alignment.	Section 3.4 Proposed Project Section 3.5 Project Components
	Describe any special pole types (e.g., poles that require foundations, transition towers, switch towers, microwave towers, etc.) and any special features.	Section 3.5 Project Components Section 3.7.4 Methods Attachment 3-B: Typical Drawings Table 3-1: Proposed Project Pole Summary (Approximate Values)
3.5.3 Conductor/Cable		
3.5.3.1 Above-Ground Installation	Describe the type of line to be installed on the poles/tower (e.g. single-circuit with distribution, double circuit, etc.).	Section 3.2 Existing System
	Describe the number of conductors required to be installed on the poles or tower and the number on each side including applicable engineering design standards.	Section 3.5 Project Components
	Provide the size and type of conductor (e.g., aluminum conductor, steel reinforced, non-specular, etc.) and insulator configuration.	Section 3.5 Project Components Section 3.7.4 Methods Attachment 3-B: Typical Drawings
	Provide the approximate distance from the ground to the lowest conductor and the approximate distance between the conductors (i.e., both horizontally and vertically). Provide specific information at highways, rivers, or special crossings.	Section 3.5 Project Components Section 3.7.1 Work Areas Section 3.7.4 Methods
	Provide the approximate span lengths between poles or towers, note where different if distribution is present or not if relevant.	Section 3.5 Project Components
	Determine whether other infrastructure would likely be collocated with the conductor (e.g., fiber optics, etc.); if so, provide conduit diameter of other infrastructure.	Section 3.5 Project Components

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.5.3.2 Below Ground Installation	Describe the type of line to be installed (e.g., single circuit cross-linked polyethylene-insulated solid-dielectric, copper-conductor cables).	Section 3.5 Project Components
	Describe the type of casing the cable would be installed in (e.g., concrete-encased duct bank system); provide the dimensions of the casing.	Section 3.5 Project Components Attachment 3-B: Typical Drawings
	Provide an engineering 'typical' drawing of the duct bank and describe what types of infrastructure would likely be installed within the duct bank (e.g., transmission, fiber optics, etc.).	Attachment 3-B: Typical Drawings
3.5.4 Substations	Provide "typical" plan and profile views of the proposed substation and the existing substation if applicable.	No substations are included as part of the Proposed Project.
	Describe the types of equipment that would be temporarily or permanently installed and provide details as to what the function/use of said equipment would be. Include information such as, but not limited to: mobile substations, transformers, capacitors, and new lighting.	No substations are included as part of the Proposed Project.
	Provide the approximate or "typical" dimensions (width and height) of new structures including engineering and design standards that apply.	No substations are included as part of the Proposed Project.
	Describe the extent of the Proposed Project. Would it occur within the existing fence line, existing property line or would either need to be expanded?	No substations are included as part of the Proposed Project.
	Describe the electrical need area served by the distribution substation.	No substations are included as part of the Proposed Project.
3.6 Right-of-Way Requirements	Describe the ROW location, ownership, and width. Would the existing ROW be used or would new ROW be required?	Section 3.6 Permanent Land/Right-of-Way Requirements
	If a new ROW is required, describe how it would be acquired and approximately how much land would be required (length and width).	Section 3.6 Permanent Land/Right-of-Way Requirements

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.6 Right-of-Way Requirements (cont.)	List the properties likely to require acquisition.	No properties will require acquisition.
3.7 Construction		
3.7.1 For All Projects		
3.7.1.1 Staging Areas	Where would the main staging area(s) likely be located?	Section 3.7.1 Work Areas Attachment 3-A: Detailed Route Map
	Approximately how large would the main staging area(s) be?	Section 3.7.1 Work Areas
	Describe any site preparation required, if known, or generally describe what might be required (i.e., vegetation removal, new access road, installation of rock base, etc.).	Section 3.7.1 Work Areas
	Describe what the staging area would be used for (i.e., material and equipment storage, field office, reporting location for workers, parking area for vehicles and equipment, etc.).	Section 3.7.1 Work Areas
	Describe how the staging area would be secured; would a fence be installed? If so, describe the type and extent of the fencing.	Section 3.7.1 Work Areas
	Describe how power to the site would be provided if required (i.e., tap into existing distribution, use of diesel generators, etc.).	Section 3.7.1 Work Areas
	Describe any grading activities and/or slope stabilization issues.	Section 3.7.1 Work Areas
3.7.1.2 Work Areas	Describe known work areas that may be required for specific construction activities (i.e., pole assembly, hill side construction, etc.).	Section 3.7.1 Work Areas

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.7.1.2 Work Areas (cont.)	For each known work area, provide the area required (include length and width) and describe the types of activities that would be performed.	Section 3.7.1 Work Areas The approximate area, including length and width for the pole work areas and stringing sites, has been provided; however, the exact configuration of these workspaces will be determined based on site conditions during construction.
	Identify the approximate location of known work areas in the GIS database.	A CD containing the relevant GIS data, which includes the location of known work areas, has been submitted under separate cover as part of this PEA package. As described previously, the location of pole work areas, stringing sites, and access road turnarounds will be determined based on site conditions during construction; therefore, they are not included in the GIS database.
	Describe how the work areas would likely be accessed (e.g., construction vehicles, walk-in, helicopter, etc.).	Section 3.7.0 Access Section 3.7.1 Work Areas
	If any site preparation is likely required, generally describe what and how it would be accomplished.	Section 3.7.1 Work Areas
	Describe any grading activities and/or slope stabilization issues.	Section 3.7.1 Work Areas Section 3.7.3 Erosion and Sediment Control and Pollution Prevention Section 3.7.4 Methods
	Based on the information provided, describe how the site would be restored.	Section 3.7.4 Methods

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.7.1.3 Access Roads and/or Spur Roads	Describe the types of roads that would be used and/or would need to be created to implement the Proposed Project. Road types may include, but are not limited to: new permanent road; new temporary road; existing road that would have permanent improvements; existing road that would have temporary improvements; existing paved road; existing dirt/gravel road; and overland access.	Section 3.7.0 Access
	For road types that require preparation, describe the methods and equipment that would be used.	Section 3.7.4 Methods Attachment 3-C: Construction Equipment Summary
	Identify approximate location of all access roads (by type) in the GIS database.	A CD containing the relevant GIS data for the Proposed Project has been submitted under separate cover as part of this PEA package.
	Describe any grading activities and/or slope stabilization issues.	Section 3.7.1 Work Areas Section 3.7.3 Erosion and Sediment Control and Pollution Prevention Section 3.7.4 Methods
3.7.1.4 Helicopter Access	Identify which proposed poles/towers would be removed and/or installed using a helicopter.	Helicopters are not anticipated to be used during construction.
	If different types of helicopters are to be used, describe each type (e.g., light, heavy, or sky crane) and what activities they would be used for.	Helicopters are not anticipated to be used during construction.
	Provide information as to where the helicopters would be staged, where they would refuel, and where they would land within the Proposed Project site.	Helicopters are not anticipated to be used during construction.
	Describe any best management practices (BMPs) that would be employed to avoid impacts caused by use of helicopters, for example: air quality and noise considerations.	Helicopters are not anticipated to be used during construction.

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.7.1.4 Helicopter Access (cont.)	Describe flight paths, payloads, hours of operations for known locations, and work types.	Helicopters are not anticipated to be used during construction.
3.7.1.5 Vegetation Clearance	Describe the types of vegetation clearing that may be required (e.g., tree removal, brush removal, flammable fuels removal) and why (e.g., to provide access, etc.).	Section 3.7.1 Work Areas Section 3.7.2 Vegetation Removal and Trimming
	Identify the preliminary location and provide an approximate area of disturbance in the GIS database for each type of vegetation removal.	Section 3.7.1 Work Areas Section 3.7.2 Vegetation Removal and Trimming Section 3.7.3 Erosion and Sediment Control and Pollution Prevention Section 4.4.3 Impacts Table 4.4-6: Anticipated Impacts to Vegetation Communities A CD containing the relevant GIS data for the Proposed Project has been submitted under separate cover as part of this PEA package.
	Describe how each type of vegetation removal would be accomplished.	Section 3.7.2 Vegetation Removal and Trimming
	For removal of trees, distinguish between tree trimming as required under General Order 95 and tree removal.	Section 3.7.2 Vegetation Removal and Trimming Section 3.8.4 Tree Trimming
	Describe the types and approximate number and size of trees that may need to be removed.	Section 3.7.2 Vegetation Removal and Trimming
	Describe the type of equipment typically used.	Section 3.7.2 Vegetation Removal and Trimming

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.7.1.6 Erosion and Sediment Control and Pollution Prevention during Construction	Describe the areas of soil disturbance including estimated total areas and associated terrain type and slope. List all known permits required. For project sites of less than one acre, outline the BMPs that would be implemented to manage surface runoff. Things to consider include, but are not limited to: Erosion and sedimentation BMPs, vegetation removal and restoration, and/or hazardous waste, and spill prevention plans.	Section 3.7.1 Work Areas Section 3.7.3 Erosion and Sediment Control and Pollution Prevention Section 3.7.4 Methods Section 3.9 Anticipated Permits and Approvals Table 3-6: Anticipated Permits, Approvals, and Consulatation Requirements
	Describe any grading activities and/or slope stabilization issues.	Section 3.7.1 Work Areas Section 3.7.4 Methods
	Describe how construction waste (i.e., refuse, spoils, trash, oil, fuels, poles, pole structures, etc.) would be disposed.	Section 3.7.3 Erosion and Sediment Control and Pollution Prevention Section 3.7.4 Methods Section 4.8.3 Impacts
3.7.1.7 Cleanup and Post-Construction Restoration	Describe how cleanup and post-construction restoration would be performed (i.e., personnel, equipment, and methods). Things to consider, but are not limited to, restoration of natural drainage patterns, wetlands, vegetation, and other disturbed areas (i.e., staging areas, access roads, etc.).	Section 3.7.4 Methods Section 4.4.3 Impacts Section 4.9.3 Impacts
3.7.2 Transmission Line Construction (Above Ground)		
3.7.2.1 Pull and Tension Sites	Provide the general or average distance between pull and tension sites.	Section 3.7.1 Work Areas

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.7.2.1 Pull and Tension Sites (cont.)	Provide the area of pull and tension sites including the estimated length and width.	Section 3.7.1 Work Areas The approximate area, including length and width for the stringing sites, has been provided; however, the exact configuration of these workspaces will be determined based on site conditions during construction.
	According to the preliminary plan, identify the number of pull and tension sites that would be required, and their locations. Provide the location information in GIS.	Section 3.7.1 Work Areas As described previously, the exact configuration of stringing sites will be determined based on site conditions during construction; therefore, they are not included in the GIS database.
	Describe the type of equipment that would be required at these sites.	Section 3.7.1 Work Areas Section 3.7.4 Methods Section 3.7.5 Equipment Attachment 3-C: Construction Equipment Summary
	If conductor is being replaced, describe how it would be removed from the site.	Section 3.7.4 Methods
3.7.2.2 Pole Installation and Removal	Describe how the construction crews and their equipment would be transported to and from the pole site locations. Provide vehicle type, number of vehicles, estimated number of trips, and hours of operation.	Section 3.7.5 Equipment
	Describe the process of removing the poles and foundations.	Section 3.7.4 Methods
	Describe what happens to the holes that the poles were in (i.e., reused or backfilled)?	Section 3.7.4 Methods

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.7.2.2 Pole Installation and Removal (cont.)	If the holes are to be backfilled, what type of fill would be used and where would it come from?	Section 3.7.4 Methods
	Describe any surface restoration that would occur at the pole sites.	Section 3.7.4 Methods
	Describe how the poles would be removed from the sites.	Section 3.7.4 Methods
	If topping is required to remove a portion of an existing transmission pole that would now only carry distribution lines, describe the methodology to access and remove the tops of these poles. Describe any special methods that would be required to top poles that may be difficult to access, etc.	No pole topping is anticipated for the Proposed Project.
	Describe the process of how the new poles/towers would be installed; specifically identify any special construction methods (e.g., helicopter installation) for specific locations or for different types of poles/towers.	Section 3.7.4 Methods
	Describe the types of equipment and their use as related to pole/tower installation.	Section 3.7.4 Methods Section 3.7.5 Equipment Attachment 3-C: Construction Equipment Summary
	Describe the actions taken to maintain a safe work environment during construction (e.g., covering of holes/excavation pits, etc.).	Section 3.5.4 Access Road Modifications Section 3.7.1 Work Areas Section 3.7.2 Vegetation Removal and Trimming Section 3.7.5 Equipment Section 3.10 Project Design Features and Ordinary Construction/Operating Restrictions
	Describe what would be done with soil that is removed from a hole/foundation site.	Section 3.7.4 Methods

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.7.2.2 Pole Installation and Removal (cont.)	For any foundations required, provide a description of the construction method(s), approximate average depth and diameter of excavation, approximate volume of soil to be excavated, approximate volume of concrete or other backfill required, etc.	Section 3.7.4 Methods
	Describe briefly how poles/towers and associated hardware are assembled.	Section 3.7.1 Work Areas
	Describe how the poles/towers and associated hardware would be delivered to the site; would they be assembled off-site and brought in or assembled on site?	Section 3.7.1 Work Areas Section 3.7.4 Methods
	Provide the following information about pole/tower installation and associated disturbance area estimates; pole diameter for each pole type (e.g., wood, self-supporting steel, lattice, etc.), base dimensions for each pole type, auger hole depth for each pole type, permanent footprint per pole/tower, number of poles/towers by pole type, average work area around poles/towers by pole type (e.g., for old pole removal and new pole installation), and total permanent footprint for poles/towers.	Section 3.5.1 Wood-to-Steel Conversion Section 3.7.1 Work Areas Section 3.7.4 Methods Table 3-1: Proposed Project Pole Summary (Approximate Values) Attachment 3-B: Typical Drawings
3.7.2.3 Conductor/Cable Installation	Provide a process-based description of how new conductor/cable would be installed and how old conductor/cable would be removed, if applicable.	Section 3.7.4 Methods
	Generally describe the conductor/cable splicing process.	Section 3.7.4 Methods
	If vaults are required, provide their dimensions and approximate location/spacing along the alignment.	No new vaults will be required. An existing vault for the underground to overhead conversion of the power line will be abandoned in place.
	Describe in what areas conductor/cable stringing/installation activities would occur.	Section 3.7.1 Work Areas

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.7.2.3 Conductor/Cable Installation (cont.)	Describe any safety precautions or areas where special methodology would be required (e.g., crossing roadways, stream crossing, etc.).	Section 3.7.1 Work Areas Section 3.7.4 Methods
3.7.3 Transmission Line Construction (Below Ground)		
3.7.3.1 Trenching	Describe the approximate dimensions of the trench (e.g., depth, width).	Section 3.5.2 Underground Distribution Line Intercepts Section 3.7.1 Work Areas Section 3.7.4 Methods
	Describe the methodology of making the trench (e.g., saw cutter to cut the pavement, backhoe to remove, etc.).	Section 3.7.4 Methods
	Provide the total approximate cubic yardage of material to be removed from the trench, the amount to be used as backfill and the amount to subsequently be removed/disposed of off-site.	Section 3.7.4 Methods
	Provide off-site disposal location, if known, or describe possible option(s).	No off-site disposal of excavated material is anticipated to be required.
	If engineered fill would be used as backfill, provide information as to the type of engineered backfill and the amount that would be typically used (e.g., top two feet would be filled with thermal-select backfill).	No engineered backfill is anticipated to be required.
	Describe if dewatering would be anticipated, if so, how the trench would be dewatered, what the anticipated flows of the water are, whether there would be treatment, and how the water would be disposed.	Section 3.7.4 Methods
	Describe the process for testing excavated soil or groundwater for the presence of pre-existing environmental contaminants that could be exposed as a result of trenching operations.	Section 3.10 Project Design Features and Ordinary Construction/Operating Restrictions Section 4.8 Hazards and Hazardous Materials
	If pre-existing hazardous waste was encountered, describe the process of removal and disposal.	Section 3.10 Project Design Features and Ordinary Construction/Operating Restrictions

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.7.3.1 Trenching (cont.)	Describe any standard BMPs that would be implemented.	Section 3.7.3 Erosion and Sediment Control and Pollution Prevention
3.7.3.2 Trenchless Techniques: Microtunnel, Bore and Jack, Horizontal Directional Drilling	Provide the approximate location of the sending and receiving pits.	No trenchless techniques are anticipated to be required.
	Provide the length, width and depth of the sending and receiving pits.	No trenchless techniques are anticipated to be required.
	Describe the methodology of excavating and shoring the pits.	No trenchless techniques are anticipated to be required.
	Describe the methodology of the trenchless technique.	No trenchless techniques are anticipated to be required.
	Provide the total cubic yardage of material to be removed from the pits, the amount to be used as backfill and the amount to subsequently be removed/disposed of off-site.	No trenchless techniques are anticipated to be required.
	Describe the process for safe handling of drilling mud and bore lubricants.	No trenchless techniques are anticipated to be required.
	Describe the process for detecting and avoiding "fracturing-out" during horizontal directional drilling operations.	No trenchless techniques are anticipated to be required.
	Describe the process for avoiding contact between drilling mud/lubricants and stream beds.	No trenchless techniques are anticipated to be required.
	If engineered fill would be used as backfill, provide information as to the type of engineered backfill and the amount that would be typically used (e.g., top two feet would be filled with thermal-select backfill).	No trenchless techniques are anticipated to be required.
	If dewatering is anticipated, describe how the pit would be dewatered, what the anticipated flows of the water are, whether there would be treatment, and how the water would be disposed.	No trenchless techniques are anticipated to be required.

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.7.3.2 Trenchless Techniques: Microtunnel, Bore and Jack, Horizontal Directional Drilling (cont.)	Describe the process for testing excavated soil or groundwater for the presence of pre-existing environmental contaminants.	No trenchless techniques are anticipated to be required.
	If a pre-existing hazardous waste was encountered, describe the process of removal and disposal.	No trenchless techniques are anticipated to be required.
	Describe any grading activities and/or slope stabilization issues.	No trenchless techniques are anticipated to be required.
	Describe any standard BMPs that would be implemented.	No trenchless techniques are anticipated to be required.
3.7.4 Substation Construction	Describe any earth-moving activities that would be required; what type of activity and, if applicable, estimate cubic yards of materials to be reused and/or removed from the site for both site grading and foundation excavation.	No substations will be constructed as part of the Proposed Project.
	Provide a conceptual landscape plan in consultation with the municipality in which the substation is located.	No substations will be constructed as part of the Proposed Project.
	Describe any grading activities and/or slope stabilization issues.	No substations will be constructed as part of the Proposed Project.
	Describe possible relocation of commercial or residential property, if any.	No substations will be constructed as part of the Proposed Project.
3.7.5 Construction Workforce and Equipment	Provide the estimated number of construction crew members.	Section 3.7.7 Personnel Table 3-5: Peak Construction Personnel
	Describe the crew deployment, whether crews would work concurrently (i.e., multiple crews at different sites), if they would be phased, etc.	Section 3.7.5 Equipment Section 3.7.6 Schedule Section 3.7.7 Personnel Table 3-4: Proposed Construction Schedule

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.7.5 Construction Workforce and Equipment (cont.)	Describe the different types of activities to be undertaken during construction, the number of crew members for each activity (i.e., trenching, grading, etc.), and the number and types of equipment expected to be used for said activity. Include a written description of the activity.	Section 3.7 Construction Section 3.7.4 Methods Section 3.7.7 Personnel Table 3-4: Proposed Construction Schedule Attachment 3-C: Construction Equipment Summary
	Provide a list of the types of equipment expected to be used during construction of the Proposed Project as well as a brief description of the use of the equipment.	Section 3.7.4 Methods Section 3.7.5 Equipment Attachment 3-C: Construction Equipment Summary
3.7.6 Construction Schedule	Provide a preliminary project construction schedule; include contingencies for weather, wildlife closure periods, etc.	Section 3.7.6 Schedule Table 3-4: Proposed Construction Schedule
3.8 Operation and Maintenance	Describe the general system monitoring and control (i.e., use of standard monitoring and protection equipment, use of circuit breakers and other line relay protection equipment, etc.).	Section 3.8 Operation and Maintenance
	Describe the general maintenance program of the Proposed Project including timing of inspections (i.e., monthly, every July, as needed), type of inspection (i.e., aerial inspection, ground inspection), and a description of how the inspection would be implemented. Things to consider: who/how many crew members, how would they access the site (i.e., walk to site, vehicle, all terrain vehicle), would new access be required, would restoration be required, etc.).	Section 3.8 Operation and Maintenance
	If additional full time staff would be required for operation and/or maintenance, provide the number of workers and for what purpose they are required.	No additional staff will be required for operation and/or maintenance.

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
3.9 Applicant-Proposed Measures (APMs)	If there are measures that the Applicant would propose to be part of the Proposed Project, include those measures and reference plans or implementation descriptions.	Section 3.10 Project Design Features and Ordinary Construction/Operating Restrictions Section 3.11 Applicant-Proposed Measures No APMs have been proposed.
Chapter 4 – Environmental Setting		
	For each resource area discussion within the PEA, include a description of the physical environment in the vicinity of the Proposed Project (e.g., topography, land use patterns, biological environment, etc.), including the local environment (site-specific) and regional environment.	The Existing Conditions section under each resource area provides a discussion of both the physical environment in the vicinity of the Proposed Project and the regulatory environment.
	For each resource area discussion within the PEA, include a description of the regulatory environment/context (federal, state, and local).	The Existing Conditions section under each resource area provides a discussion of both the physical environment in the vicinity of the Proposed Project and the regulatory environment.
Chapter 5 – Environmental Impact Assessment Summary		
5.1 Aesthetics	Provide visual simulations of prominent public view locations, including scenic highways, to demonstrate the views before and after project implementation. Additional simulations are highly recommended.	Attachment 4.1-B: Visual Simulations
5.2 Agriculture Resources	Identify the types of agricultural resources affected.	Section 4.2.3 Impacts
5.3 Air Quality	Provide supporting calculations/spreadsheets/technical reports that support emission estimates in the PEA.	Table 4.3-6: Peak Daily Construction Emissions Attachment 4.3-A: Air Quality Modeling Results

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
5.3 Air Quality (cont.)	Provide documentation of the location and types of sensitive receptors that could be impacted by the Project (e.g., schools, hospitals, houses, etc.). Critical distances to receptors is dependent on type of construction activity.	Section 4.3.2 Existing Conditions Section 4.3.3 Impacts
	Identify Proposed Project GHG emissions.	Section 4.7.3 Impacts Table 4.7-3: Proposed Project Greenhouse Gas Construction Emissions
	Quantify GHG emissions from a business as usual snapshot. That is, what the GHG emissions will be from the Proposed Project if no mitigations were used.	Section 4.7.3 Impacts
	Quantify GHG emission reductions from every APM that is implemented. The quantifications will be itemized and placed in tabular format.	Proposed Project emissions will be below the annual significance threshold set by the South Coast Air Quality Management District (SCAQMD) and the County of San Diego for industrial projects; therefore, mitigation will not be required. SDG&E's Project Design Features and Ordinary Construction/Operating Restrictions will be implemented.
	Identify the net emissions of the Proposed Project after mitigation have been applied.	Section 4.3.3 Impacts Table 4.3-6: Peak Daily Construction Emissions
	Calculate and quantify GHG emissions (carbon dioxide equivalent) for the Proposed Project, including construction and operation.	Section 4.7.3 Impacts Table 4.7-3: Proposed Project Greenhouse Gas Construction Emissions
	Calculate and quantify the GHG reduction based on reduction measures proposed for the Proposed Project.	Proposed Project emissions will be below the annual significance threshold set by the SCAQMD and the County of San Diego for industrial projects and, therefore, mitigation will not be required.

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
5.3 Air Quality (cont.)	Propose APMs to implement and follow to maximize GHG reductions. If sufficient, CPUC will accept them without adding further mitigation measures.	Proposed Project emissions will be below the annual significance threshold set by the SCAQMD and the County of San Diego for industrial projects and, therefore, mitigation will not be required.
	Discuss programs already in place to reduce GHG emissions on a system-wide level. This includes the Applicant's voluntary compliance with the U.S. Environmental Protection Agency (EPA) sulfur hexafluoride (SF_6) reduction program, reductions from energy efficiency, demand response, long-term procurement plan, et.al.	Section 4.7.2 Existing Conditions Proposed Project emissions will be below the annual significance threshold set by the SCAQMD and the County of San Diego for industrial projects and, therefore, mitigation will not be required.
	Ensure that the assessment of air quality impacts is consistent with PEA Sections 3.7.5 and 3.7.6, as well as with the PEA's analysis of impacts during construction, including traffic and all other emissions.	Section 4.3.3 Impacts Section 4.7.3 Impacts Table 4.3-6: Peak Daily Construction Emissions Table 4.7-3: Proposed Project Greenhouse Gas Construction Emissions Attachment 4.3-A: Air Quality Modeling Results
5.4 Biological Resources	Provide a copy of the Wetland Delineation and supporting documentation (i.e., data sheets). If verified, provide supporting documentation. Additionally, GIS data of the wetland features should be provided as well.	Attachment 4.9-A: Jurisdictional Delineation Report A CD containing the relevant GIS data for the Proposed Project has been submitted under separate cover as part of this PEA package.

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
5.4 Biological Resources (cont.)	Provide a copy of special-status surveys for wildlife, botanical and aquatic species, as applicable. Any GIS data documenting locations of special-status species should be provided.	Attachment 4.4-A: Biological Technical Report A CD containing the relevant GIS data for the Proposed Project has been submitted under separate cover as part of this PEA package.
5.5 Cultural Resources	Cultural Resources Report documenting a cultural resources investigation of the Proposed Project. This report should include a literature search, pedestrian survey, and Native American consultation.	The Cultural Resources Technical Report will be submitted under separate cover due to its confidential nature.
	Provide a copy of the records found in the literature search.	The Cultural Resources Technical Report will be submitted under separate cover due to its confidential nature.
	Provide a copy of all letters and documentation of Native American consultation.	Attachment 4.5-A: NAHC Correspondence
5.6 Geology, Soils, and Seismic Potential	Provide a copy of the geotechnical investigation if completed, including known and potential geologic hazards such as ground shaking, subsidence, liquefaction, etc.	Attachment 4.6-A: Geotechnical Investigation
5.7 Hazards and Hazardous Materials	Include an Environmental Data Resources (EDR) report.	Attachment 4.8-A: EDR DataMap Corridor Study
	Include a Hazardous Substance Control and Emergency Response Plan, if required.	A Hazardous Substance Control and Emergency Response Plan is not required as part of the Proposed Project.
	Include a Health and Safety Plan, if required.	A Health and Safety Plan is not required as part of the Proposed Project.
	Describe the Worker Environmental Awareness Program.	Section 3.10 Project Design Features and Ordinary Construction/Operating Restrictions

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
5.7 Hazards and Hazardous Materials (cont.)	Describe which chemicals would be used during construction and operation of the Proposed Project. For example, fuels for construction, naphthalene to treat wood poles before installation, etc.	Section 4.8.3 Impacts Table 4.8-1: Hazardous Materials Typically Used During Construction
5.8 Hydrology and Water Quality	Describe impacts to groundwater quality including increased runoff due to construction of impermeable surfaces, etc.	Section 4.9.3 Impacts
	Describe impacts to surface water quality including the potential for accelerated soil erosion, downstream sedimentation, and reduced surface water quality.	Section 4.9.3 Impacts
5.9 Land Use and Planning	Provide GIS data of all parcels within 300 feet of the Proposed Project with the following data: assessor's parcel number (APN) number, mailing address, and parcel's physical address.	The property owner information has been submitted under separate cover due to its confidential nature.
5.10 Mineral Resources	Data needs already specified under Chapter 3 would generally meet the data needs for this resource area.	Not Applicable (NA)
5.11 Noise	Provide long-term noise estimates for operational noise (e.g., corona discharge noise, and station sources such as substations, etc.).	Section 4.12.3 Impacts
5.12 Population and Housing	Data needs already specified under Chapter 3 would generally meet the data needs for this resource area.	NA
5.13 Public Services	Data needs already specified under Chapter 3 would generally meet the data needs for this resource area.	NA
5.14 Recreation	Data needs already specified under Chapter 3 would generally meet the data needs for this resource area.	NA
5.15 Transportation and Traffic	Discuss traffic impacts resulting from construction of the Proposed Project including ongoing maintenance operations.	Section 4.16.3 Impacts

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
5.15 Transportation and Traffic (cont.)	Provide a preliminary description of the traffic management plan that would be implemented during construction of the Proposed Project.	Encroachment permits from state and local jurisdictional agencies will provide guidance on required traffic management measures. It is expected that a Proposed Project-specific traffic control permit will also be required.
5.16 Utilities and Services Systems	Describe how treated wood poles would be disposed of after removal, if applicable.	Section 3.7.4 Methods Section 4.17.3 Impacts
5.17 Cumulative Analysis	Provide a list of projects (i.e., past, present, and reasonably foreseeable future projects) within the Proposed Project area that the applicant is involved in.	Table 4.18-1: Planned and Proposed Projects within One Mile
	Provide a list of projects that have the potential to be proximate in space and time to the Proposed Project. Agencies to be contacted include, but are not limited to, the local planning agency, Caltrans, etc.	Table 4.18-1: Planned and Proposed Projects within One Mile
5.18 Growth-Inducing Impacts, If Significant	Provide information on the Proposed Project's growth-inducing impacts, if any.	Section 5.3 Growth-Inducing Impacts
	Provide information on any economic or population growth in the surrounding environment that will, directly or indirectly, result from the Proposed Project.	Section 4.13.3 Impacts Section 5.3 Growth-Inducing Impacts
	Provide information on any increase in population that could further tax existing community service facilities (e.g., schools, hospitals, fire, police, etc.), that will directly or indirectly result from the Proposed Project.	Section 4.14.3 Impacts
	Provide information on any obstacles to population growth that the Proposed Project would remove.	Section 4.13.3 Impacts Section 5.3 Growth-Inducing Impacts
	Describe any other activities, directly or indirectly encouraged or facilitated by the Proposed Project that would cause population growth that could significantly affect the environment, either individually or cumulatively.	Section 4.13.3 Impacts Section 5.3 Growth-Inducing Impacts

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
Chapter 6 – Detailed Discussion of Significant Impacts		
6.1 Mitigation Measures Proposed to Minimize Significant Effects	Discuss each mitigation measure and the basis for selecting a particular mitigation measure should be stated.	There are no significant impacts, and no mitigation measures have been proposed.
6.2 Description of Project Alternatives and Impact Analysis	Provide a summary of the alternatives considered that would meet most of the objectives of the Proposed Project and an explanation as to why they were not chosen as the Proposed Project.	Section 5.2 Description of Project Alternatives and Impact Analysis
	Alternatives considered and described by the Applicant should include, as appropriate, system or facility alternatives, route alternatives, route variations, and alternative locations.	Section 5.2 Description of Project Alternatives and Impact Analysis
	Include a description of a "No Project Alternative" should be included.	Section 5.2.3 No Project Alternative
	If significant environmental effects are assessed, the discussion of alternatives shall include alternatives capable of substantially reducing or eliminating any said significant environmental effects, even if the alternative(s) substantially impede the attainment of the Proposed Project objectives and are more costly.	No significant environmental effects are anticipated with implementation of the Project Design Features and Ordinary Construction/Operating Restrictions.
6.3 Growth-Inducing Impacts	Discuss if the Proposed Project would foster economic or population growth, either directly or indirectly, in the surrounding environment.	Section 4.13.3 Impacts Section 5.3 Growth-Inducing Impacts
	Discuss if the Proposed Project would cause an increase in population that could further tax existing community services (e.g., schools, hospitals, fire, police, etc.).	Section 4.13.3 Impacts Section 5.3 Growth-Inducing Impacts
	Discuss if the Proposed Project would remove obstacles to population growth.	Section 4.13.3 Impacts Section 5.3 Growth-Inducing Impacts

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
6.3 Growth-Inducing Impacts (cont.)	Discuss if the Proposed Project would encourage and facilitate other activities that would cause population growth that could significantly affect the environment, either individually or cumulatively.	Section 4.13.3 Impacts Section 5.3 Growth-Inducing Impacts
6.4 Suggested APMs to address GHG Emissions	Include a menu of suggested APMs that applicants can consider to address GHG emissions. Suggested APMs include, but are not limited to: 1. If suitable park-and-ride facilities are available in the Project vicinity, construction workers will be encouraged to carpool to the job site to the extent feasible. The ability to develop an effective carpool program for the Proposed Project would depend upon the proximity of carpool facilities to the job site, the geographical commute departure points of construction workers, and the extent to which carpooling would not adversely affect worker show-up time and the Project's construction schedule. 2. To the extent feasible, unnecessary construction vehicle and idling time will be minimized. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where vehicles are needed or staged. Certain vehicles, such as large diesel powered vehicles, have extended warm-up. To the extent feasible, unnecessary construction vehicle and idling time will be minimized. The ability to limit construction vehicle idling time is dependent upon the sequence of construction activities and when and where	Proposed Project emissions will be below the annual significance threshold set by the SCAQMD and the County of San Diego for industrial projects and, therefore, mitigation will not be required.

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
6.4 Suggested APMs to address GHG Emissions (cont.)	vehicles are needed or staged. Certain vehicles, such as large diesel powered vehicles, have extended warm-up times following start-up that limit their availability for use following startup. Where such diesel powered vehicles are required for repetitive construction tasks, these vehicles may require more idling time. The Proposed Project will apply a "common sense" approach to vehicle use; if a vehicle is not required for use immediately or continuously for construction activities, its engine will be shut off. Construction foremen will include briefings to crews on vehicle use as part of pre-construction conferences. Those briefings will include discussion of a "common sense" approach to vehicle use. 3. Use low-emission construction equipment. Maintain construction equipment per manufacturing specifications and use low-emission equipment described here. All offroad construction diesel engines not registered under the California Air Resources Board (CARB) Statewide Portable Equipment Registration Program shall meet at a minimum the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, Sec. 2423(b)(1). 4. Diesel Anti-Idling: In July 2004, the CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling. 5. Alternative Fuels: CARB would develop regulations to require the use of one to four percent biodiesel displacement of California diesel fuel. 6. Alternative Fuels: Ethanol, increased use of ethanol fuel 7. Green Buildings Initiative. 8. Facility wide energy efficiency audit.	Proposed Project emissions will be below the annual significance threshold set by the SCAQMD and the County of San Diego for industrial projects and, therefore, mitigation will not be required.

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
6.4 Suggested APMs to address GHG Emissions (cont.)	9. Complete GHG emissions audit. The audit will include a review of the GHG emitted from those facilities (substations), including carbon dioxide, methane, chlorofluorocarbon, and hydrochlorofluorocarbon compounds (SF_6). 10. There is an EPA approved SF_6 emissions protocol. 11. SF_6 program wide inventory. For substations, keep inventory of leakage rates. 12. Increase replacement of breakers once leakage rates exceed one percent within 30 days of detection. 13. Increased investment in current programs that can be verified as being in addition to what the utility is already doing. The SF_6 Emission Reduction Partnership for the Electric Power Systems was launched in 1999 and currently includes 57 electric utilities and local governments across the U.S. of applications, including that of dielectric insulating material in electrical transmission and distribution equipment, such as circuit breakers. Electric power systems that join the Partnership must, within 18 months, establish an emission reduction goal reflecting technically and economically feasible opportunities within their company. They also agree to, within the constraints of economic and technical feasibility, estimate their emissions of SF_6, establish a strategy for replacing older, leakier pieces of equipment, implement SF_6 recycling, establish and apply proper handling techniques, and report annual emissions to the EPA. The EPA works as a clearinghouse for technical information, works to obtain commitments from all electric power system operators and will be sponsoring an international conference in 2000 on SF_6 emission reductions.	Proposed Project emissions will be below the annual significance threshold set by the SCAQMD and the County of San Diego for industrial projects and, therefore, mitigation will not be required.

Location in CPUC Checklist	Checklist Item	Location in PEA and Any Associated Notes
6.4 Suggested APMs to address GHG Emissions (cont.)	14. Quantify what comes into the system and track programmatically SF_6. 15. Applicant can propose other GHG reducing mitigations.	Proposed Project emissions will be below the annual significance threshold set by the SCAQMD and the County of San Diego for industrial projects and, therefore, mitigation will not be required.
Chapter 7: Other Process-Related Data Needs		
Noticing	Include an excel spreadsheet that identifies all parcels within 300 feet of any Proposed Project component with the following data: APN number, owner mailing address, and parcels physical address.	The property owner information has been submitted under separate cover due to its confidential nature.

TABLE OF CONTENTS

CHAPTER 2 – PROJECT PURPOSE AND NEED

This section defines the objectives, purpose, and need for the San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project), as required by the California Public Utilities Commission's (CPUC's) Proponent's Environmental Assessment Guidelines (CPUC Information and Criteria List, Appendix B, Section V) and the California Environmental Quality Act (CEQA) Guidelines (Section 15124(b)). Additional information about the Proposed Project's purpose and need is provided in SDG&E's application to the CPUC, in accordance with CPUC General Order (GO) 131-D.

2.0 OVERVIEW

SDG&E is a regulated public utility that provides electric service to approximately 1.4 million customers within a 4,100-square-mile service area, covering 25 cities and unincorporated areas within San Diego County and a portion of Orange County. SDG&E has designed the Proposed Project to increase system reliability by replacing a portion of an existing wood pole power line with new steel poles in a fire-prone area, in response to impacts from wildfires in 2003 and 2007. Damages resulting from the fires were widespread and included property damage and service/work disruptions.

The main component of the Proposed Project is the replacement of existing wood structures with new galvanized steel poles along a portion of TL 649, a 69-kilovolt (kV) single-circuit power line, from approximately Black Coral Way and Sea Lavender Way for approximately five miles to the east, then approximately two miles south towards Otay Mesa Road. The existing power line conductor will be transferred to the new steel poles, except for a portion of the power line that is underground under State Route-125, which will be returned to the original overhead configuration with new conductor. A portion of TL 649 includes 12 kV distribution underbuild. A portion of the existing underbuilt conductor will be transferred to the new poles and a portion will be reconductored as part of the Proposed Project.

Pole replacements are an integral component of SDG&E's Community Fire Safety Program (CFSP). Fire hardening includes using steel poles in place of wood poles, incorporating increased conductor spacing, avian protection, and considering extreme wind-loading criteria during the design process. Fire-hardening projects are among the tools being used by SDG&E to both protect the electric system against wildfire and further reduce the risk of power-line-related ignitions in fire-prone areas. By incorporating these fire-hardening activities, the Proposed Project will increase the fire safety and service reliability of TL 649.

Over the past several years, SDG&E has gathered data on known local conditions; it now operates over 167 anemometers and employs three meteorologists who provide operational weather information and four experienced fire professionals who provide advice about fire risk and mitigation. Known local conditions for TL 649 include very high to extreme fire danger weather, including the Santa Ana winds, and vegetation (wildland fuel) conditions.

North American Electric Reliability Corporation (NERC) Reliability Standards for the Bulk Electric Systems of North America and Federal Energy Regulatory Commission (FERC)

Standards of Conduct for Transmission[1] Providers (Order No. 717). These standards define reliability requirements for planning and operating electric systems in North America to ensure that electric systems operate reliably, and they apply to the Proposed Project. In addition, the Proposed Project will avoid and minimize potential environmental effects by using existing access roads to access the power line, which is located within existing SDG&E rights-of-way, and by following SDG&E's robust program of environmental compliance practices and protocols.

Additional benefits of the Proposed Project include reduced outage potential, reduced facility maintenance, and maximized equipment lifespan.

2.1 PROJECT OBJECTIVES

SDG&E has identified the need to reconstruct a portion of TL 649 to include fire-hardening components—namely, the replacement of existing wood poles with new steel poles that meet current design standards. Addressing the overall fire threat and service reliability concerns is the overall purpose of the Proposed Project, which will achieve the following objectives:

1. Increase the fire safety and service reliability of TL 649
2. Minimize potential adverse environmental effects
3. Locate proposed facilities within existing utility corridors to the extent feasible

The Proposed Project components are presented in Chapter 3 – Project Description. The Proposed Project objectives are more thoroughly described in the following subsections.

2.1.0 Objective 1: Increase the Fire Safety and Service Reliability of Tie Line 649

The fundamental objective of the Proposed Project is to increase the fire safety and service reliability of TL 649, which is located in an area of high fire risk. Since 2007, SDG&E has focused a great deal of effort on fire prevention and fire preparedness, which has included the development of a CFSP. The CFSP consists of three general tasks:

- increased education and outreach to employees and customers about the risks of wildfires;
- implementation of new preventive measures (including fire-hardening) to help reduce the risk of fires associated with electric facilities; and
- enhanced readiness during periods of high fire risk, as well as enhanced response capabilities with fire suppression resources and emergency power supplies.

The CFSP encompasses engineering, construction, operations, and stakeholder input. SDG&E has partnered with fire agencies and external stakeholders to enhance fire safety for all of San Diego County. Since the inception of the CFSP approximately five years ago, the wood-to-steel (i.e., fire-hardening) projects have been an integral part of the CFSP.

[1] The term "transmission" as used herein refers to the NERC and FERC definition and is not intended to suggest that TL 649 is designed for immediate or eventual operation as a transmission line as the CPUC defines it, at 200 kV or above.

The Proposed Project is consistent with SDG&E's efforts to improve reliability and reduce fire risks in fire-prone areas through fire-hardening projects and other enhancements. SDG&E prioritizes the maintenance of poles in each power line in high-risk fire areas according to the existing vegetation and fuel conditions, the history of high-speed winds, and the age and condition of existing infrastructure as part of a strategy to strengthen power lines connecting substations for improved reliability. SDG&E periodically reviews and prioritizes the list of poles to be replaced due to changes in field conditions (e.g., increased density of wildland fuel in the vicinity of poles). The Proposed Project incorporates current design standards to reduce fire risks and will implement a Proposed Project-specific fire plan to minimize fire risks during construction.

During the evaluation process, the portion of TL 649 included in the Proposed Project met the criteria for immediate replacement based on the previously noted factors, which include:

- a designation of Very High Fire Threat for the majority of the poles as indicated on SDG&E's 2014 Fire Threat Zone map and
- a record of very high winds.

The Proposed Project will result in the strengthening of TL 649 in the high-fire-threat area, which will reduce the risk of potential fire hazard impacts. Based on the previous information and demonstrated in Section 4.8 Hazards and Hazardous Materials, the Proposed Project has been designed to meet Objective 1, and construction of the Proposed Project will fully meet this objective.

2.1.1 Objective 2: Minimize Potential Adverse Environmental Effects

In addition to meeting the primary objective of fire hardening TL 649, the Proposed Project was also designed to meet Objective 2, which calls for the reduction of potential adverse environmental effects. Avoidance and minimization of environmental impacts is a part of SDG&E's standard procedures and protocols.

The Proposed Project has been designed to include elements that will minimize or avoid potential adverse effects to the environment, including the following:

- Adherence to SDG&E environmental protection procedures and protocols;
- Use of existing access roads, footpaths, work areas, and disturbed areas during construction, to the extent feasible;
- Locating replacement poles as close as possible to the existing poles, typically within 10 feet;
- Reducing fire risk and the associated environmental harm resulting from fires; and
- Reducing routine maintenance impacts, as steel poles require less maintenance than wood poles.

Based on the previous information and demonstrated in Chapter 4 – Environmental Impact Assessment, the Proposed Project has been designed to meet Objective 2, and construction of the Proposed Project will fully meet this objective.

2.1.2 Objective 3: Locate Proposed Facilities within Existing Utility Corridors to the Extent Feasible

In addition to meeting the primary objectives of fire hardening TL 649 and limiting the potential environmental effects, the Proposed Project was also designed to meet Objective 3, which calls for the use of the existing utility corridor to the extent feasible. SDG&E currently has an existing approximately 20-foot-wide ROW along the entire length of the power line between pole locations 1 and 117. SDG&E also has an approximately 12-foot-wide ROW on private property along the entire length of the distribution line between pole locations 18.1 and 18.5. No additional ROWs will be required for the Proposed Project. Approximately 132 existing power and distribution line poles will be removed and replaced with approximately 117 galvanized steel poles. The Proposed Project will follow the existing TL 649 alignment, and the new poles will typically be placed in line with the existing conductors and within approximately 10 feet of the existing poles, except in a few locations where design requirements or site conditions require that replacement poles be located more than 10 feet from the existing pole locations. Based on the previous information and demonstrated in Chapter 3 – Project Description, the Proposed Project has been designed to meet Objective 3, and construction of the Proposed Project will fully meet this objective.

2.2 CONCLUSION

As outlined previously, the Proposed Project will meet all three objectives and fully accomplish the fundamental purpose of increasing the fire safety and service reliability of TL 649. The Proposed Project will fire harden the portion of TL 649 located in a very high to extreme fire threat area, without requiring a major realignment or modification to the overall electrical systems in the area. Furthermore, the Proposed Project will fulfill the purpose and primary objective while meeting Objectives 2 and 3 by avoiding potential adverse environmental effects and using existing utility corridors.

2.3 REFERENCES

CPUC. 1995. Rules Relating to the Planning and Construction of Electric Generation, Transmission/Power/Distribution Line Facilities and Substations Located in California: General Order No. 131-D. Online. http://docs.cpuc.ca.gov/PUBLISHED/Graphics/589.PDF. Site visited July 6, 2015.

CPUC. 2015. Rules for Overhead Electric Line Construction: General Order No. 95. Online. http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M146/K646/146646565.pdf. Site visited July 6, 2015.

NERC. 2008. Standards of Conduct for Transmission Providers: Order No. 717. Online. http://www.ferc.gov/whats-new/comm-meet/2008/101608/M-1.pdf. Site visited July 6, 2015.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ATTACHMENTS

CHAPTER 3 – PROJECT DESCRIPTION

San Diego Gas & Electric Company (SDG&E) is a regulated public utility that provides electric service to approximately 1.4 million customers within an approximately 4,100-square-mile service area, covering 25 cities and unincorporated areas within San Diego County and a portion of Orange County. In an effort to maintain existing electric power lines and improve overall system reliability in high fire threat and wind-prone areas in SDG&E's service territory, SDG&E routinely replaces existing wood poles with steel poles to reduce fire hazards and improve system performance in hazardous wind conditions. SDG&E's Proposed Project includes conducting such wood-to-steel replacement activities and transferring or replacing existing conductors and ancillary facilities along an approximately seven-mile-long portion of the existing 69 kilovolt (kV) tie line (TL) 649.

This chapter defines the Proposed Project's location, objectives, and components; describes the existing electric system; and explains how the Proposed Project will be implemented. This chapter also identifies any permits or other approvals that may be needed to implement the Proposed Project. Finally, this chapter identifies SDG&E's project design features and ordinary construction/operating restrictions, as well as any additional measures proposed by SDG&E to avoid or minimize potential environmental impacts.

3.1 PROJECT LOCATION

The Proposed Project is located in the southeastern portion of San Diego County, California, approximately 12 miles southeast of downtown San Diego and approximately 1.5 miles north of the United States- (U.S.-) Mexico border. The Proposed Project traverses the City of Chula Vista, the City of San Diego, and unincorporated San Diego County. The location of the Proposed Project is depicted in Figure 3-1: Project Location Map. The portion of TL 649 that will be replaced is approximately seven miles in length and between pole locations 1 and 117, as depicted in Attachment 3-A: Detailed Route Map. TL 649 extends farther than the Proposed Project alignment; however, wood-to-steel replacement will only occur on this portion of the power line. Replacement poles will be placed within SDG&E's existing alignment. Land uses along the Proposed Project route include residential, recreation, institutional, open space, public lands, rural lands, and utility corridors. Additional discussion of land uses in the vicinity of the Proposed Project is provided in Section 4.10 Land Use and Planning.

3.2 EXISTING SYSTEM

TL 649 is a 69 kV single-circuit power line that connects the Otay, Border, Otay Lakes, and San Ysidro substations. TL 649 originates at the Otay Substation and runs east to the Otay Lakes Substation, and south to San Ysidro Substation. A tap at O'Neil Canyon runs south from pole location 75 to the Border Substation. Figure 3-2: Regional System Map and Figure 3-3: Existing and Proposed System Configuration depict SDG&E's existing power line system, which will not be modified by the Proposed Project.

3.3 PROJECT OBJECTIVES

The Proposed Project is intended to meet the following objectives:

- Increase the fire safety and service reliability of TL 649
- Minimize potential adverse environmental effects
- Locate proposed facilities within existing utility corridors to the extent feasible

Chapter 2 – Project Purpose and Need provides further detail regarding the Proposed Project's objectives.

3.4 PROPOSED PROJECT

The Proposed Project includes the following series of activities, which will occur at the locations depicted in Figure 3-4: Project Components Map:

1. Wood-to-steel replacement of existing facilities, which includes the following:

    a. Removing approximately 132 existing power and distribution line poles and replace them with approximately 117 galvanized steel poles[1] (typically within 10 feet of the existing wood pole locations)

    b. Conducting overhead work on approximately two existing power line poles and approximately one existing distribution line pole

    c. Transferring existing 69 kV conductors to the replacement poles along the entire approximately seven-mile-long Proposed Project alignment

    d. Removing and reconductoring existing 12 kV conductors[2] currently underbuilt on approximately 3.9 miles of the power line between pole locations 18 and 76 and between pole locations 108 and 108.1, and along approximately 640 feet of the distribution line between pole locations 18.1 and 18.5

    e. Transfer existing 12 kV conductors currently underbuilt on approximately 1.5 miles of the power line between pole locations 76 and 95 and between pole locations 108 and 117

    f. Removal of an approximately 400-foot-long portion of the distribution line between pole locations 18.3 and 19

    g. Transferring existing telecommunication cables currently underbuilt on portions of the power line

[1] The galvanized steel poles will weather and become duller in appearance over time.
[2] The new 12 kV specular distribution conductors will dull over time.

Figure 3-1: Project Location Map

Tie Line 649 Wood-to-Steel Replacement Project

Proposed Project (TL 649)

1:200,000

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Figure 3-2: Regional System Map

Figure 3-2: Regional System Map has been omitted from this document due to its confidential nature.

Figure 3-3: Existing and Proposed System Configuration

Figure 3-3: Existing and Proposed System Configuration has been omitted from this document due to its confidential nature.

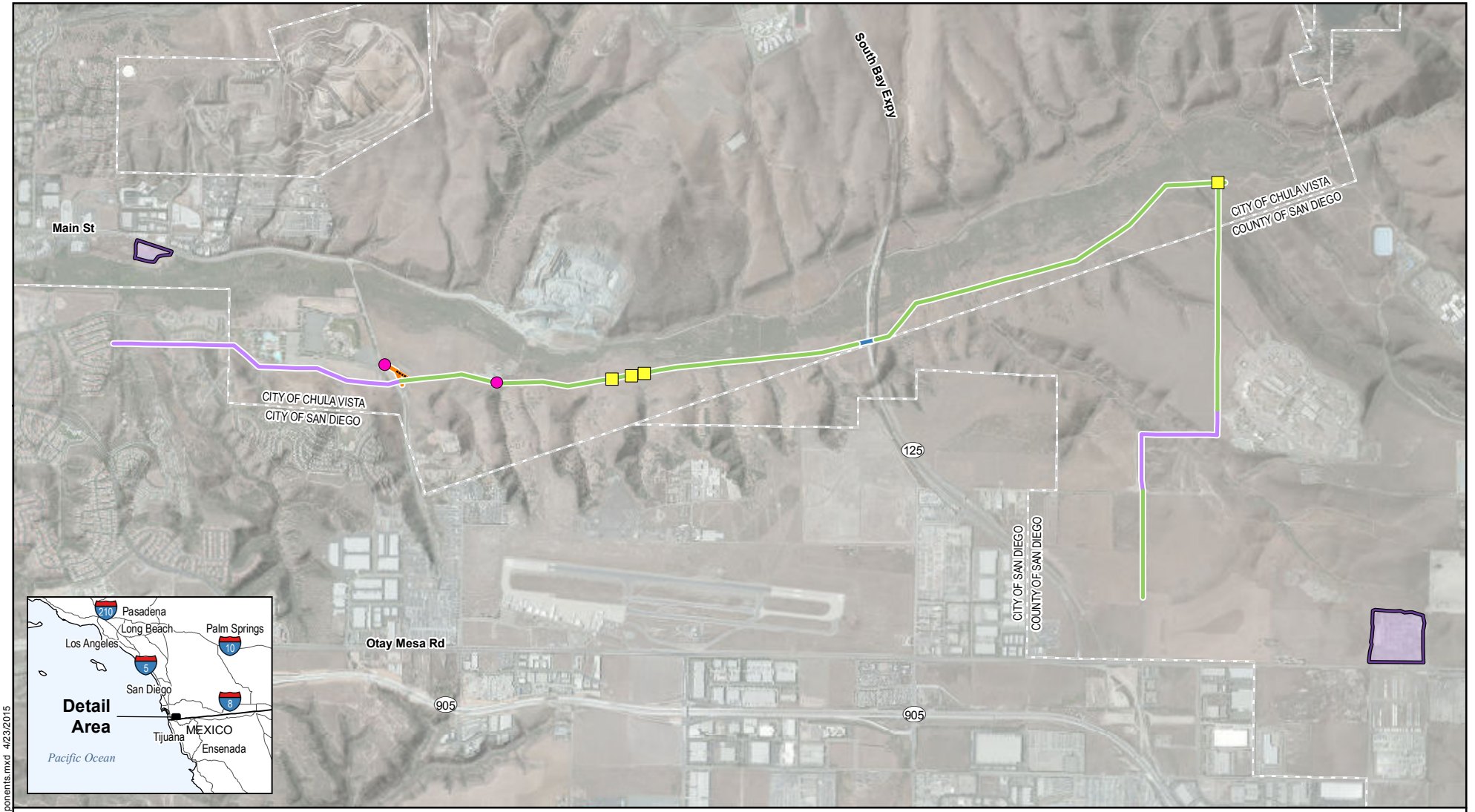

Figure 3-4: Project Components Map

Tie Line 649 Wood-to-Steel Replacement Project

- Wood-to-Steel Replacement
- Wood-to-Steel Replacement with Distribution Underbuild
- Distribution Line Removal
- Wood-to-Steel Replacement Distribution Only
- Underground to Overhead Conversion with Distribution Underbuild
- Underground Distribution Intercept
- Access Road Modification
- Staging Yard
- Municipal Boundary

1:40,000

0 0.5 1 Miles

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2. Conversion of approximately 430 feet of underground power line cable under State Route (SR-) 125 to an overhead configuration

3. Interception of existing underground distribution lines by trenching approximately 80 to 100 feet to pole location 25 and approximately 20 feet to pole location 18.5

4. Modification of existing access roads as needed to ensure safe access by expanding the road width by approximately five feet at pole locations 34, 35, 36, and 75 for lengths measuring approximately 50 feet, or as dictated by the condition of the road at the time of construction

Because the existing 69 kV conductors will be transferred to the new poles and no changes to any associated substation or other infrastructure is proposed, the Proposed Project will not increase the capacity of the existing system. There are no reasonably foreseeable future phases or other reasonably foreseeable consequences of the Proposed Project.

3.5 PROJECT COMPONENTS

The following subsections describe the Proposed Project components in further detail.

3.5.1 Wood-to-Steel Replacement

Pole Installation

Existing poles (ranging from approximately 30 to 76 feet tall) will be replaced with new poles at an approximately one-to-one ratio. Table 3-1: Proposed Project Pole Summary (Approximate Values) details the quantity and the approximate dimensions of the replacement steel poles. The steel poles will typically be placed in line with the existing conductors and within approximately 10 feet of the existing poles, except in a few locations where design requirements or site conditions require that replacement poles be located more than 10 feet from the existing pole locations. Attachment 3-A: Detailed Route Map illustrates where wood-to-steel pole replacement, new pole installation, pole removal, and overhead work will occur.

Table 3-1: Proposed Project Pole Summary (Approximate Values)

Pole Type	Approximate Quantity	Maximum Pole Length (feet)	Maximum Height Above Ground (feet)	Average Base Diameter at Grade (feet)
Direct Bury	89	100	84	2.5
Micro-Pile Foundation	7	88	90	7
Pier Foundation	21	83	85	7

Note: This table is preliminary and subject to change based on California Public Utilities Commission (CPUC) requirements, final engineering, and other factors.

SDG&E will use tangent poles when the pole alignment continues in a generally straight line and angle poles[3] when the run of poles changes direction. SDG&E will direct-bury replacement steel poles where possible or install self-supported steel poles on micro-pile or pier foundations, as site conditions require. Approximately 117 poles will be installed—to support an average conductor span length of approximately 650 feet. SDG&E will also install all necessary and proper guys and anchorage. In addition, all of the steel poles will require the installation of two eight-foot-long and four-inches-wide grounding rods approximately six feet apart and buried approximately eight to 18 inches below ground surface within the established work areas described in Section 3.7.1 Work Areas. Replacement poles will include galvanized pole steps if the pole locations are not accessible by a 24-hour all-weather access road.

All pole locations and dimensions are based on preliminary engineering data and will not be finalized until Proposed Project engineering has been completed and the Proposed Project has been approved by the CPUC.

Attachment 3-B: Typical Drawings provides typical drawings of each type of pole and foundation that will be removed or installed, as well as an example photograph of an existing wood pole. A detailed discussion of pole installation methods is provided in Section 3.7.4 Methods.

Conductor Installation

SDG&E will configure each steel pole to carry a variation of the following:

- Three 69 kV 636 kcmil[4] (0.977-inch diameter) aluminum-clad steel-supported (ACSS) aluminum conductors or 1,033.5 kcmil (1.212-inch diameter) aluminum-clad steel reinforced (ACSR) conductors

- Three to four 12 kV 636 kcmil (0.977-inch diameter) ACSR conductors or #4/3 copper (0.254-inch diameter) conductors where existing distribution conductors are located

- Existing telecommunication cables where existing telecommunication cables are located

SDG&E will transfer the three existing 69 kV conductors to one or both sides of the steel poles and arrange the conductors in a vertical configuration with a minimum separation of approximately 4.5 feet. Where there is existing distribution underbuild, SDG&E will install three new 12 kV specular conductors that will dull in appearance over time or transfer existing 12 kV conductors on the steel poles. SDG&E will arrange the conductors in a horizontal configuration with a minimum horizontal separation of approximately four feet in accordance with current CPUC General Order (GO) 95 requirements. SDG&E will generally install the lowest 69 kV conductor at least 30 feet above the ground surface and the lowest 12 kV conductor at least 25 feet above the ground surface. The conductors will be attached using post and strain

[3] An angle pole is designed to take the additional lateral loading caused by a change in the conductor's centerline direction.

[4] kcmil (1,000 circular mils [cmils]) is a quantity of measure for the size of a conductor; kcmil wire size is the equivalent cross-sectional area in thousands of cmils. A cmil is the area of a circle with a diameter of 0.001 inch.

insulators installed on each pole. Existing telecommunication cables will be transferred to the replacement steel poles.

Distribution Line Removal

Currently, the underbuilt distribution line on TL 649 connects to an existing distribution line at pole location 19. As part of the Proposed Project, SDG&E will relocate the existing distribution line's connection to pole location 18, remove the existing approximately 400-foot-long distribution line between pole locations 18.3 and 19, and remove pole locations 19 and 19.1. The distribution line and pole removal is depicted in Attachment 3-A: Detailed Route Map.

3.5.2 Underground Distribution Line Intercepts

An existing underground distribution line will be intercepted from the existing distribution riser at pole location 18.5 to the new distribution pole location. This will require the installation of three 1000 XLPECN-PEJAL cables in a new approximately 20-foot-long duct bank. The duct bank will consist of two five-inch conduits, which will be placed in an approximately two-foot-wide by five-foot-deep trench. In addition, an approximate four-foot-long by four-foot-wide by five-foot-deep intercept hole will be excavated at the existing underground duct bank location. The underground distribution line intercept is depicted in Attachment 3-A: Detailed Route Map.

An existing underground distribution line will be intercepted from the pedestal location near pole location 26 to the new distribution pole location 25. Rerouting the existing distribution line will require the installation of two 3/0 and one 1/0 600v cables in an approximately 80- to 100-foot-long duct bank. The duct bank will consist of one three-inch conduit in an approximately one-foot-wide by three-foot-deep trench. In addition, an approximate three-foot-long by three-foot-wide by three-foot-deep intercept hole will be excavated at the pedestal location. The underground distribution line intercept is depicted in Attachment 3-A: Detailed Route Map. A typical duct bank drawing is provided in Attachment 3-B: Typical Drawings.

3.5.3 Underground to Overhead Conversion

Between pole locations 50 and 51, the existing power line is currently in an underground configuration under the SR-125. This segment was installed underground to facilitate the construction of the SR-125 bridge. SDG&E will convert this approximately 430-foot-long underground segment to an overhead configuration as part of the Proposed Project. The existing cables will be removed from the underground duct bank, and new conductors will be installed on the new replacement poles, as described in Section 3.5.1 Wood-to-Steel Replacement. The existing duct bank and vaults will be abandoned in place.

3.5.4 Access Road Modifications

SDG&E will modify the existing access roads in approximately four areas near pole locations 34, 35, 36, and 75 to accommodate the shift of the replacement poles toward the center of the right-of-way (ROW), which will place the poles in the existing access road. These modifications are necessary to create a safe travel way for construction and operation and maintenance personnel and equipment. Therefore, SDG&E will expand the access road by approximately five feet for approximately 50-foot lengths at each of these pole locations, which are depicted in Attachment 3-A: Detailed Route Map. The actual distance for each access road

modification will be determined at the time of construction and will be based on the new pole location as well as the condition of the road at the time of construction.

3.6 PERMANENT LAND/RIGHT-OF-WAY REQUIREMENTS

SDG&E currently has an existing approximately 20-foot-wide ROW on City of Chula Vista, City of San Diego, San Diego County, state, and private property along the entire length of the power line between pole locations 1 and 117. SDG&E also has an approximately 12-foot-wide ROW on private property along the entire length of the distribution line between pole locations 18.1 and 18.5. No additional ROWs will be required for the Proposed Project. These existing ROWs will be maintained to be consistent with SDG&E's existing operation and maintenance procedures. SDG&E will obtain landowner approval for use of the staging yards located outside of SDG&E's existing ROWs.

3.7 CONSTRUCTION

Prior to initiating construction, SDG&E will make all the appropriate and necessary notifications, including landowner notifications. In addition, SDG&E will contact the Underground Service Alert prior to the start of ground-disturbing activities in order to identify underground utilities in the immediate area. Once SDG&E completes the appropriate notifications, construction will proceed as described in the following subsections.

3.7.0 Access

The following subsections describe the anticipated access requirements to the Proposed Project components. Minor adjustments to the access requirements identified in Attachment 3-A: Detailed Route Map may be necessary at the time of construction due to site conditions, construction requirements, and other factors. In these cases, as part of the project design features and ordinary construction restriction and operating restrictions, SDG&E will identify the specific locations and improvements that are required, and complete an internal environmental review that analyzes and minimizes potential impacts to sensitive environmental resources.

Existing Access Roads

The Proposed Project will utilize a network of existing dirt and gravel access roads to provide access to TL 649. The approximate locations of such existing roads are shown in Attachment 3-A: Detailed Route Map. The power line ROW will be accessed using existing roads, which are approximately a minimum of 12 feet wide with an additional two feet of windrows on each side. Use of additional existing roads beyond those that have been identified may be required during construction or access roads may require improvement outside the existing footprint of the roadway (e.g., decreasing a turning angle on a hairpin curve to accommodate construction vehicles' turning radii).

Where existing roads are damaged, typical repairs (e.g., smoothing the road, stabilizing loose areas, and improving the surface quality of the road) may be made by blading, importing and compacting more stable materials in loose areas, or applying additional surface materials to improve access conditions. The extent of road repairs will be determined prior to construction

and is contingent on road conditions (e.g., erosion and road use that the roads experience prior to construction).

Access Road Modifications

As described previously in Section 3.5.4 Access Road Modifications, SDG&E will modify the access roads at pole locations 34, 35, 36, and 75, as depicted in Attachment 3-A: Detailed Route Map. Modifications to the access roads in these areas will be conducted in a manner similar to the repair of existing access roads described previously. Table 3-2: Access Road Modification Summary provides a summary of access road modifications for the Proposed Project.

Table 3-2: Access Road Modification Summary

Pole Location	Approximate Length (feet)	Approximate Width (feet)	Total Approximate Area (square feet)
34	50	5	250
35	50		250
36	50		250
75	50		250
Total	**200**	**--**	**1,000**

Note: This table is preliminary and subject to change based on CPUC requirements, final engineering, and other factors.

Overland Travel Routes

In addition, SDG&E may utilize overland travel routes, which are depicted in Attachment 3-A: Detailed Route Map, in order to avoid and minimize impacts to sensitive environmental resources. Vegetation trimming may be required in order to reduce the fire risk; however, no grading will be required for overland travel routes. The overland travel routes are approximate locations and may be shifted based on site conditions, sensitive environmental resources, and access requirements at the time of construction. Additional overland travel routes to work areas may be required during construction.

Turnarounds

SDG&E has identified approximately 10 locations where turnarounds will be required, which are depicted in Attachment 3-A: Detailed Route Map. The number of turnarounds and locations are estimates and subject to change based on site conditions and access requirements at the time of construction. Turnaround areas may also be used for staging and parking during construction.

3.7.1 Work Areas

The temporary work areas depicted in Attachment 3-A: Detailed Route Map will be required in order to facilitate construction. The specific locations of these work areas are depicted in Attachment 3-A: Detailed Route Map. The pole work areas are not depicted because their exact locations will be determined during construction. These anticipated work area requirements are

described in detail in the following subsections. The precise location and number of temporary work areas may change as necessary at the time of construction due to site conditions, construction requirements, and other factors. In these cases as part of the project design features and ordinary construction and operating restrictions, SDG&E will identify the specific locations and improvements that are required, and complete an internal environmental review that analyzes and minimizes potential impacts to sensitive environmental resources.

Staging Yards

As shown in Attachment 3-A: Detailed Route Map, SDG&E will utilize two staging yards for the Proposed Project: the approximately six-acre Main Street Staging Yard and approximately four acres within the Otay Staging Yard.[5] The final location of the Otay Staging Yard will depend on property owner approval and a configuration that utilizes previously disturbed areas to the extent possible. In addition, SDG&E may use the access road turnarounds described previously in Section 3.7.0 Access, as staging yards during construction. Additions or modifications to the staging yards may be necessary during construction.

The staging yards will be used for storage and preparation of construction materials, including replacement poles and conductors, as well as construction equipment before delivery to the individual pole work areas. The poles will be assembled at the staging yards and/or in the pole work areas. Equipment, materials, and vehicle parking will be accommodated at these locations for the duration of construction associated with each staging yard. Staging yards will be accessed using public roadways and existing access roads.

SDG&E will install a six- to eight-foot-tall temporary chain-link fence with a locked gate and screening around the perimeter of the Main Street Staging Yard unless such is already in place. The Otay Staging Yard will be within an existing wrecking yard, which already has screened fencing and locked gates. The yards may also have security cameras or guards.

SDG&E may mobilize construction trailers to the staging yards, which will generally be used for construction management activities. If temporary power is required, a temporary tap from an existing distribution line will be installed to provide electrical service, or a small generator will be used. The temporary power will be used for the operation of the construction trailer, construction lighting, and small hand tools.

Pole Work Areas

In order to accommodate construction equipment and activities during pole installation and removal and while transferring the power line conductors, temporary construction areas will be required at each pole location.

It is anticipated that each of the direct-bury steel poles, removal poles, and overhead work only poles will require an approximately 20-foot-diameter work area (approximately 314 square feet); each of the micro-pile foundation steel poles will require an approximately 40-foot-diameter

[5] The Otay Staging Yard is approximately 33.1 acres, but SDG&E will only use approximately four acres within this site.

work area (approximately 1,260 square feet); and each of the pier foundation steel poles will require an approximately 75 foot by 75 foot work area (approximately 5,625 square feet).

The work areas for each type of pole foundation will generally be centered around the existing pole location. However, actual work areas will vary in shape and size and will be determined based on site conditions and access requirements in order to provide a safe and adequate work area for construction workers, and to avoid and minimize impacts to sensitive resources. The on-site biological monitor, as appropriate, will assist construction crews in locating pole work areas that avoid and minimize impacts to sensitive resources. For purposes of analysis, temporary impact areas for direct-bury steel poles, removal from service poles, and overhead work only poles include the work area as previously described, and an additional potential impact area (approximate total of 1,260 square feet) to account for minor modifications made in the field during construction.

The positioning of construction equipment (typically line trucks, bucket trucks, and crane trucks) will involve the placement of approximately four outriggers (per vehicle) with dimensions of approximately two feet wide by three feet long (6 square feet) per outrigger for line trucks, and four feet wide by four feet long (16 square feet) per outrigger for crane trucks. The location of the outriggers will be evaluated by the onsite biological monitor prior to their placement in order to avoid and minimize impacts to sensitive resources.

Stringing Sites

Approximately 28 stringing sites will be required for installing new conductors, tensioning the conductor to a pre-calculated level, and loading tractor-trailers with reels of conductor and trucks with tensioning equipment. Each stringing site will be approximately 30 feet by 150 feet, but will vary in size depending on site conditions. Stringing sites will be spaced approximately 3,000 feet apart and will generally be located at the end of a straight power line segment where the line changes direction. Stringing sites may be added, shifted or modified at the time of construction to accommodate construction requirements.

Guard Structures

One to two guard structures or bucket trucks will be required at Heritage Road to enable safe crossing of the road during conductor stringing. Guard structure work areas will generally measure approximately six feet by six feet for each pole, resulting in a total temporary disturbance of approximately 72 to 144 square feet, depending on whether single wood pole or two-pole wood structures are used. Adjustments and additions of guard structures may be necessary to provide safe working conditions during construction activities.

Underground Distribution Line Intercept Trench Work Areas

In order to facilitate the trenching for the underground distribution line intercept duct banks, an approximately 10-foot-wide work area will be required along the trenches. One approximately 20-foot-long trench and one approximately 80- to 100-foot-long trench will be required for the underground distribution line intercepts.

Underground to Overhead Conversion Pulling Site

In order to facilitate the underground to overhead power line conversion under the SR-125 bridge, it is likely that one pulling site will be required. The pulling site will require an approximately 1,875-square-foot work area, measuring approximately 25 feet by 75 feet. The exact configuration of the pulling site or additional sites will be determined during construction, but will be situated to avoid sensitive resources.

3.7.2 Vegetation Removal and Trimming

Tree removal is only anticipated at pole location 26; however, additional tree removal may be identified at the time of construction. The tree to be removed is a California pepper tree (*Schinus molle*) that is approximately 20 feet tall, 18 inches in diameter, and 55 inches in circumference. The tree will be removed by a two-man crew in a lift/bucket truck. The crews will use a chainsaw to cut the tree down in small sections from the top of the tree down to the ground. Limbs will be chipped up and hauled away to a green recycling center. Logs will be left on site for the landowner or will be hauled away, if necessary.

Existing vegetation may need to be trimmed in temporary construction areas—including staging yards, pole work areas, access roads, turnarounds, stringing sites, guard structure work areas, the underground to overhead conversion pulling site, and underground distribution line intercept trench work areas—to provide a safe working environment. No tree trimming is anticipated, but may be required at the time of construction. Some mature bushes and other brush may need to be trimmed. Vegetation will be trimmed by using a variety of methods, including gas-powered weed abatement tools, sickles, rakes, and other hand tools or equipment-mounted brush-clearing devices. Section 4.4 Biological Resources provides detailed information regarding the effects of trimming on vegetation and habitat communities. Tree trimming requirements under CPUC GO 95 are described in Section 3.8.1 Pole Brushing and Tree Trimming.

3.7.3 Erosion and Sediment Control and Pollution Prevention

Construction of the Proposed Project will involve ground-disturbing activities on land with slopes up to 46 percent; these activities include minor earthwork and vegetation trimming associated with the use of temporary construction work areas. Because ground disturbance will be greater than one acre, SDG&E will obtain approval for these activities under the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity Order No. 2009-009-DWQ (Construction Storm Water Permit). In order to obtain coverage under the permit, SDG&E will develop and submit Permit Registration Documents to the SWRCB prior to initiating construction activities. These documents include a Notice of Intent, a Storm Water Pollution Prevention Plan (SWPPP) prepared by a Qualified SWPPP Developer, a risk assessment, a site map, a certification, and an annual fee.

The SWPPP will identify best management practices (BMPs) for each activity that has the potential to degrade surrounding water quality through erosion, sediment run-off, and other pollutants, in accordance with SDG&E's BMP Manual for Water Quality Construction. These BMPs will then be implemented and monitored throughout the Proposed Project by a Qualified SWPPP Practitioner.

3.7.4 Methods

The following subsections describe the proposed methods for each construction activity.

Access Road Improvements and Modifications

SDG&E maintains existing access roads to allow operation and maintenance of the existing electric facilities. Whenever possible, construction will utilize existing access roads. The first step will be to evaluate existing access roads, then repair those roads where necessary. As described previously, the existing access roads will need to be widened in four locations. Table 3-3: Access Road Construction Equipment lists the equipment typically utilized in the repair and modification of access roads. Where existing access roads need repair and expansion, a grader will be used to blade and smooth the road in accordance with the engineered specifications. Importing and compacting more stable materials on existing facilities in unstable areas may also be required.

Table 3-3: Access Road Construction Equipment

Equipment Type	Activity	Approximate Quantity
Grader	Grading	2
Loader	Transports materials	1
Water Truck	Suppresses dust	2
Mower	Trims vegetation	2
Tractor Trailer Unit	Transports equipment and materials	2
Dump Truck	Transports materials	1

Note: This table is preliminary and subject to change based on CPUC requirements, final engineering, and other factors.

Existing Pole Removal

Once the replacement poles have been constructed, existing conductor has been transferred to the replacement poles, new distribution conductor has been strung, and any telecommunication cables have been transferred to the replacement poles, SDG&E will remove the existing poles. Pole removal activities will utilize boom and bucket trucks to remove cross arms, distribution conductors, and poles. Poles will be completely removed where possible. The holes will be backfilled with native soil from excavation of the new pole holes or imported materials similar to the surrounding area, and the site will be restored to its approximate pre-construction condition. The entire pole will be removed unless a sensitive resource will be impacted by the pole butt removal, in which case, the pole will be cut at the base or six to 12 inches below the surface and covered with native material. All anchors and stub poles will also be removed where possible. Anchor rods will be unscrewed or cut off approximately 18 inches below ground surface. Existing poles, associated hardware, and any other debris generated from Proposed Project activities will be removed from the Proposed Project site for recycling or disposal at an approved facility.

Steel Pole Installation

The following subsections describe the installation methods for the different types of steel poles.

Direct-Bury Steel Poles

Installation of direct-bury steel poles will begin with the excavation of holes approximately 4.5 feet in diameter at grade on average and approximately six to 16 feet deep, depending on the height of the pole. Pole holes will be excavated using a truck-mounted auger, track-mounted drill rig, by hand with the aid of a hand jack powered by an air compressor, or with similar equipment. Pole hole drilling will excavate approximately 3.5 to 9.5 cubic yards (CY) of soil per pole. New poles will be delivered to the site by line truck and placed in the holes by using a line truck, crane, or bucket truck. The annular space between the poles and hole walls will then be backfilled with concrete, with an additional foot of crushed rock placed beneath the bearing plate, if needed, due to drainage and soil conditions.

The permanent footprint for each direct-bury steel pole will be approximately 4.5 feet in diameter (approximately 16 square feet) at grade on average. Direct-bury steel poles will be installed at approximately 89 locations.

Pier Foundation Steel Poles

Pier foundation installation will begin with the excavation of a hole approximately seven feet in diameter at grade on average and approximately 30 feet deep, depending on the properties of the soil or rock underlying the surface. Pole hole drilling will excavate approximately 42.8 CY of soil per pole. A steel rebar cage will be inserted into each hole and centered, and the remaining space will be filled with a mixture of water, cement, and sand. The foundations will extend approximately two feet above ground. New poles will be delivered to the site by line truck and placed on the foundation by using a line truck, crane, or bucket truck.

The permanent footprint for each pier foundation steel pole will be approximately seven feet in diameter (approximately 39 square feet) at grade on average. Pier foundation steel poles will be installed at approximately 21 locations.

Micro-Pile Foundation Steel Poles

Micro-pile foundation installation will begin with the excavation of holes approximately six to nine inches in diameter at grade on average by approximately 30 feet deep, depending on the properties of the soil or rock underlying the surface. Depending on requirements for foundation strength, four to 16 micro-piles will be arranged in a circular pattern. Pole hole drilling will excavate approximately 0.9 to 7.9 CY of soil per pole. Holes for micro-pile foundations will be drilled using a small drill rig or similar equipment operated from the top of an elevated platform. The platform will be approximately eight feet by eight feet, placed on four to six legs, and approximately six feet above grade. A steel rod will be inserted into the hole and centered, and the remaining space will be filled with grout, a mixture of water, Portland cement, and sand. The steel rod will protrude above grade and will connect to a steel cap/transition plate supporting the structure above grade. New poles will be delivered to the site by line truck and placed on the steel cap/transition plate by using a line truck, crane, or bucket truck.

The permanent footprint for each micro-pile steel pole will be approximately seven feet in diameter (approximately 39 square feet) at grade on average. Micropile foundation steel poles will be installed at approximately seven locations.

Conductor Installation

SDG&E will coordinate with the California Independent System Operator (CAISO) and relevant parties to obtain all the necessary line outages prior to transferring the power line conductors to the new poles in the event that the power line will have to be taken out of service. This will ensure that SDG&E can take the power line out of service and redistribute power to service centers and customers. SDG&E coordinates all necessary outages for distribution conductor installation.

As described previously, prior to transferring the existing power line conductors and stringing the new distribution conductors, temporary guard structures that typically consist of vertical wood poles with cross arms will be installed at the Heritage Road crossing, preventing the conductors from sagging onto the roadways. Bucket trucks may also be used as guard structures. As an alternative to using temporary guard structures, SDG&E may use flaggers to halt traffic for brief periods while overhead conductors are installed at the Heritage Road crossing.

The power line conductor transfer will begin with the installation of insulators on the new steel poles. Bucket trucks will be used to unclip the power line conductor from the existing wood poles, attach the conductor to the new insulators, and install the vibration dampers and other hardware accessories. After the conductor is pulled into place, the sag between the structures will be adjusted to a pre-calculated level.

Distribution conductor stringing will begin with the installation of insulators and stringing sheaves during steel pole installation. Sheaves are rollers that temporarily attach to the lower end of the insulators to allow the conductor to be pulled along the line. A rope will then be pulled through the rollers from structure to structure. Once the rope is in place, it will be attached to a steel or synthetic cable and pulled back through the sheaves and into place using conventional tractor-trailer pulling equipment located within one of the stringing sites. The conductor will be pulled through each structure under a controlled tension to keep the conductor elevated and away from obstacles, thereby minimizing third-party damage to the line and protecting the public. After the conductor is pulled into place, the sag between the structures will be adjusted to a pre-calculated level. The conductor will then be attached to the end of each insulator, the sheaves will be removed, and the vibration dampers and other hardware accessories will be installed. SDG&E will accomplish the removal of existing conductors in a method similar to the reverse of the conductor installation process. The old conductors will be recycled at an approved facility.

The telecommunication providers or their contractors will transfer the existing telecommunication cable to the new steel poles using bucket trucks.

In some cases, sleeves or splices may be installed on the conductors. This might occur when stringing operations slightly damage the conductor, or if the conductor is not long enough and needs to be joined to another segment. If the conductor is damaged, a section of the conductor

may be replaced or a repair sleeve may be wrapped around the outside of the conductor and pressed into place to protect the conductor. SDG&E will utilize full-tension splices when the conductor is damaged too severely for a repair sleeve, when the conductor is not long enough to span structures, or if stringing sites are spread too far apart. During full-tension splices, the two ends of the conductor are connected with the use of heavy-duty vices.

Underground Distribution Line Intercepts

The underground distribution line intercepts will be installed using the open trench method. Trenches will be excavated using a backhoe and other trenching equipment as warranted by site conditions. The depth of the trenches will be determined by localized topography and potential conflicts, but they are anticipated to be three to five feet deep, with a width of one to two feet. Once installed, the depth from grade to the top of the concrete duct package will be at least 2.5 feet, and the depth from grade to the top of the conduit in the duct package will be at least three feet. The excavated native material will be used to backfill the trench after installation of the concrete duct banks. SDG&E does not anticipate that engineered backfill will be required.

The polyvinyl chloride cable conduits for underground distribution lines will be installed (and separated by spacers), and concrete will be poured around the conduits to form the duct banks after trenching activities for the underground duct banks have been completed. The trenches will be backfilled with these materials, and the cables will be installed in the duct banks upon completion of the duct bank installation. Each cable segment will be pulled into the duct bank and terminated at the cable pole where the line converts to an overhead configuration. A cable reel will be placed at one end of the section and a pulling rig will be placed at the other end to pull the cable through the ducts. By using a fish line, a larger rope will then be pulled into the duct and attached to the cable puller, which pulls the cable through the duct. To decrease friction during pulling, lubricant will be applied to the cable as it enters the duct.

Underground to Overhead Conversion

The underground to overhead conversion of the power line under SR-125 will be conducted in a manner similar to the steel pole and conductor installation described previously. Once the new steel poles have been installed on either side of SR-125, SDG&E will install new conductors between pole locations 50 and 51, which will be connected to the existing power line conductors by using sleeves or splices. The existing cables will be recycled at an approved facility, and the existing underground duct bank will be abandoned in place.

Dewatering

No dewatering is anticipated during construction of the Proposed Project. Discharges of groundwater to land or surface waters/municipal storm water systems may require obtaining coverage under an applicable SWRCB or San Diego Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements (WDRs), Waiver of WDRs, or NPDES permit. In the event that groundwater is encountered during excavation of the holes for pole installation or during trenching for the underground distribution lines, the following general construction

dewatering procedures will be implemented in accordance with local, state, and federal dewatering requirements:

1. A submersible pump will be installed.

2. If the groundwater will be discharged to an upland area, as necessary, it will be pumped to a desiltation tank (i.e., baker tank) for sediment filtering. If the groundwater is pumped to a baker tank, baffles will be installed in the tank to increase sedimentation, and the water in the tank will be tested in accordance with any applicable permit or other requirement.

3. If the groundwater is pumped to a baker tank for discharge to surface waters, the water will be tested to ensure compliance with the applicable RWQCB or SWRCB NPDES permit requirements. If the water quality does not meet permit requirements, additional baker tanks will be used and/or additional treatment or filtering will be performed until the applicable requirements are met.

4. If the groundwater will not be discharged to an upland area or surface waters in the area, or if the water quality does not meet permit requirements, the water will be disposed of at an approved SDG&E disposal site that is licensed to handle wastewater.

Blasting

If rock is encountered during pole excavation, a hydraulic rock drilling and splitting procedure (rock-splitting) may potentially be used to minimize drilling time, depending on site specific conditions. The procedure involves drilling a hole in the rock and inserting a non-blasting cartridge of propellant. The cartridge is mechanically initiated by an impact generation device. This hydro-fracturing effect causes controlled tensile crack propagation in the rock and does not result in flyrock, noxious fumes, or ground vibrations.

In the unlikely event that rock blasting may potentially be used to excavate pole locations along the power line that are solid rock, and where the hydraulic rock drilling and splitting procedure will be ineffective, the following procedure will be utilized. The procedure will minimize both drilling time and noise impacts. The blasting involves drilling approximately three-inch diameter blast holes to the full depth of the shaft and inserting explosives. Blasting caps are connected, and a non-electric detonator is employed. Flyrock protection is installed prior to blasting, and seismographs are placed to measure and record peak particle velocity and air blast levels at various distances from the blast site. Dust control will include a combination of steel plate covering, geo-textile fabric with chain link fence covering, and wetting the blasting surface. If blasting is utilized, the blasting contractor will be required to obtain a blasting permit and explosive permit per the San Diego County Regulatory Ordinances. The appropriate BMPs will be used before, during, and after all construction activities where necessary to prevent erosion and off-site sedimentation.

Cleanup and Post-Construction Restoration

All areas that are temporarily disturbed around each structure, areas used for conductor pulling, and all staging yards will be restored to approximate pre-construction conditions, to the extent

practicable. This will include removal of all construction materials and debris, returning areas to their original contours, and reseeding, as needed. Any excess material from excavations will be placed around the holes, spread onto access roads, or properly disposed of at an appropriate off-site facility.

3.7.5 Equipment

Attachment 3-C: Construction Equipment Summary provides the equipment that will be used to construct the Proposed Project, along with the approximate duration of use for each type of equipment. In addition to this equipment, pick-up trucks and worker vehicles will travel to and from each Proposed Project work site. Delivery trucks will likely travel to and from the staging yards 120 times per week, or up to 160 times per week during peak activities. Where possible, vehicles may remain on the ROW during the work period rather than return to the staging yard each night. Approximately one to three water trucks—completing an average of two trips per day—may be required to deliver water to each active construction segment of the Proposed Project site for dust control, compaction, and fire protection. All vehicles and equipment will be used in accordance with the SDG&E Wildland Fire Prevention and Fire Safety Plan.

In an effort to conserve water, SDG&E will limit the use of water for dust control to the minimum necessary to comply with federal, state, and local regulations. Potable water will be obtained from a local water purveyor. The Otay Water District provided a Will-Serve Letter on September 29, 2014 stating that they have adequate capacity to provide the approximately 4.5 million gallons of potable water required for construction of the Proposed Project. Recycled water will be used to the extent feasible and where the applicable regulations permit its use. SDG&E will identify and evaluate sources of recycled water in close proximity to the Proposed Project for use controlling fugitive dust. If recycled water is available during construction and the use of recycled water will not result in potentially significant impacts to air quality, greenhouse gas emissions, or traffic as a result of transportation of the recycled water from a recycled water source to construction areas, SDG&E will use recycled water to the extent that it is feasible to do so. The South Bay Water Reclamation Plant in the City of San Diego is currently the closest recycled water source to the Proposed Project. If recycled water is used, it will be handled, stored, and applied in accordance with all applicable federal, state, and local rules and regulations.

Chapter 4 – Environmental Impact Assessment analyzes the potential impacts from using either all potable water from the Otay Water District, all recycled water from the South Bay Water Reclamation Plan, or a combination of both.

3.7.6 Schedule

SDG&E anticipates that construction of the entire Proposed Project will take approximately seven months from initial site development through final energization. Table 3-4: Proposed Construction Schedule summarizes the length of time anticipated for each construction activity.

Table 3-4: Proposed Construction Schedule

Activity	Approximate Duration (days)	Anticipated Start Date
Staging Yard Set-Up/Road Refreshing/Vegetation Trimming/BMP Installation	6	September 2016
Micro-Pile Foundation Construction	40	October 2016
Pier Foundation Construction	63	October 2016
Direct-Buried Construction and Pole Installation	90	October 2016
Trenching for Installation of Underground Cables	3	January 2017
Stringing Activities/Transfer Conductor/Sagging Activities/Pole Removal	60	January 2017
Demobilization/Clean Up/Road Refreshing	26	March 2017

Note: This table is preliminary and subject to change based on CPUC requirements, final engineering, and other factors.

Construction activities will generally be limited to not more than 12 hours per 24-hour period, six days per week, as needed. On occasion, construction activities may be required at night or on weekends to minimize impacts to schedules and to facilitate cutover work, and as required by other property owners or agencies, such as the CAISO, which may require outages of certain portions of the electric system. If construction occurs outside of the hours allowed by the City of Chula Vista, the City of San Diego, or the County of San Diego, SDG&E will meet and confer, or follow established practices with the appropriate jurisdictions, as needed.

3.7.7 Personnel

Table 3-5: Peak Construction Personnel provides the positions and number of personnel anticipated to be on site during peak construction. Construction of each component of the Proposed Project will be phased according to the Proposed Project schedule shown in Table 3-4: Proposed Construction Schedule. Typically, four or five crews of five workers will work concurrently along the alignment. In addition, approximately five crews of two workers will work concurrently along the alignment where hand digging of pole holes is needed. Removal of existing poles will occur immediately following new conductor installation unless third-party facilities are present, which may temporarily delay existing pole removal by approximately 30 to 60 days until the third party relocates its facilities.

Table 3-5: Peak Construction Personnel

Position	Approximate Quantity
General Foreman	1
Working Foreman	4
Linemen	15
Ground Men	15
Total	**35**

Note: This table is preliminary and subject to change based on CPUC requirements, final engineering, and other factors.

After the completion of construction, the power line will be operated and maintained by SDG&E at existing staffing levels. No additional staff will be necessary to maintain the power line.

3.8 OPERATION AND MAINTENANCE

This section describes the standard operation and maintenance activities and procedures that SDG&E currently conducts and will continue to conduct along the proposed power line route. For decades, SDG&E has continuously operated the facilities that will be modified by the Proposed Project. Following construction of the Proposed Project, SDG&E will continue to conduct these activities to be consistent with SDG&E's existing protocols and procedures, including SDG&E's Subregional Natural Community Conservation Plan (NCCP), which is described in greater detail in Section 4.4 Biological Resources.[6] No change in SDG&E's operation and maintenance protocols and procedures is anticipated or included as part of the Proposed Project.

SDG&E will continue to regularly inspect, maintain, and repair TL 649 pending agency review of the Proposed Project and following completion of Proposed Project construction. These activities involve both routine preventive maintenance and emergency procedures to maintain service continuity. SDG&E performs aerial and ground inspections of Proposed Project facilities and patrols above ground components annually. Inspection for corrosion, equipment misalignment, loose fittings, and other common mechanical problems is performed at least every three years (per CPUC GO 165) for power lines.

3.8.0 Road Maintenance

Road maintenance includes grading of existing access roads, installation of BMPs, spot-repair of erosion sites, and vegetation trimming, as needed. SDG&E performs road maintenance as necessary. Road maintenance may require the use of the following equipment: a motor grader, D-5 bulldozer, mini-excavator, skid steer, water truck, and pick-up trucks.

[6] SDG&E will consult with the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW), as appropriate, for Proposed Project construction, but operation and maintenance will be conducted under the NCCP.

3.8.1 Pole Brushing and Tree Trimming

In accordance with fire break clearance requirements in Public Resources Code 4292 and Title 14, Section 1254 of the California Code of Regulations (CCR), SDG&E will trim or remove flammable vegetation in the area surrounding subject power line poles to reduce potential fire and other safety hazards. One-person crews typically conduct this work using mechanical equipment consisting of chain saws, weed trimmers, rakes, shovels, and leaf blowers. SDG&E typically inspects poles on an annual basis to determine if brushing is required.

In accordance with tree and power line clearance requirements in Public Resources Code 4293, Title 14, Section 1256 of the CCR and CPUC GO 95, SDG&E will trim trees and vegetation to manage fire, electrical reliability, and safety hazards. Regular inspection, regardless of habitat type, is necessary to maintain proper line clearances. SDG&E conducts tree-trimming activities with a two-person crew in an aerial lift truck and a chipper trailer. SDG&E typically inspects trees in its service area for trimming needs on an annual basis.

3.8.2 Application of Herbicides

Application of herbicides may follow the mechanical trimming of vegetation to prevent vegetation from recurring. SDG&E normally utilizes one or more of 16 herbicides. This activity generally requires one person in a pick-up truck and takes only minutes to spray around the base of the pole within a radius of approximately 10 feet. The employee either walks from the nearest access road to apply the herbicide or drives a pick-up truck directly to each pole location as access permits.

3.8.3 Equipment Repair and Replacement

Poles or structures may support a variety of equipment, such as conductors, insulators, switches, transformers, lightning arrest devices, line junctions, and other electrical equipment. SDG&E may need to add, repair, or replace equipment in order to maintain uniform, adequate, safe, and reliable service. SDG&E may remove and replace an existing structure with a larger/stronger structure at the same location or at a nearby location due to damage or changes in conductor size. Equipment repair or replacement requires crew access to the equipment to be repaired or replaced.

3.8.4 Use of Helicopters

SDG&E uses helicopters in the visual inspection of overhead facilities and routinely patrols power lines. SDG&E's Transmission Department uses helicopters for patrolling power lines during trouble jobs (e.g., outages/service curtailments) and conducting maintenance activities in areas that have no vehicle access or in rough terrain. For patrolling during such jobs, the helicopter picks up the patrolman at the district yard and lands within a reasonable and safe walking distance of the structures targeted for service. The helicopter needs a flat staging yard for fueling and picking up material, equipment, and personnel. The area required for small helicopter staging is generally 100 feet by 100 feet. The size of the crew needed varies from four to 10 crew members, two helicopter staff, and a water truck driver to apply water for dust control at the staging yard. Most helicopter operations take only one day.

3.9 ANTICIPATED PERMITS AND APPROVALS

The Proposed Project will require a Permit to Construct (PTC) by the CPUC, which in turn triggers environmental review under the California Environmental Quality Act (CEQA). Other agencies that may have approval authority over portions of the Proposed Project and may participate in the CEQA process as "cooperating," "consulting," or "responsible" agencies include the USFWS and CDFW. In addition to the PTC, SDG&E will obtain all relevant permits for the Proposed Project from federal, state, and local agencies.

Table 3-6: Anticipated Permits, Approvals, and Consultation Requirements lists the potential permits and approvals that may be required for Proposed Project construction.

3.10 PROJECT DESIGN FEATURES AND ORDINARY CONSTRUCTION/OPERATING RESTRICTIONS

SDG&E currently owns and maintains TL 649. Consequently, SDG&E's existing operation and maintenance practices for TL 649 are incorporated as part of the environmental setting and baseline for the Proposed Project.

These practices—as well as all other currently enacted internal guidance pertaining to access roads, facility construction, and operation and maintenance activities—are included as part of the baseline for the Proposed Project and are therefore considered part of the Proposed Project's existing conditions. As part of SDG&E's preliminary engineering design for the Proposed Project, potential impacts to biological, cultural, hydrological, and other environmental resources were considered with respect to removing existing poles and installing replacement poles. SDG&E conducted literature searches, desktop-level research, and field surveys to identify and map these resources prior to completing the preliminary engineering design for the Proposed Project. The areas surveyed for environmental resources consisted of a 150-foot buffer around the power line centerline. For Proposed Project features that are more than 150 feet from the centerline, the survey area included an approximately 50-foot buffer around Proposed Project facilities (e.g., staging yards), and an approximately 20-foot buffer on either side of Proposed Project access roads, unless stated otherwise. Information obtained from this research was reviewed in conjunction with the Proposed Project's preliminary design and potential design alternatives to avoid and minimize potential impacts while achieving the Proposed Project's goals and objectives. Where possible, proposed facilities were designed to avoid potential sensitive resources.

The Proposed Project includes Project Design Features and Ordinary Construction/Operating Restrictions that avoid and minimize environmental impacts. The Project Design Features and Ordinary Construction/Operating Restrictions incorporated into the Proposed Project include measures that are routinely implemented by SDG&E on other projects that involve ground disturbance. Many of these Project Design Features and Ordinary Construction/Operating Restrictions have been developed over time to avoid and minimize environmental impacts, to comply with SDG&E's Subregional NCCP, and to comply with applicable environmental laws and regulations. To be consistent with its existing practices, SDG&E will implement these Project Design Features and Ordinary Construction/Operating Restrictions as appropriate during

Table 3-6: Anticipated Permits, Approvals, and Consultation Requirements

Agency	Permit/Consultation/Approval	Jurisdiction/Purpose
Federal Agencies		
USFWS	Federal Endangered Species Act (ESA) Consultation	Activities that may affect federally listed species or their habitats
Federal Aviation Administration (FAA)	Obstruction evaluation[7]	Structures in proximity to a navigation facility and that may impact navigation signal reception
State Agencies		
CPUC	PTC	Overall Proposed Project approval and CEQA review
SWRCB	NPDES –Construction Storm Water Permit	Storm water discharges associated with construction activities disturbing more than one acre of land
CDFW	California ESA Consultation	Activities that may affect state-listed species or their habitats
California Department of Transportation	Encroachment Permit	Construction of facilities under SR-125
Local Agencies		
City of Chula Vista	Encroachment Permit	Construction activities within the Heritage Road ROW and construction of facilities over Heritage Road
	Traffic Control Permit	Lane closure
City of San Diego	Traffic Control Permit	Lane closure
County of San Diego	Traffic Control Permit	Lane closure

Note: This table is preliminary and subject to change based on CPUC requirements, final engineering, and other factors.

[7] The FAA already conducted an obstruction evaluation and determined that there is no need for lighting or marking on the poles.

construction, operation, and maintenance to avoid and minimize potential environmental impacts.

The Project Design Features and Ordinary Construction/Operating Restrictions that will be incorporated into all phases of the Proposed Project are described as follows:

- If additional or modified work areas or use of additional existing access roads, additional modifications to existing access roads, or use of additional or modified overland travel routes to work areas are required, SDG&E will identify the specific locations and improvements that are required, and complete an internal environmental review that analyzes and minimizes potential impacts to sensitive environmental resources.

- If modifications to the pole work areas are required, SDG&E's on-site environmental monitors, as appropriate, will assist construction crews in the field to locate pole work areas that avoid and minimize impacts to sensitive environmental resources.

- All visible mud and dirt that is tracked out onto paved, public roadways will be cleaned up at the conclusion of each workday or at 24-hour intervals for operations that are continuous.

- Open-bodied trucks transporting bulk materials that may become airborne will be completely covered, unless the bulk material is wetted or there is at least two feet of freeboard from the top of the container.

- SDG&E or its contractors will maintain and operate construction equipment to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues will have their engines turned off after five minutes when not in use.

- SDG&E established its NCCP in 1995, when it entered into an agreement with the USFWS and the CDFW. The NCCP prescribes "protocols" (i.e., various protection, mitigation, and conservation measures) that SDG&E must implement when utilizing the NCCP. The NCCP identifies 61 operational protocols and eight additional vernal pool protocols that SDG&E routinely implements with every project to avoid and/or minimize impacts to sensitive areas. Although the NCCP will not be utilized to mitigate the impacts of constructing the Proposed Project, the following protocols will nonetheless be implemented to avoid and/or minimize potential impacts to biological resources:

    - Section 7.1.1 – General Behavior for All Field Personnel

        1. Vehicles must be kept on access roads. A 15 miles-per-hour (mph) speed limit shall be observed on dirt access roads to allow reptile species to disperse. Vehicles must be turned around in established or designated areas only.

        2. No wildlife, including rattlesnakes, may be harmed, except to protect life and limb.

3. Firearms shall be prohibited on the rights-of-way except for those used by security personnel.

4. Feeding of wildlife is not allowed.

5. SDG&E personnel are not allowed to bring pets on the rights-of-way in order to minimize harassment or killing of wildlife and to prevent the introduction of destructive domestic animal diseases to native wildlife populations.

7. Plant or wildlife species may not be collected for pets or any other reason.

8. Littering is not allowed. SDG&E shall not deposit or leave any food or waste on the rights-of-way or adjacent property.

10. Field crews shall refer environmental issues including wildlife relocation, dead or sick wildlife, hazardous waste, or questions about avoiding environmental impacts to the Environmental Surveyor.[8] Biologists or experts in wildlife handling may need to be brought in by Environmental Surveyor for assistance with wildlife relocations.

- Section 7.1.2 – Training

11. All SDG&E personnel working within the project area shall participate in an employee training program conducted by SDG&E, with annual updates. The program will consist of a brief discussion of endangered species biology and the legal protections afforded to Covered Species; a discussion of the biology of the Covered Species protected under this Subregional Plan; the habitat requirements of these Covered Species; their status under the Endangered Species Acts (ESAs); measures being taken for the protection of Covered Species and their habitats under this Subregional Plan; and a review of the Operational Protocols. A fact sheet conveying this information will also be distributed to all employees working in the project area.

- Section 7.1.3 – Preactivity Studies

14. In order to ensure that habitats are not inadvertently impacted, the Environmental Surveyor shall determine the extent of habitat and flag boundaries of habitats which must be avoided. When necessary, the Environmental Surveyor should also demark appropriate equipment laydown areas, vehicle turn around areas, and pads for placement of large construction equipment such as cranes, bucket trucks, augers, etc. When appropriate, the Environmental Surveyor shall make office and/or field presentations to field staff to review and become familiar with natural resources to be protected on a project specific basis.

[8] The SDG&E environmental monitor will serve as the Environmental Surveyor referred to in the NCCP Operational Protocols for the Proposed Project.

- Section 7.1.4 – Maintenance, Repair and Construction of Facilities

16. Maintenance, repair and construction activities shall be designed and implemented to minimize new disturbance, erosion on manufactured and other slopes, and off-site degradation from accelerated sedimentation, and to reduce maintenance and repair costs.

20. Hydrologic impacts will be minimized tl1rough the use of state-of-the-art technical design and construction techniques to minimize pending, eliminate flood hazards, and avoid erosion and siltation into any creeks, streams, rivers, or bodies of water by use of best management practices (BMPs).

23. Impacts to wetlands shall be minimized by avoiding pushing soil or brush into washes or ravines.

24. During work on facilities, all trucks, tools, and equipment should be kept on existing access roads or cleared areas, to the extent possible.

25. Environmental Surveyor must approve of activity prior to working in sensitive areas where disturbance to habitat may be unavoidable.

27. Brush clearing around facilities for fire protection shall not be conducted from March through August without prior approval by the Environmental Surveyor. The Environmental Surveyor will make sure that the habitat contains no active nests, burrows, or dens prior to clearing.

29. Wire stringing is allowed year round in sensitive habitats if conductor is not allowed to drag on ground or in brush and vehicles remain on access roads.

30. Maintenance of cut and fill slopes shall consist primarily of erosion repair. In situations where revegetation would improve the success of erosion control, planting or seeding with native hydroseed mix may be done on slopes.

34. If any previously unidentified dens, burrows, or plants are located on any project site after the preactivity survey, the Environmental Surveyor shall be contacted. Environmental Surveyor will determine how to best avoid or minimize impacting the resource by considering such methods as project or work plan redevelopment, equipment placement or construction method modification, seasonal, time of day limitations, etc.

35. The Environmental Surveyor shall conduct monitoring as recommended in the preactivity survey report. At completion of work, the Environmental Surveyor shall check to verify compliance, including observing that flagged areas have been avoided and that reclamation has been properly implemented. Also at completion of work, the Environmental Surveyor is responsible for removing all habitat flagging from the construction site.

36. The Environmental Surveyor shall conduct checks on mowing procedures, to ensure that mowing is limited to a 12-foot wide area on straight portions of the road (slightly wider on radius turns), and that the mowing height is no less than four inches.

37. Supplies or equipment where wildlife could hide (e.g., pipes, culverts, pole holes) shall be inspected prior to moving or working on them to reduce the potential for injury to wildlife. Supplies or equipment that cannot be inspected or from which animals could not be removed shall be capped or otherwise covered at the end of each work day. Old piping or other supplies that have been left open, shall not be capped until inspected and any species found in it allowed to escape. Ramping shall be provided in open trenches when necessary. If an animal is found entrapped in supplies or equipment, such as a pipe section, the supplies or equipment shall be avoided and the animal(s) left to leave on its own accord, except as otherwise authorized by CDFW.

38. All steep-walled trenches or excavations used during construction shall be inspected twice daily (early morning and evening) to protect against wildlife entrapment. If wildlife are located in the trench or excavation, the Environmental Surveyor shall be called immediately to remove them if they cannot escape unimpeded.

39. Large amounts of fugitive dust could interfere with photosynthesis. Fugitive dust created during clearing, grading, earth-moving, excavation or other construction activities will be controlled by regular watering. At all times, fugitive dust emissions will be controlled by limiting on-site vehicle speed to 15 mph.

- Section 7.1.5 – Maintenance of access roads shall consist of:

41. Repair of erosion by grading, addition of fill, and compacting. In each case of repair, the total area of disturbance shall be minimized by careful access and use of appropriately sized equipment. Repairs shall be done after preactivity surveys conducted by the Environmental Surveyor and in accordance with the recommendations regarding construction monitoring and relevant protocols. Consideration should be given to source of erosion problem, when source is within control of SDG&E.

42. Vegetation control through grading should be used only where the vegetation obscures the inspection of facilities, access may be entirely lost, or the threat of Facility failure or fire hazard exists. The graded access road area should not exceed 12 feet wide on straight portions (radius turns may be slightly wider) (See Figure 23: Operational Protocol Diagram – Construction Near Streams/Access Road Maintenance).

43. Mowing habitat can be an effective method for protecting the vegetative understory while at the same time creating access to a work area. Mowing should be used when permanent access is not required since, with time, total revegetation

is expected. If mowing is in response to a permanent access need, but the alternative of grading is undesirable because of downstream siltation potential, it should be recognized that periodic mowing will be necessary to maintain permanent access.

44. Maintenance work on access roads should not expand the existing road bed (See Figure 23: Operational Protocol Diagram – Construction Near Streams/Access Road Maintenance).

- Section 7.1.8 – Survey Work

54. Brush clearing for foot paths or line-of-sight cutting is not allowed from March through August in sensitive habitats without prior approval from the Environmental Surveyor, who will ensure that activity does not adversely affect a sensitive species.

55. SDG&E survey personnel must keep vehicles on existing access roads. No clearing of brush for panel point placement is allowed from March through August without prior approval from the Environmental Surveyor. Maintenance work on access roads should not expand the existing road bed (See Figure 23: Operational Protocol Diagram – Construction Near Streams/Access Road Maintenance).

- Section 7.1.9 – Emergency Repairs

57. During a system emergency, unnecessary carelessness which results in environmental damage is prohibited.

- Section 7.1.11 – Vernal Pool Complexes

64. For all construction activities occurring adjacent to vernal pools, SDG&E will work with a qualified biologist having local experience with vernal pool resources, to site roads or facilities in a manner that avoids potential impacts to vernal pools. (See Figure 4: Operational Protocol Diagram – Placement of Overhead Poles.) All vernal pools adjacent to the project footprint, plus a five-foot buffer (where feasible), will be fenced with orange safety fencing to ensure no people or equipment impact the vernal pools during construction activities. A silt fence will be installed along the base of the roadway to prevent increased erosion or sedimentation during construction in vernal pool areas. Gravel bags will be placed along the bottom of the fence to minimize erosion or sedimentation into vernal pools, and removed upon completion of construction.

66. During modifications and maintenance of existing access roads, or the creation of new access roads adjacent to vernal pools, a qualified biological monitor, having local experience with vernal pool resources, shall oversee and monitor all such activities occurring adjacent to vernal pools. The biological monitor shall:

- Hold a pre-construction meeting to brief the crew on the location of sensitive resources and construction boundaries.

- Direct installation of protective fencing to prevent encroachment of people or equipment into vernal pools during construction activities and to ensure that no fence posts are placed within vernal pools.

- If it is not feasible to place protective fencing without impacting vernal pools, during the dry season sandbags will be placed along the perimeter of the vernal pool and removed post-construction (or prior to the on-set of the wet season).

An environmental surveyor will ensure that fencing to protect vernal pools is appropriately placed and is maintained in good condition for the duration of the project. (See Figure 4: Operational Protocol Diagram – Placement of Overhead Poles.)

69. To the extent feasible, all construction equipment shall be fueled and maintained at least 100 feet from the nearest vernal pools.

- If work is scheduled to occur within suitable burrowing owl habitat (as determined in the Biological Technical Report), burrowing owl surveys will be conducted prior to construction consistent with the Take Avoidance Surveys described in the 2012 Staff Report on Burrowing Owl Mitigation. If burrowing owls are identified within approximately 150 meters (492 feet) of the proposed work area, SDG&E will implement the recommendations of said staff report to avoid impacts to burrowing owl.

- SDG&E will mitigate for impacts to Quino checkerspot butterfly (QCB) (*Euphydryas editha quino*) in accordance with the applicable ratio in SDG&E's Low Effect Habitat Conservation Plan for QCB.

- SDG&E will conduct protocol-level surveys prior to construction to determine the presence or absence of San Diego and/or Riverside fairy shrimp species in suitable habitat in the following locations: Main Street Staging Yard, within the access roads and proposed work areas between pole locations 1 through 78, and within the access roads and proposed work areas between pole locations 96 through 117. If the surveys identify the presence of San Diego and/or Riverside fairy shrimp species, Proposed Project-related activities will avoid impacts to occupied habitat when wet as determined by the aquatic or biological monitor. If surveys cannot be feasibly completed prior to construction in these locations, Proposed Project-related activities will avoid suitable habitat for San Diego and/or Riverside fairy shrimp when soils are wet as determined by the aquatic or biological monitor.

- Temporary and permanent impacts to federally and state-listed species and their habitats will be mitigated at a one-to-one ratio, or as required by the USFWS and the CDFW.

- A qualified archaeologist will monitor ground-disturbing activities within all cultural resource sites identified within Proposed Project impact areas. The requirements for archaeological monitoring will be noted on the construction plans. The archaeologist's duties will include monitoring, evaluation of any finds, analysis and curation of materials, and preparation of a monitoring results report conforming to Archaeological Resource Management Reports guidelines.

- Prior to construction, all SDG&E, contractor, and subcontractor Proposed Project personnel will receive training regarding the appropriate work practices necessary to effectively implement the Project Design Features and Ordinary Construction/Operating Restrictions relating to cultural resources to comply with the applicable environmental laws and regulations, including the potential for exposing subsurface cultural resources and paleontological resources and to recognize possible buried resources. This training will include presentation of the procedures to be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains, as well as of paleontological resources.

- In the event that cultural resources are discovered, SDG&E's Cultural Resource Specialist and Environmental Project Manager will be contacted at the time of discovery. SDG&E's Cultural Resource Specialist will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities in the vicinity of the discovery are allowed to resume. For significant cultural resources, a Research Design and Data Recovery Program will be prepared and carried out to mitigate impacts. All collected cultural remains will be cleaned, cataloged, and permanently curated with an appropriate institution. All artifacts will be analyzed to identify function and chronology as they relate to the prehistory or history of the area. Faunal material will be identified as to species.

- Prior to ground-disturbing activities within CA-SDI-9976, SDG&E will prepare and implement a formal treatment plan and a full data recovery program that includes procedures for protection and avoidance, evaluation and treatment, and the curation of any cultural materials collected.

- A qualified paleontologist will attend pre-construction meetings, as needed, to consult with the excavation contractor concerning excavation schedules, paleontological field techniques, and safety issues. A qualified paleontologist is defined as an individual with a Master of Science or Doctor of Philosophy in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology and paleontology of San Diego County, and who has worked as a paleontological mitigation project supervisor in the region for at least one year. The requirements for paleontological monitoring will be noted on the construction plans. A paleontological monitor, defined as an individual who has experience in the collection and salvage of fossil materials, will work under the direction of a qualified paleontologist and will be on site to observe excavation operations that involve the original cutting of previously undisturbed deposits with high paleontological resource sensitivity (i.e.,

Mission Valley Formation and the upper sandstone unit of the Otay Formation). In the event that fossils are encountered, the paleontologist will have the authority to divert or temporarily halt construction activities in the area of discovery to allow recovery of fossil remains in a timely fashion. The paleontologist will contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The paleontologist, in consultation with SDG&E's Cultural Resource Specialist, will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities are allowed to resume. Because of the potential for recovery of small fossil remains, it may be necessary to set up a screen-washing operation on site. If fossils are discovered, the paleontologist (or paleontological monitor) will recover them, along with pertinent stratigraphic data. Because of the potential for recovery of small fossil remains, recovery of bulk sedimentary-matrix samples for off-site wet screening from specific strata may be necessary, as determined in the field. Fossil remains collected during monitoring and salvage will be cleaned, repaired, sorted, cataloged, and deposited in a scientific institution with permanent paleontological collections. A final summary report will be completed that outlines the results of the recovery program. The report will discuss the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.

- Soil testing for metals contamination will be conducted for all excavation sites within 500 feet of the former Brown Field Bombing Range Formerly Used Defense Site (FUDS-) eligible property boundary. In addition, an Unanticipated Soil Contamination Handling Plan will be prepared to address the procedures for any discovery of contaminated soil encountered during testing or excavation activities. This plan will contain guidelines for the characterization, any necessary removal, transport, and disposal of impacted soil requiring excavation during construction. The plan will also emphasize that all activities within or in close proximity to contaminated areas will adhere to all applicable environmental and hazardous waste laws and regulations.

- Prior to construction, all SDG&E, contractor, and subcontractor Proposed Project personnel will receive training on the work practices necessary for effective implementation of the Project Design Features and Ordinary Construction/Operating Restrictions to comply with applicable hazardous materials-related laws and regulations.

- If soil that is stained, discolored, odorous, or otherwise suspect is encountered in other areas of the Proposed Project during excavation activities, work will be stopped and a qualified Environmental Professional will evaluate. Soil will be either sampled in place and analyzed to determine appropriate management options or containerized and managed in accordance with all applicable federal, state, and local regulations. Based on the results of observation and analysis, SDG&E will decide whether to remove or avoid the contaminated soil.

- Prior to construction, SDG&E will evaluate the unexploded ordnance (UXO) risk along the power line alignment and at the proposed work areas between pole locations 63 and

95 within the former Brown Field Bombing Range FUDS-eligible property boundary. A qualified UXO technician will conduct a surface sweep by walking along the power line route, visually surveying the work areas for any evidence of munitions debris or munitions hazards. All potential munitions hazards will be marked on the Proposed Project alignment sheets and recorded using a Global Positioning System device. The UXO technician will inform SDG&E of munitions findings and direct them to shift the work areas appropriately to a non-hazardous area. A UXO technician will be on site during all earth-disturbing activities in potential munitions hazards areas to monitor the work and ensure that hazardous areas are avoided. If a UXO is discovered during Proposed Project-related construction activities, excavation activities in the vicinity will cease and the on-site UXO technician will assess the condition of the munition. Upon discovery, the San Diego County Sheriff's Bomb/Arson Unit will be notified. Excavation activities in the vicinity will not resume until the UXO has been removed.

- SDG&E will implement the Construction Fire Prevention Plan for the Proposed Project provided in Attachment 4.8-B: Construction Fire Prevention Plan, which includes the following:

  - a description of the procedures for minimizing fire potential
  - the requirements of Title 14, California Forest Practice Rules of the CCR
  - relevant components of the SDG&E Wildland Fire Prevention and Fire Safety Plan
  - the firefighting equipment (e.g., shovels, pulaskis, and backpack pumps) that must be maintained on site and in vehicles for the duration of construction
  - the appropriate timing and use of fire-protective mats or shields during grinding and welding operations
  - emergency response and reporting procedures
  - relevant emergency contact information

- Jurisdictional drainage crossings will be avoided during periods of high flow, as determined by the aquatic resource monitor. After each rain event, drainage crossings will be evaluated for surface flows and ponding by the aquatic resource monitor to determine if a dry-out period of 24 hours or more (full avoidance of the crossing) is required to avoid substantial impacts to the drainage crossings. If it becomes necessary to place a temporary bridge over a jurisdictional drainage during construction, the bridge will be placed over the drainage, spanning the channel from bank to bank, avoiding the ordinary high water mark, and allowing natural flow to continue downstream. An aquatic resource monitor will be present to provide guidance to the work crew during placement and removal of the bridge to avoid substantial impacts to the drainage.

- Vernal pools (as defined in Attachment 4.9-A: Jurisdictional Delineation Report) will be avoided by Proposed Project-related activities, with the exception of driving through dry vernal pools. Steel plates may be placed to span over vernal pools to allow Proposed Project related activities, where feasible.

- When a pole location or staging yard is adjacent to a drainage feature that is jurisdictional for the United States Army Corps of Engineers, RWQCB, and CDFW, the following constraints will apply:

    - An aquatic resource monitor, with the authority to stop work if necessary, will be present on site as needed to ensure minimization and avoidance measures are complied with. Monitoring will be conducted in particular during BMP installation, spot checking during construction, and at the end of construction.

    - Prior to construction activity, the aquatic resource monitor or SDG&E Environmental will provide an Environmental Tailgate to the crew to go over the construction restrictions.

    - If work is conducted at pole locations during the rainy season (October 1 through May 1), before scheduling Proposed Project activities, the weather forecast will be monitored. Work will not be scheduled if a greater than 40 percent chance of rain is forecasted during the time needed to complete the activity. If rain does occur unexpectedly during Proposed Project activities, the site will be secured using BMPs (e.g., fiber rolls) to prevent sedimentation and erosion.

    - Stockpiled material will not be placed within the jurisdictional drainage or where it could be washed into the jurisdictional drainage feature during a storm event. If left overnight, the stockpile will be covered with plastic and secured.

    - Any vegetation that has been mowed or trimmed to provide access or work space will not be discharged within a jurisdictional drainage or placed where it could be washed into a jurisdictional drainage during a storm event.

    - Appropriate BMPs will be used before, during, and after construction to prevent erosion and off-site sedimentation.

    - At the end of construction, all unused construction material and debris will be removed and disposed of appropriately.

- SDG&E will meet and confer with the City of San Diego to discuss temporarily deviating from the requirements of the Noise Ordinance as necessary.

- Functional mufflers will be maintained on all equipment to minimize noise levels during construction.

- A site-specific Blasting Plan will be prepared at each pole location where the use of explosives is anticipated. The Blasting Plan will identify the type and quantity of explosive material required, describe the timing of the blasts if multiple are required, and quantify the impulsive noise and groundborne vibration that will result. The resulting impulsive noise levels and groundborne vibration amplitudes will be compared against the applicable thresholds. If the blasting process is expected to exceed these thresholds, additional control measures (e.g., covering the charge area with soil, rubber mats, and/or

steel plates; and/or reducing the charge size) will be implemented if feasible. If these control measures do not reduce the noise and vibration to below applicable thresholds, SDG&E will meet and confer with the County to discuss the planned blasting operation.

3.11 APPLICANT-PROPOSED MEASURES

Because the Proposed Project will not result in any significant impacts, no APMs have been proposed.

TABLE OF CONTENTS

CHAPTER 4 – ENVIRONMENTAL IMPACT ASSESSMENT SUMMARY

4.0 INTRODUCTION

The following sections (4.1 Aesthetics through 4.17 Utilities and Service Systems) evaluate the potential environmental impacts from construction, operation, and maintenance of the San Diego Gas & Electric Company Tie Line 649 Wood-to-Steel Replacement Project (Proposed Project). In accordance with the California Environmental Quality Act, the environmental impacts associated with the Proposed Project components are evaluated for the following resource areas:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Utilities and Service Systems

Section 4.1 through Section 4.17 include discussions of the existing conditions as they pertain to each resource area, as well as the Proposed Project's potential impacts to these resources. In addition, at the beginning of each section, a checklist summarizing the level of impact (i.e., No Impact, Less-than-Significant Impact, Less-than-Significant Impact with Mitigation Incorporated, and Potentially Significant Impact) to these resource areas, according to the significance criteria used for analysis, has been included. Section 4.18 Cumulative Analysis discusses past, present, and reasonably foreseeable future projects within the Proposed Project area and the Proposed Project's potential to contribute to a significant cumulative effect.

Technical support and references for the impact assessments are provided in the following technical attachments:

- Attachment 4.1-B: Visual Simulations
- Attachment 4.3-A: Air Quality Modeling Results
- Attachment 4.4-A: Biological Technical Report
- Attachment 4.5-B: Historic Significance Evaluation
- Attachment 4.6-A: Geotechnical Investigation

- Attachment 4.8-A: EDR DataMap Corridor Study
- Attachment 4.9-A: Jurisdictional Delineation Report
- Attachment 4.12-A: Construction Noise Calculations

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ATTACHMENTS

4.1 AESTHETICS

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

4.1.0 Introduction

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that can be seen and that contribute to the public's experience and appreciation of the environment. Visual resource or aesthetic impacts are generally defined in terms of a project's physical characteristics, potential visibility, and the extent to which its presence will alter the perceived visual character and quality of the environment. In general, the San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project) will involve incremental and minor changes to a sparsely developed landscape through which the tie line already traverses. It is anticipated that visual impacts will be less than significant.

4.1.1 Methodology

Existing Conditions

Field studies were conducted in July and December 2014 to document the visual conditions of the Proposed Project area, including landscape character, visual quality, and visual sensitivity. Existing conditions in the Proposed Project area were photographed from selected viewpoints from which the Proposed Project will be visible to the public. From these characterization photographs, a range of potential Key Observation Points (KOPs) was initially identified and photographed from the following types of sensitive viewing locations:

- near residential neighborhoods within the cities of San Diego and Chula Vista;
- along designated scenic roadways;

- at recognized scenic vista points, trails, and public open spaces within recreation areas; and
- at publicly accessible locations where Proposed Project changes will be visible.

Seven of the KOPs were selected for detailed analysis based on their representation of typical views from residential neighborhoods and publicly accessible scenic areas. Documentation of KOP locations included Global Positioning System (GPS) recording and basemap annotation. Local planning documents reviewed for the regulatory framework for visual resources include the general plans for the County of San Diego, the City of San Diego, and the City of Chula Vista, as well as the Otay Valley Regional Park Concept Plan.

Impact Assessment

The analysis of potential visual effects associated with the Proposed Project is based on site reconnaissance and review of technical data, including maps, computer-aided design and drafting drawings of proposed structures, and specifications for the structures. The analysis is also based on a review of aerial and ground-level photographs of the Proposed Project area, local planning documents, and computer-generated visual simulations, which show the Proposed Project's appearance once construction is complete. The analysis conducted for the Proposed Project uses assessment methods based on those employed by the United States (U.S.) Department of Transportation Federal Highway Administration (FHWA) and the U.S. Bureau of Land Management (BLM), as well as other accepted visual analysis techniques. This analysis also follows the California Environmental Quality Act (CEQA) Guidelines for visual impact analysis.

This analysis evaluates representative public views from which the Proposed Project will be visible. Key terminology used in the analysis includes the following:

- Background: Views at a distance beyond three to five miles.
- Foreground: Views at a distance between the viewer and 0.25 to 0.5 mile.
- KOP: A viewpoint that offers critical or representative views of the Proposed Project.
- Middleground: Views at a distance between 0.25 to 0.5 mile and three to five miles.
- Proposed Project area: For visual assessment purposes, the area defined by on-site and surrounding landscapes that is affected by the components of the Proposed Project.
- Unity: The degree to which visual resources in a landscape join together to form a coherent, harmonious visual pattern.
- Value: Relative darkness or lightness of a color.
- View: A scene observed from a given vantage point.
- Viewer group: A class of viewer differentiated by its activity, awareness, and response.

- Viewer sensitivity: The viewer's variable receptivity to the elements being viewed, as affected by viewer's activity and awareness.

- Viewshed: All surface areas visible from a particular location or viewpoint.

- Visual character: The character of a landscape formed by the order of the patterns composing it, including form, line, color and texture. The relationships between these patterns can be described in terms of dominance, diversity, continuity, etc.

- Visual contrast: The degree of change in line, form, color, and texture brought about by the Proposed Project, when compared to the existing setting and power line facility. Visual contrasts are estimated as weak, moderate, or strong, and consider changes to structures, conductors, hardware, and other Proposed Project elements.

- Visual corridor: A continuous succession of visually and spatially distinct experiences.

- Visual impact: The degree of change in the landscape and the viewer's response to the change.

- Visual quality: The characterization of a landscape, as defined by vividness, intactness, and unity.

- Vividness: The memorability of the impression received from contrasting landscape elements as they combine to form a striking or distinctive visual pattern.

To document the visual changes that will occur, seven visual simulations of the Project were prepared from KOPs. KOPs were chosen to illustrate the range of viewer types and viewing conditions that will be affected.

High-resolution photographs were taken using a Nikon D200 digital single-lens reflex camera with a Nikon DX 18-135 millimeter (mm) lens adjusted to an equivalent focal length of 50 mm on a traditional film camera, which represents a horizontal viewing angle of approximately 40 degrees. Photographs were taken over five days during midday hours when the sun was overhead. Weather conditions were sunny and hazy with limited cloud coverage on the first day, and sunny and clear on the subsequent days.

Visual simulations were produced using computer modeling and rendering techniques, which incorporate the photographs taken from the KOPs. A three-dimensional (3D) computer model was developed using 3D-rendering software and engineering design data provided by SDG&E. A digital elevation model was created to overlay on the photographs. The KOPs were incorporated into the computer model based on the GPS points collected during the field visit. The new 3D structures were incorporated into the model, and horizontal and vertical locations were verified via registration to existing objects in the photographs, including the existing poles. In the 3D model, shadows were simulated based on the angle of the sun; and the color and texture of the galvanized steel was incorporated to simulate the color and glare of the new poles. Eye level was assumed to be 5.5 feet above ground level.

The visual simulations are presented as "before" and "after" images from each of the KOPs. Existing views and computer-generated visual simulations of the Proposed Project were formatted and produced in color on 8.5- by 11-inch sheets. The photographs are intended to be viewed from a distance of 12 to 18 inches in order to gain an optimal impression of the Proposed Project's scale in relationship to the surrounding landscape. The impact assessment specifically considered the changes in structure design, height, material, and hardware that the Proposed Project will cause from each of the seven KOPs.

4.1.2 Existing Conditions

This section documents the regulatory framework and existing visual conditions in the Proposed Project area. Existing visual conditions are characterized in terms of landscape character, visual quality, and visual sensitivity.

Regulatory Background

The following discussion provides the regulatory background for aesthetic resources that are relevant to the Proposed Project.

Designated Scenic Roadways and Recreation Areas

There are no federally designated scenic highways or recreation areas within the Proposed Project area. Similarly, there are no state parks or state-designated scenic highways within the Proposed Project area, though State Route [SR-] 125 is designated as scenic in areas north of the Proposed Project area that are not within view of the Proposed Project.

Regional

The County of San Diego, the City of San Diego, and the City of Chula Vista developed the Otay Valley Regional Park Concept Plan, a regional plan for the valley surrounding the Otay River. In the Proposed Project vicinity, the valley through which the Otay River flows is designated in the Concept Plan as Open Space and Core Preserve Areas.

Local

Because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations. The following discussion of the local regulations relating to aesthetics resources is provided for informational purposes. As outlined in the following subsections, the construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations adopted by agencies with jurisdiction over local regulations related to aesthetic resources.

County of San Diego General Plan

The County of San Diego adopted a General Plan in August 2011. Chapter 5, the Conservation and Open Space Element, addresses aesthetics and visual resources in the unincorporated portions of San Diego County. With regard to visual resources, the goal of this element is to protect scenic corridors, scenic viewsheds, and dark skies within the natural environment. The plan identifies large open spaces, parks, undeveloped open space, scenic corridors, and historic structures as

contributing to the aesthetic value of the County. The General Plan also references the Otay Valley Regional Park, which is planned within the open space corridor along the Otay River. While no identified scenic corridors travel through the Proposed Project area, the land use map for the Otay Community Planning Area designates the open areas south of the Otay River as "Open Space (Conservation)." Approximately 3.1 miles of the Proposed Project alignment falls within open space areas.

City of San Diego General Plan

The City of San Diego's Otay Mesa Community Plan Update is part of the City of San Diego's overall General Plan and was adopted in March 2014. The vision statement for the Otay Mesa Community Plan Update recognizes the protected canyons in and adjacent to the area, noting that the views from the canyon edges should be protected. The Urban Design Chapter identifies potential view corridors, including the following locations where the Proposed Project is visible:

- At Dennery Road and Topside Lane (view toward Dennery Canyon) (approximately 0.1 mile north of the Proposed Project alignment)
- On the north side of Vista Pacifica Neighborhood Park (approximately 0.2 mile south of the Proposed Project alignment)
- On the east side of Otay Valley Road, south of the intersection with Avenida De Las Vistas (approximately 0.5 mile south of the Proposed Project alignment)
- North of Pogo Road (three view corridors approximately 0.3 mile south of the Proposed Project alignment)[1]

Policies within the Otay Mesa Community Plan Update do not specifically address utilities, but the following policy addresses public views within view corridors:

- 4.12-1 – Protect and enhance major and minor public view corridors and access corridors within Otay Mesa.
  a. Integrate and coordinate public view areas with public access to open space linkages where appropriate.
  b. Locate public view areas within parks or trail staging areas when appropriate.

The Recreation Element of the Otay Mesa Community Plan Update provides for the development of a trail system within the canyons in the area, including formal facilities in Spring and Dennery Canyons.

City of Chula Vista General Plan

The City of Chula Vista's General Plan addresses visual and aesthetic quality in Chapter 5 Land Use and Transportation. The city's General Plan Land Use Map (Figure 5.12: General Plan Land Use Diagram) designates the area around the Proposed Project alignment as open space and open space preserve. Throughout the portions of the Proposed Project that travel through the City of Chula Vista, the land use designations are open space and open space preserve. The Greenbelt Trail System is also located parallel to and north of the Otay River. Chapter 5 – Land

[1] Views from north of Pogo Road are on private property, accessible only by dirt trail. During field observations, one of the three views was not accessible.

Use and Transportation Element identifies several area roadways as scenic corridors within the vicinity of the Proposed Project, including three roadway sections that are in the vicinity of the Proposed Project alignment or crossed by the power line. These include the following:

- Main Street from Interstate (I-) 805 to Heritage Road (approximately 0.5 mile north of the Proposed Project alignment)

- Heritage Road[2] from Telegraph Canyon Road to the southern boundary of the City of Chula Vista (the Proposed Project alignment crosses Heritage Road approximately 0.5 mile south of Main Street)

- Rock Mountain Road[3] from Heritage Road to SR-125 (a planned connection from the intersection of Main Street and Heritage Road, which is located approximately 0.5 north of the Proposed Project alignment at its closest point)

Certain policies within the Land Use and Transportation chapter of the City of Chula Vista's General Plan address the location of utilities and visual impacts:

- LUT 10.7 - Work with utility providers to coordinate the design of utility facilities (e.g., substations, pump stations, switching buildings, etc.) to ensure that the facilities fit within the context of their surroundings and do not cause negative visual impacts.

- LUT 13.1 - Identify and protect important public viewpoints and viewsheds throughout the planning area, including features within and outside the planning area, such as: mountain; native habitat areas; San Diego Bay; and historic resources.

Environmental Setting

Landscape Character and Visual Quality

The Proposed Project is situated in southern San Diego County, to the east of the highly urbanized coastal areas and I-805. The Proposed Project alignment generally follows the Otay River and canyon, which is located to the north of the Proposed Project alignment. This area is located in the physiographic region known as the Lower California Peninsular Range. Elevations in this area range from approximately 150 feet where the alignment crosses Dennery Canyon in the western portion of the line, to approximately 600 feet where the alignment heads south and ends at approximately 590 feet at its eastern terminus. The landscape is dominated by canyon and mesa formations, particularly in the western portion of the Proposed Project area. As the alignment heads east and crosses Heritage Road, the immediate setting becomes less urban and features large open spaces characterized by rolling hills and mesa formations, with low-lying Rock Mountain to the north and the San Ysidro Mountains in the distance to the east. The landscape in the area is arid with low brush vegetation, rocky terrain, and sparse trees. The landscape characteristics include rugged topography and muted colors that are light in value.

[2] Proposed road alignment for Heritage Road in the City of Chula Vista General Plan.
[3] This planned road will begin at the Main Street/Heritage Road intersection, which is Rock Mountain Road's closest point to the Proposed Project.

Vegetation in the area is sparse with bare soil and visible boulders giving a medium-fine grain texture to the landscape.

Within this landscape setting, the built environment consists of moderate-density, single-family housing and private commercial recreational establishments in the western portion of the Proposed Project. In the middle sections of the alignment, development is scarce, with a major state highway (SR-125) crossing the line. On the eastern end of the alignment, the Proposed Project skirts a large correctional facility. Finally, there are low-lying light industrial park complexes toward the southern terminus of the Proposed Project.

The existing alignment—including mostly wood poles that range in height from approximately 30 feet to 76 feet, as well as the conductors themselves—is also part of the built environment.

With respect to visual quality, the natural landscapes of the Proposed Project area are considered to be representative of the physiographic region. Similarly, the visual characteristics of the built environment, including the existing alignment, commercial developments, and residential developments in the Proposed Project area are also commonly seen within this part of southern San Diego County.

Attachment 4.1-A: Visual Characterization Photographs includes a set of 18 photographs displaying views of the Proposed Project alignment and the surrounding area, organized by location from the western terminus of the Proposed Project to the eastern terminus. These photographs document representative existing visual conditions and the character of the Proposed Project area. Existing views from the residential neighborhoods in the eastern portion of the Proposed Project are shown in Photographs 1 through 4, 7, and 8. Photographs 5 and 6 show the views from the parking lots of the Aquatica San Diego water park and Sleep Train Amphitheatre in the western portion of the Proposed Project. Photographs 9, 10, and 14 show the existing line from Heritage Road, a major north-south roadway in the Proposed Project area. Photograph 14 is taken from the intersection of Heritage Road with Main Street, which is designated by the City of Chula Vista as a local scenic road. The existing line, located approximately 0.5 mile from this vantage point, is barely visible in the middleground of the photograph. Photographs 11, 12, and 13 are taken from currently undeveloped points; Photograph 11 represents the view from an approximate location within the open space areas along the Otay River Valley, and Photographs 12 and 13 are taken from view corridors designated by the City of San Diego in the Otay Mesa Community Plan Update. A third designated scenic point at the end of the mesa to the east of this area is not publicly accessible and, therefore, is not represented in Attachment 4.1-A: Visual Characterization Photographs. Views from SR-125 are shown in Photographs 15 and 16. The existing line and the Proposed Project travel under SR-125. Therefore, most views to travelers are blocked by the highway itself or the guardrail on either side of the travel lanes. Finally, Photographs 17 and 18 represent views of the existing line from local roadways, with Harvest Road in Photograph 17 and Otay Mesa Road in Photograph 18.

Visual Sensitivity – Proposed Project Viewshed, Viewer Groups and KOPs

The visual sensitivity of the Proposed Project area is described according to the Proposed Project viewshed characteristics, viewer groups, and related KOPs.

Proposed Project Viewshed

The Proposed Project viewshed is defined as the general area from which the Proposed Project will be visible. For the purpose of the Proposed Project's visual analysis, the primary focus area is the foreground distance zone (within 0.5 mile), where visual details are apparent, and from the middleground distance zone (up to three to five miles away) where the Proposed Project's changes to the pole heights and materials could be potentially noticeable. For reference, it should be noted that visual details generally become apparent to the viewer when they are seen in the foreground, at distances of 0.25 to 0.5 mile or less. At distances greater than 0.5 mile, the Proposed Project is often less visible. Throughout the Proposed Project area, intervening landforms will screen some views of the Proposed Project.

Viewer Groups

The Proposed Project will be visible from intervening viewpoints at the ends of public streets to residents living in the Dennery Canyon neighborhoods in the City of San Diego. The Proposed Project will be less visible or not visible at all to residents living in the developments to the far distant north in the Otay Ranch developments in the City of Chula Vista. The Proposed Project will be visible within the open space areas along the Otay River Valley. In the less-populated central and eastern sections of the Proposed Project, the viewers will mostly be travelers on nearby roadways.

Viewer groups in the Proposed Project area include the following types of viewers and viewing distances to the Proposed Project:

- Residents (viewing distances from several feet to 0.5 mile)
- Trail or park users (viewing distances from 0.25 to 0.5 mile)
- Motorists (viewing distances from 0.25 to 0.5 mile)

KOPs

KOPs from which the Proposed Project changes may be visible are depicted in Figure 4.1-1: Visual Characterization Viewpoints and Key Observation Points. KOPs were chosen based on the potential for the Proposed Project to be visible to the potentially affected viewer groups from public areas, as well as the scenic view points identified by the local jurisdictions. Table 4.1-1: Key Observation Points shows the selected KOPs, locations, and the affected viewer groups.

4.1.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts to aesthetic resources that may result from implementation of the Proposed Project, and examine those potential impacts

Figure 4.1-1: Visual Characterization Viewpoints and Key Observation Points **Tie Line 649 Wood-to-Steel Replacement Project**

Alignment

Characterization Photo Location

- Commercial Parking Lot
- Designated View Corridor
- Public Roadway View
- Residential View

Key Observation Point

Camera Direction

1:32,000

0 0.5 1 Miles

N

SDGE A Sempra Energy utility

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Table 4.1-1: Key Observation Points

KOP	Location	Primary Affected Viewer Group
Viewpoint 2	Dennery Road west of Topside Lane (looking southeast)	Residents, trail users, motorists
Viewpoint 2A	Dennery Road west of Topsail Drive (looking west-southwest)	Residents, trail users, motorists
Viewpoint 7	Vista Pacifica Neighborhood Park (looking north)	Residents and trail/park users
Viewpoint 10	Heritage Road (looking south)	Motorists on a locally identified scenic road
Viewpoint 11	Open space within the Otay River Valley (looking east-southeast)	Park users
Viewpoint 14	Main Street at Heritage Road (looking south)	Motorists on a locally designated scenic road
Viewpoint 17	Harvest Road at Lonestar Road (looking south)	Motorists

Significance Criteria

Standards of significance were derived from Appendix G of the CEQA Guidelines. Impacts to aesthetics would be considered significant if the Proposed Project would:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources, including, but not limited to: trees, rock outcroppings, and historic buildings within a state scenic highway
- Substantially degrade the existing visual character or quality of the site and its surroundings
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area

In applying these criteria to determine significance, the following factors were taken into account:

- the extent of the Proposed Project's visibility from sensitive viewing locations,
- the degree to which the various Proposed Project elements will contrast with or will be integrated into the existing landscape,
- the extent of change in the landscape's composition and character, and
- the number and sensitivity of viewers.

The Proposed Project conformance with public policies regarding visual quality was also considered. The simulations were used in conjunction with field reconnaissance to estimate the degree of visual contrast the Proposed Project elements (e.g., structures, conductors, hardware) will create from each of the viewpoints evaluated.

Proposed Project Characteristics

The Proposed Project involves the replacement of existing wood poles with steel poles along the Proposed Project's alignment, with an overall net reduction of poles due to some poles being removed from service. The steel poles will typically be placed in line with the existing conductors and generally within 10 feet of the existing wood poles, except in a few locations where site conditions or design require that replacement poles be located more than 10 feet from the existing pole locations. Most (although not all) of the new steel poles will be taller than the existing wood poles, and will be approximately 0.5 to 33 feet taller. The existing wood poles will be replaced with dull-galvanized steel, a more reflective surface than wood, making the proposed poles potentially more visible than the existing poles.

The Proposed Project alignment is, and will continue to be, an approximately seven-mile-long, single-circuit, 69 kilovolt (kV) tie line. Three 69 kV conductors will be transferred to one or both sides of the steel poles and arranged with vertical phase to phase spacing at the poles. Where distribution conductors are currently underbuilt on the power line, the three or four 12 kV conductors will be transferred to the new poles in certain locations and three or four new 12 kV conductors will be installed on the steel poles in other locations. The 12 kV distribution conductors will be arranged in a horizontal configuration conforming to applicable standards and specifications. The 69 kV conductors will be attached using post and strain insulators installed on each pole.

Visual Simulations

Existing views and computer-generated visual simulations that portray the location, scale, and appearance of the Proposed Project are included in Attachment 4.1-B: Visual Simulations, as described in Section 4.1.2 Existing Conditions. Seven visual simulations are presented as "before" and "after" images from each of the KOPs, the locations of which are shown on Figure 4.1-1: Visual Characterization Viewpoints and Key Observation Points. Table 4.1-2: Summary of Simulation Views summarizes the seven simulation views and identifies the particular pole(s) portrayed in each of the views.

The visual simulations illustrate the location, scale, and appearance of the Proposed Project as seen from representative public viewpoints. KOPs were chosen based on their representation of typical views in the area, as well as locations that have been identified as locally scenic vistas or view corridors (i.e., Viewpoints 2, 2A, 7, 10, and 14).

Question 4.1a – Scenic Vista Effects

Construction – Less-than-Significant Impact

For the purpose of this evaluation, a scenic vista is defined as a distant public view along or through an opening or corridor that is recognized and valued for its scenic quality. No state-designated scenic vistas or overlooks are located within the Proposed Project area. Local vistas and corridors designated by the City of San Diego and the City of Chula Vista include several recognized vistas and view corridors, as noted in Section 4.1.2 Existing Conditions. Four locally designated scenic vistas or view corridors are simulated and analyzed—views from Dennery Road/Topsail Lane, Vista Pacifica Community Park, Main Street at Heritage Road, and Heritage Road.

Table 4.1-2: Summary of Simulation Views

KOP	Location	Visible Pole Location Numbers
Viewpoint 2	Dennery Road west of Topside Lane (looking southeast)	4, 5, 6
Viewpoint 2A	Dennery Road and Topsail Drive (looking west-southwest)	1, 2, **3**
Viewpoint 7	Vista Pacifica Community Park (looking north)	14, 15
Viewpoint 10	Heritage Road (looking south)	17, 18
Viewpoint 11	Open space within the Otay River Valley (looking east-southeast)	**28**, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38
Viewpoint 14	Main Street at Heritage Road (looking south)	14, 15, 16, 17
Viewpoint 17	Harvest Road at Lonestar Road (looking south)	**110**, 111, 112, 113, 114, 115, 116, 117

Note: Boldface indicates the pole in the forefront of the simulations, if applicable.

Construction-related visual impacts will result from the presence of equipment, materials, vehicles, and work crews along the power line alignment, as well as temporary staging yards and stringing sites. Portions of the Proposed Project that can be seen from the scenic vistas or view corridors are shown in Photographs 1, 2, 2A, 7, 9, 10, 12, 13, and 14 in Attachment 4.1-A: Visual Characterization Photographs. Construction of the Proposed Project will be visible to viewers from the Dennery Road area (Viewpoints 2 and 2A), the north side of Vista Pacifica Community Park (Viewpoint 7), and Heritage Road, which travels under the Proposed Project alignment (Viewpoint 10) both during daylight hours and when/if construction is necessary during evening hours. Changes in views from these locally scenic vistas or corridors are best represented by visual simulations of Viewpoints 2, 2A, 7, and 10. Viewpoints 2, 2A, and 7 are located approximately 0.1 to 0.2 mile from pole replacement locations. Due to the variable topography in the area, views to actual pole replacement and other construction activities will be limited to two to three poles in the middle distance of the view from these viewpoints. Motorists from the Main Street/Heritage Road viewpoint (Viewpoint 14) will experience little impact from construction of the Proposed Project, which is approximately 0.5 mile from this viewpoint; views to individual pole sites are limited by topography and vegetation. Motorists along Heritage Road closer to the Proposed Project (Viewpoint 10) will also experience temporary impacts as they travel toward the Proposed Project. However, because of the nature of pole replacement and restringing along a linear alignment, the duration of construction will be brief, short-term, and temporary. Therefore, impacts will be less than significant.

As shown in the simulations of Viewpoints 2, 2A, 7, and 10, the increase in pole heights and the changes in material and color create an incremental change in the quality of the landscape. Views to the Proposed Project are interrupted by the mesa formations and topographical changes in the landscape. Motorists traveling along Heritage Road, as shown in Viewpoint 10, will experience a closer view of the replacement poles on either side of Heritage Road. However,

because motorists will be passing through the Proposed Project area, the duration of the view will be brief. Because small portions of the Proposed Project are viewed at any given time—and for short durations when observed by motorists—and because changes to the existing landscape are incremental due to the fact that the Proposed Project is modifying an existing power line, the Proposed Project will have a less-than-significant impact.

Operation and Maintenance – No Impact

Once the steel poles and power line are in place, there will be no additional permanent activities or changes to the landscape that will result in visual impacts. Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Therefore, there will be no impact.

Question 4.1b – Scenic Resource Damage within a State Scenic Highway – No Impact

There are no state scenic highways designated within the area. The Proposed Project will not damage scenic resources within a designated state scenic highway, and no impact will occur.

Question 4.1c – Visual Character Degradation

Construction – Less-than-Significant Impact

Construction-related visual impacts will result from the presence of equipment, materials, and work crews along the power line alignment, as well as temporary staging yards and stringing sites. To varying degrees, construction activity will be noticeable to local residents, motorists, and park and trail users. Construction activities will take place over an approximately seven-month period, but this will be considerably shorter in duration at individual locations. Construction of the Proposed Project may require removal of trees at one or more pole sites; however, the primary effects on existing vegetation will be limited to some trimming of work areas. Impacts related to construction activities will be of short duration in any given location. Therefore, there will be a less-than-significant impact.

The visual simulations show the changes in views associated with the Proposed Project from seven viewpoints. The following discussion contains an evaluation of the potential visual impacts associated with these changes.

Viewpoints 2 and 2A

These views are identified within a view corridor identified by the City of San Diego in the Otay Mesa Community Plan Update and represent the views of residents and trail users in the neighborhoods surrounding Dennery Canyon. Poles in these views will increase in height from approximately 68 feet tall to approximately 70 to 75 feet tall. The visual simulation shows that the height and material of the new poles result in weak visual contrasts and an incremental change when compared to the existing structures and landscape character. The most visually evident change is associated with the increase in conductors between the poles. Visual contrasts associated with changes to the lines may range from weak to moderate. The visual character and quality of the viewshed will remain similar to the existing setting with an incremental change, and the visual impact in this area will be less than significant.

Viewpoint 7

This location is approximately 0.2 mile from the Proposed Project. Viewpoint 7 represents a view corridor, as identified by the City of San Diego in the Otay Mesa Community Plan Update. Taken from the north boundary of Vista Pacifica Community Park, Viewpoint 7 captures the views of park users, whom are primarily residents living in the area. In this view, the Proposed Project alignment is present against a background that includes the Aquatica San Diego water park and Sleep Train Amphitheatre. Poles visible in Viewpoint 7 are projected to increase approximately 2 feet and 10 feet from their current heights, which are approximately 60 and 68 feet tall, respectively. The visual changes from Viewpoint 7 will be viewed against natural and man-made landscape elements, which will blend with and backscreen the Proposed Project structures and lines. Consequently, from this vantage point, the increase in pole heights and changes in materials and lines will not be well contrasted against the existing backdrop of the water park and amphitheater. As such, the impact to the visual character will be less than significant.

Viewpoint 10

This view is from Heritage Road, looking south approximately 400 feet to where the line crosses over the roadway. Within the limits of the City of Chula Vista, Heritage Road is designated as a locally scenic road. The two poles shown in Viewpoint 10 are approximately 66 feet tall currently and are projected to increase to approximately 75 feet tall. The Proposed Project will create moderate contrasts in structure color, form, and texture, due to the close viewing distance, and the incremental proposed changes associated with new distribution conductors will be weak to moderate. Viewed from this location, the proposed pole on the left, pole location 18, will blend with existing land uses, including existing street lighting. Pole location 17, shown on the right (i.e., to the west) in the simulation, will be more visible due to its elevated location on the hillside, where skylining of the pole and power lines will occur. Overall, the majority of views to this area will be experienced by motorists. Thus, the visual impacts on this viewer group will be temporary, of short duration, and less than significant.

Viewpoint 11

This simulation shows the change in view from Viewpoint 11, which represents a view from within the open space along the Otay River Valley. Recreational users will view the Proposed Project for several miles, as the Proposed Project runs parallel to the open space corridor. At Viewpoint 11, which faces east-southeast along the Proposed Project, the changes in pole heights and design, as well as the increased number of lines, will be visible within close foreground viewing distances. On the two poles closest to the viewer, pole heights in this simulation are projected to increase by approximately four feet. Although the Proposed Project's structures will be urban-industrial in character compared to the existing wood structures, the Proposed Project's galvanized steel material and grey color blend effectively with the landscape colors and the SR-125 bridge in the background. From the viewer's perspective, poles that are farther away tend to fade into the background, until they are no longer visible to the eye at the SR-125 bridge. Consequently, visual impacts will be less than significant.

Viewpoint 14

The City of Chula Vista has identified several roadways as locally scenic, including Main Street from I-805 to Heritage Road. One location where the Proposed Project will be visible from Main Street is at the intersection with Heritage Road. In Viewpoint 14, the Proposed Project will be located approximately 0.5 mile away, just visible in the middleground of the photograph, and backscreened by rolling hills. The heights of three of the poles in this simulation are projected to increase by approximately 10 feet, two feet, and nine feet, respectively. Pole location 16 will decrease in height by approximately two feet. The visual contrast of the Proposed Project is weak from this viewpoint, and both the existing and the simulated poles are overshadowed by other utility poles, the wall to the amphitheater, landscaping, and the rolling hills that are prominent in the area. This simulation is important in its representation of views, not only because it represents the view on this designated scenic roadway, but also because it approximates the views of residents who will live in the future neighborhoods associated with the Otay Ranch and University developments. Because the Otay River and Otay River Valley are protected as open space, all future Otay Ranch developments in the valley area of the City of Chula Vista will be at least 0.5 mile away from the Proposed Project alignment, and views of the Proposed Project will be similar to Viewpoint 14 or nonexistent due to distance and topography. In Viewpoint 14, the increases in pole heights and changes in materials are negligibly visible. Therefore, visual impacts from this location will be less than significant.

Viewpoint 17

This viewpoint is located southeast of the Richard J. Donovan Correctional Facility at Harvest Road and Lonestar Road. The viewpoint faces south along the Proposed Project. Existing pole heights in this simulation range from approximately 54 to 57 feet and are projected to increase in height by approximately 11 to 22 feet. As shown in the simulation, the proposed changes in structure height and design, as well as the increased number of lines, will be visible to passing viewers (i.e., motorists) within the foreground viewing distance. Visual contrasts will be weak to moderate when compared to the existing power line elements and landscape setting. The visual impacts will be less than significant because views of this area will be short-term and mainly experienced by motorists.

The simulations show that the larger landscape, which consists of mesas and canyons that dominate views in the Proposed Project area, will continue to define the visual character of the area. The change in pole heights—which range from a reduction in height of approximately two feet to an increase of approximately 33 feet—represents a small to moderate relative increase in pole sizes, and the changes in reflectivity associated with the dull galvanized steel will result in small, minor impacts to the visual quality in the area. This is particularly true for views in which the Proposed Project is in the middleground field range (approximately 0.5 mile), as demonstrated in the simulations of Viewpoints 11 and 14 in Attachment 4.1-B: Visual Simulations. For views that are closer to the Proposed Project (i.e., simulations of Viewpoints 2, 2A, 7, 10 and 17), the visual impact will be greater. To the viewer, the poles will increase both in size and visibility. However, these locations are generally located along public roadways and are typically viewed by motorists passing at moderate speeds (i.e., 35 miles per hour or more). Because of the short duration of views and the relatively small increase in pole heights, changes to the perceived landscape will be minor with little effect on the overall character or quality of the landscape, and impacts will be less than significant.

Operation and Maintenance – Less-than-Significant Impact

Once the steel poles and power line are in place, there will be no additional permanent activities or changes to the landscape that will result in a permanent change to the visual character of the landscape. Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Therefore, there will be no impact related to inspections and maintenance.

Question 4.1d – New Light or Glare

Construction – Less-than-Significant Impact

Most construction will take place during daylight hours; however, on occasion, construction activities may be required at night to minimize impacts to schedules and to facilitate cutover work. These activities will require temporary lighting for safety. Lighting will consist of floodlights powered by a portable generator. The floodlights will be directed onto the work areas only and away from adjacent land uses. However, construction during evening hours will be limited, and any potential impacts will be temporary and of short duration. As a result, impacts will be less than significant.

Operation and Maintenance – No Impact

No new permanent lighting is required for the Proposed Project. The new steel poles could create glare due to their finish. To minimize potential glare, dull galvanized steel will be used, which is less reflective. Potential glare from the new distribution conductors installed on a portion of the power line will be similar to what currently exists within the Proposed Project area under baseline conditions. Because power line facilities already exist in the area and the use of non-reflective finishes will reduce glare from new facilities, there will be no impact.

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel relative to the existing wood poles. Therefore, impacts will be less than significant.

4.1.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts to views, visual quality, and visual character, no applicant-proposed measures have been proposed.

4.1.5 References

Bosselman, P. 1998. *Representation of Places: Reality and Realism in City Design*. Berkeley and London: University of California Press.

City of Chula Vista. 2005. *Chula Vista General Plan, Land Use Element*.

City of Chula Vista, et al. 2001. Otay Valley Regional Park Concept Plan. Online. http://www.sandiegocounty.gov/content/dam/sdc/parks/OVRP/Documents/ovrpconceptplan.pdf. Site visited July 6, 2015.

City of San Diego. 2008. *City of San Diego Comprehensive Plan Land Use Element.*

City of San Diego. 2014. Otay Mesa Community Plan Update. Online. http://www.sandiego.gov/planning/community/profiles/otaymesa/pdf/otay_mesa_cmmty_plan_update_final.pdf. Site visited July 6, 2015.

County of San Diego. 2011. *San Diego County General Plan, Land Use Element.*

Smardon, R.C. et al. 1986. *Foundations for Visual Project Analysis*. Hoboken: Wiley.

U.S. BLM. 1986. Visual Resource Manual 8431. Online. http://www.blm.gov/pgdata/etc/medialib/blm/wo/Information_Resources_Management/policy/blm_handbook.Par.79462.File.dat/8431.pdf. Site visited July 6, 2015.

U.S. Department of Transportation FHWA. 1988. Visual Impact Assessment for Highway Projects. Online. http://www.dot.ca.gov/ser/downloads/visual/FHWAVisualImpactAssmt.pdf. Site visited July 6, 2015.

TABLE OF CONTENTS

LIST OF TABLES

4.2 AGRICULTURE AND FORESTRY RESOURCES

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact 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?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				✓

4.2.0 Introduction

This section describes the agricultural resources in the vicinity of the proposed San Diego Gas & Electric Company Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project) and analyzes potential impacts to these resources from construction and operation of the Proposed Project. The Proposed Project will have no impact on agriculture or forestry resources. The Proposed Project components will not cross any land that is under a Williamson Act contract; land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance; or land designated or zoned as forest land or timberland.

4.2.1 Methodology

Agricultural resources crossed by the Proposed Project were analyzed to determine if proposed construction activities will affect the use or value of existing agricultural land. Research for this analysis involved a review of the City of San Diego's 2008 General Plan; the City of San Diego's 2010, 2012, and 2015 General Plan Amendments; the County of San Diego General Plan; the County of San Diego Otay Subregional Plan; and the City of Chula Vista Vision 2020 Plan. A review was also conducted of the following: the California Department of Conservation's (DOC's) Farmland Mapping and Monitoring Program (FMMP); the Joint Powers Agency of the City of San Diego and the San Diego Geographic Information Source (SanGIS) database for Williamson Act parcels; United States (U.S.) Department of Agriculture (USDA) U.S. Forest Service Forest Legacy Program (FLP) data; California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Protection Program (FRAP) data; and general plan and zoning maps for the Proposed Project area.

For the purposes of this section, "Important Farmlands" include Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance.

4.2.2 Existing Conditions

Regulatory Background

Federal, state, and local regulations were reviewed for relevancy to the Proposed Project.

Federal

Forest Legacy Program Land Designations

The FLP was created to protect environmentally-important forest land threatened with conversion to non-forest uses, such as subdivision of forest lands for residential or commercial development. To help maintain the integrity and traditional uses of private forest lands, the FLP advocates the creation of conservation easements on a voluntary basis. The federal government manages the program in cooperation with state and local agencies, private organizations, and individual landowners. In California, the FLP is administered by CAL FIRE.

State

Department of Conservation Farmland Mapping and Monitoring Program Important Farmland Designations

The DOC Division of Land Resource Protection generates maps depicting Important Farmlands, which are categorized according to specific criteria, including soil quality and irrigation conditions. Approximately 94 percent of the FMMP study area is based on the USDA Natural Resource Conservation Service soil classification system, which evaluates both physical and chemical conditions, including soil temperature, moisture regime, pH, flooding, groundwater depth, erodibility, permeability, and sodium content. FMMP maps are updated every two years using an aerial imagery review, field reconnaissance, computer mapping analyses, and public input. The minimum land use mapping unit is 10 acres, and smaller units of land are generally incorporated into surrounding map classifications.

The DOC has established the following eight land use classifications:

- Prime Farmland: Prime Farmlands have the optimum combination of physical and chemical conditions that are able to sustain long-term agricultural production. The soil quality, growing season, and moisture supply on Prime Farmlands provides conditions to produce sustained high yields. Prime Farmlands must have been used for irrigated production within four years of the mapping date.

- Farmland of Statewide Importance: Farmlands of Statewide Importance are similar to Prime Farmlands, but with minor shortcomings, such as a higher slope or decreased ability to store soil moisture. Similar to Prime Farmlands, Farmlands of Statewide Importance must have been used for irrigated production within four years of the mapping date.

- Unique Farmland: Unique Farmlands have lower-quality soils and are used for the production of California's leading agricultural products. Unique Farmlands are typically irrigated, but may also include non-irrigated vineyards or orchards found in certain climatic zones. Unique Farmlands must have been cropped within four years of the mapping date.

- Farmland of Local Importance: Farmlands of Local Importance are those vital to the local agricultural economy, as identified by each county's local advisory committee and board of supervisors.

- Grazing Land: Grazing Lands are those on which existing vegetation is suitable for livestock grazing.

- Urban and Built-Up Land: Urban and Built-Up Lands are defined as lands occupied by buildings or other structures at a minimum density of one unit to 1.5 acres (or approximately six structures to 10 acres). These lands are used for development purposes, including residential, commercial, industrial, construction, public administration, institutional, transportation yards, airports, cemeteries, golf courses, sewage treatment, sanitary landfills, and water control structures.

- Other Land: Other Lands include all lands that are not in any other map category—such as waterbodies smaller than 40 acres; low-density rural developments; confined livestock, poultry, or aquaculture facilities; and brush, timber, wetland, and riparian areas not suitable for livestock grazing.

- Water: Waters include all perennial waterbodies that are a minimum of 40 acres.

Williamson Act Land Designations

The Williamson Act, also known as the California Land Conservation Act of 1965 (California Government Code [CGC] § 51200 et seq.), preserves agricultural and open space lands from conversion to urban land uses by establishing a contract between local governments and private landowners to voluntarily restrict their land holdings to agricultural or open space use. In return,

landowners receive property tax assessments based on farming or open space use rather than assessments based on the full market property value, which is typically 20 to 75 percent higher. Williamson Act contracts are valid for a minimum of 10 years and are automatically renewed each year for an additional 10-year term, in the absence of a notice of nonrenewal.

The Williamson Act also allows local governments to establish Agricultural Preserves, parcels of land for which cities or counties are willing to enter into Williamson Act contracts. Agricultural Preserves must include a minimum of 100 acres (CGC § 51230) and typically avoid areas in which public utility improvements and associated land acquisitions may be necessary Although the Williamson Act does not specify compatible land uses for property located adjacent to contract lands or Agricultural Preserves, it does state that cities and counties must determine compatible land use types while recognizing that temporary or permanent population increases frequently impair or hamper agricultural operations (CGC § 51220.5). San Diego County zoning regulations permit agricultural uses, open space use, recreational use, and other uses determined to be compatible by the San Diego County Board of Supervisors Policy I-38.

California Public Resources Code

The California Public Resources Code provides definitions of forest land and timberland, which is referenced in the California Environmental Quality Act (CEQA) Guidelines. California Public Resources Code Section 12220(g) defines forest land as "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." California Public Resources Code Section 4526 defines timberland as "land, other than land owned by the federal government and land designated by the [State Board of Forestry and Fire Protection] as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the [State Board of Forestry and Fire Protection] on a district basis."

California Government Code

The California Government Code provides the definition of timberland production zone (TPZ), which is referenced in the CEQA Guidelines. California Government Code Section 51104(g) defines TPZ as "an area which has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, defined in subdivision (h). With respect to general plans of cities and counties, 'timberland preserve zone' means 'timberland production zone.'" Sections 51112 and 51113 describe the process for designating a TPZ. Subdivision (h) describes compatible uses with a TPZ. San Diego County, the City of San Diego, and the City of Chula Vista do not have zoning designations for TPZs as there are no TPZs in their jurisdictions.

Local

Because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations. The following discussion of the local regulations relating to

agriculture and forestry resources is provided for informational purposes. As outlined in the following subsections, the construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations related to agriculture and forestry resources.

County of San Diego

Farmland of Local Importance is land of value to the local economy, as defined by each county's local advisory committee and adopted by its Board of Supervisors. Farmland of Local Importance is either currently producing or has the capability to produce agricultural products, but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Authority to adopt or to recommend changes to the category of Farmland of Local Importance rests with the Board of Supervisors of San Diego County.

The County of San Diego General Plan includes one policy in the Land Use Element relevant to agricultural activities. This policy states the following:

> "LU-7.1: Agricultural Land Development. Protect agricultural lands with lower-density land use designations that support continued agricultural operations."

The County of San Diego General Plan Conservation and Open Space Element includes one policy relevant to agricultural activities. The policy states the following:

> "COS-6.2: Protection of Agricultural Operations. Protect existing agricultural operations from encroachment of incompatible land uses by doing the following:
>
> - Limiting the ability of new development to take actions to limit the existing agricultural uses by informing and educating new projects as to the potential impacts from agricultural operations
> - Encouraging new or expanded agricultural land uses to provide a buffer of non-intensive agriculture or other appropriate uses (e.g., landscape screening) between intensive uses and adjacent non-agricultural land uses
> - Allowing for agricultural uses in agricultural areas and designing development and lots in a manner that facilitates continued agricultural use within the development
> - Requiring development to minimize potential conflicts with adjacent agricultural operations through the incorporation of adequate buffers, setbacks, and project design measures to protect surrounding agriculture
> - Supporting local and State right-to-farm regulations
>
> Retain or facilitate large contiguous agricultural operations by consolidation of development during the subdivision process"

The County of San Diego Otay Subregional Plan includes one policy—Chapter 2 Policies: Land Use A-5: Encourage Interim Agriculture—relevant to encouraging agriculture activities in the Proposed Project area. This policy states the following:

> "Because
>
> A) the long term development of Otay Mesa will provide opportunities for continued agricultural production as an interim use, and
> B) such interim uses are compatible with industrial uses as has been demonstrated in many other areas in California and throughout the United States,
>
> The County recognizes the opportunities for interim agricultural uses on the Otay Mesa and will, in cooperation with affected property owners, encourage such uses to the greatest extent possible."

City of San Diego

The City of San Diego 2008 General Plan and 2010, 2012, and 2015 General Plan Amendments were reviewed for agriculture and forestry resource policies that are relevant to the Proposed Project. No specific policies for protection of agriculture or forestry resources were identified within these plans.

City of Chula Vista

The City of Chula Vista Vision 2020 General Plan and Zoning Ordinance was reviewed for agriculture and forestry resource policies that are relevant to the Proposed Project. One objective of the general plan—Chapter 9 Objective - E4—seeks to preserve agricultural land and states the following:

> "Maintain the opportunity for limited agricultural and related uses to occur as an interim land use within the planned development areas and as a potential permanent land use within appropriate locations."

Environmental Setting

Agricultural Setting

The Proposed Project does not cross and is not located on any land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland; or land under a Williamson Act Contract. However, the Proposed Project crosses portions of open space, rural, and vacant land designated as Farmland of Local Importance throughout the entire alignment. Table 4.2-1: Farmland of Local Importance Crossed by the Proposed Project details the approximate length of the Proposed Project alignment that crosses designated Farmland of Local Importance, as well as the poles that are located on Farmland of Local Importance within each jurisdiction crossed by the Proposed Project.

The Proposed Project crosses approximately 0.7 mile of land zoned Agricultural and 0.2 mile of land zoned Residential-Agricultural west of Heritage Road; however, these lands are not currently being used for agricultural purposes. A landscape business is located approximately

0.3 mile east of Heritage Road, just north of the Proposed Project alignment; however, no part of the Proposed Project area is currently under active crop cultivation or being used for livestock grazing.

Table 4.2-1: Farmland of Local Importance Crossed by the Proposed Project

Jurisdiction	Approximate Length of Farmland of Local Importance Crossed (Miles)	Poles Location Numbers Within Farmland of Local Importance
County of San Diego	1.3	83, 84, 85, 86, 88, 89, 90, 91, 92, 93, 94, 95, 96, 108, 108.1, 109, 110, 111, 112, 113, 114, 115, 116, 117
City of San Diego	< 0.1	1
City of Chula Vista	2.0	9, 11, 12, 14, 15, 16, 17, 18.3, 18.31, 33, 34, 35, 36, 37, 37.1, 38, 47, 48, 49, 50, 50.1, 50.2, 51, 52, 53, 55, 56, 59, 60, 61, 62, 63, 63.1, 64, B
Total	**3.3**	**- -**

Source: SanGIS, 2015

Forestry Setting

The Proposed Project does not cross any forest land or land zoned as forest land, timberland, or timberland zoned Timberland Production. The only FLP project in San Diego County is located approximately 43 miles northeast of the Proposed Project. The closest National Forest to the Proposed Project alignment is the Cleveland National Forest, located approximately 13.5 miles northeast of the eastern terminus of the Proposed Project.

4.2.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts to agricultural and forestry resources that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

Standards of significance were derived from Appendix G of the CEQA Guidelines. Impacts to agricultural and forestry resources would be considered significant if the Proposed Project:

- Converts Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use;
- Conflicts with existing zoning for agricultural use or a Williamson Act contract such that it requires rezoning or cancellation of the contract;

- Conflicts with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production such that it requires rezoning or cancellation of the contract;

- Results in the permanent loss or conversion of more than five percent of forest land in the Proposed Project area to non-forest use; or

- Involves other changes in the existing environment which, due to their location or nature, could result in permanent or long-term conversion of more than five acres of Farmland to non-agricultural use or more than five percent of forest land in the Proposed Project area to non-forest use.

Question 4.2a – Farmland Conversion

Construction – No Impact

The Proposed Project is not located on, does not span, and will not impact any land designated as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The Proposed Project does span approximately 3.3 miles of land designated as Farmland of Local Importance, and will result in the permanent conversion of approximately 0.03 acre of Farmland of Local Importance to non-agricultural use. The Proposed Project will also result in approximately 12.6 acres of temporary impacts to Farmland of Local Importance. However, as stated previously, no land designated as Farmland of Local Importance in the Proposed Project area is currently being used for active crop cultivation or grazing. Additionally, the relatively small amount of permanent impacts to Farmland of Local Importance as a result of construction of the Proposed Project will not conflict with any local farmland conversion plans or policies. While the Proposed Project will impact Farmland of Local Importance, it will not impact Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use; therefore, no impact will occur.

Operation and Maintenance – No Impact

Operation and maintenance of the Proposed Project will involve annual inspection and repair of the power line, pole brushing, and other approved activities consistent with current operation and maintenance plans and procedures. These activities will be conducted using existing access and spur roads, and will not require the creation of additional roads that could convert Farmland to non-agricultural use. Thus, operation and maintenance of the Proposed Project will not result in the conversion of Farmland to non-agricultural use, and no impact will occur.

Question 4.2b – Zoning or Williamson Act Contract Conflicts – *No Impact*

The Proposed Project will cross land zoned for agricultural use, as discussed herein in Section 4.10 Land Use and Planning. However, because the Proposed Project will replace an existing electric power line with a new electric power line in generally the same alignment, the Proposed Project will not result in conflicts with agricultural zoning or result in any change of existing land uses. Additional details on zoning in the Proposed Project area are provided in Section 4.10 Land Use and Planning.

The Proposed Project will not cross any land under a Williamson Act contract. Therefore, there will be no conflicts with Williamson Act contracts, and no impact will occur.

Question 4.2c – Conflict with Forest Land Zoning – *No Impact*

The Proposed Project will not cross any area zoned for forest land, timberland, or timberland zoned Timber Production. Therefore, the Proposed Project will not conflict with or cause the rezoning of these lands, and there will be no impact.

Question 4.2d – Loss or Conversion of Forest Land – *No Impact*

The Proposed Project will not cross any forest land. Therefore, no forest land will be lost or converted to a non-forest use as a result of the Proposed Project, and there will be no impact.

Question 4.2e – Other Farmland or Forest Land Conversion – *No Impact*

No changes in the environment will occur as a result of the Proposed Project that will result in any other conversion of Farmland to non-agriculture use or forest land to non-forest use. In addition, operation and maintenance of the Proposed Project facilities will not require additional access roads or other appurtenant facilities which may otherwise induce the conversion of Farmland to non-agriculture use or forest land to non-forest use. As a result, no impact will occur.

4.2.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts to agricultural or forest resources, no applicant-proposed measures have been proposed.

4.2.5 References

CAL FIRE. 2015a. Forest Legacy Program. Online. http://www.fire.ca.gov/resource_mgt/resource_mgt_forestryassistance_legacy.php. Site visited July 6, 2015.

CAL FIRE. 2015b. FRAP Mapping. Online. http://frap.fire.ca.gov/data/frapgisdata-subset.php. Site Visited July 6, 2015.

California State Board of Equalization. 2015. Property Taxes Law Guide, Provisions Relating to Timberland. Online. http://www.boe.ca.gov/lawguides/property/current/ptlg/gov/part-timb-ch6-7.html. Site Visited July 6, 2015.

City of Chula Vista. 2015. *2020 General Plan.*

City of Chula Vista. 2015. Map Gallery. Online. http://gis.chulavistaca.gov/mapgallery/. Site Visited July 6, 2015.

City of San Diego. 2008. *City of San Diego General Plan*.

City of San Diego. 2010. *2010 General Plan Amendments*.

City of San Diego. 2012. *General Plan Urban Agriculture Amendments 2012*.

City of San Diego. 2015. *General Plan Amendments*.

County of San Diego. 2011. *San Diego County General Plan.*

County of San Diego. 2011. *Otay Subregional Plan.*

County of San Diego. 2014a. Board of Supervisors Policy: Agricultural Preserves. Online. http://www.sdcounty.ca.gov/cob/docs/policy/I-38.pdf. Site visited July 6, 2015.

County of San Diego. 2014b. Zoning Ordinance Part Two: Use Regulations. Online. http://www.sandiegocounty.gov/content/dam/sdc/pds/zoning/z2000.pdf. Site visited July 6, 2015.

DOC. 2014a. California Important Farmland Finder. Online. http://maps.conservation.ca.gov/ciff/ciff.html. Site visited July 6, 2015.

DOC. 2014b. FMMP - Important Farmland Map Categories. Online. http://www.conservation.ca.gov/dlrp/fmmp/mccu/Pages/map_categories.aspx. Site visited July 6, 2015.

DOC. 2014c. Williamson Act Lands Map, San Diego County. Online. ftp://ftp.consrv.ca.gov/pub/dlrp/wa/San_Diego_w_13_14_WA.pdf. Site visited July 6, 2015.

DOC. 2014d. The Land Conservation Act. Online http://www.conservation.ca.gov/dlrp/lca/Pages/Index.aspx. Site visited July 6, 2015.

SanGIS 2015. San Diego Geographic Information Source. Online. http://www.sangis.org/. Site visited July 6, 2015.

USDA Forest Service. 2014. Forest Legacy Program. Online. http://www.fs.fed.us/spf/coop/programs/loa/flp.shtml. Site visited July 6, 2015.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ATTACHMENTS

4.3 AIR QUALITY

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

4.3.0 Introduction

This section describes the existing air quality within the San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project) area and evaluates the potential impacts to air quality resulting from construction and operation of the Proposed Project. Although some temporary impacts will result during construction, operation, and maintenance activities, the potential air quality impacts from the Proposed Project will be less than significant with the implementation of SDG&E's Project Design Features and Ordinary Construction/Operating Restrictions, as described in Chapter 3 – Project Description.

4.3.1 Methodology

The existing air quality within San Diego County was researched using data obtained from the San Diego County Air Pollution Control District's (SDAPCD's) network of air quality monitoring stations. Recent regulations and guidance documents from the California Air Resources Board (CARB), California Public Utilities Commission (CPUC), California Energy Commission, and the SDAPCD were also reviewed.

The majority of the Proposed Project's air emissions were assessed by estimating emission rates from construction, operation, and maintenance activities, and then comparing them to established

significance criteria. In other cases, such as the odor and sensitive receptor analysis, the impact assessment was based on subjective criteria, including experience with similar projects. Air pollutant emission rates were estimated using the latest version of the publicly available software California Emissions Estimator Model (CalEEMod) (version 2013.2.2). This computer model allows users to generate estimates of construction and operational emissions of various pollutants, including inhalable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), carbon monoxide (CO), reactive organic gases (ROGs), sulfur oxides (SO_x), oxides of nitrogen (NO_x), and carbon dioxide. CalEEMod also allows users to input minimization measures and evaluate their effects on emission rates. The results of the computer modeling are presented in Attachment 4.3–A: Air Quality Modeling Results.

4.3.2 Existing Conditions

This section describes the regulations and regulatory agencies relevant to air quality for the Proposed Project, regional climate and meteorology, and existing air quality conditions in the area.

Regulatory Background

Federal

The 1970 federal Clean Air Act (CAA) established national ambient air quality standards (AAQS) for six pollutants: CO, ozone (O_3), PM_{10}, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. These six criteria pollutants are known to have adverse impacts on human health and the environment. To protect human health and the environment, the United States (U.S.) Environmental Protection Agency (EPA) has set primary and secondary maximum ambient thresholds. The primary thresholds were set to protect human health, and particularly that of children, the elderly, and individuals who suffer from chronic lung conditions (e.g., asthma and emphysema). The secondary standards were set to protect the natural environment and prevent further deterioration of animals, crops, vegetation, and buildings. The combined primary and secondary standards are termed the National AAQS (NAAQS).

The 1977 CAA required each state to develop and maintain a State Implementation Plan (SIP) for each criteria pollutant that exceeds AAQS. The SIP serves as a tool to reduce pollutants that are known to cause impacts that exceed the ambient thresholds and to achieve compliance with the NAAQS. In 1990, the CAA was amended to strengthen regulation of both stationary and mobile emission sources for the criteria pollutants.

In July 1997, the EPA developed new health-based NAAQS for O_3 and PM_{10}. However, these standards were not fully implemented until 2001, after the resolution of several lawsuits. The new federal O_3 standard of 0.08 parts per million (ppm), which was established in 1997, was based on a longer averaging period (eight hours versus one hour) after recognizing that prolonged exposure to O_3 is more damaging. In March 2008, the EPA further lowered the eight-hour O_3 standard from 0.08 ppm to 0.075 ppm. The new federal particulate matter (PM) standard is based on finer particles (2.5 microns and smaller [$PM_{2.5}$] versus 10 microns and smaller [PM_{10}]), recognizing that finer particles may remain in the lungs longer and contribute to greater respiratory illness. In February 2007, the NO_2 AAQS was amended to lower the existing one-hour standard of 0.25 ppm to 0.18 ppm, which is not to be exceeded, and established a new

annual standard of 0.03 ppm, which is also not to be exceeded. Table 4.3-1: State and Federal Ambient Air Quality Standards contains a list of the NAAQS and California Ambient Air Quality Standards (CAAQS).

State

The California CAA of 1988 requires air districts to develop and implement strategies to attain CAAQS. For some pollutants, the California standards are more stringent than the national standards. Regional air quality management districts, such as the SDAPCD, are required to prepare an air quality plan specifying how federal and state standards will be met.

CARB enforces the CAAQS and works with the state's Office of Environmental Health Hazard Assessment (OEHHA) to identify toxic air contaminants (TACs) and enforce rules related to TACs, including the Air Toxic Hot Spots Information and Assessment Act of 1987. Enacted to identify TAC hot spots where emissions from specific sources may expose individuals to an elevated risk of adverse health effects, the act requires that business or other establishments identified as significant sources of toxic emissions provide the affected population with information about health risks posed by the emissions.

CARB also regulates mobile emission sources in California—such as construction equipment, trucks, and automobiles—and oversees the air districts. Relevant programs related to oversight of mobile source emissions include the Off-Road and On-Road Mobile Sources Emission Reduction programs, the Portable Equipment Registration Program (PERP), and the Airborne Toxic Control Measure (ATCM) for Diesel Particulate Matter (DPM) from Portable Engines. The Mobile Sources Emission Reduction programs are aimed at reductions of NO_x, volatile organic compounds (VOCs), CO, and PM_{10}. CARB has also adopted specific control measures for the reduction of DPM from off-road, in-use diesel vehicles (rated 25 horsepower and higher), such as backhoes, bulldozers, and earthmovers used in construction projects. Additional DPM control measures are also in place for heavy-duty, on-road diesel trucks operated by public utilities and municipalities. The PERP and the ATCM for DPM from Portable Engines provide for statewide registration and control of DPM from portable engines rated 50 horsepower and higher.

In July 2004, CARB also adopted an ATCM that limits diesel-fueled commercial motor vehicle idling. The measure applies to motor vehicles with gross vehicular weight ratings greater than 10,000 pounds that are licensed for on-road use. This measure restricts vehicles from idling for more than five minutes at any location, with exceptions for idling that may be necessary in the operation of the vehicle.

Local

Because the CPUC has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations. The following discussion of the local regulations relating to air quality is provided for informational purposes. As outlined in the following subsections, the construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations related to air quality.

Table 4.3-1: State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standard	Federal Standard	
			Primary	Secondary
O_3	1 hour	0.09 ppm (180 micrograms per cubic meter [µg/m^3])	Not Applicable (NA)	NA
	8 hours	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	0.075 ppm (147 µg/m^3)
PM_{10}	24 hours	50 µg/m^3	150 µg/m^3	150 µg/m^3
	Annual arithmetic mean	20 µg/m^3	50 µg/m^3	50 µg/m^3
$PM_{2.5}$	24 hours	NA	35 µg/m^3	35 µg/m^3
	Annual arithmetic mean	12 µg/m^3	15 µg/m^3	15 µg/m^3
CO	1 hour	20 ppm (23 milligrams per cubic meter [mg/m^3])	35 ppm (40 mg/m^3)	NA
	8 hours	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	NA
	8 hours (Lake Tahoe)	6 ppm (7 mg/m^3)	NA	NA
NO_2	1 hour	0.18 ppm (339 µg/m^3)	NA	NA
	Annual arithmetic mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	0.053 ppm (100 µg/m^3)
SO_2	1 hour	0.25 ppm (655 µg/m^3)	NA	NA
	3 hours	NA	NA	0.5 ppm (1,300 µg /m^3)
	24 hours	0.04 ppm (105 µg/m^3)	0.14 ppm (365 µg/m^3)	NA
	Annual arithmetic mean	NA	0.030 ppm (80 µg/m^3)	NA
Lead	30 days	1.5 µg/m^3	NA	NA
	Rolling 3 months	NA	0.15 µg/m^3	0.15 µg/m^3
	Quarterly	NA	1.5 µg/m^3	1.5 µg/m^3

Sources: CARB 2009; EPA 2014

Table Notes:
1. California standards for O_3, suspended PM (both PM_{10} and $PM_{2.5}$), CO (except Lake Tahoe), NO_2, SO_2 (one hour and 24 hours), and visibility reducing particles are values that are not to be exceeded. All others are not to be

equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. NAAQS (other than O_3, PM, and those based on annual averages or an annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth-highest eight-hour concentration in a year—averaged over three years—is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current federal policies.
3. Concentration is expressed first in units used to promulgate the standard. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; "ppm" in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure that can be shown to the satisfaction of CARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the health of the public.
6. National Secondary Standards: The levels of air quality necessary to protect the public's welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
8. CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects established. These actions allow for implementation of control measures at levels below the ambient concentrations specified for these pollutants.
9. The final rule for the rolling three-month average for the national lead standard was signed October 15, 2008.

San Diego County Air Pollution Control District

The air districts are primarily responsible for regulating stationary emission sources at industrial and commercial facilities within their respective geographic areas and for preparing the air quality plans that are required under the federal CAA and the California CAA. The SDAPCD is the primary agency responsible for planning, implementing, and enforcing federal and state AAQS in San Diego County. The plans, rules, and regulations presented in the following subsections apply to all sources in the jurisdiction of the SDAPCD.

San Diego County Air Pollution Control District Air Quality Plans

The SDAPCD's air quality plans collectively provide an overview of the region's air quality and air pollution sources and identify the pollution-control measures needed to expeditiously attain and maintain air quality standards. The SDAPCD's air quality plans include the San Diego Regional Air Quality Strategy (RAQS) and the San Diego portion of the California SIP, which address state and federal requirements, respectively.

Ozone Air Quality Management Plan

The SDAPCD SIP predicts that state and local programs will allow San Diego County to reach attainment status for the previously applicable 0.08 ppm federal eight-hour O_3 AAQS (per the SIP submitted to the EPA in June 2007). It is anticipated that the EPA will designate San Diego County as a nonattainment area for the new 0.075 ppm eight-hour O_3 standard in the future. The SDAPCD will have to submit an updated SIP to address the new, more stringent standard at that time.

The SDAPCD maintains the RAQS, which acts as a road map demonstrating how the district will eventually meet the state's O_3 AAQS. The RAQS details the measures and regulations that focus on managing and reducing O_3 precursors, such as NO_x and VOCs. The RAQS control measures concentrate on stationary sources that are under the SDAPCD's authority, specifically stationary sources and some area-wide sources.[1]

Particulate Matter Air Quality Management Plan

The California CAA does not require local districts to establish an air quality management plan for state PM_{10} nonattainment, but the SDAPCD has prepared a report entitled Measures to Reduce Particulate Matter in San Diego County. The SDAPCD is considering rule-making for source category-specific PM control measures for emissions from fugitive dust generated at construction sites and from unpaved roads.

[1] Examples of stationary sources include power plants, manufacturing and industrial facilities, stationary internal combustion engines, gas stations, landfills, and solvent cleaning and surface coating operations. Area-wide sources are individually small and spread over a wide area. These sources are mostly residential in nature and include water heaters, furnaces, architectural coatings, and consumer products.

San Diego County Air Pollution Control District Regulation IV – Prohibitions, Rule 50 – Visible Emissions

This rule prohibits any activity that will create air contaminant emissions darker than 20-percent opacity for more than an aggregate of three minutes in any consecutive 60-minute time period.

San Diego County Air Pollution Control District Regulation IV – Prohibitions, Rule 51 – Nuisance

This regulation prohibits any activity that will discharge air contaminants that cause or have a tendency to cause injury, detriment, nuisance, or annoyance to people and the public, or damage to any business or property.

San Diego County Air Pollution Control District Regulation IV – Prohibitions, Rule 55 – Fugitive Dust Control

This regulation prohibits any activity that will discharge visible dust emissions into the atmosphere beyond the property line bounding the activity for more than three minutes during any 60-minute period. This regulation also prohibits visible roadway dust due to track-out or carry-out.

San Diego County Air Pollution Control District Rule XV – Federal Conformity

The federal conformity rule prohibits any federal actions that may be inconsistent with the SDAPCD's efforts to achieve attainment with the NAAQS.

Environmental Setting

Regional Climate and Meteorology

Climate in the San Diego Air Basin (SDAB) is generally warm, with low annual rainfall occurring mostly during the winter months. Climate plays an important role in the air quality of the SDAB. When cool, moist air from the coast travels toward the higher elevations, a temperature inversion can occur. This inversion layer prevents polluted air from rising and dispersing. According to the SDAPCD, most air quality exceedances are recorded on the lower mountain slopes that experience an inversion layer.

Local meteorological conditions in the vicinity of the Proposed Project conform to the regional pattern of strong onshore winds by day (especially in summer) and weak offshore winds at night (particularly during the winter). These local wind patterns are driven by the temperature difference between the ocean and the warm interior topography. In the summer, moderate breezes between eight and 12 miles per hour blow onshore from the southwest by day. Light onshore breezes may continue overnight when the land remains warmer than the ocean. In the winter, the onshore flow is weaker and the wind flow reverses to blow from the northeast in the evening as the land becomes cooler than the ocean.

The climate in the vicinity of the Proposed Project, as with all of Southern California, is largely controlled by the strength and position of the Pacific High. This high-pressure ridge over the West Coast creates a repetitive pattern of frequent early morning cloudiness, hazy afternoon shine, clean daytime onshore breezes, and little temperature change throughout the year. Limited

rainfall occurs in the winter as the fringes of mid-latitude storms occasionally move through the area. Average temperatures in January range from 46 to 47 degrees Fahrenheit (°F) at night and from 63 to 69°F during the day. The warmest month is August, when the high temperatures average 78°F. Annual rainfall is approximately 10 inches in the Proposed Project area.

Air Quality

Criteria Air Pollutants

O_3, CO, NO_2, SO_2, lead, PM_{10}, and $PM_{2.5}$ are all criteria air pollutants (CAPs) that are regulated in California. Non-methane ethane VOCs, also referred to as ROGs, are also regulated as precursors to the formation of O_3. Certain of these CAPs and their effects on humans are discussed in the following subsections.

Ozone

O_3 is a colorless gas that is not directly emitted as a pollutant, but is formed when hydrocarbons and NO_x react in the presence of sunlight. Low wind speeds or stagnant air mixed with warm temperatures typically provide optimum conditions for the formation of O_3. Because O_3 formation does not occur quickly, O_3 concentrations often peak downwind of the emission source. As a result, O_3 is of regional concern as it impacts a larger area. When inhaled, O_3 irritates and damages the respiratory system.

Particulate Matter

PM, which is defined as particles suspended in a gas, is often a mixture of substances, including metals, nitrates, organic compounds, and complex mixtures, such as diesel exhaust and soil. PM can be traced back to both natural and man-made sources. The most common sources of natural PM are dust and fires, while the most common man-made source is the combustion of fossil fuels.

PM causes irritation to the human respiratory system when inhaled. The extent of the health risks due to PM exposure can be determined by the size of the particles. The smaller the particles, the deeper they can be deposited in the lungs. PM is often grouped into the following two categories:

- PM_{10}: inhalable PM less than 10 microns in diameter, and
- $PM_{2.5}$: fine PM less than 2.5 microns in diameter.

Carbon Monoxide

CO is a colorless, odorless, and tasteless gas that is directly emitted as a by-product of combustion. CO concentrations tend to be localized to the source, with the highest concentrations being associated with cold, stagnant weather conditions. CO is readily absorbed through the lungs into the blood, where it reduces the ability of the blood to carry oxygen.

Nitrogen Oxides

NO_x is a generic name for the group of highly reactive gases that contain nitrogen and oxygen in varying amounts. Many types of NO_x are colorless and odorless. However, when combined

with particles in the air, the common pollutant NO_2 can often be seen as a reddish-brown layer over many urban areas.

NO_x form when fuel is burned at high temperatures. Typical man-made sources of NO_x include motor vehicles, fossil-fueled electricity generation utilities, and other industrial, commercial, and residential sources that burn fuels. NO_x can harm humans by affecting the respiratory system. Small particles can penetrate the sensitive parts of the lungs and can cause or worsen respiratory disease and can aggravate existing heart conditions. As discussed previously, O_3 is formed when NO_x and VOCs react with sunlight.

Sulfur Oxides

SO_x are formed when sulfur-containing materials are processed or burned. SO_x sources include industrial facilities (e.g., petroleum refineries and cement manufacturing and metal processing facilities), locomotives, large ships, and some non-road diesel equipment. A wide variety of health and environmental impacts are associated with SO_x because of the way it reacts with other substances in the air. A number of people are particularly sensitive to SO_x emissions, including children, the elderly, people with asthma, and people with heart or lung disease. When inhaled, these particles gather in the lungs and contribute to increased respiratory symptoms and disease, difficulty breathing, and premature death.

Volatile Organic Compounds

VOCs (or ROGs) are a group of chemicals that react with NO_x and hydrocarbons in the presence of heat and sunlight to form O_3. Examples of VOCs include gasoline fumes and oil-based paints. This group of chemicals does not include methane or other compounds determined by the EPA to have negligible photochemical reactivity.

Air Quality Designations

The following three air quality designations can be given to an area for a particular pollutant:

- Nonattainment: This designation applies when air quality standards have not been consistently achieved.
- Attainment: This designation applies when air quality standards have been achieved.
- Unclassified: This designation applies when insufficient monitoring data exists to determine a nonattainment or attainment designation.

The current CAAQS and NAAQS attainment status is provided in Table 4.3-2: SDAPCD Attainment Status. The SDAPCD is currently designated as a nonattainment area for O_3 and PM.

Toxic Air Contaminants

TACs are the listed toxic pollutants as established by OEHHA. Under Assembly Bill 1807, CARB is required to use certain criteria in prioritizing, identifying, and controlling air toxins. In selecting substances for review, CARB must consider pollutants that may pose a threat to human health or may cause or contribute to serious illnesses or death. For many TACs, no threshold level exists below which adverse health impacts may not be expected to occur. This contrasts

with the CAPs, for which acceptable levels of exposure can be determined and for which the federal and state governments have set AAQS.

Table 4.3-2: SDAPCD Attainment Status

Criteria Air Pollutants	State	Federal
O_3 (eight-hour)	Nonattainment	Nonattainment
$PM_{2.5}$	Nonattainment	Unclassified/Attainment
PM_{10}	Nonattainment	Unclassified
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Attainment
Sulfates	Attainment	NA
Lead	Attainment	Attainment
Hydrogen Sulfide	Unclassified	NA
Visibility Reducing Particles	Unclassified	NA

Source: CARB, 2014b

PM emissions generated by diesel combustion, or DPM, are of particular concern in California. In 1998, the OEHHA completed a 10-year comprehensive human health assessment of diesel exhaust. The results of this assessment formed the basis for CARB to formally identify DPM as a TAC that poses a threat to human health. Because no established AAQS exist for TACs, they are managed on a case-by-case basis, depending on the quantity and type of emissions and the proximity of potential receptors. DPM emissions result from a wide variety of sources, including on-road and off-road vehicles and stationary and portable internal combustion engines. In California, diesel internal combustion engines were estimated to generate 28,000 tons of PM emissions in 2000.

Ambient Air Quality

Violations of NAAQS and CAAQS for O_3 and PM have occurred historically in the Proposed Project area. The frequency of violations and current air quality conditions at the two monitoring sites nearest to the Proposed Project area are summarized for O_3, PM_{10}, and $PM_{2.5}$ in Table 4.3-3: Recent Air Quality Concentrations and Table 4.3-4: Frequency of Air Quality Standard Violations.[2] As shown in these tables, the air quality in the surrounding areas has been relatively stable over the past five years and has improved in some cases.

[2] The Chula Vista monitoring station is located approximately 3.6 miles northwest of the Proposed Project area at 80 East J Street in the City of Chula Vista. The Otay Mesa monitoring station is located approximately 1.4 miles southeast of the Proposed Project area at 1100B Paseo Internacional in the City of San Diego.

Table 4.3-3: Recent Air Quality Concentrations

Monitoring Station	Year	O_3, Maximum 1-hour (ppm)	PM_{10}, Maximum 24-hour ($\mu g/m^3$)	$PM_{2.5}$, Maximum 24-hour ($\mu g/m^3$)
Chula Vista	2013	0.073	38.0	21.9
	2012	0.085	37.0	34.3
	2011	0.083	45.0	27.9
	2010	0.107	43.0	22.7
Otay Mesa	2013	0.073	– –	– –
	2012	0.081	126.0	– –
	2011	0.095	125.0	– –
	2010	0.076	108.0	– –

Source: CARB, 2015

Table 4.3-4: Frequency of Air Quality Standard Violations

Monitoring Station	Year	Number of Days in Exceedance of Standard			
		State 1-hour O_3	State 24-hour PM_{10}	National 24-hour PM_{10}	National 24-hour $PM_{2.5}$
Chula Vista	2013	0	0	0	0
	2012	0	0	0	0
	2011	0	0	0	– –
	2010	1	0	0	– –
Otay Mesa	2013	0	– –	– –	– –
	2012	0	– –	– –	– –
	2011	1	138.5	0	– –
	2010	0	136.0	0	– –

Source: CARB, 2015
Notes: "– –" = insufficient or unavailable data. Days over PM_{10} CAAQS are based on monitoring every sixth day.

Sensitive Receptors

Some exposed population groups—including children, the elderly, and the ill—can be especially vulnerable to airborne chemicals, and irritants and are termed "sensitive receptors." In addition, due to sustained exposure durations, all persons located within residential areas are considered to be sensitive receptors.

The Proposed Project area is mostly characterized by undeveloped areas. The nearest sensitive receptors to the Proposed Project site are residential neighborhoods located along Black Coral Way, Topsail Drive, and Avenida De Las Vistas in the City of San Diego. Section 4.10 Land Use and Planning provides more information about residences in close proximity to the Proposed Project components.

4.3.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

San Diego County Air Pollution Control District Thresholds

To determine whether an impact to air quality resulting from construction of the Proposed Project would be considered significant, the SDAPCD informally recommends quantifying construction emissions and comparing them to significance thresholds (pounds per day) found in the SDAPCD regulations for stationary sources (pursuant to Rule 20.1 et seq.) and shown in Table 4.3-5: Air Quality Significance Thresholds. If emissions during Proposed Project construction exceed the thresholds that apply to stationary sources, then construction activities will have the potential to violate air quality standards or contribute to existing violations.

Table 4.3-5: Air Quality Significance Thresholds

Pollutant	Significance Threshold	
	Pounds per Day	Tons per Year
$PM_{2.5}$	55*	10*
PM_{10}	100	15
NO_x	250	40
SO_x	250	40
CO	550	100
VOCs	75**	13.7***

Source: SDAPCD, 2015

* EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005. Also used by the South Coast Air Quality Management District (SCAQMD).

** Threshold for VOCs based on the threshold of significance for VOCs from the SCAQMD for the Coachella Valley.

*** Threshold based on 75 pounds per day multiplied by 365 days per year and divided by 2,000 pounds per ton.

California Environmental Quality Act Guidelines

In addition to the previously mentioned criteria, Appendix G of the California Environmental Quality Act (CEQA) Guidelines determines that impacts to air quality would be significant if the Proposed Project:

- Conflicts with or obstructs implementation of the applicable air quality plan
- Violates any air quality standard or contributes substantially to an existing or projected air quality violation
- Results in a cumulatively considerable net increase of any criteria pollutant for which the Proposed Project region is classified as nonattainment under an applicable federal or state ambient air quality standard
- Exposes sensitive receptors to substantial pollutant concentrations
- Creates objectionable odors affecting a substantial number of people

Question 4.3a – Applicable Air Quality Plan Conflicts

Construction – No Impact

A potentially significant impact on air quality will occur if the Proposed Project conflicts with or obstructs the implementation of an applicable air quality plan. Although the Proposed Project will result in CAP emissions within the SDAB, the primary focus is that the Proposed Project's emissions are properly anticipated in the regional air quality planning process and reduced where feasible. To determine if the emissions were captured during the air quality planning process, it is necessary to assess the Proposed Project's consistency with the RAQS. Consistency with the RAQS is determined by evaluating if the Proposed Project's emissions exceed the CAP thresholds established by the SDAPCD and if the Proposed Project will result in growth that has been anticipated.

CalEEMod was used to simulate the anticipated emissions during construction using site-specific information to generate emission rates based on the Proposed Project's anticipated size, schedule, land use, and construction methods. Using this data, the model calculated the maximum daily emissions for a range of pollutants. The CalEEMod input and output are provided in Attachment 4.3–A: Air Quality Modeling Results.

PM and NO_x are generally the primary air pollutants resulting from construction activities. The simulated PM emissions are the composite of two types of sources—fugitive dust and tailpipe emissions. Typical fugitive dust sources include earth-moving activities (e.g., excavation for the placement of direct-bury poles or foundations), the loading and unloading of fill and spoil materials, and vehicle travel across unpaved areas. Tailpipe emissions result from the combustion of fossil fuels in both off-road construction equipment and on-road vehicles.

To address the potential impacts resulting from vehicle and equipment emissions and fugitive dust impacts, SDG&E will implement the following measures as part of its Project Design Features and Ordinary Construction Restrictions/Operating Restrictions as described in

Chapter 3 – Project Description, which include SDG&E Subregional Natural Community Conservation Plan Operational Protocol 39:

- All visible mud and dirt that is tracked out onto paved, public roadways will be cleaned up at the conclusion of each workday or at 24-hour intervals for operations that are continuous.

- Open-bodied trucks transporting bulk materials that may become airborne will be completely covered, unless the bulk material is wetted or there is at least two feet of freeboard from the top of the container.

- SDG&E or its contractors will maintain and operate construction equipment to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues will have their engines turned off after five minutes when not in use.

- Fugitive dust created during clearing, grading, earth-moving, excavation or other construction activities will be controlled by regular watering. At all times, fugitive dust emissions will be controlled by limiting on-site vehicle speed to 15 miles per hour.

These restrictions were entered into CalEEMod, as appropriate, and the resulting emissions are presented in Table 4.3-6: Peak Daily Construction Emissions. The results of the CalEEMod simulations included in Attachment 4.3–A: Air Quality Modeling Results and summarized in Table 4.3-6: Peak Daily Construction Emissions demonstrate that the peak emissions will be in compliance with all applicable SDAPCD thresholds. As a result, the Proposed Project will be consistent with the RAQS and has been considered in the regional air quality planning process. Therefore, the Proposed Project will not conflict with or obstruct implementation of the applicable air quality plan, and thus, there will be no impact.

Table 4.3-6: Peak Daily Construction Emissions

Year	Emissions (pounds per day)					
	$PM_{2.5}$	PM_{10}	NO_x	SO_x	CO	VOC
2016	5.08	13.17	103.47	0.13	49.70	9.00
2017	4.13	28.22	42.77	0.05	21.60	3.69
Threshold	55	100	250	250	550	75
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of steel poles relative to the existing wood poles. As a result, the operation and maintenance emissions

associated with the Proposed Project will not result in an increase in long-term air quality emissions. Therefore, the Proposed Project will not conflict with or obstruct implementation of the applicable air quality plan, and thus, there will be no impact.

Question 4.3b – Air Quality Standard Violations

Construction – Less-than-Significant Impact

The pole installation and removal phase of the Proposed Project will require various pieces of heavy equipment, including drill rigs, cranes, bucket trucks, and forklifts. Street-legal haul trucks will be employed during material export activities. Concrete trucks, crew trucks, and pick-up trucks will arrive and depart the Proposed Project site during the installation of poles.

It is anticipated that approximately 35 workers will be on site at any one time during construction. Daily transportation of construction workers is not expected to cause a significant effect on air quality, because no more than 35 workers will be in any one location at any time during the peak of construction. The number of trips generated by these workers will be minimal and constitute an insignificant percentage of current daily volumes in the area, as described in Section 4.16 Transportation and Traffic.

In addition to the worker daily trips, construction of the Proposed Project will generate short-term air quality impacts that were estimated using CalEEMod, which simulates emissions from construction activities based on the schedule and construction equipment lists provided in Chapter 3 – Project Description. Variables that factor into estimating the total emissions of construction include the level of activity, length of construction period, number of pieces and types of equipment in use, site characteristics, number of construction personnel, and the amount of materials transported on site or off site.

As described in response to Question 4.3a – Applicable Air Quality Plan Conflicts, SDG&E's Project Design Features and Ordinary Construction/Operating Restrictions were entered into CalEEMod, as appropriate, and the resulting emissions are presented in Table 4.3-6: Peak Daily Construction Emissions. The following subsections provide a detailed discussion of the Proposed Project's potential to impact air quality from fugitive dust, construction equipment and worker vehicle exhaust, and TAC sources.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust emissions—specifically for PM_{10}—that have the potential to temporarily impact local air quality. In addition, fugitive dust may be a nuisance to those living and working in the Proposed Project area. Fugitive dust emissions are associated with land clearing, excavation, and truck travel on unpaved roadways. Fugitive dust emissions can vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust from construction is expected to be short-term and will cease when these activities are completed.

As described previously in response to Question 4.3a – Applicable Air Quality Plan Conflicts, SDG&E will implement their Project Design Features and Ordinary Construction/Operating Restrictions to ensure compliance with SDAPCD Rule 55. This will include cleaning track-out

and containing dirt and dust within the Proposed Project area. As a result, anticipated fugitive dust emissions, and impacts from fugitive dust alone, will be less than significant.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions from construction activities include emissions associated with transporting machinery and supplies to and from the Proposed Project area and emissions produced on site as the equipment is used. Emitted pollutants will include CO, VOC, NO_x, PM_{10}, and $PM_{2.5}$. With the implementation of SDG&E's Project Design Features and Ordinary Construction/Operating Restrictions, the maximum daily uncontrolled emissions for each year of construction of the Proposed Project will not exceed the SDAPCD's standards for all pollutants, as presented in Table 4.3-6: Peak Daily Construction Emissions. Therefore, impacts associated with construction will be less than significant.

Toxic Air Contaminants

DPM will be emitted from on- and off-road vehicles that use diesel as fuel during the construction phase of the Proposed Project. Potential health effects associated with exposure to DPM are long-term and are evaluated on the basis of a lifetime of exposure (70 years). Because construction activities will be short-term, emissions will not impact any sensitive receptors for more than a de minimus length of time.

All off-road diesel equipment, on-road heavy-duty diesel trucks, and portable diesel equipment used for the Proposed Project will meet the state's applicable ATCMs for control of DPM or NO_x in the exhaust (e.g., ATCMs for portable diesel engines, off-road vehicles, and heavy-duty on-road diesel trucks, as well as ATCMs for five-minute diesel engine idling limits) that are in effect during implementation of the Proposed Project. The mobile fleets used in the Proposed Project are expected to be in full compliance with these ATCMs. This will ensure that pollutant emissions in diesel engine exhaust do not exceed applicable federal or state air quality standards. As a result, impacts will be less than significant.

Operation and Maintenance – No Impact

As described previously, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. The Proposed Project will not result in an increase in long-term air quality emissions. Therefore, the Proposed Project will not violate any air quality standard or contribute substantially to an existing or projected air quality violation, and no impact will occur.

Question 4.3c – Criteria Pollutant Increases

Construction – Less-than-Significant Impact

As discussed in Section 4.3.2 Existing Conditions and summarized in Table 4.3-2: SDAPCD Attainment Status, the Proposed Project area is currently designated as non-attainment for O_3, PM_{10}, and $PM_{2.5}$. As shown in Table 4.3-6: Peak Daily Construction Emissions, the construction of the Proposed Project will lead to a small, temporary increase in these three CAPs. With the implementation of SDG&E's Project Design Features and Ordinary Construction/Operating

Restrictions, which include implementing CARB's ATCM which requires five-minute diesel engine idling limits and controls for fugitive dust, all emissions will be below the applicable SDAPCD thresholds. As a result, the Proposed Project will not lead to a cumulatively considerable net increase in CAP emissions, and impacts will be less than significant.

Operation and Maintenance – No Impact

As described previously, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. The Proposed Project will not result in an increase in long-term air quality emissions. Therefore, the Proposed Project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment. No impacts will occur.

Question 4.3d – Sensitive Receptor Exposure

Construction – Less-than-Significant Impact

Sensitive receptors in the Proposed Project vicinity could be exposed to increases in CAPs as a result of the fugitive dust released during excavation activities. The closest of these receptors—residential neighborhoods—will be located approximately 75 feet from pole replacement activities in the City of San Diego. As shown in Table 4.3-6: Peak Daily Construction Emissions, with the implementation of SDG&E's Project Design Features and Ordinary Construction/Operating Restrictions, all emissions will be well below the applicable significance thresholds. As a result, these sensitive receptors will not be exposed to substantial levels of CAPs, and impacts will be less than significant.

Operation and Maintenance – No Impact

As described previously, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. No new sensitive receptors will be exposed to emissions from operation and maintenance activities, and there will be no increase in pollutant concentrations. There will be no impact.

Question 4.3e – Odor

Construction – Less-than-Significant Impact

Due to the nature of the Proposed Project, odor impacts are unlikely. Typical odor nuisances include hydrogen sulfide, ammonia, chlorine, and other sulfide-related emissions. No significant sources of these pollutants will exist during construction. An additional potential source of Proposed Project-related odor is diesel engine emissions. These emissions will be temporary in nature and will be limited by the relatively small number of vehicles on site. Therefore, impacts will be less than significant.

Operation and Maintenance – No Impact

As described previously, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. As a result, no new sources of odor will be introduced, existing odor levels, if any, may decrease, and there will be no impact.

4.3.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts to air quality, no applicant-proposed measures have been proposed.

4.3.5 References

CARB. 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. Online. http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf. Site visited July 6, 2015.

CARB. 2009. California Ambient Air Quality Standards (CAAQS). Online. http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm. Site visited July 6, 2015.

CARB. 2014a. Quality Assurance Air Monitoring Site Information. Online. http://www.arb.ca.gov/qaweb/site.php. Site visited July 6, 2015.

CARB. 2014b. Area Designations Maps / State and National. Online. http://www.arb.ca.gov/desig/adm/adm.htm. Site visited July 6, 2015.

CARB. 2015. iADAM Air Quality Data Statistics. Online. http://www.arb.ca.gov/adam/. Site visited July 6, 2015.

City of San Diego. 2011. Significance Determination Thresholds. Online. http://www.sandiego.gov/development-services/pdf/news/sdtceqa.pdf. Site visited July 6, 2015.

EPA. 2013. Air Pollution and the Clean Air Act. Online. http://www.epa.gov/air/caa/. Site visited July 6, 2015.

EPA. 2014. National Ambient Air Quality Standards (NAAQS). Online. http://www.epa.gov/air/criteria.html. Site visited July 6, 2015.

SCAQMD. 2014. CEQA Handbook. Online. http://www.aqmd.gov/ceqa/hdbk.html. Site visited July 6, 2015.

SDAPCD. 2015. Air Pollution Control District County of San Diego Rules & Regulations. Online. http://www.sdapcd.org/rules/rules.html. Site visited July 6, 2015.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ATTACHMENTS

4.4 BIOLOGICAL RESOURCES

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact 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 Game or United States (U.S.) Fish and Wildlife Service?			✓	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			✓	
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			✓	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				✓
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✓
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

4.4.0 Introduction

This section describes the biological resources in the vicinity of San Diego Gas & Electric Company's (SDG&E's) Tie Line 649 Wood-to-Steel Replacement Project (Proposed Project) and identifies potential impacts to habitats and species that could result from the construction, operation, and maintenance of the Proposed Project. Potential impacts to riparian communities, jurisdictional wetlands and waters, and migratory wildlife corridors are also addressed. For construction of the Proposed Project, SDG&E will consult with the United States (U.S.) Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) for compliance with the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA). SDG&E will also implement Project Design Features and Ordinary Construction/Operating Restrictions during construction, which include specific Operational Protocols and Vernal Pool Protocols identified in SDG&E's Subregional Natural Community Conservation Plan (NCCP), which are listed in Chapter 3 – Project Description. For operation and maintenance of the Proposed Project, SDG&E will use the NCCP to comply with the FESA and CESA.

With the implementation of the Project Design Features and Ordinary Construction/Operating Restrictions, impacts to biological resources from the Proposed Project will be less than significant. SDG&E's Project Design Features and Ordinary Construction/Operating Restriction are included in Chapter 3 – Project Description. Further detail on the NCCP appears in Section 4.4.2 Existing Conditions.

The analysis in this section is based on the Biological Technical Report (BTR) prepared by Chambers Group, Inc. (Chambers). Chambers identified biological resources that could be impacted by the Proposed Project and conducted general and focused biological resource assessments for the preparation of the BTR, which is included as Attachment 4.4–A: Biological Technical Report.

4.4.1 Methodology

Definitions

Special-Status Species

Species are considered to be special-status, and are therefore subject to analysis in this section, if they meet one or more of the following criteria:

Federal

- Plant and animal species listed as endangered (FE), threatened (FT), or candidates (FC) for listing under the FESA

State

- Plant and animal species listed as endangered, threatened, or candidates for listing under the CESA
- Animals designated as Fully Protected Species (FP), as defined in California Fish and Game Code Sections 3511, 4700, 5050, and 5515

- Plants that are state-listed as Rare[1]
- Animal species designated as Species of Special Concern (SSC) by the CDFW
- Plant species ranked by the California Native Plant Society (CNPS) as having a California Rare Plant Rank (CRPR) of 1 or 2.2

Species that fall under the following categories are not considered special-status, but are also discussed: Former Federal Species of Concern (FCC), Birds of Conservation Concern (BCC), and California Watch List (WL) species.

Sensitive Natural Communities

Sensitive natural communities are communities that have a limited distribution and are often vulnerable to the environmental effects of projects. These communities may or may not contain special-status species or their habitats. For purposes of this assessment, sensitive natural communities are considered to be any of the following:

- Vegetation communities listed in the California Natural Diversity Database (CNDDB);
- Communities listed in the Natural Communities List with a rarity rank of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable); or
- Tier I or Tier II vegetation communities, as defined by the City of San Diego Biology Guidelines (City of San Diego 2001).

Literature Review

The BTR includes a study of the most recent records of the CDFW CNDDB and the CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California. Both of these databases were queried for special-status species documented from the U.S. Geological Survey (USGS) 7.5-minute quadrangles (quads) occurring within the Proposed Project area (i.e., Imperial Beach and Otay Mesa USGS 7.5-minute quadrangles), as well as the quads surrounding the Imperial Beach and Otay Mesa quads, referred to as a nine-quad search. The nine-quad search for special-status species was combined with a query of all CNDDB and USFWS species occurrence records within five miles of the Proposed Project area.

Additional investigations into potential biological resources in the Proposed Project area included reviews of relevant scientific literature, recovery plans, and regulatory documents. These additional data-gathering efforts are incorporated into the results and analysis in the sections that follow.

Areas Surveyed

The areas surveyed (hereafter referred to as the Survey Area) consist of an approximately 150-foot buffer around the power line centerline, except as noted otherwise in the following subsections. For Proposed Project features that are more than 150 feet from the centerline, the

[1] Plants that were previously state listed as "Rare" have been re-designated as state threatened.
[2] Under the CEQA review process only CRPR 1 and 2 species are considered, as these are the only CNPS species that meet CEQA's definition of "rare" or "endangered." Impacts to List 3 and 4 species do not meet CEQA's definition of "rare" or "endangered."

Survey Area includes an approximately 50-foot buffer around Proposed Project facilities (e.g., staging yards and stringing sites), and an approximately 20-foot buffer on either side of Proposed Project access roads to include potential additional work space that may be required during normal construction activities. The Survey Area is depicted on Figure 4: Vegetation Communities Map within Attachment 4.4–A: Biological Technical Report.

Evaluation of Potential for Occurrence

Following the literature and database review, Chambers biologists conducted a preliminary reconnaissance-level survey of the Proposed Project area. Subsequent focused surveys were also conducted, as described in the sections that follow. Using information from the literature review and survey results, specific criteria were developed to evaluate special-status plant and wildlife species' potential for occurrence, and the criteria were applied to evaluate target plant and wildlife species. The specific criteria are described as follows:

- **Absent:** Species is restricted to habitats or environmental conditions that do not occur within the Proposed Project area, or a species was not observed within Survey Area during focused surveys.[3]

- **Low:** Historical records for this species do not exist within the immediate vicinity (approximately five miles) of the Proposed Project area, and/or habitats or environmental conditions needed to support the species are of poor quality.

- **Moderate:** Either a historical record exists of the species within the immediate vicinity (approximately five miles) of the Proposed Project and marginal habitat exists in the Proposed Project area; or the habitat requirements or environmental conditions associated with the species occur within the Proposed Project area, but no historical records exist within the immediate vicinity (approximately five miles) of the Proposed Project.

- **High:** Both a historical record of the species exists within the Proposed Project area or in the immediate vicinity (approximately five miles), and the habitat requirements and environmental conditions associated with the species occur within the Proposed Project area.

- **Present:** Species was detected within the Proposed Project area at the time of the survey.

Vegetation Mapping

Plant communities within the Survey Area were identified, qualitatively described, and mapped onto aerial photographs. The mapped plant communities were digitized in geographic information system (GIS), and acreages were calculated based on the vegetation types within the Survey Area. Plant communities correspond to those described by Sawyer, Keeler-Wolf and

3 Perennial plant species that were not observed were considered absent from the Survey Area, while herbaceous or perennial bulb species that were not observed but cannot be confirmed absent from the Survey Area due to 2013 and 2014 drought conditions are "presumed absent."

Evens (2009). All plant species observed within the Proposed Project area were noted during this survey, as well as the special-status plant surveys.

Special-Status Plant Surveys

Due to the presence of suitable environmental conditions for multiple special-status plant species to occur within the Survey Area, focused special-status plant surveys were conducted according to the guidelines set forth by the CNPS (2001), the CDFW (2009), and the USFWS (1996). Fifty-three special-status plant species were analyzed for potential to occur within the Survey Area, and were targeted during special-status plant surveys. Two separate surveys were conducted within the Survey Area to correspond with the blooming periods for each of the 53 special-status plant species. The special-status plant species considered included federally threatened or endangered plant species, state threatened or endangered plant species, and plant species with a CRPR of 1 or 2. In addition, any plant species with a CRPR of 3 or 4 that were found to occur within the Survey Area were documented. The first round of spring surveys commenced on April 10, 2014 and concluded on April 23, 2014. The second round of surveys commenced on June 2, 2014 and concluded on June 12, 2014. A team consisting of four to five botanists walked transects within the Survey Area spaced approximately 30 feet (nine meters) apart and visually surveyed for any signs of special-status plant species. Special-status plant species observed during the survey were documented by counting individuals or estimating numbers for larger populations, characterizing the approximate population size, and recording a Global Positioning System (GPS) location.

Areas that were designated as private property and separated by fences and signs were avoided unless specific permission to enter was granted by the landowner. In those instances, surveys were conducted with binoculars from outside the property boundary. This includes the Survey Area within the Richard J. Donovan Correctional Facility property between pole locations 89 and 97, where binoculars were used in place of foot surveys. Precipitation in 2014 was well below the average for San Diego County, and temperatures were above-average. Considering these drought conditions, it is possible that some of the herbaceous or perennial bulb species targeted during the focused plant surveys may not have germinated or flowered during 2014. As a result, these species cannot be confirmed absent from the Survey Area, and instead are described as "presumed absent".

Focused Wildlife Surveys

Due to the presence of suitable environmental conditions for multiple special-status wildlife species to occur within the Survey Area, a series of focused special-status wildlife surveys was conducted in accordance with guidelines set forth by the USFWS.

Quino Checkerspot Butterfly

Habitat Assessment

A habitat assessment for Quino Checkerspot Butterfly (QCB) (*Euphydryas editha quino*) was conducted during the 2015 adult flight season to determine QCB suitable and unsuitable habitat pursuant to the Habitat Conservation Plan (HCP). The habitat assessment identified areas deemed suitable and unsuitable for QCB. Suitable QCB Habitat is defined in SDG&E's Low-Effect HCP for QCB as:

> "shrub communities, such as coastal sage scrub, chaparral, and desert scrub, with 50 percent shrub cover or less, and the potential to support dot-seed plantain [*Plantago erecta*] and other larval host plants. Areas that meet the shrub cover standard are excluded if the ground cover vegetation is disturbed and/or covered by understory vegetation to the extent that larval host plants do not grow. Areas of solid rock substrate and the surfaces of solidly compacted access roads which are not likely to support vegetation are also excluded. All areas of vernal pool complexes are included as Suitable QCB Habitat regardless of upland vegetation surrounding the vernal pools. Areas meeting the 50 percent shrub cover with QCB Host Plants, native herbaceous species, cryptobiotic crusts, or the potential to support any of these elements are included as Suitable QCB Habitat. Also included in Suitable QCB Habitat for this Plan are all native grasslands and non-native grasslands that show evidence of potential to support larval host plants. Evidence for a potential to support larval host plants included presence of native grasses, native wildflowers, and cryptobiotic crusts."

A habitat assessment for QCB was conducted to determine QCB suitable and unsuitable habitat pursuant to the HCP. Habitat deemed unsuitable for QCB was not included in subsequent protocol level surveys.

Focused Surveys

Following the initial habitat assessment, the Survey Area was divided into three sections, with each section surveyed on separate days. Focused surveys for QCB were conducted from February 17 to May 10, 2015. A total of 12 surveys were completed for each section per the USFWS 2014 Quino Checkerspot Butterfly Survey Guidelines, resulting in 36 surveys overall.

The surveys were performed by carefully walking slowly through and adjacent to QCB-suitable habitats delineated during the initial habitat assessment while looking for QCB adults. All host plant patches were mapped using a submeter accurate Trimble GPS unit or directly onto high-resolution aerial maps for follow-up GIS translation. Host plant patches were characterized as low, moderate or high density as appropriate. Low density patches generally contained 10 or fewer individual host plants per 11 square feet (one square meter); moderate density patches generally contained between 10 and 100 individual host plants per 11 square feet (one square meter); and high density patches generally contained 100 or more individual host plants per 11square feet (one square meter). The biologists also noted all other butterfly species present. All QCB-relevant data and butterfly species were recorded in the field notes of the biologists.

Coastal California Gnatcatcher and Coastal Cactus Wren

Surveys were conducted in April, May, and June, 2014 concurrently for two upland bird species: coastal California gnatcatcher (*Polioptila californica californica*) and coastal cactus wren (*Campylorhynchus brunneicapillus*).

Habitat Assessment

A habitat assessment for coastal California gnatcatcher and coastal cactus wren surveys was conducted during focused plant surveys conducted by Chambers botanists in April 2014 and during the initial round of focused surveys for coastal California gnatcatcher May 27 through

June 3, 2014. Subsequent surveys were conducted in all areas that contained suitable nesting habitat for these species. Surveys for coastal cactus wren were assigned to locations with mature cactus stands suitable for nesting, including large patches of coastal cholla (*Cylindropuntia prolifera*) and coastal prickly pear (*Opuntia littoralis*).

Focused Surveys

Focused surveys for coastal California gnatcatcher were conducted from May 27 through June 3, 2014 by Chambers biologists holding the necessary FESA Section 10(a)(1)(A) survey permit. Surveys were conducted according to the USFWS Presence/Absence Survey Guidelines (USFWS 1997). No survey protocol for coastal cactus wren exists; these surveys occurred concurrently with coastal California gnatcatcher surveys. Surveys were conducted by biologists slowly walking transects within suitable habitat in the Survey Area and using binoculars to achieve 100-percent visual coverage. All cacti encountered were visually searched for coastal cactus wren nests. Taped vocalizations were used only to initially locate individual coastal California gnatcatchers, and tapes were not used frequently or to further elicit behaviors from any previously detected individuals. Data were collected on the number, approximate age, class, sex, and color band information (if any were observed). All coastal California gnatcatcher and coastal cactus wren detections (e.g., vocalization, foraging behavior, and nesting behavior) were recorded using hand-held GPS units and documented with photographs, when possible.

Riparian Birds

Surveys were conducted in April 2014 for southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentolis*).

Habitat Assessment

A habitat assessment was conducted during an initial round of focused surveys for least Bell's vireo to determine the appropriate locations of the 2014 riparian bird surveys. Subsequent surveys were conducted in all areas that contained riparian habitat suitable for nesting by the three target species listed previously.

Focused Surveys

USFWS-permitted biologist Travis Cooper conducted focused surveys for southwestern willow flycatcher in accordance with USFWS-approved guidelines (Sogge et al. 2010). Qualified avian biologists Philip Howard, Ian Maunsell, and Travis Cooper conducted focused surveys for least Bell's vireo in accordance with USFWS-approved guidelines (USFWS 2001). CDFW-permitted biologist Travis Cooper conducted focused surveys for western yellow-billed cuckoo in accordance with CDFW-approved guidelines (Halterman et al. 2011).

Burrowing Owl

Habitat Assessment

In accordance with survey guidelines contained in the CDFW Burrowing Owl Staff Report (CDFW 2012), an initial habitat assessment for western burrowing owl (*Athene cunicularia hypogea*) was conducted on April 18, 2014. The assessment was performed by systematically

searching for potential foraging and nesting habitat within the Survey Area and within an additional buffer area to cover a total of 492 foot- (150 meter-) buffer around Proposed Project components. Suitable habitat was identified by the presence of low vegetation cover; presence of potential burrows; perch sites; and/or burrowing owl sign, such as scat, tracks, pellets, or feathers (CDFW 2012).

Focused Surveys

Following the initial habitat assessment, Chambers Group biologists conducted three focused breeding season surveys for western burrowing owl throughout the Survey Area in the spring of 2014. An additional round of four non-breeding season surveys was performed in the winter of 2014 and 2015 to evaluate presence or absence of western burrowing owl at the Main Street Staging Yard, which was added to the Proposed Project after the completion of the spring 2014 surveys. Both breeding and non-breeding season surveys were completed throughout the entire Survey Area, accounting for two complete survey passes within the Survey Area and adjacent habitat, with the exception of one round of surveys for the Main Street Staging Yard. During breeding and non-breeding season surveys, the western burrowing owl survey areas included the entire Survey Area and the additional buffer to meet the 492 foot (150-meter) survey area within suitable habitat identified during the habitat assessment. Each survey was conducted by walking transects spaced no more than 100 feet (33 meters) apart throughout Survey Area to allow for 100 percent visual ground coverage. The locations of all suitable burrows, sign, and individuals observed were recorded and mapped using GPS coordinates. Burrows were mapped as active, potential, or inactive. Active burrows were determined by presence of eggs or chicks. Potential burrows were determined by the presence of fresh pellets, prey remains, whitewash, or decorations. Inactive burrows were determined as those capable of supporting western burrowing owl but with no signs of recent use. Surveys were conducted during weather that did not adversely affect the ability to detect burrowing owl or their sign. The survey was not performed during periods of rain or dense fog, high winds (greater than 20 miles per hour [mph]), or temperatures over 90 degrees Fahrenheit (°F). Surveys were conducted within one hour before sunrise to two hours after sunrise to provide the highest detection probabilities.

Fairy Shrimp

The fairy shrimp habitat assessment was conducted concurrently with, and as an additional evaluation to, the jurisdictional delineation effort. To identify the distribution and abundance of vernal pools, which may support federally listed fairy shrimp, RECON Environmental, Inc. (RECON) identified vernal pools as part of its delineation of jurisdictional waters and mapped vernal pool boundaries. An additional survey was conducted by Chambers and RECON on November 3, 2014, after a rain event to identify areas where ponding (basins) occurred. Because fairy shrimp are known to occur within marginal habitats and may persist outside of natural vernal pool areas, the habitat assessment also took into consideration potential fairy shrimp habitat other than jurisdictional vernal pools. For the purposes of the fairy shrimp habitat assessment, all permanent or semi-permanent seasonally ponded areas (such as road ruts), which lacked fill or other evidence of regular maintenance (i.e., grading), and that were likely or observed to support water at least 1.95 inches (3 centimeters) within 24 hours following a rain event were considered suitable habitat for fairy shrimp.

The survey effort included all seasonally wetted areas, which included non-jurisdictional road ruts that may support fairy shrimp. The purpose of the survey effort was to fully document the existing conditions of potential fairy shrimp habitat within the Survey Area. The boundaries of the ponded areas and areas where there was hydrological evidence of ponding were mapped for avoidance during construction. Additional information on the methods used to evaluate vernal pools within the Survey Area is provided in the following section and in Attachment 4.9-A: Wetland Delineation Report in Section 4.9 Hydrology and Water Quality. Results of the fairy shrimp habitat assessment will be used as a baseline for fairy shrimp habitat when protocol-level surveys are conducted in the summer of 2015 and winter of 2015/2016.

General Wildlife and Other Special-Status Species

During focused survey efforts, all wildlife observed and wildlife signs detected (e.g., tracks, scat, carcasses, burrows, excavations, and vocalizations) were recorded. Additional survey time was spent in those habitats most likely to be utilized by wildlife (e.g., undisturbed native habitat or wildlife trails) or in habitats with the potential to support state and/or federally listed or proposed listed species. Notes were made on the general habitat types, species observed, and the conditions of the site.

Wetlands and Waters of the United States Assessment

Potential wetland and waters locations observed within the Survey Area were evaluated using the methodology set forth in the USACE Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008). Prior to conducting the delineation, the USGS Otay Mesa quad topographic map and historical aerial photographs were examined. Once on site, the potential wetland sites were examined to determine the presence of any of the three wetland indicators—hydrophytic vegetation, wetland hydrology, and hydric soils—or drainage channels. Soil data used in the delineation was obtained from the Natural Resource Conservation Service's (NRCS's) web soil survey (NRCS 2014). RECON delineated jurisdictional waters within the Survey Area on May 14, May 22, July 28, and November 3, 2014.

Wetland hydrology indicators included evidence of inundation, saturation, watermarks, drift lines, and sediment deposits. Vegetation was analyzed by using a dominant species wetland indicator status (USACE 2014). In ponding areas, special attention was paid to vernal pool indicator species (USACE 1997; Bauder and McMillan 1998). Suspected jurisdictional areas were evaluated for the presence of definable channels, wetland vegetation, an ordinary high water mark (OHWM), and connectivity to a traditional navigable waterway.

No soil test pits were dug due to the documented presence of the federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*) in the Survey Area. Hydric soils in vernal pools were inferred based on soil mapping, the presence of strong hydrology indicators, and results of the soil test pits dug by AECOM (AECOM 2009).

4.4.2 Existing Conditions

The following subsections provide the regulatory context applicable to the Proposed Project, and summarize the results of the vegetation community mapping, special-status species surveys, and delineation of jurisdictional wetlands and waters.

Regulatory Background

The following federal, state, and local regulations and policies pertain to biological resources and are relevant to the Proposed Project.

Federal

Federal Endangered Species Act of 1973

The FESA protects plants and wildlife that are listed as endangered or threatened by the USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries). The FESA prohibits take of endangered wildlife, where "take" is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (16 U.S. Code [U.S.C.] §§ 1532(19), 1538). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 U.S.C. § 1538(c)).

When a private project that has no federal funding and for which no federal action is required may affect a listed species, the private applicant may receive authorization for incidental take of species listed under the FESA . In these situations, Section 10 of the FESA provides for issuance of incidental take permits (ITPs) to private entities with the development of a HCP, such as SDG&E's NCCP and Low-Effect HCP for QCB. An ITP allows take of the species that is incidental to another authorized activity.

Final Rule for Revised Designation of Critical Habitat for the Coastal California Gnatcatcher

The USFWS designates critical habitat for endangered and threatened species under the FESA (16 USC § 1533 (a)(3)). Critical habitat is designated for the survival and recovery of federally listed endangered and/or threatened species. Critical habitat includes areas used for foraging, breeding, roosting, shelter, and movement or migration. In the USFWS 2003 Proposed Rule to Revise Designation of Critical Habitat for the Coastal California Gnatcatcher, the USWFS considered but did not propose as critical habitat, pursuant to sections 3(5)(A) and 4(b)(2) of the Act, reserve lands covered by three completed and approved regional/subregional HCPs (68 FR 20228). These lands include SDG&E right-of-way (ROW) within SDG&E's NCCP. Although these areas were not included in the proposed critical habitat, the USFWS sought public review and comment on these lands, provided maps to facilitate the public's ability to comment, and alerted the public that the lands could potentially be included in the final designation. Lands considered but not proposed for designation were also analyzed for potential economic impacts in the Draft Economic Analysis.

In 2007, USFWS issued the Revised Final Rule, reaffirming exclusion of lands within approved regional and subregional HCPs under section 4(b)(2) of the FESA. USFWS determined that lands owned by SDG&E and covered under SDG&E's NCCP provided greater benefits to

coastal California gnatcatcher than other areas designated as critical habitat. As such, the USFWS designation of critical habitat for the coastal California gnatcatcher specifically excludes SDG&E ROW within SDG&E's NCCP area.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918, as amended, provides legal protection for almost all bird species occurring in, migrating through, or spending a portion of their life cycle in North America by restricting the killing, taking, collecting, and selling or purchasing of native bird species or their parts, nests, or eggs. The USFWS determined it was illegal under the MBTA to directly kill—or destroy an active nest (i.e., a nest with eggs or nestlings)—of nearly any bird species, with the exception of non-native species through the MBTA Reform Act of 2004. The intent of the MBTA is to eliminate any commercial market for migratory birds, feathers, or bird parts, especially for eagles and other birds of prey. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities:

- Falconry
- Raptor propagation
- Scientific collecting
- Special purposes, such as rehabilitation, education, migratory game bird propagation, and salvage
- Take of depredating birds, taxidermy, and waterfowl sale and disposal

The regulations governing migratory bird permits can be found in Title 50, Part 13 (General Permit Procedures) and Part 21 (Migratory Bird Permits) of the Code of Federal Regulations (CFR).

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) was established in 1940 to protect bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) from any actions that may take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import—at any time or any manner—any bald or golden eagle, alive or dead, or any part, nest, or egg thereof. Under the BGEPA, take of an eagle is defined as to "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb." The BGEPA also extends to potential impacts to bald and golden eagles caused by human-induced environmental changes near a previously used nest when the eagles are not present. On September 11, 2009, the USFWS published a Final Eagle Permit Rule under the BGEPA authorizing limited issuance of permits to take bald and golden eagles where take is associated with, but not the purpose of, otherwise lawful activities.

Clean Water Act of 1977

The purpose of the Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of fill material into waters of the U.S. without a permit from the USACE. The definition of waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or

groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR § 328.3(b)). The goals and standards of the CWA are enforced through permit provisions. The U.S. Environmental Protection Agency also has authority over wetlands and may override a USACE permit.

When a project may create impacts for wetlands, the project requires a permit or a waiver. Substantial impacts to wetlands may require an Individual Permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required from the RWQCB for Section 404 permit actions.

Clean Water Rule

The Clean Water Rule: Definition of Waters of the United States—published in the Federal Register on June 29, 2015 and effective August 28, 2015—was enacted to ensure that waters protected under the CWA are more precisely defined and predictably determined.

State

California Endangered Species Act

The CESA, adopted in 1984, generally parallels the main provisions of the FESA. Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Section 86 of the California Fish and Game Code defines take as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take that is incidental to otherwise lawful projects. State lead agencies are required to consult with the CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was created with the intent to "preserve, protect, and enhance rare and endangered plants in this State." The NPPA is administered by the CDFW. The California Fish and Game Commission has the authority to designate native plants as "endangered" or "rare" and to protect them from take. Rare plants protected by CDFW generally include species with California Rare Plant Rank (CRPR) 1A, 1B, 2A, and 2B of the CNPS Inventory of Rare and Endangered Vascular Plants of California. In addition, sometimes CRPR 3 and 4 plants are considered rare if the population has local significance in the area and is impacted by a project. Section 1913(b) includes a specific provision to allow for the incidental removal of endangered or rare plant species, if not otherwise salvaged by CDFW, within a ROW to allow a public utility to fulfill its obligation to provide service to the public.

When the CESA was passed in 1984, it expanded on the original NPPA, enhanced legal protection for plants, and created the categories of "threatened" and "endangered" species to parallel the FESA. The CESA converted all rare animals to threatened species under the NPPA,

but did not do so for rare plants, which resulted in three listing categories for plants in California: rare, threatened, and endangered. The NPPA remains part of the California Fish and Game Code, and mitigation measures for impacts to rare plants are specified in a formal agreement between the CDFW and a project proponent.

California Environmental Quality Act

CEQA was enacted in 1970 to provide for full disclosure of environmental impacts to the public before approval of a project by a public agency. Federally or state-listed species and special-status plants and animals receive consideration under CEQA. Special-status species include wildlife SSCs, which are listed by the CDFW. Pursuant to the CEQA Guidelines Section 15380, some SSCs could be considered "rare." Any unmitigated impacts to rare species could be considered a "significant effect on the environment" (CEQA Guidelines Section 15382). Thus, SSCs must be considered in projects subject to CEQA review.

California Fish and Game Code Sections 1600 to 1606

Sections 1601 through 1606 of the California Fish and Game Code require that a Notification of Lake or Streambed Alteration Agreement Application must be submitted to the CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions and, if necessary, submits to the applicant a proposal that includes measures to protect affected riparian vegetation, fish, and wildlife resources. The final proposal that is mutually agreed upon by the CDFW and applicant is the Lake or Streambed Alteration Agreement.

California Fish and Game Code Sections 3503, 3513, and 3800

Sections 3503, 3513, and 3800 of the California Fish and Game Code protects against the destruction of native bird species' nests or eggs, and it states that no birds in the orders of *Falconiformes* or *Strigiformes* (i.e., birds of prey) can be taken, possessed, or destroyed.

California Fish and Game Code Sections 3511 and 4700

According to Sections 3511 and 4700 of the California Fish and Game Code—which regulate birds and mammals, respectively—a "Fully Protected" species may not be taken or possessed, and incidental take of these species is not authorized. The State of California first began to designate species as "fully protected" prior to the creation of the CESA and the FESA. Lists of fully protected species were initially developed to provide protection to animals that were rare or faced possible extinction, including fish, amphibians, reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the CESA and/or the FESA. Nonetheless, fully protected species may not be taken or possessed at any time, except under certain circumstances, such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock (California Fish and Game Code § 3511).

Porter-Cologne Water Quality Control Act

The intent of the Porter-Cologne Water Quality Control Act, California Water Code Section 13000 et seq., is to protect water quality and the beneficial uses of water. It applies to both surface and groundwater. Under this law, the State Water Resources Control Board develops

statewide water quality plans, and the RWQCBs develop basin plans, which identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under the Porter-Cologne Water Quality Control Act, referred to as "waters of the State," include isolated waters that are no longer regulated by the USACE. Any person discharging, or proposing to discharge, waste to waters of the State must file a Report of Waste Discharge and obtain either waste discharge requirements (WDRs) or a waiver to WDRs before beginning the discharge.

Local

Because the California Public Utilities Commission (CPUC) has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations. The following discussion of local regulations relating to biological resources is provided for informational purposes. As outlined in the following subsections, the construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations adopted by agencies with jurisdiction over local regulations related to biological resources.

County of San Diego General Plan

The County of San Diego General Plan (County of San Diego 2011) provides direction for future growth in the unincorporated areas of San Diego County and provides policies related to land use, mobility, conservation, housing, safety, and noise. The County of San Diego General Plan Land Use Element provides a framework for managing future development so that it is thoughtful of the existing character of the current communities and the sensitive natural resources within the county. Goal LU-6, within the Land Use Element, pertains to the development-environmental balance, with specific policies related to environmental sustainability, conservation-oriented design, and sustainable subdivision design and storm water management.

In addition, the Conservation and Open Space Element of the General Plan includes multiple goals and policies related to biological resources. Relevant policies include the following:

- **Conservation and Open Space (COS) Policy COS-1.2: Minimize Impacts.** Prohibit private development within established preserves. Minimize impacts within established preserves when the construction of public infrastructure is unavoidable.

- **COS Policy COS-1.3: Management.** Monitor, manage, and maintain the regional preserve system facilitating the survival of native species and the preservation of healthy populations of rare, threatened, or endangered species.

- **COS Policy COS-2.1: Protection, Restoration and Enhancement.** Protect and enhance natural wildlife habitat outside of preserves as development occurs according to the underlying land use designation. Limit the degradation of regionally important natural habitats within the Semi-Rural and Rural Lands regional categories, as well as within Village lands where appropriate.

- **COS Policy COS-2.2: Habitat Protection through Site Design.** Require development to be sited in the least biologically sensitive areas and minimize the loss of natural habitat through site design.

City of Chula Vista General Plan

The City of Chula Vista General Plan provides a broad framework of policies, objectives, and land use designations to guide the future development of the City of Chula Vista. The zoning ordinance further refines the General Plan and provides additional detail pertaining to allowed and conditional uses and specific development standards for the various zoning districts.

The conservation vision for the City of Chula Vista is to "preserve and enhance the unique features that give Chula Vista its character and identity, while at the same time improving our community and meeting opportunities and challenges that lie ahead." To address this vision, the City of Chula Vista adopted the City of Chula Vista Multiple Species Conservation Plan (MSCP) Subarea Plan as part of its General Plan in May 2003. The Subarea Plan is the policy document through which the County of San Diego MSCP Subregional Plan is implemented within the City of Chula Vista's jurisdiction.

San Diego Multiple Species Conservation Plan

Under the Natural Community Conservation Planning Act of 1991, an MSCP has been developed for southwestern San Diego County in order to protect 85 species in the area. The MSCP was approved in 1997 and is the result of a joint planning effort between the County of San Diego and the cities in the southwestern part of the county, including San Diego and Chula Vista. The County of San Diego, City of San Diego, and City of Chula Vista have each adopted subarea plans that conform to and implement the MSCP requirements, as described in the following sections.

County of San Diego Multiple Species Conservation Program Subarea Plan

The County of San Diego MSCP Subarea Plan was adopted in 1997 and applies to unincorporated lands in the Survey Area. The MSCP Subarea Plan designates certain lands in the vicinity of the Proposed Project as Public Lands and Dedicated Private Open Space. These lands are part of the Otay Valley Regional Park.

City of San Diego Multiple Species Conservation Program Subarea Plan

The City of San Diego adopted its own MSCP Subarea Plan in 1997 to implement the regional MSCP. Broken down into priority areas, the MSCP Subarea Plan designates the undeveloped canyons in the Otay Mesa area as protected coastal sage scrub. New development must comply with the boundaries established within the plan, and guidelines for development include restoration of coastal sage scrub when disturbed. In addition, the MSCP Subarea Plan includes policies and design guidelines regarding utilities.

City of Chula Vista Multiple Species Conservation Program Subarea Plan

The City of Chula Vista MSCP Subarea Plan, which is part of the City of Chula Vista General Plan, was adopted in 2003 and provides for the conservation of covered species and their associated habitats, consistent with the regional plan. The Subarea Plan shows land uses in the

area of the Proposed Project to be designated as Development, 100 Percent Conservation Areas – Habitat Preserve, and Planned Active Recreation Area.

Additionally, the City of Chula Vista Wetlands Protection Program (WPP) is incorporated in the City of Chula Vista MSCP Subarea Plan. The WPP provides wetlands protection through project entitlement reviews and the associated CEQA process. This process provides an evaluation of wetlands avoidance and minimization and ensures compensatory mitigation for unavoidable impacts, thereby achieving an overall "no net loss" of wetlands. Impacts to wetlands must be avoided or minimized to the maximum extent practicable pursuant to the City of Chula Vista WPP and Section 5.2.4 WPP of the Subarea Plan. Depending on the type of wetland, the City of Chula Vista will apply a wetland mitigation ratio based on habitat type, as detailed in Table 5-6: Wetlands Mitigation Ratios of the Chula Vista MSCP Subarea Plan.

Otay Valley Regional Park Concept Plan

The County of San Diego and the cities of San Diego and Chula Vista adopted the Otay Valley Regional Park Concept Plan after a multi-year planning effort to coordinate an inter-jurisdictional approach to park and recreational planning for the area. The plan calls for a regional park to extend from the salt ponds on the coast, through the Otay River Valley, to Upper and Lower Otay Lakes. The goal of the Otay Valley Regional Park Concept Plan is to provide policy direction to the three jurisdictions for the acquisition of properties and development of a regional park. The plan also provides for a regional trail system to be developed along the river, as well as viewpoints, recreational areas, and two interpretive centers. Within the boundaries established by the San Diego MSCP, the plan calls for sensitive areas to be designated as Open Space/Core Preserve Areas. Efforts toward implementation of this plan have been made by the cooperating jurisdictions, including the partial development of a trail system and a large acquisition of open space by the County of San Diego. The portions of the regional trail system that have been developed are outside of the Proposed Project area, but land acquired for open space by the County of San Diego is located immediately south of the Proposed Project.

County of San Diego Tree Ordinance

Title 7, Division 1, Chapter 5 of the San Diego County Regulatory Code of Ordinances regulates the planting, trimming, and removal of trees on county-owned property and county highways.

Existing San Diego Gas & Electric Company Plans

San Diego Gas & Electric Company Subregional Natural Community Conservation Plan

Under Section 10(a) of the FESA, SDG&E developed a comprehensive multiple species and habitat NCCP in 1995 to effectively preserve and enhance covered sensitive species and their native habitats during operation, maintenance, and expansion of the electric and natural gas transmission system (16 U.S.C. § 1539). In addition, the NCCP is also a permit issued pursuant to California Fish and Game Code Section 2081[4] with an implementation agreement with the CDFW for the management and conservation of multiple species and their associated habitats, as

[4] California Fish and Game Code Sections 2081(b) and (c) allow the CDFW to issue an ITP for a state-listed threatened and endangered species only if specific criteria are met. 14 California Code of Regulations Section 783.4(a) and (b) provide additional information.

established according to the CESA and the state's Natural Community Conservation Planning Act.

The purpose of the NCCP is to establish and implement a long-term agreement between SDG&E, USFWS, and CDFW for the preservation and conservation of sensitive species and their habitats while allowing SDG&E to develop, install, maintain, operate, and repair its facilities as necessary to provide energy services to customers living within SDG&E's service area.

A revision to the NCCP was filed in 2004 entitled the SDG&E Subregional Plan Clarification Document, which addressed vernal pool resources located both on and off SDG&E access roads. The NCCP, as revised, identifies 69 Operational Protocols designed to avoid and minimize potential impacts to sensitive (i.e., special-status) species and their habitats, and to provide appropriate mitigation where such impacts are unavoidable, to ensure survivability and conservation of protected species and their habitat. As detailed in Attachment 4.4–B: SDG&E Subregional NCCP Operational Protocols and Vernal Pool Protocols, these 69 protocols include provisions for personnel training, pre-activity studies, maintenance, and repair and construction of facilities, including access roads, survey work, and emergency repairs.

The Proposed Project falls within the area where SDG&E's utility operations are governed by the NCCP. Nevertheless, SDG&E will not seek incidental take coverage for temporary and permanent impacts to natural habitat resulting from construction of the Proposed Project through the NCCP, and SDG&E will not rely on the mitigation bank associated with the NCCP to fulfill the mitigation requirements for those impacts. SDG&E will instead consult with USFWS and CDFW for compliance with the FESA and CESA for construction of the Proposed Project. Compliance may require a Proposed Project-specific ITP under Section 10 of the FESA and California Fish and Game Code Section 2081. For operation and maintenance of the Proposed Project, SDG&E will use the NCCP to comply with the FESA and CESA.

Even though SDG&E will not rely on the NCCP for construction of the Proposed Project, the NCCP Operational Protocols listed in Chapter 3 – Project Description will be applied to the Proposed Project, which are detailed in Attachment 4.4–B: SDG&E Subregional NCCP Operational Protocols and Vernal Pool Protocols. SDG&E will also implement additional Project Design Features and Ordinary Construction/Operating Restrictions to further minimize potential impacts to ensure the protection and conservation of listed and covered species and their habitats. Project Design Features and Ordinary Construction/Operating Restrictions are detailed in Chapter 3 – Project Description.

San Diego Gas & Electric Company's Low-Effect Habitat Conservation Plan for the Quino Checkerspot Butterfly

SDG&E prepared a Low-Effect HCP to minimize and mitigate the effects of its activities on the federally endangered QCB and to obtain incidental take authorization for QCB from the USFWS. The Low-Effect HCP is provided in Attachment 4.4–C: SDG&E Low-Effect Habitat Conservation Plan for Quino Checkerspot Butterfly. The Low-Effect HCP addresses potential impact to the QCB from the use, maintenance, and repair of existing gas and electric facilities and allows for typical expansions to those systems. Other than maintenance of existing access

roads, SDG&E activities include, without limitation, all current and future actions arising out of, or in any way connected with, the siting, design, installation, construction, use, maintenance, operation, repair, and removal of facilities within SDG&E's service territory. Pole and tower replacement is one example of these covered activities.

The Low-Effect HCP emphasizes protection of habitat through impact avoidance and use of operational protocols designed to avoid or minimize impacts to the QCB. The Low-Effect HCP was prepared in consultation with the USFWS to fulfill the requirements of a FESA Section 10(a)(1)(B) permit application for SDG&E activities.

SDG&E proposes to conduct fire-hardening activities on an existing power line. These actions will increase the fire safety and service reliability of existing facilities and continue ongoing operation and maintenance activities for these facilities. Therefore, all the activities associated with the Proposed Project are covered by the Low-Effect HCP.

Environmental Setting

Physical Setting

San Diego County is a biologically diverse region that supports rare and declining native habitats, numerous federally and state-listed plant and animal species, and an increasing amount of federally designated critical habitat for listed species. Topography along the Proposed Project area varies from relatively flat, developed, urban/residential areas in Chula Vista to the west, through relatively flat river valleys, steep canyons, and flat mesa tops and grassland communities on the eastern and southern portions of the Proposed Project. Elevations on the far eastern end of the Proposed Project area range from approximately 400 to 600 feet above mean sea level (amsl). Elevations at the far western end of the Proposed Project area range from 150 feet to 400 feet amsl.

Existing land uses are predominately open space areas, with some limited institutional uses (e.g., the Richard J. Donovan Correctional Facility) at the eastern end of the Proposed Project area, and residential subdivisions at the western end of the Proposed Project area. Figure 8: Habitat Plan Areas of Attachment 4.4–A: Biological Technical Report shows locations of four open space areas adjacent to or crossing the Proposed Project area. All of these open space areas support habitat for, and have occurrences of, special-status wildlife and plant species (CDFW 2014a). These open space areas include the following:

- Otay Valley Regional Park represents one of the largest open space areas within the southern area of San Diego County, linking south San Diego Bay with Otay Mountain, San Miguel Mountain, and the Jamul Mountains.

- Otay Lakes County Park is located approximately 0.7 mile northeast of the Proposed Project area at 2270 Wueste Road in the City of Chula Vista.

- Otay County Open Space Preserve is located approximately 0.7 mile east of the Proposed Project area at 2155 East Beyer Boulevard in the City of San Diego.

- The City of San Diego's Multiple Habitat Planning Area (MHPA) is located generally south of the Proposed Project and is contiguous to or comprises portions of the Otay Valley Regional Park.

Vegetation Communities

Vegetation communities observed within the Survey Area and the plants that typically occur within those communities were evaluated and described according to communities in Sawyer, Keeler-Wolf and Evens (2009). A complete list of plant species observed in the study area is presented in Appendix B of Attachment 4.4–A: Biological Technical Report. Nomenclature used for plant names follow *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin 2012). Nomenclatural changes made after the publication date of this manual follow the Jepson eFlora website (2014).

Thirty distinct vegetation communities or land cover types occur within the Survey Area, as shown in Table 4.4-1: Vegetation Communities within the Survey Area. Native habitats are primarily upland communities, such as California sagebrush-California buckwheat scrub, coast prickly pear scrub, and purple needlegrass grassland. Bare ground and disturbed areas also cover nearly one-third of the total Survey Area. Detailed vegetation descriptions, as well as maps depicting the different vegetation communities in relation to the Proposed Project location, are provided in Attachment 4.4–A: Biological Technical Report. Table 4.4-1: Vegetation Communities within the Survey Area provides acreages of each mapped vegetation community.

Sensitive Natural Communities

The Proposed Project area contains the sensitive natural communities listed in Table 4.4-1: Vegetation Communities within the Survey Area.

Special-Status Species

Special-Status Plants

Based on the literature and database search, 53 special-status plant species were analyzed for potential to occur within the Survey Area and were targeted during special-status plant surveys.

The life history, habitat, and potential for these special-status plant species to occur are described in Table 4.4-2: Special-Status Plant Species' Potential to Occur. Plant species within five miles of the Survey Area documented in the CNDDB are depicted on Figure 2: Documented Species Occurrences in Attachment 4.4–A: Biological Technical Report. Attachment 4.4–A: Biological Technical Report discusses each special-status plant considered and details the life history, blooming period, and habitat requirements of each species.

Plant species identified within the Survey Area during the spring and summer 2014 focused special-status plant surveys are listed in Appendix B Plant Species List in Attachment 4.4–A: Biological Technical Report. Of these, 17 special-status plant species were identified during the surveys. These special-status plant species and their population counts are listed in Table 4.4-3: Special-Status Plant Species Observations within the Survey Area. In addition, seven CRPR 4 plant species were observed within the Survey Area. These CRPR 4 species have also been included in Table 4.4-3: Special-Status Plant Species Observations within the Survey Area.

Table 4.4-1: Vegetation Communities within the Survey Area

Vegetation Community[5]	Approximate Area (acres)
Disturbed or Developed	
Bare Ground	34.27
Disturbed Areas	43.08
Landscape/Ornamental	6.14
Urban and Developed	35.08
Scrub and Chaparral	
California Sagebrush-California Buckwheat Scrub*	58.80
California Sagebrush-California Buckwheat Scrub (disturbed)*	0.97
Castor Bean Thicket	0.52
Coast Prickly Pear Scrub*	27.91
Coast Prickly Pear Scrub (disturbed)*	5.26
Lemonade Berry Stand*	2.45
Singlewhorl Burrowbush-Broom Baccharis Scrub*	0.93
Singlewhorl Burrowbush Scrub*	0.29
Grasslands, Vernal Pools, Meadows, and Other Herbaceous Communities	
Annual Brome Grassland	80.55
Creeping Ryegrass Grassland	0.06
Purple Needlegrass Grassland*	24.62
San Diego Mesa Claypan Vernal Pool*	0.56
San Diego Mesa Claypan Vernal Pool (disturbed)*	0.24
San Diego Mesa Claypan Vernal Pool Native Grassland Mix*	11.74
Bog and Marsh	
Bulrush Marsh*	0.03

[5]An asterisk designates a sensitive natural community, defined as follows:

- Vegetation communities listed in the California Natural Diversity Database (CNDDB);
- Communities listed in the Natural Communities List with a rarity rank of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable); or
- Tier I or Tier II vegetation communities, as defined by the City of San Diego Biology Guidelines (City of San Diego 2001)

Vegetation Community[5]	Approximate Area (acres)
Pale Spike Rush Marshes*	0.02
Spiny Rush Marsh*	0.17
Riparian and Bottomland Habitat	
Arroyo Willow – Mulefat Woodland*	0.30
Fremont Cottonwood Forest*	0.71
Giant Reed Breaks	0.09
Mulefat Thickets*	0.82
Mulefat Thickets (disturbed)	0.90
Tamarisk Thickets	2.39
Vegetated Rip-Rap Channel	0.25
Woodland	
Black Willow Forest*	0.87
Tecate Cypress Stands*	0.67
Total	**340.67**

Source: Biological Technical Report (Chambers 2015).

Detailed information on the special-status plant species identified in the Survey Area is provided in Appendix D: Sensitive Plant Species Descriptions of Attachment 4.4–A: Biological Technical Report. Detailed location point and polygon data for special-status plant species identified in the Survey Area are mapped in Figure 5: Plant Species Observed of Attachment 4.4–A: Biological Technical Report.

The remaining 36 special-status plant species identified as potentially occurring with the Survey Area were not observed during the 2014 focused special-status plant surveys. Of these, five species were determined to be absent because required habitats are not present within the Survey Area. Twenty-one are herbaceous species, such as San Diego thorn-mint (*Acanthomintha ilicifolia*) or perennial bulbs, such as Dunn's mariposa-lily (*Calochortus dunnii*). Because 2014 was the third year of a drought, it is possible that some of the herbaceous species or perennial bulb species may be present, but did not germinate or flower during 2014. As a result, these species are described as "presumed absent" to reflect the low possibility that these annual or perennial bulbs may be present within the Survey Area.

Special-Status Wildlife Species

A total of 41 special-status wildlife species are known to occur in the vicinity of the Survey Area. Figure 2: Documented Species Occurrences of Attachment 4.4–A: Biological Technical Report provides a graphical representation of the known CNDDB occurrences of special-status wildlife species within five miles of the Survey Area. The surveys identified an additional 14 special-status wildlife species as either present or potentially occurring in the vicinity of the Survey Area. Table 4.4-4: Special-Status Wildlife Species' Potential to Occur provides a list of these 57 special-status wildlife species, as well as their listing status, habitat requirements, and their likelihood to occur within the Survey Area. Further details on the life history and conservation status of these species are provided in Appendix E of Attachment 4.4–A: Biological Technical Report.

Seven of the 57 species (Pacific pocket mouse, green turtle, light-footed clapper rail, California black rail, Belding's savannah sparrow, western snowy plover, and California least tern) in Table 4.4-4: Special-Status Wildlife Species' Potential to Occur are presumed absent, either because they are considered extirpated from the area or because they are associated with beach habitat, tidal wetlands, or coastal salt marsh habitats, which do not occur within the Survey Area.

Some avian species in this list were only observed foraging, but not nesting. The olive-sided flycatcher (*Contopus cooperi*), osprey (*Pandion haliaetus*), white-tailed kite (*Elanus leucurus*), white-faced ibis (*Pandion haliaetus*), and double-crested cormorant (*Phalacocorax auritis*) were observed foraging within the Survey Area and are considered to have low or no potential to nest within the Survey Area due to limited or no suitable nesting habitat. Lawrence's goldfinch (*Spinus lawrencei*), Allen's hummingbird (*Selasphorus sasin*), northern harrier (*Circus cyaneus*), Cooper's hawk (*Accipiter cooperii*), Nuttall's woodpecker (*Picoides nuttallii*), yellow-breasted chat (*Icteria virens*), and yellow warbler (*Dendroica petechia*) are determined to have a moderate potential to nest within the Survey Area. The Clark's marsh wren (*Cistothrous palustris clarkae*) and southern California rufous-crowned sparrow (*Aimophila ruficeps canescens)* have a high potential to nest within the Survey Area. Only coastal California

Table 4.4-2: Special-Status Plant Species' Potential to Occur

Species Name	Listing Status[6]	Bloom Period	Habitat	Potential to Occur[7]
Baja California birdbush (*Ornithostaphylos oppositifolia*)	--/CE/2B.1	January-April	This species is a perennial evergreen shrub. It is typically found in chaparral habitat at elevations between 328 and 2,624 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is not expected to occur within the Survey Area. **Absent**
Beach goldenaster (*Heterotheca sessiliflora* ssp. *sessiliflora*)	--/--/1B.1	March-December	This species is an herbaceous perennial. It is commonly found on beaches, dunes, and mud flats below 197 feet.	The Survey Area is within the elevation range of the species, but specific micro-habitat appears to be lacking. This species was not observed during the focused surveys and is not expected to occur within the Survey Area. **Absent**
California adolphia (*Adolphia californica*)	--/--/2B.1	December-May	This species is a perennial deciduous shrub. It occurs in clay, coastal scrub, chaparral, and valley and foothill habitats. California adolphia can be found at elevations between 148 and 2,427 feet.	This species is present within the Survey Area. **Present**
California Orcutt grass (*Orcuttia californica*)	FE/CE/1B.1	April-August	This species is an annual herb. It is found growing in vernal pool habitats at elevations between 49 and 2,363 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys, and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Chaparral ragwort (*Senecio aphanactis*)	--/--/2B.2	January-April	This species is an annual herb. It is found growing in chaparral, coastal scrub, cismontane woodland, and sometimes in alkaline habitats at elevations between 49 and 2,600 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Cliff spurge (*Euphorbia misera*)	--/--/2B.2	December-August	This species is a perennial shrub. This euphorb is found on rocky slopes and coastal bluffs in coastal and desert scrub below 1,640 feet.	This species is present within the Survey Area and in immediately adjacent areas. **Present**

[6] This column lists federal/state/CNPS CRPR coverage. A dash (--) indicates that the species is not listed.

Federal listing codes:

FE: Federally listed as Endangered
FT: Federally listed as Threatened

California listing codes:

CE: State-listed as Endangered
CT: State-listed as Threatened
CR: State-listed as Rare

CRPR:

1B.1: Rare, threatened, or endangered in California or elsewhere; seriously threatened in California
1B.2: Rare, threatened, or endangered in California or elsewhere; fairly threatened in California
1B.3: Rare, threatened, or endangered in California or elsewhere; not very threatened in California
2B.1: Rare, threatened, or endangered in California only; seriously threatened in California
2B.2: Rare, threatened, or endangered in California only; fairly threatened in California
2B.3: Rare, threatened, or endangered in California only; not very threatened in California
3.1: Plants that are on a review list and require additional information
4.1: Uncommon in California; seriously threatened in California
4.2: Uncommon in California; fairly threatened in California
4.3: Uncommon in California; not very threatened in California

[7] Source: Attachment 4.4–A: Biological Technical Report

Species Name	Listing Status[6]	Bloom Period	Habitat	Potential to Occur[7]
Coast woolly-heads (*Nemacaulis denudata* var. *denudata*)	--/--/1B.2	April-September	This species is an annual herb. It occurs on coastal dunes below 328 feet.	The Survey Area is within the elevation range of the species, but specific micro-habitat appears to be lacking. This species was not observed during the focused surveys and is not expected to occur within the Survey Area. **Absent**
Coulter's saltbush (*Atriplex coulteri*)	--/--/1B.2	March-October	This species is a perennial herb. It often grows in alkaline or clay soils, coastal dunes, coastal scrub, and coastal bluff scrub. Coulter's saltbrush can be found at elevations below 1,500 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	--/--/1B.1	February-June	This species is an annual herb. It is almost always found in areas with seasonal water accumulation, including vernal pools, marshes, and swamps below 3,281 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Dean's milk vetch (*Astragalus deanei*)	--/--/1B.1	February-May	This species is a perennial herb. It occurs in chaparral, cismontane woodland, coastal scrub, and riparian forest habitats. It can be found at elevations between 250 and 2,280 feet.	Habitat for this species occurs on site and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)	--/--/1B.2	April-November	This species is a perennial shrub. This variety of goldenbush favors hillsides and arroyos in sandy soils in coastal scrub, grassland, and disturbed habitat	This species is present within the Survey Area and in immediately adjacent areas. **Present**
Delicate clarkia (*Clarkia delicata*)	--/--/1B.2	April-June	This species is an annual herb. It often grows in gabbroic soils in chaparral and cismontane woodland. Delicate clarkia can be found at elevations between 770 and 3,280 feet.	The Survey Area is within the elevation range of the species, but specific micro-habitat appears to be lacking. This species was not observed during the focused surveys and is not expected to occur within the Survey Area. **Absent**
Dunn's mariposa-lily (*Calochortus dunnii*)	--/CR/1B.2	April-June	This species is a perennial, bulbiferous herb. It occurs in gabbroic or metavolcanic soils and rocky, closed-cone, coniferous forest, chaparral, and valley and foothill grassland. Dunn's mariposa-lily can be found at elevations between 600 and 6,000 feet.	Suitable habitat occurs on site and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Encinitas baccharis (*Baccharis vanessae*)	FT/CE/1B.1	August-November	This species is a perennial deciduous shrub. It occurs in chaparral (maritime) and cismontane woodland habitats. Encinitas baccharis can be found at elevations between 200 and 2,360 feet.	Suitable habitat occurs on site and is within the elevation range of the species. However, this species was not observed during the focused surveys and is not expected to occur within the Survey Area. **Absent**
Gander's pitcher sage (*Lepechinia ganderi*)	--/--/1B.3	June-July	This species is a perennial shrub. It grows in gabrroic or metavolcanic soils in closed-cone coniferous forest and chaparral, coastal scrub, and valley and foothill grassland habitats. Gander's pitcher sage can be found at elevations between 1,000 and 3,300 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is not expected to occur within the Survey Area. **Absent**

Species Name	Listing Status[6]	Bloom Period	Habitat	Potential to Occur[7]
Golden-spined cereus (*Bergerocactus emoryi*)	--/--/2B.2	May-July	This species is a perennial stem succulent. It occurs in closed-cone coniferous forest, chaparral, and coastal scrub. Golden-spined cereus can be found at elevations between 10 and 1,300 feet.	This species is present in the Survey Area. **Present**
Jennifer's monardella (*Monardella stoneana*)	--/--/1B.2	June-September	This species is a perennial herb. It grows in rocky, intermittent streambeds within closed-cone coniferous forest, chaparral coastal scrub, and riparian scrub habitats. Jennifer's monardella occurs at elevations between 30 and 2,600 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is not expected to occur in the Survey Area. **Absent**
Lakeside ceanothus (*Ceanothus cyaneus*)	--/--/1B.2	April-June	This species is an evergreen shrub. It occurs in sandy or rocky openings of closed-cone coniferous forests and chaparral habitats. Lakeside ceanothus can be found at elevations between 770 and 2,550 feet.	Suitable habitat occurs on site and is within the elevation range of the species. This species is restricted to a small area near Lakeside in San Diego County. However, this species was not observed during the focused surveys and is not expected to occur in the Survey Area. **Absent**
Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*)	--/--/1B.2	April-July	This species is an annual herb. It occurs in clay soils of chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Long-spined spineflower can be found at elevations between 100 and 5,020 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Mexican flannelbush (*Fremontodendron mexicanum*)	FE/CR/1B.1	March-June	This species is a Perennial shrub. It is found growing in cismontane woodland, chaparral, and closed cone conifer forest habitats at elevations between 33 and 2,349 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this was not observed during the focused surveys and is not expected to occur in the Survey Area. **Absent**
Mud nama (*Nama stenocarpum*)	--/--/2B.2	January-July	This species is an annual/perennial herb. It is found growing in marsh and swamp habitats (e.g., lake margins and riverbanks) at elevations between 16 and 1,640 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Munz's sage (*Salvia munzii*)	--/--/2B.2	February-April	This species is a perennial shrub. This sage species is typically found in coastal sage scrub and chaparral habitats below 2,625 feet.	This species is present within the Survey Area and in immediately adjacent areas. **Present**
Nuttall's acmispon (*Acmispon prostratus*)	--/--/1B.1	March-July	This species is an annual herb. It occurs in coastal scrub (sandy) and coastal dune habitats. Nuttall's acmispon can be found at elevations less than 33 feet.	No suitable habitat for this species occurs within the Survey Area, and it was not observed during focused surveys. This species is presumed absent from the Survey Area. **Absent**
Nuttall's scrub oak (*Quercus dumosa*)	--/--/1B.1	February-August	This species is a perennial evergreen shrub. It is found growing in sandy, clay loam, closed-cone coniferous forest, chaparral, and coastal scrub habitats at elevations between 49 and 1,300 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. Historical records show this species has occurred within the Survey Area. This species was not observed during the focused surveys and is not expected to occur in the Survey Area. **Absent**

Species Name	Listing Status[6]	Bloom Period	Habitat	Potential to Occur[7]
Orcutt's bird's-beak (*Dicranostegia orcutti*ana)	--/--/2B.1	March-September	This species is an annual herb. It typically occurs in coastal scrub habitats at elevations below 1,148 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Orcutt's brodiaea (*Brodiaea orcuttii*)	--/--/1B.1	May-July	This species is an annual herb. It occurs in grassland near streams and vernal pools. Orcutt's brodiaea can be found at elevations between 98 and 5,560 feet.	Suitable habitat occurs on site and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Otay manzanita (*Arctostaphylos otayensis*)	--/--/1B.2	January-April	This species is a perennial evergreen shrub. It occurs in metavolcanic, chaparral, and cismontane woodland habitats. Otay manzanita can be found at elevations below 1,300 feet.	This species is present within the Survey Area and in immediately adjacent areas. **Present**
Otay mesa mint (*Pogogyne nudiuscula*)	FE/CE/1B.1	May-July	This species is a perennial herb. It often grows in clay soils within vernal pool habitats. Otay Mesa mint can be found at elevations between 295 and 820 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. Historical records show this species has occurred within the Survey Area. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Otay Mountain ceanothus (*Ceanothus otayensis*)	--/--/1B.2	January-April	This species is an evergreen shrub. It occurs on rocky slopes in chaparral habitats at elevations between 394 and 3,609 feet.	This species is present within the Survey Area and in immediately adjacent areas. **Present**
Otay tarplant (*Deinandra conjugens*)	FT/CE/1B.1	May-June	This species is an annual herb. It grows on clay soils within coastal scrub and valley and foothill grassland habitats. It is found at elevations between 80 and 980 feet.	This species is present within the Survey Area and in immediately adjacent areas. A portion of the Proposed Project area is located within USFWS critical habitat for this species. **Present**
Palmer's goldenbush (*Ericameria palmeri* var. *palmeri*)	--/--/1B.1	July - November	This species is a perennial, evergreen shrub. It is found in mesic soils within chaparral and coastal scrub habitats. The elevation range of this species ranges between 98 and 1,970 feet amsl.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. Historical records show this species has been observed within one mile of the Main Street Staging Yard. However, this species was not observed during the focused surveys and is not expected to occur in the Survey Area. **Absent**
Parry's tetracoccus (*Tetracoccus dioicus*)	--/--/1B.2	April - May	This species is a perennial shrub. It is found on dry, stony slopes. Its habitat includes chaparral and coastal scrub at elevations between 500 feet and 3,300 feet amsl.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. Historical records show this species has occurred within five miles of the Survey Area. This species was not observed during the focused surveys and is not expected to occur within the Survey Area. **Absent**

Species Name	Listing Status[6]	Bloom Period	Habitat	Potential to Occur[7]
Purple stemodia (*Stemodia durantifolia*)	--/--/2B.1	Year-round	This species is a perennial herb. It can be found in Sonoran desert scrub, often on mesic, sandy soils at elevations between 591 and 984 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. Historical records show this species has occurred within the Survey Area. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Round-leaved filaree (*California macrophylla*)	--/--/1B.1	March-May	This species is an annual herb. It occurs in cismontane woodland and valley and foothill grassland habitats. Round-leaved filaree can be found at elevations between 50 and 3,930 feet.	Suitable habitat occurs on site and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent within the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Salt marsh bird's-beak (*Chloropyron maritimum* subsp. *maritimum*)	FE/CE/1B.2	May-October	This species is an annual herb. This federally listed endangered species is associated with coastal salt marshes in elevations below 33 feet.	The Survey Area is marginally within the species' range, but habitat is lacking. This species was not observed during the focused surveys and is not expected to occur in the Survey Area. **Absent**
San Diego ambrosia (*Ambrosia pumila*)	FE/--/1B.1	April-October	This species is a perennial rhizomatous herb. It occurs in disturbed areas, chaparral, coastal scrub, valley and foothill grassland, and vernal pool habitats, and can be found at elevations below 1,360 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. Historical records show this species has occurred within the Survey Area. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
San Diego barrel cactus (*Ferocactus viridescens*)	--/--/2B.1	May-June	This species is a stem succulent. This barrel cactus species grows in sandy and rocky areas within chaparral, coastal sage scrub, vernal pools, and valley grassland habitats at elevations between 10 and 1,476 feet.	This species is present within the Survey Area and in immediately adjacent areas. **Present**
San Diego bur sage (*Ambrosia chenopodiifolia*)	--/--/2B.1	April-June	This species is a perennial shrub. It occurs in coastal scrub and can be found at elevations between 180 and 508 feet.	This species is present within the Survey Area. **Present**
San Diego button-celery (*Eryngium aristulatum* var. *parishii*)	FE/CE/1B.1	April-June	This species is an annual/perennial herb. It can be found in mesic soils of coastal scrub, valley and foothill grassland, and vernal pools. San Diego button-celery can be found at elevations between 65 and 2,034 feet.	This species is present within the Survey Area and in immediately adjacent areas. **Present**
San Diego goldenstar (*Bloomeria clevelandii*)	--/--/1B.1	April-May	This species is a perennial bulbiferous herb. It occurs in chaparral, valley and foothill grassland, coastal scrub, and vernal pool habitats. It can be found at elevations between 164 and 1,525 feet.	This species is present within the Survey Area and in immediately adjacent areas. **Present**
San Diego marsh-elder (*Iva hayesiana*)	--/--/2B.2	April-October	This species is a perennial herb and is associated with streambeds, depressions, and alkaline sinks. San Diego marsh-elder can be found at elevations between 33 and 1,640 feet.	This species is present within the Survey Area and in immediately adjacent areas. **Present**

Species Name	Listing Status[6]	Bloom Period	Habitat	Potential to Occur[7]
San Diego thorn-mint (*Acanthomintha ilicifolia*)	FE/--/ 1B.1	April-June	This species is an annual herb. It occurs in vernal pools, clay, openings, chaparral, valley and foothill grassland, and coastal sage scrub habitats, and can be found at elevations between 33 and 3,150 feet.	Suitable habitat occurs within the Survey Area, and the upper reaches of the site are within the elevation range of the species. However, this species was not observed during focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
San Miguel savory (*Clinopodium chandleri*)	--/--/1B.2	March-July	This species is a perennial herb. It is often found growing on rocky slopes in chaparral habitats below 3,609 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this perennial species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Santa Catalina Island currant (*Ribes viburnifolium*)	--/--/1B.2	February-April	This species is a perennial evergreen shrub. This currant species can be found growing in chaparral and forest openings at elevations between 98 and 1,969 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is not expected to occur within the Survey Area. **Absent**
Singlewhorl burrobush (*Ambrosia monogyra*)	--/--/2B.1	August-November	This species is a perennial shrub. It occurs in sandy, chaparral, and Sonoran desert scrub habitats, and can be found at elevations between 36 and 1,640 feet.	This species is present within the Survey Area. **Present**
Small-leaved rose (*Rosa minutifolia*)	--/CE/1B.1	January-June	This species is a perennial deciduous shrub. It is found growing in chaparral and coastal scrub habitats at elevations between 492 and 525 feet.	This species is present within the Survey Area and in immediately adjacent areas. **Present**
Snake cholla (*Cylindropuntia californica*)	--/--/1B.1	April-May	This species is a perennial stem succulent. This cactus species is almost always found on the coast in chaparral and sage scrub habitats. Snake cholla typically occurs at elevations below 820 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is not expected to occur within the Survey Area. **Absent**
South coast saltscale (*Atriplex pacifica*)	--/--/1B.2	March-October	This species is an annual herb. It occurs in coastal bluff scrub, dunes, and playa habitats. South coast saltscale can be found at elevations below 460 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Spreading navarretia (*Navarretia fossalis*)	FT/--/1B.1	April-June	This species is an annual herb. It is found growing in chenopod scrub, marsh/swamp, playa, and vernal pool habitats at elevations between 98 and 2,040 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is presumed absent from the Survey Area. It should be noted that surveys were conducted during a sustained drought and this species may occur during periods of sufficient rainfall. **Presumed absent**
Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)	--/--/1B.2	April-June	This species is an evergreen shrub that occurs in chaparral habitats at elevations between 328 and 1,804 feet.	Suitable habitat occurs within the Survey Area and is within the elevation range of the species. However, this species was not observed during the focused surveys and is not expected to occur in the Survey Area. **Absent**

Species Name	Listing Status[6]	Bloom Period	Habitat	Potential to Occur[7]
Tecate cypress (*Hesperocyparis forbesii*)	--/--/1B.1	Not Applicable (NA)	This species is a perennial, evergreen tree. It often grows in clay, gabrroic, or metavolcanic soils in closed-cone coniferous forest and chaparral habitats. Tecate cypress can be found at elevations between 840 and 4,900 feet.	This species is present within the Survey Area and in immediately adjacent areas. **Present**
Variegated dudleya (*Dudleya variegata*)	--/--/1B.2	April-June	This species is a perennial herb. It is found in heavy clay soils within chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pool habitats at elevations between 10 and 1,900 feet	This species is present within the Survey Area and in immediately adjacent areas. **Present**
Wart-stemmed ceanothus (*Ceanothus verrucosus*)	--/--/2B.2	January-April	This species is an evergreen shrub that occurs on rocky slopes in chaparral habitats at elevations below 1,148 feet.	Suitable habitat occurs on site and is within the elevation range of the species. However, this species was not observed during the focused surveys and is not expected to occur in the Survey Area. **Absent**

Table 4.4-3: Special-Status Plant Species Observations within the Survey Area

Species Name	Listing Status[8]	Total Observed
Ashy spike-moss	--/--/4.1	2,500+ (Species too abundant to count)
California adolphia	--/--/2B.1	16
Cliff spurge	--/--/2B.2	17
Decumbent goldenbush	--/--/1B.2	1,556
Golden-spined cereus	--/--/2B.2	184
Graceful tarplant	--/--/4.2	165
Munz's sage	--/--/2B.2	2,008
Otay manzanita	--/--/1B.2	1
Otay Mountain ceanothus	--/--/1B.2	1
Otay tarplant	FE/CE/1B.1	49
Palmer's grapplinghook	--/--/4.2	221
San Diego barrel cactus	--/--/2B.1	361
San Diego bur sage	--/--/2B.1	173
San Diego button-celery	FE/CE/1B.1	82
San Diego County viguiera	--/--/4.2	2,500+ (Species too abundant to count)
San Diego goldenstar	--/--/1B.1	33
San Diego marsh-elder	--/--/2B.2	1,149
San Diego sagewort	--/--/4.2	21
Singlewhorl burrobush	--/--/2B.1	1,735
Small-flowered morning-glory	--/--/4.2	169
Small-leaved rose	--CE/1B.1	20
Southwestern spiny rush	--/--/4.2	12,500+ (Species too abundant to count)
Tecate cypress	--/--/1B.1	1,033
Variegated dudleya	--/--/CRPR List 1B.2	302

Source: Biological Technical Report (Chambers 2015)

[8] This column lists federal/state/CNPS CRPR status, which is described further in Table 4.4-2: Special-Status Plant Species' Potential to Occur. A dash (--) indicates that the species is not listed.

gnatcatcher and least Bell's vireo were confirmed to be both foraging and breeding within the Proposed Project Survey Area.

Of the species for which focused or protocol-level surveys were conducted, only coastal California gnatcatcher and least Bell's vireo were observed within the Survey Area. Foraging southwestern willow flycatcher and coastal cactus wren were observed in suitable habitat adjacent to but outside of the Survey Area. Detailed results of the focused surveys are included as Appendices G, H, I, and J in Attachment 4.4–A: Biological Technical Report.

Critical Habitat

To the extent prudent and determinable under the FESA, the USFWS is required to designate critical habitat for endangered and threatened species (16 U.S.C. § 1533 (a)(3)). Critical habitat is defined as areas of land, water, and air space containing the physical and biological features essential for the survival and recovery of endangered and threatened species. Critical habitat is designated by identifying areas that possess the physical or biological features essential to the conservation of a species, also known as the primary constituent elements. Designated critical habitat includes sites for breeding and rearing, movement or migration, feeding, roosting, cover, and shelter.

Designated critical habitat requires special management and protection of existing resources, including water quality and quantity, host animals and plants, food availability, pollinators, sunlight, and specific soil types. The critical habitat designation delineates all suitable habitat, occupied or not, essential to the survival and recovery of the species.

The locations of USFWS critical habitat areas for listed species were evaluated using GIS data relative to the Survey Area. Four USFWS-designated critical habitat areas were identified within the Survey Area, and are shown in Figure 3: USFWS Mapped Critical Habitat of Attachment 4.4–A: Biological Technical Report. The following four species have critical habitat in the Proposed Project area:

Coastal California gnatcatcher: Critical habitat for coastal California gnatcatcher occurs throughout much of the east-west portion of the Proposed Project area. However, the USFWS designation of critical habitat for the coastal California gnatcatcher specifically excludes areas within functioning HCPs, including SDG&E ROW within the SDG&E Subregional NCCP. Since the Proposed Project is in SDG&E ROW within SDG&E's NCCP, the Proposed Project is not located in critical habitat for coastal California gnatcatcher.

- **San Diego fairy shrimp:** Fourteen pole locations are located within critical habitat for San Diego fairy shrimp. These include pole locations 83 through 86 and 88 through 97.

- **QCB:** Seventeen pole locations are located within critical habitat for QCB. These include locations 80 through 88 and 98 through 105.

- **Otay tarplant:** Sixty-seven pole locations are located within critical habitat for Otay tarplant. These include pole locations 8 through 10, 14, 16, 17 through 26, 28 through 32, 39 through 44, and 46 through 79.

Table 4.4-4: Special-Status Wildlife Species' Potential to Occur

Species Name	Listing Status[9]	Habitat Requirements	Potential to Occur
CLASS MAMMALIA			
American badger (*Taxidea taxus*)	--/SSC/--	This species is most abundant in drier, open stages of most shrub, forest, and herbaceous habitats. American badgers need sufficient food, friable soils, and open, uncultivated ground. They prey on burrowing rodents and dig burrows themselves.	CNDDB lists one record of occurrence within five miles of the Proposed Project, approximately 12,814 feet from the Proposed Project. Marginal quality habitat for this species exists within the Survey Area**.** **Moderate**
Hoary bat (*Lasiurus cinereus*)	--/--/WBWG medium-priority species	This species prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Hoary bats roost in dense foliage of medium to large trees. They feed primarily on moths and require water.	Although CNDDB lists one record of occurrence within five miles of the Proposed Project (approximately 22,471 feet from the Proposed Project), the Survey Area contains low-quality roosting habitat to support this species. **Low**
Long-eared myotis (*Myotis evotis*)	--/--/WBWG medium-priority species	This species occurs primarily in coniferous forests at elevations between 7,000 and 9,600 feet. Their diet consists of insects and moths.	CNDDB lists one record of occurrence within five miles of the Proposed Project (approximately 21,703 feet from the Proposed Project), and the Survey Area contains low-quality roosting habitat to support this species. **Low**
Mexican long-tongued bat (*Choernycteris mexicana*)	--/SSC/WBWG high-priority species	This species occurs in a variety of habitats, such as desert and montane riparian, chaparral, and woodlands. Mexican long-tongues bat feeds primarily on nectar, and may also consume fruit juices and pollen.	CNDDB lists one record of occurrence within five miles of the Proposed Project (approximately 22,471 feet from the Proposed Project), and the Survey Area contains low-quality roosting habitat to support this species. **Low**
Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)	--/SSC/--	This species occurs in chaparral, sage scrubs, and grasslands with rocks and coarse gravel. Northwestern San Diego pocket mouse is primarily granivorous; however, it will also consume green vegetation and insects.	CNDDB lists two records of occurrence within five miles of the Proposed Project, with the closest being approximately 570 feet from the Proposed Project. Marginal quality habitat for this species exists within the Survey Area. **Moderate**
Pacific pocket mouse (*Perognathus longimembris pacificus*)	FE/SSC/--	This species occurs in coastal sage scrub dominated by sagebrush and maritime chaparral sage scrub; it requires loose sandy soils within the immediate vicinity of the Pacific Ocean. This species' diet ranges from seeds, forbs, and arthropods.	This species is considered extirpated from southern San Diego. As a result, Pacific pocket mouse is considered absent from the Survey Area. **Absent**
Pallid bat (*Antrozous pallidus*)	--/SSC/WBWG high-priority species	This species inhabits elevations below 6,000 feet and rocky, arid deserts and canyon lands, shrub-steppe grasslands, karst formations, and higher-elevation coniferous forests. Pallid bats are most common in open, dry habitats with rocky areas for roosting; these roosts must protect the bats from high temperatures. This species is very sensitive to the disturbance of roosting sites.	CNDDB lists four records of occurrence within five miles of the Proposed Project, the closest is approximately 15,880 feet from the Proposed Project. In addition, the Survey Area contains low-quality roosting habitat to support this species. **Low**

[9] Federal/State/Other list or Coverage under either the SDG&E Subregional NCCP or the Low-Effect HCP for QCB. A dash (--) indicates that the species is not listed.

Federal listing codes:

FE: Federally listed as Endangered
FT: Federally listed as Threatened
FC: Federally listed as Candidate
BCC: Bird of Conservation Concern
FSS: Forest Service Sensitive

California listing codes:

CE: State-listed as Endangered
CT: State-listed as Threatened
CR: State-listed as Rare
FP: Fully Protected Species
SSC: Species of Special Concern
WL: California Watch List Species

Other listing codes:

WBWG: Western Bat Working Group

Species Name	Listing Status[9]	Habitat Requirements	Potential to Occur
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	--/SSC/WBWG medium priority species	This species occurs in pinyon-juniper habitats and a wide variety of desert habitats, such as alkali desert scrub, desert succulent scrub, and desert washes. It forages over open water for moths, flies, lacewings, and other insects.	CNDDB lists three records of occurrence within five miles of the Proposed Project, the closest being approximately 2,801 feet from the Proposed Project.[10] However, the Survey Area contains low-quality roosting habitat to support this species. **Low**
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	--/SSC/--	This species is found in intermediate canopy stages of shrub habitats and open shrub/herbaceous and tree/herbaceous edges in coastal sage scrub habitats in Southern California	This species was observed within the Survey Area. CNDDB lists 11 records of occurrence within five miles of the Proposed Project, with the closest occurrence 214 feet from the Proposed Project. **Present**
San Diego desert woodrat (*Neotoma lepida intermedia*)	--/SSC/--	This species occurs in coastal scrub of Southern California from San Diego County to San Luis Obispo County. It prefers moderate to dense canopies, particularly abundant in rock outcrops and rocky cliffs and slopes.	CNDDB lists one record of occurrence within five miles of the Proposed Project (approximately 570 feet from the Proposed Project), and the Survey Area contains moderate-quality suitable habitat to support this species. **Moderate**
Townsend's big-eared bat (*Corynorhinus townsendii*)	--/SSC/WBWG high-priority species/--	This species is found in all habitats except alpine, and it is elusive and rare throughout its range. Its diet primarily consists of moths.	CNDDB lists one record of occurrence within five miles of the Proposed Project (approximately 21,703 feet from the Proposed Project). However, the Survey Area contains low-quality roosting habitat to support this species. **Low**
Western mastiff bat (*Eumops perotis*)	--/SSC/WBWG high-priority species	This species occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. They roost in crevices in cliff faces, high buildings, trees, and tunnels.	CNDDB lists three records of occurrence within five miles of the Proposed Project, the closest is approximately 2,801 feet from the Proposed Project.[10] However, the Survey Area contains low-quality roosting habitat to support this species. **Low**
Western red bat (*Lasiurus blossevillii*)	--/SSC/WBWG high-priority species	This species occurs in edge areas near streams and open fields, far from humans. Western red bat is primarily insectivorous, and consumes moths, crickets, cicadas, and beetles.	CNDDB lists one record of occurrence within five miles of the Proposed Project and approximately 2,801 feet from the Proposed Project.[10] The Survey Area contains suitable roosting habitat along the edges of streams to support this species; however, no bat hibernaculum will be permanently affected. **Moderate**
Western small-footed myotis (*Myotis ciliolabrum*)	--/--/WBWG medium-priority species	This species occurs in a wide variety of habitats, such as open grasslands, canyons, and woodlands. Moths and beetles make up most of this species' diet.	CNDDB lists two records of occurrence within five miles of the Proposed Project, and the closest is approximately 2,801 feet from the Proposed Project.[10] However, the Survey Area contains low-quality roosting habitat to support this species. **Low**
Yuma myotis (*Myotis yumanensis*)	--/--/WBWG Low-Medium Priority	This species is found in various habitat types, though it is most closely associated with open woodlands near large, open water sources. Yuma myotis feeds over water sources for moths, caddisflies, midges, and termites.	CNDDB lists six records of occurrence within five miles of the Proposed Project, with the closest occurrence approximately 2,801 feet from the Proposed Project.[10] However, the Survey Area contains low-quality roosting habitat to support this species. **Low**
CLASS AVES			
Allen's hummingbird (*Selasphorus sasin*)	BCC/--/--	This species occurs in coastal chaparral, open riparian woodlands below 1,000 feet in elevation, mixed evergreen, and oak woodlands. Allen's hummingbird prefers open habitats near the coast and along the forest edge. It feeds on floral nectar and small insects. This species will nest in trees or shrubs, placing their nests 1 to 50 feet off the ground.	This species was observed foraging within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project, and there is marginal quality nesting habitat present within the Survey Area. **Present (foraging)/Moderate (nesting)**

[10] One CNDDB occurrence documented on July 15, 2003 noted the following five species of bats in the same location (2,801 feet from the Proposed Project): pocketed free-tailed bat, western mastiff bat, western red bat, western small-footed myotis, and Yuma myotis.

Species Name	Listing Status[9]	Habitat Requirements	Potential to Occur
Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)	CE/--/--	This species is a year-round resident of the coastal salt marshes of Southern California. Belding's savannah sparrow primarily nests in pickleweed (*Salicornia virginica*) and is ecologically associated with dense patches of pickleweed. Its diet consists of insects, seeds, and grasses.	CNDDB lists three records of occurrence within five miles of the Proposed Project, with the closest observation being approximately 20,882 feet from Proposed Project. However, no suitable nesting habitat occurs within or immediately adjacent to the Survey Area. **Absent**
Bell's sage sparrow (*Artemisiospiza belli belli*)	BCC/WL/--	This species is a year-round resident in chaparral dominated by chamise (*Adenostoma fasciculatum*), as well as coastal scrub dominated by sage. Bell's sage sparrow is predominantly insectivorous, but also consumes seeds and green foliage. It typically builds nests on the ground, beneath shrubs.	CNDDB lists one record of occurrence approximately 25,102 feet from the Proposed Project. Marginal quality habitat for this species occurs within sage dominant coastal sage scrub habitats, however the chamise dominated communities preferred by this species were not observed. **Moderate (foraging/nesting)**
Burrowing owl (*Athene cunicularia*)	--/SSC/--	This species occurs in open, dry annual or perennial grasslands, deserts, and scrub characterized by low-growing vegetation. It is a subterranean nester and is dependent on burrowing mammals, most notably the California ground squirrel (*Otospermophilus beecheyi*).	CNDDB lists 17 records of occurrence within five miles of the Proposed Project with three records within 1,500 feet of the Proposed Project. The Survey Area contains good-quality habitat for burrowing owl. This species was not observed during focused surveys conducted by Chambers in 2014. **High (foraging/nesting)**
California black rail (*Laterallus jamaicensis conturniculus*)	BCC/FP/--	This species occurs in tidal emergent wetlands, salt marshes, freshwater marshes, and wet meadows. Its diet mainly consists of small aquatic and terrestrial invertebrates.	CNDDB lists one record of occurrence within five miles of the Proposed Project. This record was documented in 1908, and is located approximately 25,676 feet from the Proposed Project. This species is considered extirpated from San Diego and the last known breeding records are from the 1950s. **Absent**
California horned lark (*Eremophila alpestris actia*)	--/WL/--	This species occurs in open habitats with sparse vegetation, such as prairies, deserts, and agricultural lands. Its diet consists of weed and grass seeds and the occasional invertebrate.	This species was observed foraging within the Survey Area. CNDDB lists one record of occurrence within five miles of the Proposed Project. This observation was approximately 12,959 feet from the Proposed Project. High quality nesting habitat for this species occurs within the Survey Area. **Present (foraging)/High (nesting)**
California least tern (*Sternula antillarum browni*)	FE/CE/--	This species occurs in marine estuaries, bays, and near-shore marine waters. California least tern feeds on small fish caught in estuaries and lagoons where the water is shallow. Its nests are shallow depressions made on sandy or gravelly substrate.	CNDDB lists one record within five miles of the Proposed Project, and specifically approximately 24,000 feet from the Proposed Project. This species is determined to be absent from the Survey Area for nesting, as it requires specific habitat conditions for nesting that are not present. **Low (foraging)/Absent (nesting)**
Clark's marsh wren (*Cistothrous palustris clarkae*)	--/SSC/--	This species occurs in emergent wetland habitat dominated by cattails, bulrushes, and sedges. Its diet primarily consists of insects, spiders, and invertebrates gleaned from vegetation.	This species was observed foraging within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project. However, there is high quality nesting habitat in a wetland within the Survey Area. **Present (foraging)/High (nesting)**
Coastal cactus wren (*Campylorhynchus brunneicapillus*)	BCC/SSC/--	This species occurs in coastal sage scrub interlaced with patches of opuntia. Its diet is primarily insectivorous, and it forages on the ground for prey items, such as caterpillars, moths, and grasshoppers.	CNDDB lists 15 records of occurrence within five miles of the Proposed Project, and two are less than 1,000 feet from the Proposed Project. This species was not observed during focused surveys conducted by Chambers in 2014. Low quality nesting habitat for this species was observed to occur within the Survey Area. **Moderate (foraging)/Low (nesting)**

Species Name	Listing Status[9]	Habitat Requirements	Potential to Occur
Coastal California gnatcatcher (*Polioptila californica californica*)	FT/SSC/--	This species is an obligate, permanent resident of coastal sage scrub below 2,500 feet in elevation in Southern California. It is found in low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	CNDDB lists 31 records of occurrence of this species within five miles of the Proposed Project. Two of these observations were within 1,000 feet of the Proposed Project. USFWS species occurrence data lists 623 records of occurrence within five miles of the Proposed Project. Three of these observations were within the Survey Area. In addition, the Survey Area contains good-quality, suitable habitat. The USFWS designation of critical habitat for the coastal California gnatcatcher specifically excludes SDG&E right-of-way within SDG&E's NCCP. Since the Proposed Project is in SDG&E right-of-way within SDG&E's NCCP, the Proposed Project is not located in critical habitat for coastal California gnatcatcher. During the 2014 focused surveys, approximately 30 pairs of gnatcatchers were observed within the Survey Area. **Present (foraging)/Present (nesting)**
Cooper's hawk (*Accipiter cooperii*)	--/WL/--	Cooper's hawk (nesting) is a California SSC. This species occurs as a migrant and/or resident over most of the U.S. from southern Canada to northern Mexico.	This species was observed within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project. Suitable nesting habitat for this species is limited within the Survey Area. **Present (foraging)/Moderate (nesting)**
Double-crested cormorant (*Phalacocorax auritis*)	--/WL (nesting colony)/--	This species is found along the California coast, on inland lakes, and in fresh, salt, and estuarine waters throughout the year. Double-crested cormorants feed primarily on fish, and will rarely eat crustaceans, amphibians, or insects.	CNDDB lists no records of occurrence within five miles of the Proposed Project. This species is presumed absent from the Survey Area, as it has special habitat restrictions that are not present within the Survey Area. **Absent**
Grasshopper sparrow (*Ammodramus savannarum perpallidus*)	--/SSC/--	This species is found in most coastal counties, along the western side of the Sacramento Valley, and in the western foothills of the Sierra Nevada Mountains. It prefers breeding habitat comprised of open grasslands, preferably with bunch grass (versus sod-type) as the predominant cover; however, through much of California, non-native annual grasslands and agricultural fields are used in the absence of native bunch-grass ecosystems.	This species was observed foraging within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project. High quality nesting habitat for this species was observed to occur within the Survey Area. **Present (foraging)/High (nesting)**
Lawrence's goldfinch (*Spinus lawrencei*)	BCC/--/--	This species occurs in a broad range of habitats, such as open woodlands, chaparral, desert riparian, and lower montane habitats. It gleans vegetation and ground for seeds, and its preferred seeds include, pigweed, fiddleneck, starthistle, and chamise.	This species was observed foraging within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project. Moderate quality nesting habitat for this species was observed to occur within the Survey Area. **Present (foraging)/Moderate (nesting)**
Least Bell's vireo (*Vireo bellii pusillus*)	FE/CE/--	This species occurs in early successional habitats along rivers with low, dense vegetation. Its diet consists of insects and spiders.	This species was documented foraging and nesting within the Survey Area. CNDDB lists 14 records of occurrence of this species within five miles of the Proposed Project. One of these occurrences was documented within the Survey Area. In addition, the Survey Area contains good-quality, suitable habitat. **Present (foraging/nesting)**
Light-footed clapper rail (*Rallus longirostris levipes*)	FE/CE/--	This species is found year-round in coastal wetlands and brackish areas. It gleans for crabs, mussels, clams, insects, spiders, and worms in areas with high vegetation in the marsh.	CNDDB lists four records of occurrence of this species within five miles of the Proposed Project (all more than 20,000 feet from the Proposed Project). However, the Survey Area contains low-quality habitat to support this species and no suitable nesting habitat. **Low (foraging)/Absent (nesting)**
Northern harrier (*Circus cyaneus*)	--/SSC/--	This species occurs in a wide variety of habitats, with wetlands, marshes, fields, and grasslands being the most common. It preys on small mammals, reptiles, amphibians, and birds.	This species was observed foraging within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project. Moderate quality habitat for nesting occurs within the Survey Area. **Present (foraging)/Moderate (nesting)**

Species Name	Listing Status[9]	Habitat Requirements	Potential to Occur
Nuttall's woodpecker (*Picoides nuttallii*)	BCC/--/--	This species occurs in low-elevation riparian deciduous and oak woodland habitats. It pecks, drills, and gleans insects and spiders from trunks, branches, and foliage.	This species was observed foraging within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project. Moderate quality habitat for nesting occurs within the Survey Area. **Present (foraging)/Moderate (nesting)**
Olive-sided flycatcher (*Contopus cooperi*)	--/SSC/--	This species occurs along edges and openings lining dense coniferous forests. It is insectivorous, sallies flying insects from a high perch, and has a mild preference for bees.	This species was observed foraging within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project. Low quality habitat for nesting occurs within the Survey Area. **Present (foraging)/Low (nesting)**
Osprey (*Pandion haliaetus*)	--/WL/--	This species is found near large bodies of water, such as rivers, lakes, and bays. It is largely piscivorous, and it catches fish found near the water's surface.	This species was observed foraging within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project. Low quality habitat for nesting occurs within the Survey Area. **Present (foraging)/Low (nesting)**
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	--/WL/--	This species occurs in coastal sage scrub, chaparral, and rocky brush-laden hillsides. Its diet consists primarily of small grass and forb seeds, and occasionally it will also consume insects.	This species was observed foraging within the Survey Area. CNDDB lists four records of occurrence within five miles of the Proposed Project, approximately 5,660 feet from the Proposed Project. High quality habitat for nesting occurs within the Survey Area. **Present (foraging)/High (nesting)**
Southwestern willow flycatcher (*Empidonax traillii extimus*)	FE/CE/--	This species breeds in a variety of riparian habitats with multi-tiered canopies and surface water and/or saturated soils along streams. Its habitat types may include a variety of willow, cottonwood, coast live oak, alder, and tamarisk woodlands.	CNDDB and the USFWS list no records of occurrence within five miles of the Proposed Project. In addition, breeding habitat for this species is limited within the Survey Area, due to the lack of habitat structure and occurrence of standing water. **Moderate (foraging)/Low (nesting)**
Western snowy plover (*Charadrius alexandrines nivosis*)	FT/SSC/--	This species occurs in sandy dune-type habitats along coastlines. It forages for insects, amphipods, and other small invertebrates in wet and dry, sandy or gravelly substrates.	This species is considered absent within the Survey Area for foraging and nesting, as it requires specific habitat conditions for foraging and nesting that are not present within the Survey Area. CNDDB lists one record within five miles of the Proposed Project, approximately 20,882 feet from the Proposed Project. **Absent**
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT/CE/--	This species is found in cottonwood-willow riparian habitat. Its diet in California primarily consists of caterpillars, tree frogs, katydids, and grasshoppers.	CNDDB lists two records of occurrence within five miles of the Proposed Project, with the closest approximately 2,461 feet from the Proposed Project. No USFWS occurrences were documented within 5 miles of the Proposed Project. This species was not observed in the Survey Area during focused surveys conducted by Chambers in 2014. **Moderate (foraging)/Low (nesting)**
White-faced ibis (*Pelgadis chihi*)	--/WL/--	This species occurs mostly in freshwater marshes, and it can also occasionally be found in flooded meadows and saltwater marshes. It probes muddy substrate for earthworms, insects, crustaceans, amphibians, fishes, and invertebrates.	This species was documented foraging within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project. This species is considered absent from the Survey Area for nesting, as it has special nesting habitat restrictions that are not present within the Survey Area. **Present (foraging)/Absent (nesting)**
White-tailed kite (*Elanus leucurus*)	--/FP/--	This species occurs in low to moderate elevation grasslands, savannas, agricultural areas, wetlands, marshes, and riparian woodlands. Its diet consists of small mammals, amphibians, lizards, and large insects.	This species was observed foraging within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project. Low to marginal quality nesting habitat was observed within the Survey Area. **Present (foraging)/Low (nesting)**

Species Name	Listing Status[9]	Habitat Requirements	Potential to Occur
Yellow-breasted chat (*Icteria virens*)	--/SSC/--	This species occurs in dense riparian thickets. It gleans vegetation for spiders, insects, and berries.	This species was observed foraging within the Survey Area. CNDDB lists three records of occurrence within five miles of the Proposed Project, the closest approximately 237 feet from the Proposed Project. Moderate quality habitat for nesting occurs within the Survey Area. **Present (foraging)/Moderate (nesting)**
Yellow warbler (*Dendroica petechia*)	--/SSC/--	This species is found in riparian woodlands, swamp edges, and willow thickets, and it prefers early successional understories with medium-high shrub and tree density.	This species was observed foraging within the Survey Area. CNDDB lists no records of occurrence within five miles of the Proposed Project. Moderate quality habitat for nesting is present within the Survey Area. **Present (foraging)/Moderate (nesting)**
CLASS REPTILIA			
Coast horned lizard (*Phrynosoma coronatum*)	--/SSC/--	This species occurs in a variety of habitats, such as coastal sage scrub, chaparral, various woodlands, and annual grasslands. Its diet consists almost exclusively of ants.	CNDDB lists six records of occurrence for this species within five miles of the Proposed Project, with the closest being approximately 9,398 feet from the Proposed Project. Although not observed during the survey effort, high quality habitat for this species occurs within the Survey Area. **High**
Coast patch-nosed snake (*Salvadora hexalepis virgultea*)	--/SSC/--	This species occurs in California from the northern Carrizo Plains in San Luis Obispo County, south through the coastal zone, south and west of the deserts, and into coastal northern Baja California. This species inhabits semi-arid, brushy areas and chaparral in canyons, rocky hillsides, and plains up to 7,000 feet in elevation.	CNDDB lists one record of occurrence within five miles of the Proposed Project (approximately 13,125 feet from the Proposed Project), and the Survey Area contains moderate-quality suitable habitat. **Moderate**
Coronado Island skink (*Plestiodon skiltonianus interparietalis*)	--/SSC/--	This species occurs in early successional stages of habitats, such as coastal sage scrub, chaparral, open woodland, and conifer forests. It forages through leaf litter for small invertebrates.	CNDDB lists one record of occurrence within five miles of the Proposed Project, approximately 22,399 feet from the Proposed Project. This species was not observed during the survey effort, and moderate quality habitat exists within the Survey Area. **Moderate**
Green turtle (*Chelonia mydas*)	FT/--/--	This species occurs in shallow waters within reefs, bays, and inlets. It diets only on seagrasses and algae.	CNDDB list one record of occurrence within five miles of the Proposed Project (approximately 24,648 feet from the Proposed Project). However, the green turtle is considered absent from the Proposed Project as this species is restricted to habitats that do not occur within the ROW. **Absent**
Orange-throated whiptail (*Aspisdoscelis hyperythra beldingi*)	--/SSC/--	This species occurs in coastal sage scrub and chaparral habitats with sandy washes, rocky outcrops, and adequate shading. Its diet consists mainly of insects and spiders.	This species was observed throughout the Survey Area. CNDDB lists nine records of occurrence within five miles of the Proposed Project, with the closest occurrence approximately 2,000 feet from the Proposed Project. **Present**
Red diamond rattlesnake (*Crotalus ruber*)	--/SSC/--	This species is found in several habitat types, such as coastal sage scrub, grassland, and woodland associated large rocks or boulders. Its diet consists mainly of squirrels for adults and lizards for juveniles.	CNDDB lists one record of occurrence within five miles of the Proposed Project (approximately 6,812 feet from the Proposed Project), and the Survey Area contains good-quality suitable habitat. **Moderate**
Rosy boa (*Lichanura trivirgata*)	FSS/--/--	This species occurs in rocky coastal sage, inland sage, and chaparral-covered hillsides and canyons. It predates on small mammals, reptiles, amphibians, and birds.	CNDDB lists one record of occurrence within five miles of the Proposed Project (approximately 7,837 feet from the Proposed Project), and the Survey Area contains good-quality, suitable habitat. **High**

Species Name	Listing Status[9]	Habitat Requirements	Potential to Occur
Two-striped garter snake (*Thamnophis hammondii*)	--/SSC/--	This species occurs in coastal California from the vicinity of Salinas to northwest Baja California. This species is highly aquatic, and is found in or near permanent fresh water. It is often along streams with rocky beds and riparian growth up to 7,000 feet in elevation.	CNDDB lists four records of occurrence within five miles of the Proposed Project, the closest approximately 7,220 feet from the Proposed Project. Suitable habitat for this species is present within the Survey Area. **Moderate**
CLASS AMPHIBIA			
Western spadefoot (*Spea hammondii*)	--/SSC/--	This species is found in grasslands, floodplains, washes, and playas. Its diet consists of invertebrates, beetles, moths, earthworms, crickets, flies, and ants.	This species was observed in larval form within the Survey Area generally east of SR-125 within road ruts and vernal pool features. CNDDB lists two records of occurrence within five miles of the Proposed Project, with the closest being approximately 13,155 feet from the Proposed Project. **Present**
CLASS INSECTA			
Quino checkerspot butterfly (*Euphydryas editha quino*)	FE/--/--/Covered under the SDG&E Low-Effect Habitat Conservation Plan for QCB	Adults are found along low hilltops, rocky outcrops, and ridges.	The CNDDB lists 18 records of occurrence within five miles of the Proposed Project, the closest being approximately 1,137 feet from the Proposed Project. A portion of the Survey Area is located within USFWS critical habitat for this species. Focused survey efforts during the 2015 adult flight season resulted in no detections within the Survey Area. **High**
Hermes copper butterfly (*Lycaena hermes*)	FC/--/--	Hermes copper butterfly is found in mixed woodlands, chaparral, and coastal sage scrub from San Diego County to adjacent Baja California Norte, Mexico. Spiny redberry (*Rhamnus crocea*) is the host larval food plant for this species, which is common in cismontane California coastal sage scrub and chaparral vegetation communities. However, this species is limited to only a portion of the redberry range, usually along north-facing hillsides or within deeper, well-drained soils of canyon bottoms where host (spiny redberry) and nectar (California buckwheat) plants are present. In addition, mature spiny redberry plants appear to be essential to this species' survival. It may take as long as 18 years after a wildfire for this species to re-colonize an area.	No CNDDB records of occurrence are documented within five miles of the Proposed Project. There are approximately only 20 known populations of Hermes copper butterfly. While suitable habitat for this species is present within the Survey Area, the closest documented population occurs near the Otay Lakes Reservoir, approximately 3 miles from the Proposed Project. **Low**
Thorne's hairstreak (*Mitoura thornei*)	--/--/Covered under the County of San Diego MSCP Subarea Plan	This species is only found on Otay Mountain in interior cypress woodland between 800 and 3,290 feet in elevation. Immature Thorne's hairstreaks are herbivorous and adults are nectivorous.	**Present** within the Survey Area at the far northeastern end, in habitats not proposed for construction activities. The CNDDB lists six records of occurrence within five miles of the Proposed Project, the closest is approximately 9,726 feet from the Proposed Project. **Present**
CLASS BRANCHIPODA			
Riverside fairy shrimp (*Streptocephalus woottoni*)	FE/--/--	This species is found in deep, cool vernal pools. It lives as a filter feeder, and consumes algae, bacteria, and various detritus in water.	This species has a high potential to occur within the Survey Area. The Survey Area contains good-quality, suitable habitat, and the CNDDB lists 16 records of occurrence within five miles of the Proposed Project, the closest is approximately 1,359 feet from the Proposed Project. USFWS critical habitat for this species is located more than 1,000 feet south of the Proposed Project. **High**

Species Name	Listing Status[9]	Habitat Requirements	Potential to Occur
San Diego fairy shrimp (*Branchinecta sandiegonensis*)	FE/--/--	This species occurs only in high-quality vernal pools. It lives as a filter feeder, and consumes algae, bacteria, and various detritus in water.	This species has high potential to occur within the Survey Area. The CNDDB lists 18 records of occurrences within five miles of the Proposed Project, the closest being approximately 1,288 feet from the Proposed Project. USFWS critical habitat for this species is located along the eastern portion of the Proposed Project near the Richard J. Donovan Correctional Facility. **High**

Source: Biological Technical Report (Chambers 2015)

The total area of critical habitat for these three species within the Proposed Project is provided in Table 4.4-5: Critical Habitat within the Proposed Project Area.

Table 4.4-5: Critical Habitat within the Proposed Project Area

Species	Approximate Area (acres)
San Diego fairy shrimp	0.24
Quino checkerspot butterfly	0.93
Otay tarplant	4.31
Total	**5.48**

Source: USFWS Critical Habitat Portal (2014)

Wildlife Migration Corridors

Wildlife corridors are defined as areas that connect suitable habitat in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features (e.g., canyon drainages, ridgelines, or areas with vegetation cover) provide corridors for wildlife travel. Wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high-population-density areas; and facilitate genetic diversity. CEQA Guidelines, Appendix G, requires that Proposed Project proponents disclose potential impacts to wildlife corridors. This section discusses the wildlife corridors present or potentially present within the Survey Area.

Terrestrial Species

Terrestrial wildlife species migrate through both upland and drainage areas, depending on the species. Species that need protective cover from predators (e.g., mammals, reptiles, and smaller avian species) tend to migrate along natural drainages and riparian corridors that have a high vegetative cover. These areas also serve as an important source of food resources (e.g., insects and seeds) for these species. There are numerous natural drainages and riparian corridors, including the Otay River Valley, adjacent to the Proposed Project area that may be used as migration corridors by a variety of species. Predator species, such as bobcat (*Lynx rufus*) or mountain lion (*Puma concolor*), require larger portions of intact habitat, including interconnected upland and riparian systems for migration. The Proposed Project area is within and adjacent to a large preserve area, which can provide for wildlife movement and migration in the region.

Aquatic Species

Aquatic species are known to migrate within wetland and drainage areas. The Otay River serves as a linkage for aquatic species. For instance, the Otay River was determined to be at least seasonally accessible to southern steelhead trout—a federally endangered fish species—entering from the ocean (NOAA Fisheries 2012). In addition, the Proposed Project contains vernal pool habitat that could potentially support fairy shrimp species. Fairy shrimp cysts can be transferred from one pool to another when vehicles drive between pools along existing roads within the

Proposed Project area. This is particularly true when the vernal pools are wet and vehicle tires pick up and transfer mud from pool to pool.

Preserve Areas

Ecological preserves represent the biodiversity of an area, and provide habitat for species with needs that may not be fully met on managed land. As shown on Figure 8: Habitat Plan Areas of Attachment 4.4–A: Biological Technical Report, the following pole locations on the Proposed Project occur within a designated preserve: pole locations 1 through 10, 14, 16, 18 through 21, 39, 40 through 46, 53, 56, and 59 through 109. These preserves include the Otay Ranch Preserve, the Otay Valley Regional Park, and a portion of the City of San Diego's MHPA, designated as part of the MSCP.

In addition, the Otay Lakes Regional Park is adjacent to, but not within, the Proposed Project area. All four preserve areas provide habitat for special-status and common plant and wildlife species.

Wetlands and Jurisdictional Waters

The Survey Area contains aquatic features that may be subject to regulation by at least three agencies—the USACE, RWQCB, and CDFW—as wetlands or other jurisdictional waters. The waters under each agency's jurisdiction are described in the following paragraphs. A detailed description of each wetland and water feature is provided in the Wetland Delineation Report, included as Attachment 4.9-A: Wetland Delineation Report in Section 4.9 Hydrology and Water Quality. Figure 5: Jurisdictional Resources of Attachment 4.9-A: Wetland Delineation Report shows the locations of these potentially jurisdictional features in relation to the Proposed Project components. Temporary or permanent fill in jurisdictional waters require a Section 404 permit from the USACE, a 401 water quality certificate from the RWQCB, and a Streambed Alteration Agreement from the CDFW, as described in Attachment 4.9-A: Wetland Delineation Report in Section 4.9 Hydrology and Water Quality.

United States Army Corps of Engineers

A total of 5.55 acres of USACE-jurisdictional waters of the U.S. are located in the Proposed Project area. Of these waters, 4.45 acres are potentially USACE-jurisdictional wetlands, including 0.80 acre of vernal pool wetlands. Jurisdictional wetlands within the survey area include coastal and valley freshwater marsh, emergent wetland, southern willow scrub, disturbed wetland, and vernal pool wetlands. An additional 11.74 acres of San Diego Mesa Claypan vernal pool habitat occur within the survey area and likely are jurisdictional USACE vernal pool wetland waters of the U.S.[11] USACE-jurisdictional other waters of the U.S. (i.e., drainages) display an OHWM and have connectivity with navigable waters. A total of 1.09 acres of other waters of the U.S. occur within the Survey Area.

[11] San Diego Mesa Claypan vernal pool habitat was not formally delineated to preserve habitat and minimize impacts to these areas, and jurisdictional area was mapped based on the species and topography present.

Regional Water Quality Control Board

The RWQCB has jurisdiction over waters of the State, as defined by the Porter-Cologne Water Quality Control Act. A total of 5.55 acres of RWQCB-jurisdictional features are located in the Proposed Project area, including 0.80 acre of vernal pools. Although not formally delineated, an additional 11.74 acres of San Diego Mesa Claypan vernal pool habitat occur within the survey area and likely are jurisdictional RWQCB waters of the State vernal pools. Waters of the State include unvegetated streambed, coastal and valley freshwater marsh, emergent wetland, riparian scrub, southern willow scrub, disturbed wetland, and vernal pools.

California Department of Fish and Wildlife

A total of approximately 5.79 acres of waters that are subject to CDFW jurisdiction occur in the Proposed Project area. CDFW jurisdiction includes all non-tidal streambeds mapped at the width of the channel's top of bank, and extends to the edge of riparian canopy and/or associated wetlands, when present. A total of 1.09 acres of streambed, and 4.70 acres of riparian vegetation fall within the jurisdiction of the CDFW. The vernal pools present within the Proposed Project area do not fall within the jurisdiction of the CDFW.

4.4.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts to biological resources that may result from implementation of the Proposed Project, and examine those potential impacts.

Potential impacts to biological resources are separated into those likely to occur from construction (both short- and long-term impacts) and those that may occur as a result of power line operation and maintenance. SDG&E anticipates that the duration of construction activities (i.e., when temporary impacts will occur) will be approximately seven months.

SDG&E will operate in compliance with all State and federal laws, regulations, and permit conditions. This includes compliance with the CWA, Porter-Cologne Water Quality Control Act, ESA, MBTA, BGEPA, CESA, and CEQA. For construction of the Proposed Project, SDG&E will consult with USFWS and CDFW for compliance with the FESA and CESA. Compliance may require a Proposed Project-specific ITP under Section 10 of the FESA and California Fish and Game Code Section 2081. For operation and maintenance of the Proposed Project, SDG&E will use the NCCP to comply with the FESA and CESA.

SDG&E will also implement the Project Design Features and Ordinary Construction/Operating Restrictions in Chapter 3 – Project Description during construction, which include implementation of specific NCCP Operational Protocols and the Vernal Pool Protocols in the NCCP. The SDG&E NCCP Operational Protocols are designed to provide avoidance and minimize impacts to all sensitive resources. The NCCP Operational Protocols and Vernal Pool Protocolss are provided in Attachment 4.4–B: SDG&E Subregional NCCP Operational Protocols and Vernal Pool Protocols.

With SDG&E's implementation the Project Design Features and Ordinary Construction/Operating Restrictions, and through compliance with the FESA and CESA, all impacts associated with the Proposed Project are anticipated to be less than significant.

A preliminary impact assessment is provided in the subsections that follow. Locations of annual and bulbiferous perennial special-status plants, as well as most wildlife species, change from year to year and, therefore, may differ slightly in their spatial location during actual construction of the Proposed Project. General impacts to special-status plant and wildlife species are based on the Proposed Project design and the focused surveys that have been conducted to date.

Anticipated impacts resulting from Proposed Project activities are provided in Table 4.4-6: Anticipated Impacts to Vegetation Communities and are further designated by vegetation community.

Significance Criteria

Standards of impact significance were derived from Appendix G of the CEQA Guidelines. Under these guidelines, the Proposed Project may have a potentially significant impact if it will:

- 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 CDFW or USFWS

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to marsh, vernal pool, coastal, or other wetland areas) through direct removal, filling, hydrological interruption, or other means

- 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

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP

Direct take of a federally or state-listed species will be considered a significant impact. For species not federally or state-listed, such as SSC species, temporary and/or permanent habitat loss is not considered a significant impact unless a significant percentage of total suitable habitat throughout the species' range is degraded or somehow made unsuitable, or areas supporting a large proportion of the species population are substantially and adversely impacted. Potential impacts to nesting bird species will be considered significant due to their protection under the MBTA.

Table 4.4-6: Anticipated Impacts to Vegetation Communities

Vegetation Community	Total within Impact Area (acres)	Impact Area (acres)	
		Permanent	Temporary
Bare Ground	7.70	0.01	7.69
Disturbed Areas	6.46	0.02	6.45
Landscape/Ornamental	0.15	<0.01	0.15
Urban and Developed	28.05	<0.01	28.05
California Sagebrush-California Buckwheat Scrub*	1.56	0.01	1.54
Coast Prickly Pear Scrub*	0.44	0.00	0.44
Coast Prickly Pear Scrub (disturbed)*	0.04	0.00	0.04
Lemonade Berry Stand*	<0.01	0.00	<0.01
Annual Brome Grassland	2.73	0.02	2.71
Purple Needlegrass Grassland*	0.47	0.01	0.47
Tamarisk Thickets	0.23	0.00	0.23
Total	**47.84**	**0.08**	**47.76**

Source: Biological Technical Report (Chambers 2015)
Note: Numbers may not add up due to rounding.
* Sensitive natural community as defined in the Definitions subsection of Section 4.4.1: Methodology.

Question 4.4a – Sensitive Species

Construction – Less-than-Significant Impact

Special-Status Plants

Seventeen special-status plant species, as defined in Section 4.4.1 Methodology, and seven CRPR 4 plant species were documented within the Survey Area. These species are listed in Table 4.4-3: Special-Status Plant Species Observations within the Survey Area. Of these 24 plant species observed within the Survey Area, the following nine species were observed within the areas proposed for temporary construction activities:

- Singlewhorl burrowbush
- Small-flowered morning glory
- San Diego barrel cactus
- Munz's sage
- San Diego bur sage
- San Diego marsh elder
- San Diego County viguiera
- Ashy spike-moss
- Decumbent goldenbush

Four species—singlewhorl burrowbush, small-flowered morning glory, Munz's sage, and San Diego County viguiera—were observed within areas proposed within the footprint of the poles and, therefore, will be directly impacted by the Proposed Project. The total area of impact anticipated to singlewhorl burrowbush is approximately 31.62 square feet, the total area of impact anticipated to small-flowered morning glory is approximately 15.81 square feet, the total area of impact anticipated to Munz's sage is approximately 38.29 square feet, and the total area of impact anticipated to San Diego County viguiera is approximately 10.82 square feet. The location of special-status plant species within the Proposed Project area are included in Figure 5: Plant Species Observed of Attachment 4.4–A: Biological Technical Report.

Direct impacts to the special-status plant species observed within the temporary or permanent impact areas associated with the Proposed Project may include plant destruction during construction and unauthorized vehicle access outside of the approved access roads. These potential impacts will not result in a regional decline of these species because the numbers of individuals impacted are small in comparison to regional subpopulations of these species.

Impacts to special-status species not documented during focused surveys, such as annuals or bulbiferous perennials that did not germinate in the survey year, could occur within the Proposed Project area. Proposed project activities will result in a total of approximately 0.08 acre of permanent impacts from installation of the steel poles. Therefore, the maximum permanent impacts that may occur to special-status annuals or bulbiferous perennials not detected during focused surveys will total in up to 0.08 acre. As a result, potential permanent impacts to special-status plant species will not have a substantial adverse effect and can be considered negligible.

Indirect impacts may occur to all 24 special-status and CRPR 4 plant species observed within the broader Survey Area. Permanent indirect impacts include population fragmentation and introduction of non-native species that may out-compete special-status plants for resources. Temporary indirect impacts include construction-related runoff, sedimentation, and erosion that could adversely impact plant populations by altering site conditions sufficiently to favor the establishment of other native and non-native species. Construction-related dust could also reduce the rates of these special-status plants' metabolic processes.

SDG&E's NCCP Operational Protocols will apply to all special-status plant species. Consistent with NCCP Operational Protocol 14, locations of special-status plants to be avoided will be flagged during construction. Additional NCCP Operation Protocols that will minimize inadvertent damage and destruction of special-status plants include restricting vehicles to existing roads when feasible, minimizing impacts by defining the disturbance areas, providing biological monitoring to assist crews in avoiding and minimizing impacts at sites with the potential for direct impacts, and designing the construction activities to avoid or minimize new disturbance and erosion. As such, impacts to special-status plant species will be less-than-significant with the implementation of the NCCP Operational Protocols.

Special-Status Mammals

Proposed construction activities may cause both permanent and temporary impacts to five special-status mammal species that are either present within the Survey Area or have a moderate or high potential to occur within the Survey Area. Black-tailed jackrabbit (*Lepus californicus*

bennettii) is present within the Survey Area. Northwestern San Diego pocket mouse (*Lepus californicus bennettii*), San Diego desert woodrat (*Neotoma lepida intermedia*), American badger (*Taxidea taxus*), and western red bat (*Lasiurus blossevillii*) have moderate potential to occur. Although the western red bat has a moderate potential to occur, riparian and deciduous trees that may support roosting bats will not be directly affected by the Proposed Project.

Proposed construction activities—including the removal of wood poles, the installation of steel poles, and the clearing of vegetation during the creation of work areas and stringing sites—may cause impacts to these mammal species. Permanent impacts from these activities may include a reduction of foraging, burrowing, and nesting (woodrat) habitat as a result of vegetation trimming during construction of the steel poles. Temporary impacts may result from construction noise and ground vibration, as mammals may be deterred from inhabiting or foraging in areas near such activities. Total permanent impacts resulting from the construction of the Proposed Project will be approximately 0.08 acre. As a result, total permanent impacts will be limited because the maximum percentage of suitable habitat that may be removed is small (0.08 acre) in comparison to the total amount of available habitat for special-status mammals in the area.

The addition of power lines and other structures generally will provide new perching opportunities for raptor species, which can increase the potential for predation of special-status mammal species. However, the Proposed Project will result in an overall reduction of poles and does not include an extension of the existing power line. Therefore, the extent of predation on special-status and common mammal species is not anticipated to differ from existing conditions.

SDG&E will implement NCCP Operational Protocols 1, 2, 3, 4, 5, 7, 8, 10, 11, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 44, 54, 55, and 57, 64, 66, and 69 as provided in Attachment 4.4–B: SDG&E Subregional NCCP Operational Protocols and Vernal Pool Protocols. These protocols include, but are not limited to, training, pre-construction surveys, monitoring during clearing and grading activities, avoidance of active burrows and dens, requiring all trenches and excavations to be inspected twice daily for wildlife entrapment, and requiring excavations to be sloped on one end to provide an escape route. NCCP Operation Protocols include avoidance and minimization measures for both upland and wetland/riparian habitats that these species may use at some time in their life cycle. Impacts to special-status mammal species will be less-than-significant with implementation of the NCCP Operational Protocols.

Special-Status Avian and Nesting Avian Species

Proposed construction activities may cause both permanent and temporary impacts to 23 special-status avian species that have either been observed on site or have a moderate or high potential to breed or forage within the Proposed Project area, as depicted in Table 4.4-4: Special-Status Wildlife Species' Potential to Occur. Direct impacts are possible to avian species that breed within the Proposed Project area, whereas minimal to no direct impacts will be expected to affect avian species that only forage over the Proposed Project area.

Direct and indirect impacts could affect the following avian species, which have either been confirmed or are suspected (i.e., high or moderate potential) of breeding within the Proposed Project area:

- Coastal California gnatcatcher (foraging and breeding confirmed)
- Least Bell's vireo (foraging and breeding confirmed)
- Clark's marsh wren (foraging confirmed, high breeding potential)
- Southern California rufous-crowned sparrow (foraging confirmed, high breeding potential)
- Lawrence's goldfinch (foraging confirmed, moderate breeding potential)
- Allen's hummingbird (foraging confirmed, moderate breeding potential)
- Northern harrier (foraging confirmed, moderate breeding potential)
- Cooper's hawk (foraging confirmed, moderate breeding potential)
- Nuttall's woodpecker (foraging confirmed, moderate breeding potential)
- Yellow-breasted chat (foraging confirmed, moderate breeding potential)
- Yellow warbler (foraging confirmed, moderate breeding potential)
- Bell's sage sparrow (moderate foraging and breeding potential)

Proposed Project activities that could impact these 12 special-status avian species include the removal of wood poles (which can support cavity nesters and raptors depending on the design of cross arms) and the removal of vegetation, such as during installation of new steel poles. These impacts could result in the temporary or permanent loss of nesting and foraging habitat. Potential permanent impacts may include direct mortality of individuals as a result of construction or inadvertent destruction of nests; degradation or loss of foraging and/or breeding habitat; or removal of some food sources. Total permanent impacts resulting from the installation of the steel poles will be 0.08 acre, so the permanent loss of potential avian habitat will be negligible.

Temporary impacts may include an increase in noise and human presence from construction equipment and vehicles, which may cause birds to avoid that area, thus effectively and temporarily reducing available habitat for that species. Increased noise and human presence also may cause temporary disruptions in breeding or foraging behaviors. All of these potential impacts may result in a reduced reproduction rate for these species. However, both temporary and permanent impacts will be limited because the percentage of suitable habitat that will be removed is small in comparison to the total amount of available habitat for these species in the area.

While seven avian special-status species—the southwestern willow flycatcher, coastal cactus wren, olive-sided flycatcher, osprey, white-faced ibis, white-tailed kite, or double-crested cormorant—were documented to forage within the Survey Area or have a high or moderate potential to forage within the Survey Area, these species are either not expected to breed or have a low potential to breed within the Survey Area. As a result, no direct impacts to these species are anticipated. Indirect impacts anticipated to affect these seven species may include degradation or loss of foraging habitat, and/or removal of some food sources, and an increase in noise and human presence from construction equipment and vehicles. These impacts may cause

birds to avoid that area, thus effectively and temporarily reducing available habitat. Increased noise and human presence also may cause temporary disruptions in foraging behaviors.

Given the results of the 2014 protocol surveys, burrowing owls were unlikely to have used the Survey Area during the 2014 nesting season or 2014/2015 non-breeding season; however, this species has a high potential to occur within the Survey Area in future years. Temporary impacts to this species include noise and visual disturbance, and temporary loss of foraging habitat in discrete locations (i.e., pole work, staging yard, and stringing site locations). SDG&E will implement the following Ordinary Construction/Operating Restriction:

- If work is scheduled to occur within burrowing owl habitat (as determined in the Biological Technical Report), burrowing owl surveys will be conducted prior to construction consistent with the Take Avoidance Surveys described in the 2012 Staff Report on Burrowing Owl Mitigation (CDFW 2012). If burrowing owls are identified within approximately 150 meters (492 feet) of the proposed work area, SDG&E will implement the recommendations of said staff report to avoid impacts to burrowing owl.

Concerns regarding potential electrocution of wildlife species from power lines, which is considered a permanent impact to species protected under the MBTA, are primarily focused on avian species. Electrocution of avian species can occur from wing contact with two conductors or other energized equipment. Electrocution of avian species poses a greater potential hazard to larger birds, such as raptors, because their body sizes and wing spans are large enough to bridge the distance between the conductor wires and, thus, complete the electrical circuit. Power line structures will be constructed in compliance with SDG&E standards for avian protection. These measures minimize the potential for wildlife electrocution.

Power lines and other structures also provide potential perching opportunities for raptor species, which can increase the potential for predation of special-status wildlife and avian species by raptors. Special-status avian species that could be affected by increased predation in the Proposed Project area include coastal California gnatcatcher, least Bell's vireo, and other small songbirds. The Proposed Project will reduce the total number of poles. Therefore, construction of the Proposed Project is anticipated to have a less-than-significant impact on the predation of smaller wildlife species.

SDG&E will implement NCCP Operational Protocols 2 through 5, 7, 8, 10, 11, 13, 14, 17, 20, 21, 23, 24, 25, 27, 29, 34, 35, 39, 40, 41, 44, 54, 55, and 57 to avoid impacts to special-status avian species and nesting avian species, as described in Attachment 4.4–B: SDG&E Subregional NCCP Operational Protocols and Vernal Pool Protocols. These protocols include, but are not limited to, restricting vehicles to existing roads when feasible, avoiding wildlife to the extent practicable, conducting pre-construction surveys, and avoiding nesting season to the extent practicable, thus limiting the potential for direct impacts to these avian species. Potential impacts to special-status avian species and nesting avian species will be less-than-significant with implementation of the Project Design Features and Ordinary Construction/Operating Restrictions, which include specific NCCP Operational Protocols.

Special-Status Amphibians and Reptiles

Construction activities could potentially impact one special-status amphibian species and seven special-status reptile species that are either present or have a moderate or high potential of occurring within the Proposed Project area: western spadefoot toad (*Spea hammondii*), orange-throated whiptail (*Aspisdoscelis hyperythra beldingi*), coast horned lizard (*Aspisdoscelis hyperythra beldingi*), Coronado Island skink (*Plestiodon skiltonianus interparietalis*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), rosy boa (*Lichanura trivirgata)*, two-striped garter snake (*Thamnophis hammondii*), and red diamond rattlesnake (*Crotalus ruber*).

Permanent impacts resulting from the installation of new poles may result in the loss of potential habitat for these amphibian and reptile species, as well as the possibility of direct mortality of individuals during construction. Temporary disturbance may be caused by the increase in vehicles, equipment noise, and human activity, which may result in disruption of hibernation, feeding, and breeding. In addition, burrows used by these species may be removed, resulting in the potential for both direct mortality and indirect impacts (e.g., loss of access to thermal and protective cover). The presence of open, steep-walled trenches or excavations could lead to wildlife becoming entrapped, possibly leading to direct mortality of these individuals. Total permanent impacts resulting from the construction of the Proposed Project will be approximately 0.08 acre. As a result, permanent impacts will be limited because the maximum percentage of suitable habitat that will be removed is extremely small (0.08 acre) in comparison to the total amount of available habitat for these species in the area.

SDG&E will implement NCCP Operational Protocols 1 through 5, 7, 8, 10, 11, 13, 14, 17, 20, 24, 25, 27, 29, 34, 35, 37, 38, 41, 44, 54, 55, and 57, as provided in Attachment 4.4–B: SDG&E Subregional NCCP Operational Protocols and Vernal Pool Protocols. These protocols include, but are not limited to, training, pre-construction surveys, monitoring during clearing and grading activities, avoidance of burrows, requiring the inspection of all trenches and excavations twice daily for wildlife entrapment, and requiring excavations to be sloped on one end to provide an escape route. Potential impacts to special-status reptile and amphibian species will be less-than-significant with implementation of the NCCP Operational Protocols.

Special-Status Invertebrates

Construction activities could potentially impact four special-status invertebrate species: Thorne's hairstreak, QCB, San Diego fairy shrimp, and Riverside fairy shrimp. Thorne's hairstreak was observed at the far northeastern end of the Survey Area and the remaining three species have a high potential to occur within suitable habitat in the Proposed Project area.

Thorne's Hairstreak and Quino Checkerspot Butterfly

The Proposed Project area is located in an area that is occupied by Thorne's hairstreak, and this area has also been historically occupied or has the potential for occupation by QCB and is within a USFWS-recommended survey area for the QCB. Potential permanent impacts resulting from the installation of new poles may result in the loss of potential foraging and breeding habitat, as well as direct mortality during construction of these two butterfly species. Total permanent impacts to all vegetation communities resulting from installation of the steel poles will be 0.08 acre, so permanent impacts to potential habitat for these two species will be minor.

Thorne's hairstreak butterfly is covered under the County of San Diego MSCP. Under the MSCP, suitable habitat for Thorne's hairstreak—Tecate cypress forest or habitats with dominant components of Tecate cypress—is protected. No permanent or temporary impacts to Tecate cypress forest or habitats with dominant components of Tecate cypress are anticipated as a result of the Proposed Project. As such, no direct impacts to this species are anticipated.

Temporary impacts resulting from the installation of new poles, vehicle traffic, and stringing sites may disrupt QCB foraging behavior. These impacts will constitute take of the QCB. SDG&E has acquired take coverage for QCB under its Low-Effect HCP for QCB. In addition, SDG&E will implement the following Ordinary Construction/Operating Restriction:

- SDG&E will mitigate for impacts to QCB in accordance with the applicable ratio in SDG&E's Low Effect HCP for QCB

In addition, SDG&E will implement NCCP protocols 1, 2, 3, 5, 7, 8, 10, 11, 13, 14, 17, 24, 25, 29, 34, 35, 41, 44, 54, 55, and 57, as provided in Attachment 4.4–B: SDG&E Subregional NCCP Operational Protocols and Vernal Pool Protocols. These protocols include, but are not limited to, training, pre-construction surveys, monitoring during clearing and grading activities, and reducing speeds to 15 mph along Proposed Project access roads to reduce fugitive dust. Therefore, impacts to Thorne's hairstreak and QCB will be less-than-significant.

Special-Status Fairy Shrimp

Pole locations and work areas have been designed to avoid all mapped vernal pools. In addition, SDG&E will conduct protocol-level surveys prior to construction to determine the presence or absence of fairy shrimp species in suitable habitat in the following locations: Main Street Staging Yard, pole locations 1 through 78, and pole locations 96 through 117. If surveys cannot be feasibly completed prior to construction in these locations, the Proposed Project will avoid suitable habitat for special-status fairy shrimp when soils are wet. Surveys are not proposed between pole locations 78 and 96 because suitable habitat for special-status fairy shrimp within these areas are limited to vernal pools, which will not be temporarily or permanently impacted by the Proposed Project.

In addition, RECON performed a delineation of jurisdictional wetlands and waters within the Proposed Project area, included as Attachment 4.9- A: Jurisdictional Wetland Delineation Report in Section 4.9 Hydrology and Water Quality. As discussed further in the report, no permanent dredge or fill impacts on vernal pools or fairy shrimp species are anticipated as a result of the Proposed Project.

SDG&E will implement applicable Vernal Pool Protocols in the NCCP. These include Operational Protocols 64, 66, and 69, which require a biological monitor to be present for construction activities occurring adjacent to vernal pools, and ensure that vehicles are fueled and maintained at least 100 feet away from the nearest vernal pool. In addition, SDG&E will implement the following Project Design Features and Ordinary Construction/Operating Restriction:

- SDG&E will conduct protocol-level surveys prior to construction to determine the presence or absence of San Diego and/or Riverside fairy shrimp species in suitable habitat in the following locations: Main Street Staging Yard, within the access roads and proposed work areas between pole locations 1 through 78, and within the access roads and proposed work areas between pole locations 96 through 117. If the surveys identify the presence of San Diego and/or Riverside fairy shrimp species, Proposed Project-related activities will avoid impacts to occupied habitat when wet as determined by the aquatic or biological monitor. If surveys cannot be feasibly completed prior to construction in these locations, Proposed Project-related activities will avoid suitable habitat for San Diego and/or Riverside fairy shrimp when soils are wet as determined by the aquatic or biological monitor.

SDG&E anticipates it will need to drive through suitable special-status fairy shrimp habitat, when dry, during construction. Road ruts are continually shifting in location due to year-round vehicular disturbance from non-Proposed Project use of these access roads. SDG&E's use of these access roads for construction of the Proposed Project will not appreciably increase the baseline disturbance to road ruts caused by non-Proposed Project use of these access roads year-round. Protocol-level surveys for special-status fairy shrimp species will be performed during the 2015 to 2016 dry and wet seasons, and areas determined to support special-status fairy shrimp species will be avoided when wet. As such, temporary impacts such as disruption of foraging and/or breeding behavior from vehicle traffic are not anticipated to impact special-status fairy shrimp species beyond existing activity levels within the Proposed Project area.

In addition, SDG&E will implement NCCP Operational Protocols 1, 2, 3, 5, 7, 8, 10, 11, 13, 14, 17, 24, 25, 29, 34, 35, 41, 44, 54, 55, and 57, as provided in Attachment 4.4–B: SDG&E Subregional NCCP Operational Protocols and Vernal Pool Protocols. These protocols include, but are not limited to, training, pre-construction surveys, monitoring during clearing and grading activities, and reducing speeds to 15 mph along Proposed Project access roads to reduce the potential for direct impacts to special-status fairy shrimp species. With avoidance of vernal pool and road rut impacts, as described in this section, impacts to San Diego fairy shrimp and Riverside fairy shrimp vernal pool habitat will be less-than-significant.

Critical Habitat

Critical habitat for two special-status wildlife species—San Diego fairy shrimp, and QCB—and one special-status plant species—Otay tarplant—is located within the Proposed Project area. Maps showing the location of critical habitat in the Proposed Project area are provided in Attachment 4.4–A: Biological Technical Report.

The maximum total area of permanent and temporary impacts to critical habitat designated for QCB, San Diego fairy shrimp, and Otay tarplant that may result from the Proposed Project is provided in Table 4.4-7: Anticipated Impacts to Critical Habitat.

Table 4.4-7: Anticipated Impacts to Critical Habitat

Species	Impacts to Critical Habitat within the Proposed Project Area (acres)		
	Permanent	Temporary	Total
San Diego fairy shrimp	<0.01	0.30	0.31
QCB	<0.01	0.94	0.95
Otay tarplant	0.03	4.10	4.13
Total[12]	**0.05**	**5.34**	**5.39**

Source: USFWS Critical Habitat Portal (2014)

As described previously, any impacts to critical habitat for QCB will be mitigated in accordance with the applicable ratio in SDG&E's Low Effect HCP for QCB. In accordance with FESA Section 3(5)(A)(i), the USFWS considers primary constituent elements (PCEs)—which represent physical and biological features that are essential to the conservation of the species—when determining critical habitat for federally listed species. For San Diego fairy, the USFWS defines PCEs as:

- Vernal pools with shallow to moderate depths (2 to 12 inches) that hold water for sufficient lengths of time (7 to 60 days) necessary for incubation, maturation, and reproduction of the San Diego fairy shrimp, in all but the driest years;

- Topographic features characterized by mounds and swales and depressions within a matrix of surrounding uplands that result in complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools described in above, providing for dispersal and promoting hydroperiods of adequate length in the pools (i.e., the vernal pool watershed); and

- Flat to gently sloping topography, and any soil type with a clay component and/or an impermeable surface or subsurface layer known to support vernal pool habitat (including Carlsbad, Chesterton, Diablo, Huerhuero, Linne, Olivenhain, Placentia, Redding, and Stockpen soils).

The USFWS defines the PCEs for Otay tarplant as: soils with a high clay content (generally greater than 25 percent) (or clay intrusions or lenses) that are associated with grasslands, open coastal sage scrub, or maritime succulent scrub communities between 80 and 1,000 feet elevation.

[12] Figures may not add up due to rounding.

Critical habitat for San Diego fairy shrimp and Otay tarplant that meet the PCEs—as defined above—is also considered to be habitat suitable for these federally listed species. As a result, impacts to critical habitat that meets the PCEs for these species will be minimized and mitigated as specified in the following Project Design Features and Ordinary Construction/Operating Restriction:

- Temporary and permanent impacts to federally and state-listed species and their habitats will be mitigated at a one-to-one ratio, or as required by the USFWS and the CDFW.

In addition, impacts to these three species will be minimized and avoided as specified for the individual species or species groups through implementation of NCCP Operational Protocols 1, 2, 3, 4, 5, 7, 8, 10, 11, 13, 14, 15, 17, 20, 24, 25, 27, 28, 29, 34, 35, 39, 41, 44, 54, 55, 57, 64, 66, and 69, as described in previous sections. With the implementation of these Operational Protocols and the Project Design Features and Ordinary Construction/Operating Restrictions, impacts to critical habitat for San Diego fairy shrimp, QCB, and Otay tarplant will be less than significant.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. As a result, there will be no increase in vehicle trips and activities and no increase in the potential to impact species and habitat as a result of the Proposed Project.

To further minimize operation and maintenance activities within the Proposed Project area, SDG&E will utilize NCCP Operational Protocols 1 through 5, 7, 8, 10, 11, 13 through 17, 20, 24, 25, 27, 28, 29, 30, 34, 35, 37 through 44, 54, 55, and 57, as described in Attachment 4.4–B: SDG&E Subregional NCCP Operational Protocols and Vernal Pool Protocols. These protocols include, but are not limited to, designing the operation and maintenance of the Proposed Project to minimize disturbance, minimizing impacts by defining the disturbance areas, restricting vehicles to existing roads when feasible, monitoring during clearing and grading activities, and minimizing erosion. With implementation of these NCCP Operational Protocols there will be no impacts from operation and maintenance activities.

Question 4.4b – Sensitive Natural Communities

Construction – Less-than-Significant Impact

Sensitive natural communities are communities that have limited distribution statewide or within a county or region and are often vulnerable to the environmental effects of projects. Sensitive natural communities in the Proposed Project area are listed in Section 4.4.2 Existing Conditions. The Proposed Project is anticipated to result in permanent and temporary impacts to sensitive natural communities, as detailed in Table 4.4-8: Anticipated Impacts to Sensitive Natural Communities. Permanent direct impacts to these communities will occur as a result of vegetation clearing to install steel poles. Temporary direct impacts to sensitive natural communities may include vegetation clearing during construction activities. Indirect impacts

will be considered temporary and may include additional dust deposition on the leaves of plants comprising sensitive natural communities, thus reducing their photosynthetic vigor.

Table 4.4-8: Anticipated Impacts to Sensitive Natural Communities

Vegetation Community	Total within Impact Area (acres)	Impact Area (acres)	
		Permanent	Temporary
Scrub and Chaparral			
California Sagebrush-California Buckwheat Scrub	1.56	0.01	1.54
Coast Prickly Pear Scrub	0.44	0.00	0.44
Coast Prickly Pear Scrub (disturbed)	0.04	0.00	0.04
Lemonade Berry Stand	<0.01	0.00	<0.01
Grasslands, Meadows, and Other Herbaceous Communities			
Purple Needlegrass Grassland	0.47	0.01	0.47
Total	**2.52**	**0.02**	**2.50**

To minimize impacts to sensitive natural communities, SDG&E will implement NCCP Operational Protocols 7, 11, 13 through 17, 20 through 25, 28, 29, 30, 35, 36, 39, 41 through 44, and 57, as detailed in Attachment 4.4–B: SDG&E Subregional NCCP Operational Protocols and Vernal Pool Protocols. These protocols include, but are not limited to, designing the Proposed Project to avoid or minimize new disturbance and erosion, minimizing impacts by defining the disturbance areas, flagging habitats for avoidance during construction, and restricting vehicles to existing roads when feasible. Implementation of the previously listed NCCP Operational Protocols will ensure that impacts to sensitive natural communities will be less than significant.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities, which includes the implementation of NCCP Operational Protocols. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. As a result, there will be no increase in the number of vehicle trips and activities and no increase in the potential to impact sensitive natural communities over baseline conditions.

Question 4.4c – Effects on Jurisdictional Waters

Construction – Less-than-Significant Impact

The Proposed Project has been designed to avoid impacts to wetlands and non-wetland waters that are regulated by USACE, CDFW, and RWQCB pursuant to the applicable federal and state regulations.

When an existing access road crosses through a jurisdictional feature, driving through the feature is allowed and is not an activity requiring permits. However, conducting work activities, parking of vehicles, staging equipment, or the placement of fill of any sort, is not allowed within jurisdictional features without acquiring appropriate state and federal aquatic resource permits. Additional Project Design Features and Ordinary Construction/Operating Restrictions are described in Section 4.9 Hydrology and Water Quality to minimizing impacts to jurisdictional drainage crossings.

With the implementation of these Project Design Features and Ordinary Construction/Operating Restrictions, including NCCP Operational Protocol 11 and Vernal Pool Protocolss 64, 66, and 69, impacts to wetlands (e.g., vernal pools) under the jurisdiction of the USACE, CDFW, and RWQCB will be avoided.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles and the reduction of the total number of poles. As a result, there will be no increase in the number of vehicle trips and activities, and no increase in the potential to impact vernal pool habitats as a result of operation and maintenance of the Proposed Project. Therefore, no additional impacts to jurisdictional waters (e.g., vernal pools) are anticipated as a result of the Proposed Project.

Question 4.4d – Interfere with Native Wildlife Movement

Construction – No Impact

The proposed construction activities are not anticipated to impact or restrict terrestrial or aquatic wildlife movement, due to the temporary and intermittent locations of construction activities outside the drainage features. In addition, the new poles will be installed in a pre-existing power line ROW. No extension of this power line is proposed; therefore, the quality of the adjacent wildlife movement corridors for terrestrial species will not be affected during construction. No additional impacts to terrestrial or aquatic wildlife corridors are anticipated.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles and the reduction of the total number of poles. As a result, operation and maintenance activities will not directly impact or restrict general wildlife movement, either for terrestrial or aquatic (i.e., vernal pool) species due to the temporary and intermittent nature of operation and maintenance activities typically associated with such facilities. These operation and maintenance activities will occur outside existing drainage features and within pole areas and/or along access roads. As a result, no impacts are anticipated.

Question 4.4e – Conflict with Local Policies – *No Impact*

Construction and operation and maintenance of the Proposed Project will not conflict with any local environmental policies or ordinances promulgated to protect biological resources. The Proposed Project is located within the cities of San Diego and Chula Vista, and in unincorporated San Diego County. Based on a review of applicable local policies, the Proposed Project will not conflict with local policies, which include the City of San Diego MSCP Subarea Plan and the City of Chula Vista MSCP Subarea Plan. The Proposed Project is also consistent with relevant policies in the County of San Diego's General Plan. The Proposed Project is not a new construction project, and impacts within the City of San Diego's MHPA and the Otay Ranch Preserve are temporary in nature and consistent with the policies outlined in those plans. In addition, the Proposed Project will not conflict with the monitoring, management, or maintenance of either the City of San Diego's MHPA or the Otay Ranch Preserve. Therefore, the Proposed Project will not conflict with any local policies or plans protecting biological resources. Additional detail on the Proposed Project's consistency with existing land use regulations is provided in Table 4.10-A: Policies Consistency Analysis in Section 4.10 Land Use and Planning.

Question 4.4f – Conflict with Conservation Plan – *No Impact*

SDG&E's existing NCCP and Low-Effect HCP for QCB are the only conservation plans that apply to the Proposed Project area. The Proposed Project will not conflict with the provisions of either of these conservation plans, and there will be no impact.

SDG&E will follow the Operational Protocols and Vernal Pool Protocolss identified in the NCCP for construction and operations and maintenance of the Proposed Project. SDG&E will follow the Low-Effect HCP for QCB for construction and operations and maintenance of the Proposed Project.

SDG&E will not seek incidental take coverage for temporary and permanent impacts to natural habitat resulting from construction of the Proposed Project through the NCCP, and SDG&E will not rely on the mitigation bank associated with the NCCP to fulfill the mitigation requirements for those impacts. SDG&E will instead consult with USFWS and CDFW for compliance with the FESA and CESA for construction of the Proposed Project. Compliance may require a project-specific ITP under Section 10 of the FESA and California Fish and Game Code Section 2081. For operation and maintenance of the Proposed Project, SDG&E will use the NCCP to comply with the FESA and CESA.

4.4.4 Applicant-Proposed Measures

Because the Proposed Project will not result in significant impacts to biological resources, no applicant-proposed measures have been proposed.

4.4.5 References

AECOM. 2009 Transmission Construction and Maintenance (TCM) 2009 Vernal Pool Data Accuracy Assessment Report. March.

Baldwin, B.G. 2012. *The Jepson Manual: Vascular Plants of California, Second Edition.* Berkeley, California: University of California Press.

Bauder, E.T. and S. McMillan. 1998. Current Distribution and Historical Extent of Vernal Pools in Southern California and Northern Baja California, Mexico. Pages 56–70 in: C.W. Witham, E.T. Bauder, D. Belk, W.R. Ferren Jr. and R. Ornduff (Editors). Ecology, Conservation, and Management of Vernal Pool Ecosystems—Proceedings from a 1996 Conference.

CDFW. 1998. California Vernal Pool Assessment Preliminary Report. Online. http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=99964. Site visited June 29, 2015.

CDFW. 2009. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities. Online. http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/protocols_for_surveying_and_evaluating_impacts.pdf. Site visited June 29, 2015.

CDFW. 2010. List of Vegetation Alliance and Associations. Hierarchical List of Natural Communities with Holland Types. Online. https://www.dfg.ca.gov/biogeodata/vegcamp/pdfs/natcomlist.pdf. Site visited https://www.dfg.ca.gov/biogeodata/vegcamp/pdfs/natcomlist.pdf .

CDFW. 2012. Staff Report on Burrowing Owl Mitigation.

CDFW. 2014a. California Natural Diversity Database (CNDDB). RareFind Version 3.1.0. Database Query for the Imperial Beach and Otay Mesa California, USGS 7.5-minute quadrangles. Wildlife and Habitat Data Analysis Branch. Version Dated March 1, 2014.

CDFW. 2014b. Natural Diversity Database. October 2014. Special Vascular Plants, Bryophytes, and Lichens List. Quarterly publication. 125 pp.

Chambers. 2014. Draft Biological Technical Report TL 649 Wood To Steel Pole Replacement, San Diego And Chula Vista, San Diego County, California.

City of San Diego. 2001. San Diego Municipal Code Land Development Code. Biology Guidelines, as Amended May 19, 2001.

CNPS. 2001. *Botanical Survey Guidelines of the California Native Plant Society (CNPS). Fremontia* 29(3-4):64-65. Online. http://cnps.org/cnps/rareplants/pdf/cnps_survey_guidelines.pdf. Site visited June 29, 2015.

CNPS. 2014. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Online. http://www.rareplants.cnps.org. Site visited June 29, 2015.

County of San Diego. 2011. *San Diego County General Plan. A Plan for Growth, Conservation, and Sustainability*.

Halterman, M., M. J. Johnson, J.A. Holmes. 2011. A Natural History Summary and Survey Protocol for the Western Yellow-billed Cuckoo Population.

Holland, R.F. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* Unpublished report. Natural Heritage Division, CDFG, Sacramento.

Jepson Flora Project (eds.). 2014. Jepson eFlora. Online. http://ucjeps.berkeley.edu/IJM.html. Site visited in June 29, 2015.

NOAA Fisheries. 2012. Southern California Steelhead Recovery Plan Summary. Online. http://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/south_central_southern_california/southern_california_steelhead_recovery_plan_executive_summary_012712.pdf. Site visited June 29, 2015.

NRCS. 2014. Web Soil Survey. Online. http://websoilsurvey.nrcs.usda.gov. Site visited June 29, 2015.

Oberbauer, Thomas, Meghan Kelly, and Jeremy Buegge. 2008. Draft Vegetation Communities of San Diego County. Based on "Preliminary Descriptions of the Terrestrial Natural Communities of California", Robert F. Holland, Ph.D., October 1986.

SDG&E. 2007. *SDG&E's Low Effect Habitat Conservation Plan for the Quino Checkerspot Butterfly.*

Sogge, M.K., Ahlers, Darrell, and Sferra, S.J. 2010. A natural history summary and survey protocol for the southwestern willow flycatcher: U.S. Geological Survey Techniques and Methods 2A-10, 38 p.

Unitt, P. 2012. Savannah Sparrow. The Birds of San Diego County from the San Diego County Bird Atlas. Online. http://sdplantatlas.org/birdatlas/pdf/Savannah%20Sparrow.pdf. Site visited June 29, 2015.

USACE. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, Department of the Army. January.

USACE. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Prepared by U.S. Army Engineer Research and Development Center. September.

USACE. 2014. National Wetland Plant List. V 3.2. Online. http://rsgisias.crrel.usace.army.mil/NWPL/. Site visited June 29, 2015.

USFWS. 1996. Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants. Online. http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/Listed_plant_survey_guidelines.pdf. Site visited June 29, 2015.

USFWS. 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines – February 28, 1997.

USFWS. 2001. Least Bell's Vireo Survey Guidelines. Online. http://www.fws.gov/pacific/ecoservices/endangered/recovery/documents/LBVireo.2001.protocol.pdf. Site visited June 29, 2015.

USFWS, 2002. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for *Deinandra conjugens* (Otay tarplant), Federal Register. 67 (237): 76030 76053.

USFWS, 2007. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Coastal California Gnatcatcher (*Polioptila californica californica*). Federal Register 72(243) 72010 72213.

USFWS 2007. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the San Diego Fairy Shrimp (*Branchinecta sandiegonensis*). Federal Register 72(238).

USFWS. Critical Habitat Portal. Online. http://ecos.fws.gov/crithab/. Site visited June 29, 2015.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ATTACHMENTS

4.5 CULTURAL RESOURCES

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact 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 California Environmental Quality Act (CEQA) Guidelines § 15064.5?			✓	
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5?			✓	
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			✓	
d) Disturb any human remains, including those interred outside of formal cemeteries?			✓	
e) Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074?			✓	

4.5.0 Introduction

This section describes known cultural and paleontological resources within the San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project) area and identifies potential impacts that could result from construction or operation and maintenance of the Proposed Project. For the purpose of this analysis, cultural resources include, but are not limited to, archaeological sites, sacred sites, traditional cultural properties, tribal cultural resources, rock art, rock piles or cairns, historical buildings, or other features of the historic built environment. Paleontological resources, or fossils, are the remains of ancient plants and animals that can provide information about the history of life on earth. With the implementation of SDG&E's Project Design Features and Ordinary Construction/Operating Restrictions, potential impacts to cultural and paleontological resources that may result from the Proposed Project will be less than significant.

4.5.1 Methodology

The analysis in this section is based on the Cultural Resources Technical Report for the Proposed Project that was prepared by HDR, Inc. (HDR), as well as a Paleontological Record Search that was completed by the San Diego Natural History Museum's (SDNHM's) Department of

PaleoServices. The following subsections describe the desktop-level research, literature review, and field investigation conducted to identify and delineate potential cultural and paleontological resources within the Area of Potential Effect (APE).

In order to identify the location or likely presence of cultural and paleontological resources within the Proposed Project area, an APE was defined surrounding the Proposed Project's permanent and temporary work area footprint. The APE is larger than the Proposed Project impact area and includes approximately 150 feet on either side of the power line centerline. The APE also includes the footprint of the staging yards and an approximately 30-foot buffer on either side of Proposed Project access roads.

Cultural Resources Records Search

Cultural resources records and literature searches of documents and maps on file at the South Coastal Information Center (SCIC) at San Diego State University (SDSU) were conducted by SDG&E in March 2010, and July 2014. Current site and Proposed Project information available in the California Historical Resources Information System (CHRIS) geographical information system inventory was also examined for known and recorded sites and surveyed areas within the APE. The results of the records searches have been included in the Cultural Resources Technical Report prepared by HDR for the Proposed Project.

Native American Contacts and Tribal Consultation

A Sacred Land File (SLF) search for the APE was requested from the California Native American Heritage Commission (NAHC) on April 12, 2010 and on May 28, 2015. To date, no responses have been received. The SLF search results prepared by the NAHC indicating the presence of any Native American cultural resources within the APE and will appear as an addendum to the Cultural Resources Technical Report.

Correspondence was conducted on June 26, 2015, with all individuals and groups indicated by the NAHC as having affiliation with the APE. This consisted of correspondence via a letter describing the Proposed Project and a detailed map indicating the APE. Recipients were requested to reply with any information they are able to share about Native American resources that might be adversely affected by the Proposed Project. To date, no responses have been received. The results of this outreach effort will be included as an addendum to the Cultural Resources Technical Report.

Correspondence with the NAHC and individuals and groups that have an affiliation with the APE is provided in Attachment 4.5-A: NAHC Correspondence.

Cultural Resources Survey

HDR conducted pedestrian surveys of the APE in systematic transects spaced 32 to 50 feet (10 to 15 meters) apart, depending on terrain, on the following dates:

- March 17, 2010;
- April 26, 2010;
- July 16, 2014;

- July 18, 2014; and
- November 13, 2014.

The pedestrian surveys complied with the Secretary of the Interior's Standards and Guidelines for Identification and Evaluation for Local Surveys. All potential work areas and Proposed Project facility locations were included in the pedestrian surveys.

All prehistoric and historic sites, both newly identified and previously recorded (if relocated[1]), were recorded in the Cultural Resources Technical Report. Prehistoric or historic sites were defined as any concentration of three or more artifacts in an approximately 82-foot-square area. Separate sites were recorded when artifact concentrations were separated by more than 165 feet. Isolated artifacts were defined as fewer than three artifacts in an approximately 82-foot-square area. Cultural resources that met the definition of an archaeological site were assigned a temporary site number in the field.

Site documentation included definition of site boundaries, features, and diagnostic artifacts. A detailed sketch map was prepared for each site and showed the relationship of the site's location to topographic features and other landmarks. More detailed information on environmental context, artifact content and density, cultural affiliation, and function was recorded on Department of Parks and Recreation (DPR) 523 site forms. The DPR forms were submitted to the SCIC for assignment of Primary and Trinomial site numbers. Each site was plotted on a 7.5-minute United States (U.S.) Geological Survey topographic quadrangle, and Universal Transverse Mercator coordinates were recorded to accurately locate the site and its relationship to the navigation points. Photographs were taken of each site.

Global Positioning System (GPS) data were collected for each cultural resources, feature, and artifact. The North American Datum of 1983 was used as the base coordinate system. A Trimble GPS instrument with sub-meter horizontal accuracy was used for site, artifact, and feature mapping.

No artifacts were collected during the surveys. The presence or absence of evidence for cultural materials or deposits was noted. Diagnostic artifacts were documented in the field (i.e., basic metrics of diagnostic artifacts or tools, location, description, and photographs) and left on site. All artifacts identified in the field were described and photo-documented on appropriate site forms.

Cultural Resources Subsurface Testing

To determine eligibility for listing on the California Register of Historic Resources (CRHR), a subsurface testing program was completed at each cultural resources site in the Proposed Project impact area on the following dates:

- July 30 to August 1, 2013;
- February 26, 2014;

[1] Some of the cultural resources sites could not be relocated in the field and, therefore, these sites were not recorded in the Cultural Resources Technical Report.

- November 3 to 5 and 10 to 13, 2014;
- November 10 to 13, 2014; and
- March27 and 31, 2015.

In order to evaluate potential impacts to cultural resources, shovel test pits (STPs) were excavated on either side of the existing pole to determine if subsurface cultural components exist in proximity to the proposed replacement pole location. Each STP measured approximately 30 centimeters in diameter and 50 to 60 centimeters deep. The STPs were excavated until sterile (i.e., non-artifact/non-ecofact[2] bearing) soil was reached and/or maintained for at least 20 centimeters. Excavated soil was removed in decimeter levels and screened through one-eighth-inch wire mesh. The location, depth, soil coloration, and density were recorded for the STPs. The STPs were backfilled upon completion of the testing.

Aerial and topographic maps were used for orientation and coverage guides. The STPs were recorded and plotted in the field using a Trimble GPS instrument with sub-meter horizontal accuracy. Photographs were taken of all ground-disturbing activities and of the site conditions. No artifacts or ecofacts were collected.

Tie Line 649 Historic Resource Significance Evaluation

A historical significance evaluation of Tie Line (TL) 649 was conducted by HDR as some of the power line facilities are over 50 year old and could be considered historic resources eligible for the National Register of Historic Places (NRHP) and/or CRHR listing. The report prepared by HDR is provided in Attachment 4.5-B: Historic Significance Evaluation. The evaluation included historic research, analysis of a sub sample of 14 percent of the poles along the power line, and a significance evaluation in accordance with the CEQA. Although only a portion of the poles will be impacted, this evaluation considered TL 649 in its entirety.

This significance evaluation involved extensive background research on the history of power within San Diego County, field visits to selected poles and the substations connected to the power line, and a full CEQA significance evaluation of the power line. The historic context for the evaluation was developed from extensive background research at SDG&E, the SCIC, the San Diego History Center, the San Diego Central Library, and the SDSU library. Documents referenced from these institutions include historic maps, historic photographs, newspaper articles, aerials, previous cultural resource management technical reports, and reference books.

Sub samples of poles were targeted for detailed evaluation. These poles are considered representative of the poles on the power line collectively and represent poles installed in each decade beginning in 1916 through to the 1980s. Field crews documented 14 percent of the poles on the power line, focusing on poles that were installed over 50 years ago. Although the substations are not considered in the significance evaluation of the power line, they were documented as related to the TL 649.

[2] An artifact is any object that was made, used, and/or transported by humans that provides information about human behavior in the past, such as pottery, stone tools, bones with cut marks, and coins. An ecofact is a naturally produced object found on an archaeological site that provides information about past environments, and examples include seeds, animal bones, and soil.

Paleontological Resources Records Search

Information on the geologic setting and the potential presence of paleontological resources was derived from published geologic reports, as well as published and unpublished paleontological reports. No paleontological resource surveys were conducted. Additionally, the SDNHM databases were searched for records of fossil finds within one mile of the Proposed Project APE.

4.5.2 Existing Conditions

Regulatory Background

The following federal, state, and local regulations and policies pertaining to cultural and paleontological resources are relevant to the Proposed Project.

Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA), enacted in 1969, requires federal agencies to consider the effects of their undertakings on historical properties. Historical properties are cultural resources (i.e., archaeological sites, historic built environment features, or Native American sites) that are listed on or determined to be eligible for listing on the NRHP. The governing regulation, Section 106 of the NHPA, is codified in Title 54 of the United States Code (U.S.C.) (54 U.S.C. § 300101 *et seq.*). The historic preservation review process mandated by Section 106 is outlined in regulations issued by the Federal Advisory Council on Historic Preservation located at Title 36, Part 800 of the Code of Federal Regulations (CFR). Part 800 requires a project's lead federal agency to consult with the State Historic Preservation Officer (SHPO) regarding potential impacts to historical properties. The goal of the Section 106 process is to offer a measure of protection for cultural resources that are determined eligible or potentially eligible for listing on the NRHP. The criteria for determining eligibility, which can be found in 36 CFR Section 60.4, are as follows:

> "The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and
>
> a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> b) that are associated with the lives of persons significant in our past; or
>
> c) that embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> d) that have yielded, or may be likely to yield, information important in prehistory or history."

American Indian Religious Freedom Act of 1978

The American Indian Religious Freedom Act, codified in Title 42 U.S.C. Section 1996, establishes a federal policy of respect for, and protection of, Native American religious practices. It also contains provisions that allow limited access to Native American religious sites.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act provides for the repatriation of certain items from the federal government and certain museums to the native groups to which they once belonged. The Act defines "cultural items," "sacred objects," and "objects of cultural patrimony," and establishes a means for determining ownership of these items. However, the provisions for repatriation only apply to items found on federal lands.

Executive Orders 13007 and 13084

Executive Order 13007 requires federal agencies with land management responsibilities to allow access to and use of Native American sacred sites on public lands and to avoid adversely affecting these sites. Executive Order 13084 reaffirms the government-to-government relationship between the federal government and recognized Native American tribes, and requires federal agencies to establish procedures for consultation with tribes. These executive orders only apply to projects that are federal undertakings or have federal involvement.

Archaeological Resources Protection Act of 1979

The Archaeological Resources Protection Act applies to projects that are located on public lands and Native American lands. The purpose of this act is "the protection of archaeological resources and sites which are on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals having collections of archaeological resources and data which were obtained before the date of the enactment of this Act."

Paleontological Resources Preservation Act

On March 30, 2009, the Paleontological Resources Preservation Act (16 U.S.C Title 16, Chapter 1C) became law. This law requires the U.S. Secretaries of the Interior and Agriculture to manage and protect paleontological resources on federal lands using scientific principles and expertise. The U.S. Forest Service published its final regulations regarding paleontological resources on April 17, 2015 (see 80 Federal Register 21588). Final regulations from the agencies within Department of Interior (including the Bureau of Land Management, Bureau of Reclamation, Fish and Wildlife Service, and National Park Service) are forthcoming.

State

California Environmental Quality Act

CEQA requires that impacts to cultural resources are identified and, if impacts will be significant, that mitigation measures are implemented to reduce those impacts to the extent feasible. In the protection and management of the cultural environment, both the statute (California Public Resources Code [PRC] § 21000 et seq.) and its CEQA Guidelines provide definitions and standards for cultural resources management. Pursuant to CEQA Guidelines

(Title 14 California Code of Regulations) Section 15064.5(a), the term "historical resource" includes the following:

- A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register of Historical Resources.

- A resource included in a local register of historical resources or identified as significant in a historical resource survey shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

- Any object, building, structure, site area, record, or manuscript, which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a cultural resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources, including the following:

  - Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

  - Is associated with the lives of persons important in our past;

  - Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

  - Has yielded, or may be likely to yield, information important in prehistory or history. The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources, or identified in a historical resources survey, does not preclude a lead agency from determining that the resource may be a historical resource.

CEQA, in PRC Section 21083.2(g) defines a "unique archaeological resource" as follows:

> An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> a) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
> b) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
> c) Is directly associated with a scientifically recognized important prehistoric or historical event or person.

CEQA Section 21083.2 and CEQA Guidelines Sections 15064(c) and 15064.5 explain that effects on cultural properties that qualify as historical resources or unique archaeological resources would be adverse if they involve physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired.

The statutes and guidelines described previously specify how cultural resources are to be analyzed for projects subject to CEQA. Archival and field surveys must be conducted, and identified cultural resources must be inventoried and evaluated in prescribed ways.

Paleontological resources are protected under CEQA. Paleontological resources are limited, non-renewable resources of scientific, cultural, and educational value. PRC Section 5097 et seq. governs the preservation and protection of these resources.

Assembly Bill 52

California Assembly Bill (AB) 52 was enacted on September 25, 2014, and specifies that a project that may cause a substantial adverse change to a tribal cultural resource is a project that may have a significant effect on the environment. The bill, as codified in PRC Section 21074, defines "tribal cultural resources" as (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe and is either on or eligible for inclusion in the CRHR and (2) a resource determined by a lead agency, at its discretion and supported by substantial evidence, to be significant. As of July 1, 2015, AB 52 requires early notice and, if requested by a tribe, consultation with California Native American tribes on the NAHC list. Although the CEQA Guidelines will not be updated with the new question regarding tribal cultural resources until July 2016, in the interim period, the Governor's Office of Planning and Research (OPR) suggests that lead agencies consider the following question in their environmental documents:

- Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC 21074?

California Register of Historical Resources

The CRHR is a public listing of specific properties that are to be protected from substantial adverse change. Any resource eligible for listing in the CRHR must also be considered under CEQA.

As defined under PRC Section 5024.1(c), a historical resource may be listed on the CRHR if it meets one or more of the following criteria:

- It is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the U.S.
- It is associated with the lives of persons important to local, California, or national history.
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic value.
- It has yielded or has the potential to yield information important in the prehistory or history of the local area, California, or the nation.

Automatic listings include properties listed on the NRHP, determined eligible either by the Keeper of the National Register or through a consensus determination on a project review, or State Historical Landmarks from number 770 onward. In addition, Points of Historical Interest nominated from January 1998 onward are to be jointly listed as Points of Historical Interest, as well as in the CRHR. Landmarks prior to number 770 and Points of Historical Interest may be listed through an action of the State Historical Resources Commission.

Resources listed on a local historic register or deemed significant in a historical resources survey, as provided under Section 5024.1(g) of the PRC, are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates that they are not. A resource that is not listed on or is determined to be ineligible for listing in the CRHR, is not included in a local register of historical resources, or is not deemed significant in a historical resources survey may, nonetheless, be historically significant (PRC Section 21084.1).

California Health and Safety Code, California Native American Graves Protection and Repatriation Act of 2001

Broad provisions for the protection of Native American cultural resources are contained in the California Health and Safety Code (HSC), including the California Native American Graves Protection and Repatriation Act (Cal NAGPRA). Cal NAGPRA established a state policy to ensure that California Native American human remains and cultural items are treated with respect and dignity. Cal NAGPRA also provides the mechanism for disclosure and return of human remains and cultural items held by publicly funded agencies and museums in California. Likewise, Cal NAGPRA outlines the process that California Native American tribes that are not recognized by the federal government may follow to file claims for human remains and cultural items held in agencies or museums.

California Public Resources Code

Several provisions of the PRC govern archaeological finds in terms of human remains, or any other related object of archaeological or historical interest or value. Procedures are detailed under PRC Sections 5097.9 through 5097.996 for actions to be taken whenever Native American remains are discovered. Under these provisions, if a county coroner determines that human remains found during excavation or disturbance of land are Native American, the coroner must contact the NAHC within 48 hours. In addition, the NAHC must determine and notify the Most Likely Descendant (MLD), who may make recommendations for removal and nondestructive analysis of the remains and for the removal of items associated with Native American burials or cremations. Furthermore, Section 7050.5 of the HSC states that any person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in PRC Section 5097.99. Any person removing any human remains without authority of law or written permission of the person or persons having the right to control the remains under PRC Section 7100 has committed a public offense that is punishable by imprisonment.

Local

Because the California Public Utilities Commission (CPUC) has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations. The following analysis of the local regulations relating to cultural and paleontological resources is provided for informational purposes. As outlined in the following subsections, the construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations related to cultural or paleontological resources.

County of San Diego

The County of San Diego's goals and policies pertaining to cultural and paleontological resources can be found in the Conservation and Open Space Element of the County of San Diego General Plan. The Conservation and Open Space Element includes three goals that are relevant to cultural, historic, and paleontological resources.

Goal 1 is the protection and preservation of the County's important archaeological resources for their cultural importance to local communities, as well as for their research and educational potential. To ensure the protection of archaeological resources, the County has developed the following policies that are relevant to the Proposed Project:

- Preserve important archaeological resources from loss or destruction and require development to include appropriate mitigation to protect the quality and integrity of these resources.

- Require development to avoid archaeological resources whenever possible. If complete avoidance is not possible, require development to fully mitigate impacts to archaeological resources.

- Require consultation with affected communities, including local tribes to determine the appropriate treatment of cultural resources.

- Require human remains be treated with the utmost dignity and respect and that the disposition and handling of human remains will be done in consultation with the MLD and under the requirements of federal, state and county regulations.

Goal 2 is the protection, conservation, use, and enjoyment of the County's important historic resources. The County has developed the following policy to ensure the protection of historic resources:

- Encourage the preservation and/or adaptive reuse of historic sites, structures, and landscapes as a means of protecting important historic resources as part of the discretionary application process, and encourage the preservation of historic structures identified during the ministerial application process.

Goal 3 is the conservation of paleontological resources and unique geologic features for education and/or scientific purposes. The County has developed the following policies to ensure the protection of paleontological resources:

- Require the salvage and preservation of unique paleontological resources when exposed to the elements during excavation or grading activities or other development processes.
- Require development to minimize impacts to unique geological features from human related destruction, damage, or loss.

City of San Diego

The City of San Diego's regulations and policies pertaining to cultural resources and paleontological resources can be found in Chapters 11, 12, and 14 of the Municipal Code, which establish the development regulations for historical resources. The purpose of these regulations is to protect, preserve, and, where damaged, restore the historical resources within the City of San Diego.

The historical resources chapters require that designated historical resources, important archaeological sites, and traditional cultural properties are preserved, unless deviation findings can be made by the decision-maker as part of a discretionary permit. Minor alterations consistent with the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties are exempt from the requirement to obtain a separate permit, but must comply with the regulations and associated historical resources guidelines. Limited development may encroach into important archaeological sites if adequate mitigation measures are provided as a condition of approval.

The Historical Resources Guidelines, located in the City of San Diego's Land Development Manual, provide property owners, the development community, consultants, and the general public explicit guidance for the management of historical resources located within the City of San Diego's jurisdiction. These guidelines are designed to implement the historical resources regulations and guide the development review process. In addition, the guidelines address the need for a survey and how impacts are to be assessed, and also provide available mitigation strategies and reporting requirements. They also include appropriate methodologies for treating historical resources located in the City of San Diego.

City of Chula Vista

The City of Chula Vista's objectives and policies pertaining to historical resources can be found in the Land Use and Transportation Element of the City of Chula Vista General Plan. The Land Use and Transportation Element includes one objective pertaining to cultural resources: protect the city's important historical resources. The city has developed the following policies to help ensure the protection of the important historical resources:

- Continue to assess and mitigate the potential impacts of private development and public facilities and infrastructure to historic resources in accordance with CEQA.

- Promote the maintenance; repair; stabilization; rehabilitation; restoration; and preservation of historical resources in a manner consistent with federal and state standards.

- Prior to the approval of any projects that propose the demolition or significant alteration of a potentially significant historic resource (as defined pursuant to applicable state and federal laws), require the completion of an historic survey report to determine significance. If determined to be significant, require appropriate and feasible mitigation pursuant to CEQA Guidelines, Section 15064.5.

- In instances where projects may adversely affect significant historic resources, require the implementation of an appropriate conservation program in accordance with applicable state and federal laws.

Environmental Setting

Cultural Setting

The following subsections describe the cultural and paleontological setting of the larger surrounding area of the Proposed Project location.

Prehistoric Background

Early assemblages, often described as the San Dieguito complex, date from approximately 10,000 Before Present (BP) to 7,000 BP. San Dieguito was defined from sites throughout San Diego County, especially those in the San Dieguito Valley. Material culture consists of scrapers, choppers, large blades, and a lack of milling technology.

The earlier, less understood San Dieguito complex is followed by the La Jolla complex. It is recognized by millingstone assemblages and shell middens. Along the coast, habitation is thought to have been concentrated around the many highly productive lagoons and estuaries formed by the flooding of coastal stream channels. These habitats provided Archaic populations with abundant shellfish, fish, birds, and plant resources, as well as terrestrial game animals that were attracted to these resource patches. Settlement patterns during the early portion of the Archaic period are not very well understood at present, although the presence of substantial midden deposits around lagoon margins at this time suggests some residential stability in coastal areas. Several scholars have divided La Jolla into phases based on typological change and stratigraphically controlled radiocarbon dating. La Jolla I is identified by flexed burials, the first appearance of millingstones, and percussion-flaked stone scrapers. La Jolla II adds to the assemblage with ground-stone discoidals, projectile points, and the first true cemeteries. La Jolla III shows the influence of Yuman culture from the east.

Similar controversy surrounds the semi-contemporaneous assemblages found in inland San Diego County. This Pauma complex showed similarities to both the San Dieguito and La Jolla complexes with leaf-shaped points and knives, as well as millingstones and stone discoidals. There is also evidence of a considerable temporal separation between the Pauma complex and its successor, San Luis Rey. It is now hypothesized that this Pauma complex may represent an inland variant of the La Jolla complex, or likely seasonal movements of La Jollan groups

between coastal and inland resource areas. If this hypothesis is correct, a broad, seasonal migration range is implied for the inhabitants of the early portion of the Archaic period in coastal Southern California.

Indications in the archaeological record of coastal San Diego County suggest some settlement reorientation began approximately 3,500 years ago. Compilations of radiocarbon data from Batiquitos Lagoon provide evidence for the lack of habitation at this location between approximately 3,000 BP and 1,500 BP. In addition to evidence from some other locations in San Diego County, this led researchers to postulate that a population movement into areas located farther inland and southward occurred during this time period in response to the increased siltation and declining productivity of coastal lagoons in the northern portion of the County.

The archaeological record of the Late Prehistoric period is represented by the San Luis Rey Complex in the northern San Diego County and the Cuyamaca complex in the south. A major change at or around this time is the introduction of acorn processing. This subsistence change altered land-use patterns away from the coastal zones to the interior upland areas. The San Luis Rey complex is the archaeological manifestation of the ethnohistoric Luiseño, while the Cuyamaca complex represents the Kumeyaay or Diegueño. Agua Hedionda is roughly the separation between these two territories.

The common use of ceramics and the replacement of inhumations with cremations are interpreted as characteristic of the San Luis Rey complex during the Late Prehistoric period. The San Luis Rey complex is divided into two phases: San Luis Rey I (A.D. 1400 to A.D. 1750) and San Luis Rey II (A.D. 1750 to A.D. 1850). Assemblages associated with these phases were considered to be quite similar, and the principal differences were the presence of ceramics, steatite arrow shaft straighteners, and European American objects in San Luis Rey II assemblages.

While there are few major technological differences between the San Luis Rey I and II assemblages, important differences with respect to land use and mobility exist between the two phases. Along the San Luis Rey River, for example, the settlement pattern appears to have shifted from a fairly wide-ranging mobility pattern during San Luis Rey I to a territorially constricted pattern of seasonal movement between upland and lowland settlements during the San Luis Rey II phase. On the lower San Luis Rey River, residential mobility is thought to have been even more restricted, with only one principal village per group territory. During the San Luis Rey II phase along the lower San Luis Rey River, the nature of the village locations and estimated catchment boundaries made significant use of subsidiary camps somewhat superfluous because almost all resources were located within easy reach of the primary camps.

The Cuyamaca complex is marked by the appearance of ceramics, and small cottonwood Triangular, Desert Side-notched, and Dos Cabezas Serrated projectile points. It is similar to the San Luis Rey complex, with the exceptions of defined cemeteries, cremations placed in urns, side-notched projectile points, and with much greater emphasis on the use of scrapers, scraper planes, ceramics, and millingstone elements.

Some researchers attempted to correlate observed settlement changes during the Late Prehistoric period with the migration of Takic speakers into the region. Considerable disagreement

surrounds the timing of this intrusion, with some researchers suggesting it occurred within the past 1,500 years, and others argue that it dates farther back. The inception of the San Luis Rey complex is suggested as marking the arrival of Takic speakers in this area from regions located farther inland. This migration was sporadic, taking place over a long period. However, the Cuyamaca complex in southern San Diego County appears to be the end product of continual development from the earlier La Jolla complex with influence from Colorado River peoples. Because there is no break between La Jolla and the historic Diegueño, these Hokan speakers were likely responsible for the millingstone cultures (i.e., the La Jolla and Pauma complexes). The cultural continuum of northern San Diego millingstone culture was likely broken by the influx of the Takic groups.

Ethnographic Setting

The Proposed Project falls within the Otay Mesa and Tijuana River Valley, within the ethnographic boundaries of the Kumeyaay (or Diegueño) territory.

The people living in the southern part of San Diego County at the time of Spanish Contact were called the Diegueño, after the mission in San Diego. However, as Hedges pointed out, many of the people living in the region were not affiliated specifically with the mission. In general, the term Kumeyaay has come into common usage to identify the Yuman-speaking people living in the central and southern part of the County. Luomala used the terms Tipai and Ipai to refer to the southern and northern Kumeyaay, respectively. The dividing line between the Tipai and the Ipai is approximately Point Loma to Cuyamaca Peak and Julian. The name Kamia has been used by anthropologists to refer to the Yuman-speaking people living in Imperial Valley.

Examples of baskets and pottery from the 19th and early 20th centuries indicate a high level of artistic achievement and craftsmanship. Many different types of stone material were used for manufacturing tools, and exotic types were procured from other parts of the region. The remains of structures that were built at village sites can be seen in the archaeological record as stone foundations and circles. The Kumeyaay recognize many traditional cultural areas, and these locations continue to be held as sacred today.

The diet of the Kumeyaay included both plant and animal foods. There was considerable seasonality in the relative importance of plant versus animal food, and also the types of plant and animal food. Nutritionally, the plant foods were high in fat, carbohydrates, and protein, and thus provided a high-energy diet. Some of the plants exploited for food included acorns, annual grass seeds, yucca, Manzanita, sage, sunflowers, lemonade berry, chia, and various wild greens and fruits. None of these plants are available throughout the year; instead they were only seasonally available. For example, elderberries are available during July and August, chia are available mainly in June, acorns in the fall only and many grasses are summer and fall resources. Of course, if these resources were stored, they could be consumed throughout the year.

Protohistoric Kumeyaay (Ipai-Tipai-Diegueño-Kamia) territory extended from approximately the San Luis River mouth in the north to about Todos Santos Bay near Ensenada, Mexico in the south. From the Pacific Ocean, the Kumeyaay ranged inland across San Diego and Imperial counties to about Sand Hills. No list exists of all Kumeyaay settlements, names and locations. Many villages were only temporary campsites that a band occupied in its territory during a year.

A campsite was selected for access to water, drainage, boulder outcrops, or other natural protection from weather and ambush, as well as abundant flora and fauna of that ecological niche. A concentration of campsites in an area was considered a permanent village, settlement or "Rancheria."

Specific Kumeyaay traditional cultural locations or places were identified on a map by Kroeber and include the following 27 locations:

- Along the San Dieguito River: Kuiaumai; Hapai; Sinyau-pichkara; Ahmukatlkatl; Pauha; Tukumak (near Mesa Grande); Setmunumin; and Atikwanon.
- Between the San Dieguito and San Diego Rivers: Pauwai and Pamo.
- Along the San Diego River: Kosoi; Nipawai; Sinyeweche; Witlimak; Anyaha; Kosmit; and Sinyau-tehwir.
- Between the San Diego and Sweetwater Rivers: Amotaretuwe.
- San Diego Bay and Sweetwater River: Totakamalare; Pauipa; Hamacha (Jamacha); Sekwan (Sycuan); Ekwianiak; and Tlokwih.
- Along the Otay River: Hamul (Jamul).
- Between the Otay River and Cottonwood Creek: Otai (Otay Mountain).
- Along Cottonwood Creek: Kwatai (Guatay)—see also Carrico for an excerpt of an interview with Tom Lucas, Kwaaymii, of Laguna Ranch regarding this village.

Delfina Cuero notes that the Kumeyaay had names for locations in their territory that referred to characteristics of that place. "Otay" refers to a kind of weed that grows at that location. "Jamacha" is the name of a wild gourd that grows abundantly in that named-area. "Jamul" was named after another weed that is common where water is abundant in that area. Point Loma was called "black earth" because of its appearance from a distance.

Historic Background

The history of Southern California can be broken down into three major periods: Spanish (1769 to 1822), Mexican (1822 to 1848), and American (1848 to present). Otay Mesa is an unincorporated community within San Diego County, just north of the U.S.-Mexico border. During the Spanish period, Otay Mesa was under the jurisdiction of the Mission San Diego de Alcalá, but was far away and fairly isolated from the mission system. In 1821, Mexico won its independence from Spain. The missions were given 10 years to complete their education of the Native Americans before the enactment of the Secularization Act of 1833. This privatized the Franciscans' landholdings, redistributing the lands and holdings through land grants. El Rancho del Rey (renamed El Rancho de la Nacion after independence from Spain, and eventually became National City and Chula Vista) was located in the vicinity of Otay Mesa. Within Otay Mesa, Rancho Otay was established in 1829. The ranchos in California focused on the sale of hide and tallow, devoting large tracts of land to sheep, cattle, grazing, and grain crops.

California became a territory of the U.S. in 1848. Soon after, the Gold Rush brought an influx of settlers, causing a large increase in the demand for beef. California gained statehood in 1850. In 1862, President Lincoln signed the Homestead Act, encouraging western migration by offering 160 acres in exchange for a small fee. This brought the first influx of residents to Otay Mesa,

with the first settlers arriving around 1870. These settlers focused on cultivating wheat, barley, corn, tomatoes, and beans with water pumped from nearby streams and the Otay River.

Throughout the 1870s, approximately 10 families lived in Otay Mesa. The community was relatively isolated from the City of San Diego. With a period of economic growth in the 1880s, demand for agricultural land increased and Otay Mesa was promoted as a rich agricultural resource. By 1887, there were 40 households in Otay Mesa. The community expanded with the addition of a school, store, post office, and blacksmith shop.

Despite its location near the Otay River, the growth of Otay Mesa was limited by the supply of water. Being on the mesa several hundred feet above the river meant water could only be supplied by cisterns, catchments, or delivery by wagon. A drought between 1900 and 1920 caused a decline in the population, followed by the agricultural depression in the 1920s and the Great Depression of the 1930s. Many farmers sold their land and left the area. One prominent family that remained was the Pipers. They built their homestead in 1887 and remained in the area, cultivating hay, grain, and garbanzo beans into the 1980s.

The U.S. Army Air Corps established an air field in Otay Mesa in 1918 to provide advanced training for World War I pilots. During the 1920s, the U.S. Navy also began using the East Field airstrip as a practice landing field. The U.S. Army officially transferred East Field to the U.S. Navy in 1935, and it became known as Navy Auxiliary Air Station, Otay Mesa. Many improvements and expansions were made between 1940 and 1943, with another name change to the current Brown Field in 1943. At the end of World War II, the U.S. Navy leased the facility to the County of San Diego. However, the U.S. Navy briefly used the field again in the 1950s during the Korean War. In 1961, the San Diego City Council voted to use Brown Field as a general aviation facility.

Though farming continued in Otay Mesa, the City of San Diego rezoned most of the area from agriculture to commercial-industrial when a second border crossing was opened in 1985. Otay Mesa became dominated by industrial space and manufacturing warehouses, reflecting the built environment that is visible today.

Cultural Resources in the Proposed Project Area

The results of the records search and field surveys indicate that 34 archaeological resources and five historical resources are located either partially or completely within the APE for the Proposed Project, as provided in Table 4.5-1: Cultural Resources within the Area of Potential Effect. The Cultural Resources Technical Report provides additional information about these cultural sites. Sixteen cultural sites within the Proposed Project impact area were evaluated by HDR for eligibility to be listed on the CRHR. Two cultural sites were not evaluated because one site (CA-SDI-9976) was previously determined to be eligible for listing and one site (CA-SDI-11386) contains historic structures that will not be impacted by the Proposed Project. The following provides a discussion of these sites. In addition, isolates were not evaluated. All cultural resources that were evaluated were determined to be not eligible for NRHP or CRHR listing.

Table 4.5-1: Cultural Resources within the Area of Potential Effect

Site Number	Site Type	Site Description	Existing Poles within Site Boundary	NRHP/CRHR Listing Eligibility
Cultural Sites				
W-170	Archaeological	Destroyed village site	0	Not Evaluated
CA-SDI-8912	Archaeological	Groundstone and lithic scatter	0	Not Evaluated
CA-SDI-9970	Archaeological	Lithic scatter	2	Not Eligible
CA-SDI-9975	Archaeological	Lithic scatter	5	Not Eligible
CA-SDI-9976	Archaeological	Lithic scatter	3	Eligible
CA-SDI-9980	Archaeological	Lithic scatter	1	Not Eligible
CA-SDI-9981	Archaeological	Lithic scatter	1	Not Eligible
CA-SDI-10452	Archaeological	Lithic and shell scatter	0	Not Evaluated
CA-SDI-10783	Archaeological	Lithic scatter	6	Not Eligible
CA-SDI-10875	Archaeological	Lithic scatter	11	Not Eligible
CA-SDI-11385	Historical	Brown Field bombing range	6	Not Eligible
CA-SDI-11386	Historical	House and several outbuildings	0	Not Evaluated
CA-SDI-11952	Archaeological	Lithic scatter	1	Not Eligible
CA-SDI-12337	Archaeological	Extremely large lithic scatter	15	Not Eligible
CA-SDI-12940 and CA-SDI-14196	Archaeological	Shell and lithic scatter with rock alignments	2	Not Eligible

Site Number	Site Type	Site Description	Existing Poles within Site Boundary	NRHP/CRHR Listing Eligibility
CA-SDI-14178	Archaeological	Shell (determined non-archaeological) and lithic scatter	1	Not Eligible
CA-SDI-14185	Archaeological	Lithic and groundstone scatter	0	Not Evaluated
CA-SDI-14186	Archaeological	Shell and lithic scatter	3	Not Eligible
CA-SDI-14194	Archaeological	Lithic scatter	3	Not Eligible
CA-SDI-14195	Archaeological	Lithic scatter	0	Not Eligible
CA-SDI-14199	Archaeological	Lithic scatter	6	Not Eligible
CA-SDI-19922	Historical	Structure and trough	0	Not Evaluated
CA-SDI-21507	Archaeological	Lithic scatter	0	Not Eligible
Isolates				
P-37-014534	Archaeological	One scraper	0	Not Eligible
P-37-014793	Archaeological	One flake	0	Not Eligible
P-37-026549	Historical	Structure	2	Not Eligible
P-37-031360	Archaeological	One metavolcanic core	0	Not Eligible
P-37-031361	Archaeological	One metavolcanic core	0	Not Eligible
P-37-031362	Archaeological	One metavolcanic flake	0	Not Eligible
P-37-031363	Archaeological	One flake	0	Not Eligible
P-37-031364	Archaeological	One metavolcanic core	0	Not Eligible
P-37-031365	Archaeological	One flake and one core	0	Not Eligible
P-37-031368	Archaeological	One flake	0	Not Eligible
P-37-031491	Historical	Otay Mesa Road	0	Not Evaluated

Site Number	Site Type	Site Description	Existing Poles within Site Boundary	NRHP/CRHR Listing Eligibility
P-37-034473	Archaeological	One flake	0	Not Eligible
P-37-034474	Archaeological	One utilized flake	0	Not Eligible
P-37-034475	Archaeological	Two flakes	0	Not Eligible
P-37-034476	Archaeological	One bifacial flake	0	Not Eligible
P-37-034477	Archaeological	Two flakes	0	Not Eligible

Source: HDR, 2015a

CA-SDI-9976 is the only eligible cultural resources site located within the APE for the Proposed Project. CA-SDI-9976 was originally recorded by SDSU in 1984 as a small lithic scatter. SDSU revisited the site in 1985, observed additional artifacts and shell fragments, and adjusted the site boundaries. Brian F. Smith and Associates revisited the site in 2007 and conducted an extensive surface collection and subsurface testing program. The surface collection identified 15 manos, one metate, over 2,000 pieces of debitage, seven multi-use tools, three shell beads, two pieces of worked bone, 43 percussion tools, seven sherds of Tizon Brown Ware, and 63 precision tools. Subsurface deposits extended to a depth of approximately 4.6 feet and site boundaries were expanded by Brian F. Smith and Associates at this time. HDR revisited the site in 2010, but observed only nine flakes and several marine shell fragments, primarily along an access road.

The previous extensive surface collection and limited ground visibility outside the road prevented any additional observations. Since CA-SDI-9976 has been evaluated and determined eligible, HDR conducted subsurface testing at the site in 2014 and 2015, which confirmed presence of subsurface site material within the Proposed Project's APE.

The historical evaluation determined that TL 649 presents diminished integrity of design, materials, craftsmanship, location, setting, feeling, and associations. Therefore, the power line is not eligible for NRHP, CRHR, or local listing. In addition, the power line does not qualify as a significant historic resource under the terms of CEQA or the County of San Diego Resource Protection Ordinance; nor is the power line determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

Tribal Cultural Resources in the Proposed Project Area

Letters to all individuals and groups indicated by the NAHC as having affiliation with the APE were sent on June 26, 2015. To date, no responses have been received. Tribal consultation will continue throughout all phases of the Proposed Project, as deemed necessary.

Paleontological Resources in the Proposed Project Area

The Proposed Project is underlain by Tertiary and Quaternary sediment deposits, including the following:

- the middle Eocene-age (43 million years old) Mission Valley Formation, late Oligocene-age (29 million years old) Otay Formation;
- early to middle Pleistocene-age (0.5 to 1.5 million years old) old alluvial floodplain deposits; and
- late Pleistocene to Holocene-age (200,000 years to recent) older terrace deposits and young alluvial floodplain deposits.

The Otay Formation is divided into three distinct units—a basal fanglomerate unit, a middle gritstone unit, and an upper sandstone unit. The Mission Valley Formation and the upper sandstone of the Otay Formation have a high paleontological resource sensitivity rating. The fanglomerate unit of the Otay Formation, the Lindavista Formation, the old alluvial floodplain deposits, and the older terrace deposits have a moderate paleontological sensitivity rating. The Holocene-age young alluvial floodplain deposits have a low paleontological sensitivity rating.

The following provided the number of existing poles in each paleontological sensitivity rating category:

- 41 existing poles are located in an area with a high paleontological sensitivity rating;
- 59 existing poles are located in an area with a moderate paleontological sensitivity rating; and
- 32 existing poles are located in an area with a low paleontological sensitivity rating.

The SDNHM Department of PaleoServices' paleontological locality and specimen records reveal 26 fossil discovery sites located within one mile of the Proposed Project APE. Three of these localities were discovered in late Pleistocene-age (500,000 to 10,000 years old), unnamed, non-marine terrace deposits. These localities produced fossilized remains of marine vertebrates (e.g., fish) and terrestrial vertebrates (e.g., horses). Thirteen localities were found in the near-shore marine deposits of Pliocene-age (2 million to 4 million years old) San Diego Formation. These localities produced leaf impressions of plants (e.g., legumes, willow, oak, laurel, and flowering plants), shell and internal molds of marine invertebrates (e.g., snails, clams, tusk shells, branchiopods, and crabs), mineralized remains of marine vertebrates (e.g., fish, whales, and walrus), and fossilized remains of terrestrial vertebrates (e.g., birds, deer, camels, and tortoises). Eight localities were discovered in the fluvial deposits or the late Oligocene-age (29 million years old) Otay Formation. These localities produced internal molds of marine invertebrates (e.g., snails), and fossilized remains of terrestrial vertebrates (e.g., artiodactyls, rodents, snakes, and lizards). Two localities were found in the marine deposits of the Eocene-age (43 million years old) Mission Valley Formation. These localities produced shell material and internal molds of marine invertebrates (e.g., snails and clams) and fossilized remains of marine vertebrates (e.g., fish, rays, and sharks).

4.5.3 Impacts

The following subsections describe the significance criteria used to assess potential impacts to cultural and paleontological resources that may result from implementation of the Proposed Project, as well as an examination of those potential impacts.

Significance Criteria

Standards of significance were derived from Appendix G of the CEQA Guidelines and are described in the following subsections.

Cultural Resources

Under CEQA, Proposed Project construction or operation and maintenance effects to unique or important resources must be considered. A resource is unique or important if it meets any of the following criteria:

- it is associated with an event or person of recognized importance in California or American history or scientific importance in prehistory;
- it is associated with the lives of persons important to our past;
- it can provide useful information of demonstrable public interest and is useful in addressing scientifically consequential and reasonable archaeological research questions;

- it has a special or particular quality, such as oldest, best example, largest, or last surviving example of its kind.

Construction-related subsurface and surface disturbances could result in a loss of integrity of cultural deposits, a loss of scientific information, and the alteration of an archaeological site setting. Potential indirect impacts, primarily vandalism, can result from increased access and use of the general area during construction and long-term operation and maintenance activities. The potential also exists for the inadvertent discovery of buried or masked archaeological materials during construction activities.

Standards of significance were derived from Appendix G of the CEQA Guidelines. Impacts to cultural resources would be considered significant if the Proposed Project:

- causes a substantial adverse change in the significance of a historical resource, as defined in Section 15064.5 of the CEQA Guidelines;
- causes a substantial adverse change in the significance of an archaeological resource, pursuant to Section 15064.5 of the CEQA Guidelines; or
- disturbs any human remains, including those interred outside of formal cemeteries
- causes a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074

"Substantial adverse change" means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired. Section 21084.1 of the CEQA Guidelines provides that any resource listed on, or eligible for listing on, the CRHR is presumed to be historically or culturally significant for CEQA purposes.

Paleontological Resources

Impacts to paleontological resources would be considered significant if the Proposed Project directly or indirectly destroys a unique paleontological resource or site or unique geologic feature. Because fossils are the remains of prehistoric animal and plant life, they are considered to be non-renewable. Impacts to paleontological resources are characterized as high, moderate, low, or zero, depending on the resource sensitivity of impacted formations. The specific criteria applied for each sensitivity category are summarized as follows:

- High significance: Impacts to high-sensitivity formations
- Moderate significance: Impacts to moderate-sensitivity formations
- Low significance: Impacts to low-sensitivity formations
- Zero significance: Impacts to zero-sensitivity formations

Question 4.5a – Historical Resource Change

Construction – Less-than-Significant Impact

Four historic resource sites will be impacted by the Proposed Project, CA-SDI-11385, CA-SDI-11386, P-37-026549, and TL 649 itself. CA-SDI-11385 was evaluated and determined not to be eligible for NRHP or CRHR listing. A portion of a pier foundation pole work area will be located within CA-SDI-11386which consisted of a historic house and several outbuildings with

no artifacts, site material, or features associated with them. The Proposed Project will not change the significance of this historical resource because removal of the existing pole and installation of the new pole will not impact the historic structures or their overall context. Two pole work areas will be located within P-37-026549, which consists of an historic structure; however, no evidence of an historic structure were found during HDR's surveys. Therefore, no impacts on the significance of this historical resource are anticipated. The historical significance of TL 649 was also evaluated and determined not to be eligible for NRHP, CRHR, or local listing. To ensure that the structures are not impacted during construction, SDG&E will implement the following Project Design Features and Ordinary Construction/Operating Restrictions, which have been included in Chapter 3 – Project Description:

- A qualified archaeologist will monitor ground-disturbing activities within all cultural resource sites identified within Proposed Project impact areas. The requirements for archaeological monitoring will be noted on the construction plans. The archaeologist's duties will include monitoring, evaluation of any finds, analysis and curation of materials, and preparation of a monitoring results report conforming to Archaeological Resource Management Reports guidelines.

- Prior to construction, all SDG&E, contractor, and subcontractor Proposed Project personnel will receive training regarding the appropriate work practices necessary to effectively implement the Project Design Features and Ordinary Construction/Operating Restrictions relating to cultural resources to comply with the applicable environmental laws and regulations, including the potential for exposing subsurface cultural resources and paleontological resources and to recognize possible buried resources. This training will include presentation of the procedures to be followed upon the discovery or suspected discovery of archaeological materials, including Native American remains, as well as of paleontological resources.

- In the event that cultural resources are discovered, SDG&E's Cultural Resource Specialist and Environmental Project Manager will be contacted at the time of discovery. SDG&E's Cultural Resource Specialist will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation procedures to be performed before construction activities in the vicinity of the discovery are allowed to resume. For significant cultural resources, a Research Design and Data Recovery Program will be prepared and carried out to mitigate impacts. All collected cultural remains will be cleaned, cataloged, and permanently curated with an appropriate institution. All artifacts will be analyzed to identify function and chronology as they relate to the prehistory or history of the area. Faunal material will be identified as to species.

With the implementation of these Project Design Features and Ordinary Construction/Operating Restrictions, potential impacts to known historical resources will be less than significant.

Operation and Maintenance – No Impact

Other than road maintenance activities, operation and maintenance activities will not require ground disturbance. However, if ground disturbance is required for the repair of Proposed

Project components, it will be conducted in areas that were previously disturbed during construction. If ground disturbance is required within the potentially CRHR-eligible historical resource site CA-SDI-11386 for the repair of Proposed Project components, it will not impact the structures associated with this site because the closest pole is approximately 80 feet from the nearest structure associated with this site. Therefore, operation and maintenance activities will not have an adverse effect on historical resources, and no impact will occur.

Question 4.5b – Archaeological Resource Change

Construction – Less-than-Significant Impact

As shown in Table 4.5-1: Cultural Resources within the Area of Potential Effect, 34 archaeological resource sites are located within the APE; however, only 15 sites are within the Proposed Project work areas. Fourteen of these sites were evaluated and determined not to be eligible for NRHP or CRHR listing; therefore, they are not discussed further. One site (CA-SDI-9976) has been previously evaluated and determined to be eligible for listing. Two direct-bury steel poles, one micro-pile steel pole, and the associated pole work areas; an access road turnaround; and two road modification areas will be located within CA-SDI-9976. Potential impacts will result from excavation for the pole holes and foundations, pole removal, earthwork for the modified access road, as well as operation of construction vehicles and equipment within the site boundaries. These activities have the potential to disturb surface and subsurface soils and potentially disturb or destroy archaeological resources. To minimize impacts to CA-SDI-9976, SDG&E will implement the following Project Design Feature and Ordinary Construction/Operating Restriction, which have been included in Chapter 3 – Project Description:

- Prior to ground-disturbing activities within CA-SDI-9976, SDG&E will prepare and implement a formal treatment plan and a full data recovery program that includes procedures for protection and avoidance, evaluation and treatment, and the curation of any cultural materials collected.

In addition, construction of the Proposed Project will involve earthwork and excavation activities, which have the potential to uncover and potentially damage or destroy unknown archaeological resources. To minimize potential impacts to the extent possible, SDG&E will also implement the Project Design Features and Ordinary Construction/Operating Restrictions described previously in response to Question 4.5a – Historical Resource Change. With the implementation of these Project Design Features and Ordinary Construction/Operating Restrictions, potential impacts to known archaeological resources will be less than significant.

Operation and Maintenance – No Impact

Other than road maintenance activities, operation and maintenance activities will not require ground disturbance. However, if ground disturbance is required for the repair of Proposed Project components, it will be conducted in areas that were previously disturbed during construction. Since the only significant archaeological resource identified in the Proposed Project area will be treated and curated in accordance with SDG&E's Project Design Features and Ordinary Construction/Operating Restrictions, operation and maintenance activities will not

cause a substantial adverse change in the significance of an archaeological resource, and no impact will occur.

Question 4.5c – Paleontological Resource Destruction

Construction – Less-than-Significant Impact

As discussed in Chapter 3 – Project Description, the Proposed Project will consist of wood-to-steel pole replacement and underground distribution line extensions, which will require drilling or excavation activities for the installation of direct-bury replacement steel poles, pier foundations, micro-pile foundations, and underground duct banks. The installation of direct-bury steel poles will require the excavation of holes that are six to 16 feet deep. Pier foundation and micro-pile foundation installation will require the excavation of holes that are approximately 30 feet deep. The underground duct banks will require the excavation of trenches that are three to five feet deep. Because paleontological resources are found beneath the surface, these activities have the greatest potential to disturb paleontological resources in areas where they have a potential to occur.

Within the Proposed Project area, construction activities at approximately 41 pole installations have a high potential to encounter buried paleontological resources and 59 pole installations have a moderate potential to encounter buried paleontological resources. At these pole locations, it is possible that excavation activities will result in damage to or destruction of buried paleontological resources. To minimize potential impacts to these resources, SDG&E will implement the previously described Project Design Features and Ordinary Construction/Operating Restrictions, as well as the following additional Project Design Features and Ordinary Construction/Operating Restriction, which has been included in Chapter 3 – Project Description:

- A qualified paleontologist will attend pre-construction meetings, as needed, to consult with the excavation contractor concerning excavation schedules, paleontological field techniques, and safety issues. A qualified paleontologist is defined as an individual with a Master of Science or Doctor of Philosophy in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology and paleontology of San Diego County, and who has worked as a paleontological mitigation project supervisor in the region for at least one year. The requirements for paleontological monitoring will be noted on the construction plans. A paleontological monitor, defined as an individual who has experience in the collection and salvage of fossil materials, will work under the direction of a qualified paleontologist and will be on site to observe excavation operations that involve the original cutting of previously undisturbed deposits with high paleontological resource sensitivity (i.e., Mission Valley Formation and the upper sandstone unit of the Otay Formation). In the event that fossils are encountered, the paleontologist will have the authority to divert or temporarily halt construction activities in the area of discovery to allow recovery of fossil remains in a timely fashion. The paleontologist will contact SDG&E's Cultural Resource Specialist and Environmental Project Manager at the time of discovery. The paleontologist, in consultation with SDG&E's Cultural Resource Specialist, will determine the significance of the discovered resources. SDG&E's Cultural Resource Specialist and Environmental Project Manager must concur with the evaluation

procedures to be performed before construction activities are allowed to resume. Because of the potential for recovery of small fossil remains, it may be necessary to set up a screen-washing operation on site. If fossils are discovered, the paleontologist (or paleontological monitor) will recover them, along with pertinent stratigraphic data. Because of the potential for recovery of small fossil remains, recovery of bulk sedimentary-matrix samples for off-site wet screening from specific strata may be necessary, as determined in the field. Fossil remains collected during monitoring and salvage will be cleaned, repaired, sorted, cataloged, and deposited in a scientific institution with permanent paleontological collections. A final summary report will be completed that outlines the results of the recovery program. The report will discuss the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.

With implementation of these Project Design Features and Ordinary Construction/Operating Restrictions, any potential impacts to paleontological resources will be less than significant.

Operation and Maintenance – Less-than-Significant Impact

Other than road maintenance activities, operation and maintenance activities will not require ground disturbance. However, if ground disturbance is required for the repair of Proposed Project components, it will be conducted in areas that were previously disturbed during construction. Therefore, operation and maintenance activities are not anticipated to have an adverse effect on paleontological resources, and impacts will be less than significant.

Question 4.5d – Human Remains Disturbance

Construction – Less-than-Significant Impact

No known cemeteries exist and no recorded Native American or other human remains have been previously identified within or adjacent to the Proposed Project area. As such, the potential for the unintended discovery of Native American or other human remains during subsurface construction activities required for the Proposed Project is considered to be low. If human remains are encountered during the course of construction, work will be halted in the vicinity of the find, and SDG&E will implement the appropriate notification processes as required by HSC 7050.5. As a result, any potential impacts will be less than significant.

Operation and Maintenance – Less-than-Significant Impact

Other than road maintenance activities, operation and maintenance activities will not require ground disturbance. However, if ground disturbance is required for the repair of Proposed Project components, it will be conducted in areas that were previously disturbed during construction. As previously described, the presence of human remains is considered unlikely in the Proposed Project area. If human remains are encountered, work will be halted in the vicinity of the find, and SDG&E will implement the appropriate notification processes as required by law. As a result, any potential impacts will be less than significant.

Question 4.5e – Tribal Cultural Resources – Less-than-Significant Impact

At this time, SDG&E is not aware of any tribal cultural resources in the APE. Tribal consultation will continue throughout all phases of the Proposed Project, as deemed necessary.

If any tribal cultural resources are identified in the Proposed Project area, they will be either avoided, preserved in place, or handled as determined during consultation. As a result, any potential impacts will be less than significant.

4.5.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts to cultural and paleontological resources, no applicant-proposed measures have been proposed.

4.5.5 References

City of Chula Vista. 2015. *City of Chula Vista General Plan.*

City of San Diego. 2008a. *City of San Diego General Plan.*

City of San Diego. 2014. Otay Mesa Community Plan Update: Historic Context Statement and Historic Resource Survey. Online. http://www.sandiego.gov/planning/programs/historical/pdf/2014/staffreports/hrb14009mtng140123.pdf. Site visited July 6, 2015.

County of San Diego. 2011. *County of San Diego General Plan.*

OPR. 2015. Discussion Draft Technical Advisory: AB 52 and Tribal Cultural Resources in CEQA. Online. http://www.opr.ca.gov/docs/DRAFT_AB_52_Technical_Advisory.pdf. Site visited June 2, 2015.

HDR. 2015a. *Cultural Resources Work Completed for the TL 649 Wood to Steel Project.*

HDR. 2015b. *Final Cultural Resources Technical Report: Historic Significance Evaluation of Tie Line 649.*

SDNHM Department of PaleoServices. 2013. Paleontological record search – SDG&E TL 649 Wood to Steel, Revised (eTS #8357).

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ATTACHMENTS

4.6 GEOLOGY AND SOILS

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact 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?[1]			✓	
ii) Strong seismic ground shaking?			✓	
iii) Seismic-related ground failure, including liquefaction?			✓	
iv) Landslides?			✓	
b) Result in substantial soil erosion or the loss of topsoil?			✓	
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			✓	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			✓	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				✓

[1] Refers to Divisions of Mines and Geology Special Publication #42

4.6.0 Introduction

This section describes the existing geologic and pedogenic soil conditions related to the proposed San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project). This section analyzes the exposure of people and structures to substantial adverse effects involving strong seismic ground shaking, fault rupture, liquefaction, unstable soils, landslides, expansive soil, substantial soil erosion, or the loss of topsoil. By adhering to SDG&E's Proposed Project design and the recommendations provided in the Proposed Project-specific geotechnical investigations in the final design, construction of the Proposed Project will result in less-than-significant impacts related to geology and soils.

4.6.1 Methodology

The existing conditions and potential impacts associated with geologic hazards were primarily obtained from the geotechnical investigations prepared by Geocon Incorporated (Geocon) for the Proposed Project, which are included as Attachment 4.6–A: Geotechnical Investigation. Geocon reviewed the geologic literature for the region and performed a geotechnical investigation with field exploration, laboratory testing, and associated engineering analyses to evaluate the subsurface soil conditions along the Proposed Project alignment. The field exploration for the Proposed Project alignment included drilling geotechnical exploratory borings and a geophysical survey that consisted of seismic refraction survey lines. In addition to the research and analysis provided in Attachment 4.6–A: Geotechnical Investigation, a thorough review of available geologic resource literature relevant to the Proposed Project area was conducted independent of the analyses performed by Geocon. The materials reviewed include publications and/or data from the United States Geological Survey (USGS), the California Geological Survey (CGS), and other technical reports and resources. A reconnaissance-level field investigation was also performed on May 16, 2014.

4.6.2 Existing Conditions

Regulatory Background

The following subsections describe federal, state, and local regulations relevant to the Proposed Project.

Federal

No federal regulations related to geology and soils are relevant to the Proposed Project.

State

California Public Utilities Commission General Order 95

California Public Utilities Commission (CPUC) General Order (GO) 95 Rules for Overhead Line Construction provides general standards for the design and construction of overhead electrical lines.

Local

Because the CPUC has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations.

The following discussion of the local regulations relating to geology and soils is provided for informational purposes. As outlined in the following subsections, the construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations adopted by agencies with jurisdiction over local regulations related to geology and soils.

County of San Diego General Plan and County Code

The Safety Element of the County of San Diego General Plan provides information about geologic and other hazards in the County.

Chapter 14, Article 2 of the San Diego County Code of Regulatory Ordinances contains regulations related to building and grading and erosion control. This chapter also sets forth the means for controlling soil erosion, sedimentation, and increased rates of water runoff and related environmental damage. These means are achieved by establishing minimum standards and providing regulations to protect downstream waterways and wetlands, and to promote the safety, public health, convenience, and general welfare of the community. The provisions in Chapter 14 apply to the unincorporated areas of San Diego County.

City of San Diego General Plan and Land Development Code

The Public Facilities, Services, and Safety Element of the City of San Diego General Plan provides information related to seismic, geologic, and structural hazards, which the City of San Diego must consider in all planning and development efforts.

Chapter 14, Article 2 of the City of San Diego Land Development Code provides regulations related to grading, storm water runoff, and drainage. This chapter also sets forth the means for controlling soil erosion, sedimentation, and increased rates of water runoff and related environmental damage. These means are achieved by establishing minimum standards and providing regulations to protect downstream waterways and wetlands, and to promote the safety, public health, convenience, and general welfare of the community.

City of Chula Vista General Plan and City Code

The Environmental Element of the City of Chula Vista General Plan provides information related to geologic and other hazards in the City of Chula Vista.

Title 14, Chapter 14.20 of the Chula Vista Municipal Code provides regulations related to storm water management and discharge control. Title 15, Chapter 15.04 of the Chula Vista Municipal Code provides regulations related to excavation, grading, clearing, grubbing and fills. These chapters also set forth the means for controlling soil erosion, sedimentation, and increased rates of water runoff and related environmental damage. These means are achieved by establishing minimum standards and providing regulations to protect downstream waterways and wetlands, and to promote the safety, public health, convenience, and general welfare of the community.

Environmental Setting

Geologic Setting

The Proposed Project is located in the Peninsular Ranges geomorphic province. The Peninsular Ranges geomorphic province extends approximately 900 miles from the Transverse Ranges and the Los Angeles Basin south to the southern tip of Baja California, and it varies in width from approximately 30 to 100 miles. The province is characterized by mountainous terrain on the east, composed mostly of Mesozoic igneous and metamorphic rocks; and relatively low-lying coastal terraces to the west, underlain by Upper Cretaceous-, Tertiary-, and Quaternary-age sedimentary rocks. Most of the coastal region of San Diego County, including the general Proposed Project area, occurs within this coastal region and is underlain by sedimentary rock. Specifically, the Proposed Project site in this portion of the province is underlain by Pliocene, Pleistocene, and Holocene deposits. Geologic units and characteristics are identified in Table 4.6-1: Geological Formations within the Proposed Project Area.

Table 4.6-1: Geological Formations within the Proposed Project Area

Geological Formation	Symbol	Geologic Age	Approximate Number of Existing Poles within Formation Type	Approximate Distance Crossed (miles)
Lindavista Formation	Ql	Pleistocene or Pliocene	13	0.7
Landslide Deposits	Qls	Holocene and Pleistocene	4	0.2
Marine Beach Deposits	Qmb	Holocene	0	0.1
Older Alluvium	Qoa	Holocene and Pleistocene	17	0.9
Terrace Deposits	Qt	Pleistocene	16	0.7
Young Alluvium	Qya	Holocene	32	1.9
Fanglomerate	OTf	Pleistocene and Tertiary	13	0.8
Mission Valley Formation	Tmv	Eocene	7	0.5
Otay Formation	To	Oligocene	35	1.8

Source: San Diego State University, 2015

The borings conducted by Geocon indicated that the Proposed Project site and vicinity are generally underlain by five surficial soil types and five geologic formations. The surficial units consist of undocumented fill, topsoil, colluvium, alluvium, and landslide deposits. The formational materials consist of Terrace Deposits, Otay Formation, Fanglomerate Deposits, Mission Valley Formation, and Santiago Peak Volcanoes. The soil type(s) and geologic unit(s) encountered at each boring location are depicted in Appendix A: Field Investigation of Attachment 4.6–A: Geotechnical Investigation.

Faults, Seismicity, and Related Hazards

Faults

In comparison to other parts of Southern California, the immediate San Diego area has a relatively quiet seismic history. The historical pattern of seismic activity in coastal San Diego has generally been characterized as a broad scattering of small- to moderate-magnitude earthquakes, whereas the surrounding regions of Southern California—such as the Imperial Valley, northern Baja California, and the nearby offshore regions—are characterized by a higher rate of seismicity. The geologic structure of Southern California is dominated by right-lateral strike-slip faults associated with the movement of two tectonic plates—the Pacific Plate and the North American Plate. The San Andreas Fault system, which lies east of San Diego County, marks the principal boundary element between these plates. The La Nacion fault zone is the closest known potentially active fault. Much of the San Diego coastal area lies within the Rose Canyon fault zone, a zone of right-lateral faults. Table 4.6-2: Faults in the Vicinity of the Proposed Project lists the potentially active faults in San Diego County.

Fault Rupture

The onshore portion of the Rose Canyon fault zone extends along the northeast flank of Mount Soledad in La Jolla and continues southward along the eastern margins of Mission Bay. Between Mission Bay and San Diego Bay, the zone widens and diverges. Although portions of this fault zone in the Mount Soledad, Rose Canyon, and downtown San Diego areas have been designated as Aliquist-Priolo Earthquake Fault Zones, none of the work areas associated with the Proposed Project lie in an Aliquist-Priolo Earthquake Fault Zone. The Alquist-Priolo Earthquake Fault Zoning Act of 1972, formerly known as the Special Studies Zoning Act, regulates construction and development of buildings intended for human occupancy to avoid rupture hazards from surface faults. This act does not specifically regulate overhead power lines, but it does aid in defining areas where fault rupture is most likely to occur.

Strands of the Rose Canyon fault zone have been mapped within relatively close proximity to the Proposed Project. The smaller but potentially active La Nacion fault zone lies approximately 0.3 mile to the west of the Proposed Project. The Proposed Project is approximately 5.3 miles southeast of the Rose Canyon fault zone, approximately 15.3 miles northeast of the Coronado Bank fault zone, and approximately 39 miles southwest of the Elsinore fault zone. Table 4.6-2: Faults in the Vicinity of the Proposed Project lists active earthquake events and estimated site accelerations for the faults considered most likely to subject the Proposed Project area to ground shaking.

Strong Ground Motion

Strong ground motion or intensity of seismic shaking during an earthquake depends on the distance from the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the area. Structures founded on thick, soft soil deposits are more likely to experience destructive shaking, with higher amplitude and lower frequency, than structures founded on bedrock.

Table 4.6-2: Faults in the Vicinity of the Proposed Project

Fault	Proximity to the Proposed Project	Approximate Fault Length (miles)	Maximum Magnitude Events		
			Maximum Estimated Earthquake Magnitude	Slip Rate (mm/yr)	Peak Site Acceleration (g)
La Nacion Fault Zone	0.3 miles west	30	6.6	<0.2	0.422
San Ysidro Fault Zone	1.8 miles southwest	9	Unknown	<0.2	0.429
Chula Vista Fault	3.3 miles northwest	2	Unknown	Unknown	0.458
Rose Canyon Fault Zone, Silver Strand Section	5.3 miles northwest	19	7.2	1.5	0.504
Coronado Bank Fault Zone, Coronado Bank Section	15.3 miles southwest	185	7.6	3.0	0.633
San Diego Trough	22.2 miles southwest	97	7.7	1 to 5	0.440
Elsinore Fault Zone, Julian Section	39.1 miles northeast	76	7.1	5.0	0.754
San Jacinto Fault Zone, Coyote Creek Section	59.1 miles northeast	41	6.8	4.0	0.960

Sources: USGS, 2015b; DOC, 2015a, 2015b, and 2015d; San Diego Natural History Museum, 2015
Note: mm/year = millimeters per year

An earthquake is commonly described by the amount of energy released, which has traditionally been quantified using the Richter scale. However, seismologists have recently begun using a Moment Magnitude scale because it provides a more accurate measurement of a major earthquake's size. The Moment Magnitude and Richter scales are almost identical for earthquakes of less than magnitude 7.0. Moment Magnitude scale readings are slightly greater than a corresponding Richter scale reading for earthquakes with magnitudes greater than 7.0. The maximum magnitude earthquake is defined by the CGS as the maximum earthquake that appears capable of occurring under the presently known tectonic framework. Table 4.6-2: Faults in the Vicinity of the Proposed Project lists the nearest fault systems to the Proposed Project area, as well as their known maximum values of magnitude, slip rates, and peak site accelerations.

The probabilistic seismic hazard assessment (PSHA) for the State of California considers a range of possible earthquake sources and estimates their characteristic magnitudes to generate a probability map for ground shaking. The PSHA maps depict values of peak ground acceleration (Pga) that have a 10-percent probability of being exceeded in 50 years, expressed as a fraction of the acceleration due to gravity (g). Based on the CGS Probabilistic Seismic Hazards Ground Motion Interpolator, the peak ground acceleration for the Proposed Project is approximately 0.221 g, which is within Modified Mercalli Scale Intensity Range VII, as shown in Table 4.6-3: Earthquake Intensity Scale. This Pga value typically indicates a violent earthquake capable of causing heavy damage, including general damage to foundations; shifting of frame structures off foundation, if not bolted; possible damage to reservoirs; breakage of underground pipes; and appearance of conspicuous cracks in ground.

The Modified Mercalli Scale is another common measure of earthquake intensity, subjective measures of earthquake strength at a particular place as determined by its effects on people, structures, and earth materials. Table 4.6-3: Earthquake Intensity Scale presents the Modified Mercalli scale for earthquake intensity, including a range of approximate average peak accelerations associated with each intensity value.

Liquefaction

Liquefaction occurs when loose sands and silts that are saturated with water behave like liquids when strong ground shaking occurs. Seismic waves can cause the pore pressure in the soils to build until the soil grains lose contact, thereby causing the soil to lose tensile strength and behave like a liquid. Higher pore pressure occurs as the soil attempts to compact in response to the shaking, resulting in less grain-to-grain soil contact and thus a loss of strength. Typically, loose, fine-grained sands and silts below the water table are the most susceptible to liquefaction. Medium dense sands and silts below the water table may also liquefy if the shaking is of sufficient severity and duration. In addition, structures supported by a liquefying soil may sustain damage due to loss of foundation support.

According to the County of San Diego Guidelines for Determining Significance of Geologic Hazards, the areas within the county that have the highest potential for liquefaction are those with loose, sandy soils combined with a shallow groundwater table; they are typically located in alluvial river valleys or basins and floodplains. Approximately 19 percent of the Proposed Project alignment is located within potential areas of liquefaction. The County of San Diego's report discusses the hydric soils found within the County, including Riverwash, which is located

Table 4.6-3: Earthquake Intensity Scale

Intensity Value	Intensity Description	Average Peak Acceleration Range (g)
I	Not felt except by very few people under especially favorable circumstances.	<0.0017
II	Felt only by a few people at rest, especially on upper floors of buildings. Delicately suspended objects may swing.	0.0017–0.014
III	Felt noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing cars may rock slightly, and vibrations are similar to a passing truck. Duration estimated.	
IV	During the day, felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation is like a heavy truck striking building. Standing cars rock noticeably.	0.014–0.039
V	Felt by nearly everyone, and many awakened. Some dishes and windows broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles may be noticed. Pendulum clocks may stop.	0.039–0.092
VI	Felt by all, many frightened and run outdoors. Some heavy furniture moves and plaster falls or chimneys are damaged. Damage slight.	0.092–0.18
VII	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by people driving cars.	0.18–0.34
VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, and walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. People driving cars disturbed.	0.34–0.65
IX	Damage considerable in specially designed structures; great in substantial buildings, with partial collapse. Well-designed frame structures thrown out of plumb. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	0.65–1.24
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.	>1.24

Intensity Value	Intensity Description	Average Peak Acceleration Range (g)
XI	Few, if any, masonry structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	>1.24
XII	Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown upward into the air.	

Sources: Bolt, 1998; Wald, 1999

along portions of the Proposed Project alignment as the surficial deposits. Based on the County of San Diego Guidelines for Determining Significance of Geologic Hazards, liquefaction is not known to have occurred in San Diego County; however, liquefaction has occurred in the Imperial Valley as a result of earthquakes with magnitude 6.0 or higher. According to Attachment 4.6–A: Geotechnical Investigation, alluvial deposits were encountered in approximately seven borings as the surficial soils. However, the potential for liquefaction is considered low due to the presence of relatively dense soil and the lack of near-surface permanent groundwater.

Slope Instability

Strong ground motion can result in rockfall hazards and/or slope instability. The slopes most susceptible to earthquake-induced failure include those with highly weathered and unconsolidated materials on moderately steep to steep slopes (especially in areas of previously existing landslides). Generally, slopes that are 15 percent or greater are considered steep.

Landslides occur when masses of rock, earth, or debris move down a slope; these include rock falls, deep failure of slopes, and shallow debris flows. The actuators of landslides can be either natural events—such as earthquakes, rainfall, and erosion—or human activities. Those induced by humans are most commonly related to large grading activities (which can cause new slides or reactivate old ones when compacted fill is placed on potentially unstable slopes) or introduced surface water or groundwater that results in saturated or supersaturated soils.

Excavation operations can contribute to landslides when lateral support near the base of unstable hillside areas is removed. Conditions to be considered with regard to slope instability include slope inclination, soil characteristics, presence of groundwater, and degree of soil saturation. Slopes throughout the Proposed Project area are moderate to very steep—as much as 33 percent in some instances. Areas of high landslide susceptibility occur in the Proposed Project area, particularly where fine sands are situated on very steep or eroded slopes.

Wildfires can also increase the potential for landslides because the rainfall that is normally absorbed into hillslope soils can run off almost instantly after vegetation has been removed by wildfire. As a result, creeks and drainage areas can experience runoff that is much greater and more rapid than normal. Highly erodible soils in a burn scar allow flood waters to entrain large amounts of ash, mud, boulders, and unburned vegetation. According to information provided by the USGS, the Proposed Project is not located in potential debris flow areas.

Differential Settlement

If the soil beneath a structure settles non-uniformly, the structure can be damaged. The reasons for differential settlement are usually traced to differences in bearing characteristics of the soils. Alternatively, a portion of the soil beneath a structure may lose strength during an earthquake due to liquefaction. Non-uniform liquefaction results in differential compaction. Unconsolidated or weakened geologic units in the Proposed Project alignment, including areas underlain by alluvium and highly weathered rock, may be subject to differential settlement. Approximately 37 percent of the Proposed Project alignment (pole locations 8, 11 through 18.5, 19.1, 50.2 through 78, A, G, and H) is located within Quaternary alluvium deposits.

Subsidence

Subsidence occurs most often when fluids are withdrawn from the ground, removing partial support for previously saturated soils. More rarely, subsidence occurs due to tectonic down-warping during earthquakes. The majority of soil units within the Proposed Project area have a low capacity to hold water.

Soils

Approximately 12 distinct soil units are crossed by the right-of-way (ROW) for the Proposed Project, although several of these units are grouped within the same (approximately seven) soil series. The soil characteristics along the Proposed Project alignment are summarized in Table 4.6-4: Soils in the Proposed Project Area.

Expansive or Collapsible Soils

Expansive soils are characterized by the ability to undergo significant volume change (shrink and swell) as a result of variation in soil moisture content. Soil moisture content can change due to many factors, including perched groundwater, landscape irrigation, rainfall, and utility leakage. Expansive soils are commonly very fine-grained with a high to very high percentage of clay. Expansive soils in the Proposed Project area are listed in Table 4.6-4: Soils in the Proposed Project Area. Expansive clay soils underlie approximately 81 percent of the Proposed Project alignment.

4.6.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts to geology and soils that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

Standards of significance were derived from Appendix G of the California Environmental Quality Act Guidelines. Impacts to geology and soils would be considered significant if the Proposed Project:

- Exposes people or structures to potential substantial adverse effects involving fault rupture, strong seismic ground shaking, liquefaction, or landslides
- Results in substantial soil erosion or the loss of topsoil
- Is located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Proposed Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse
- Is located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property

Table 4.6-4: Soils in the Proposed Project Area

Soil Type	Soil Unit	Slope (percent)	Permeability	Erosion Potential	Expansive (Yes/No)	Pole Location Number
Diablo clay	DaC	2 to 9	Slow	Moderate	Yes	108, 108.1, 109, 112, 113, 114
	DaD	9 to 15		Moderate		1, 15, 50.2, 55, 56, 110, 111, 115, 116
	DaE	15 to 30		Severe		32 through 34, 40, 43, 46 through 54, 57, 59 through 65
	DaF	30 to 50		Severe		18 through 18.2, 19 through 31, C, D, E
Linne clay loam	LsE	9 to 30	Moderately Slow	Severe	Yes	5 through 8, 101 through 107
Olivenhain cobbly loam	OhC	2 to 9	Very Slow	Slight	Yes	67 through 73.1, 76
	OhE	9 to 30		Moderate	No	4
	OhF	30 to 50		Severe		2, 3, 66, 74, 78 through 82, 87, 97 through 100
Riverwash	Rm	--	Rapid	Slight	No	39, 41, 42, 44, 45, 58, F, G
Salinas clay loam	SbC	2 to 9	Moderately Slow	Moderate	Yes	9 through 14, 16, 17, 18.3, 18.31, 18.4, 18.5, 35 through 38, A, B
Stockpen gravelly clay loam	SuA	0 to 2	Very Slow	Slight	Yes	83 through 86, 88 through 96
Visalia gravelly sandy loam	VdB	2 to 5	Moderately Rapid	Slight	No	75, 77, H

Sources: United States Department of Agriculture (USDA), 2015a and 2015b

- Is located on 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

Question 4.6a – Human Safety and Structural Integrity

i. Earthquake Fault Rupture – Less than Significant Impact

The Proposed Project does not cross an Aliquist-Priolo Earthquake Fault Zone. As described in Section 4.6.2 Existing Conditions, the La Nacion fault zone is the nearest potentially active fault to the Proposed Project, located approximately 0.3 mile west of the alignment. The Rose Canyon Fault Zone, located approximately 5.3 miles northwest of the Proposed Project, is the dominant source of potential ground motion at the site. Earthquakes on the Rose Canyon Fault with a maximum magnitude of 7.2 represent the potential for seismic ground shaking at the site. Research studies to assess faulting for most of the various fault sections have documented Holocene activity for the length of the Rose Canyon Fault Zone, which means that this fault has been active within the past 11,000 years.

The Proposed Project involves wood-to-steel pole replacement for the existing power line. The new steel poles will be installed in accordance with the CPUC's GO 95, which provides general standards for the design and construction of overhead electric lines. In addition, the new steel poles will be more structurally sound than the existing wood poles. SDG&E will also consider the recommendations of the Proposed Project-specific geotechnical report for foundation design parameters when finalizing the design.

Given that the Proposed Project is located in an area of a known active fault, a fault rupture could occur. Such a rupture could cause a disruption in services and potentially damage the line. However, a review of applicable codes (e.g., GO 95) and industry construction standards, along with the preliminary engineering calculations performed for the Proposed Project, show that the forces resulting from seismic loading will be less than those generated by wind and broken conductor loading on the poles. Therefore, seismic ground motion need not be considered for the design of the poles. Accordingly, the Proposed Project will be able to withstand the effects of a fault rupture, and impacts will be less than significant.

ii. Strong Seismic Shaking – Less-than-Significant Impact

As shown in Table 4.6-2: Faults in the Vicinity of the Proposed Project, the Proposed Project is located in an area that may be subject to relatively strong seismic shaking due to earthquakes that occur along the nearby faults. As discussed in Section 4.6.2 Existing Conditions, the peak ground acceleration for the Proposed Project is approximately 0.221 g. A peak ground acceleration of 0.221 g is within Intensity Range VII, as shown in Table 4.6-3: Earthquake Intensity Scale. As previously discussed, forces resulting from seismic loading are expected to be less than forces generated by wind and broken conductor loading on the poles. Therefore, seismic ground motion need not be considered for design of the poles. Accordingly, the incorporation of the engineering practices required by GO 95 and other industry standards will ensure that people and structures are not exposed to hazards associated with strong seismic ground shaking. As a result, impacts will be less than significant.

iii. Ground Failure – Less-than-Significant Impact

As described in Section 4.6.2 Existing Conditions, the Proposed Project alignment is not located within an Alquist-Priolo Earthquake Fault Zone. Rose Canyon Fault Zone, located approximately 5.3 miles northwest of the alignment, is the dominant source of potential ground motion in the Proposed Project area. The Proposed Project area could be subjected to moderate to severe ground shaking in the event of an earthquake along any of the faults listed in Table 4.6-2: Faults in the Vicinity of the Proposed Project or other faults in the southern California/northern Baja California region.

Soil liquefaction occurs within relatively loose, cohesionless sands located below the water table that are subjected to ground accelerations from earthquakes. Typical soils with the potential for liquefaction are located in alluvial river valleys or basins and floodplains. Alluvial deposits were encountered as the surficial soils in several borings. The liquefaction potential of the alluvial deposits encountered in these borings is considered low due to the presence of relatively dense soil and the lack of near-surface permanent groundwater. In the vicinity of these borings, the condition of alluvial deposits is expected to be similar to the conditions encountered in these borings.

In addition, the Proposed Project poles are individual structures that are not considered sensitive to differential settlement. Therefore, impacts resulting from seismic-related ground failure are expected to be less than significant.

iv. Landslides – Less-than-Significant Impact

Hazards related to slope instability and landslides are generally associated with foothill areas and mountain terrain, as well as steep riverbanks and levees. The Proposed Project will be predominantly located in areas with moderately to steeply sloping terrain, where the potential for localized shallow landsliding is increased. Soil composition within the Proposed Project area varies greatly, ranging from relatively flat sandy alluvial deposits to steeply sloping igneous rock land. Sandy soil types are more prone to extreme displacement than other soil types. Sandy soils within the Proposed Project area are located east of the State Route (SR-) 125 crossing and at the point where the alignment turns south. However, these areas do not generally contain slopes as steep as other portions of the Proposed Project. The majority of the Proposed Project is located on stable soil types, although very steep slopes are located throughout the area.

Ground-disturbing activities during construction—including vegetation trimming, trenching, and excavation during pole and underground duct bank installation—have the potential to increase surface instability. However, the sloping landscape and underlying soil formations will be taken into account in the design of the Proposed Project to minimize the potential impact of landslide on the poles. The final design will consider the recommendations provided in the Proposed Project-specific geotechnical investigation provided in Attachment 4.6–A: Geotechnical Investigation, and pole depth and foundation diameter will be engineered for the site-specific conditions.

Because ground disturbance for the Proposed Project will exceed one acre, SDG&E will obtain coverage under the California State Water Resources Control Board (SWRCB) General Permit for Storm Water Discharges Associated with Construction Activity Order No. 2009-009-DWQ.

To obtain coverage under the permit, SDG&E will develop and submit Permit Registration Documents, including a Notice of Intent, Storm Water Pollution Prevention Plan (SWPPP), risk assessment, site map, certification, and annual fee to the SWRCB, before initiating construction activities. The SWPPP will identify best management practices (BMPs) for each activity that has the potential to degrade surrounding water quality through erosion, sediment runoff, and other pollutants. These BMPs will then be implemented and monitored throughout the Proposed Project by a qualified SWPPP practitioner. SDG&E will implement BMPs, including slope stabilization and revegetation, where appropriate, in areas where ground disturbance or trimming is required. Therefore, the limited ground disturbance required for the Proposed Project will not likely create instability that could result in increased landslides. As a result, impacts will be less than significant.

Question 4.6b – Soil Erosion or Topsoil Loss

Construction – Less-than-Significant Impact

The Proposed Project primarily involves the replacement of the existing wood poles in previously disturbed areas, and existing access roads and overland access routes will be used for travel to work sites and pole locations. Permanent disturbance will result from the access road modifications. The modified road will be compacted and stabilized along the edges to prevent soil erosion. The majority of the ground disturbance will be temporary in nature, and attributed to pole excavation, trenching, staging yards, and stringing sites. Following removal of existing poles and installation of the new steel poles, disturbed areas will be returned to near pre-construction conditions using native soil excavated on site during construction activities.

Ground-disturbing activities will expose soil to erosion by removing the vegetative cover and compromising the soil structure. Rain and wind may further detach soil particles and transport them off site. As mentioned in Section 4.6.2 Existing Conditions, approximately 51 percent of the Proposed Project area contains soils with a severe potential for erosion.

To reduce the potential for erosion and topsoil loss in impacted areas of the Proposed Project, SDG&E will implement BMPs to manage exposed soil and temporary stockpiles, as required by the SWPPP. Because of the limited extent of earth-disturbing activities and the limited nature of the Proposed Project's construction, substantial erosion or loss of topsoil is not expected to occur. As a result, the potential for soil erosion or topsoil loss will be less than significant.

Operation and Maintenance – No Impact

SDG&E will periodically conduct required maintenance of the Proposed Project facilities. Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Existing access roads and the widened access road will be utilized to access the new poles. Because no new roads will be constructed during operation, and maintenance of facilities will be less frequent than for the existing power line, there will be no impacts from topsoil loss associated with operation and maintenance of the Proposed Project.

Question 4.6c – Geologic Unit Instability

Construction – Less-than-Significant Impact

As described previously in the response to Question 4.6a – Human Safety and Structural Integrity, power line facilities are engineered to withstand strong ground movement and moderate ground deformation, and the new steel poles will provide increased structural support compared to the existing wood poles. The Proposed Project crosses steeply sloping terrain; therefore, the potential for slope failure may exist in some areas. However, the work areas located in steep terrain will require relatively little ground disturbance in any one location, and construction methods that limit ground disturbance will be used. Thus, construction activities are not expected to result in soil destabilization.

The Proposed Project is not likely to be subject to subsidence because construction activities at these sites will not involve the withdrawal of substantial groundwater that typically causes subsidence. The portion of the Proposed Project alignment between pole locations 51 and 75 is composed of young alluvium deposits, likely the least stable geologic unit in the Proposed Project area. However, the new steel poles will generally be located in the immediate vicinity of the existing wood poles and will have greater structural integrity within these and other areas of the Proposed Project. In addition, the potential for liquefaction in San Diego County is considered to be low. The majority of the Proposed Project is located in areas with stable geological formations and soil types. As a result, impacts associated with geologic unit and soil instability will be less than significant.

Operation and Maintenance – No Impact

SDG&E will periodically conduct required maintenance activities of the Proposed Project facilities. Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Existing access roads and the widened access road will be utilized to access the new poles. Because no new roads will be constructed during operation, and facility maintenance activities will be less frequent than for the existing power line, there will be no impacts associated with operation and maintenance of the Proposed Project.

Question 4.6d – Expansive Soils

Construction – Less-than-Significant Impact

As described in the County of San Diego Guidelines for Determining Significance of Geologic Hazards, certain types of clay soils expand when saturated and shrink when dried. Extremely expansive soils may damage Proposed Project poles and can result in collapse. Power outages, damage to nearby roads or structures, and injury or death to nearby people may result from collapse of Proposed Project poles. As described in Section 4.6.2 Existing Conditions, expansive soils underlie approximately 81 percent of the Proposed Project alignment. However, the new steel poles will be designed for the soil types in the Proposed Project area in accordance with the recommendations in Attachment 4.6–A: Geotechnical Investigation to prevent potential pole

collapse. Therefore, potential impacts associated with expansive soils are anticipated to be less than significant.

Operation and Maintenance – No Impact

SDG&E will periodically conduct required maintenance activities of the Proposed Project facilities. Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Existing access roads and the widened access road will be utilized to access the new poles. Because no new roads will be constructed during operation, and maintenance of existing facilities will be required less frequently than for the existing power line, there will be no impacts associated with expansive soils from the operation and maintenance of the Proposed Project.

Question 4.6e – Septic Suitability – *No Impact*

Soil permeability is a consideration for projects that require septic system installation. Because the Proposed Project will not involve the installation of a septic tank or alternative wastewater disposal system, no impacts will occur.

4.6.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts to geology or soils, no applicant-proposed measures have been proposed.

4.6.5 References

Bolt, Bruce A. 1988. *Earthquakes*. New York: W.H. Freeman and Company.

CGS. 2008. Geologic Map of the San Diego 30' x 60' Quadrangle, California. Online. ftp://ftp.consrv.ca.gov/pub/dmg/pubs/rgm/RGM_003/RGM3_San_Diego_2008_Pamphlet.pdf. Site visited July 1, 2015.

CGS. 2002. California Geomorphic Provinces. Online. http://www.conservation.ca.gov/cgs/information/publications/cgs_notes/note_36/Documents/note_36.pdf. Site visited July 1, 2015.

City of Chula Vista. 2015. Chula Vista Municipal Code. Online. http://www.codepublishing.com/ca/chulavista/. Site visited July 1, 2015.

City of Chula Vista. 2005. *City of Chula Vista General Plan*.

City of San Diego. 2008. *City of San Diego General Plan*.

City of San Diego. 2015. Municipal Code. Online. http://www.sandiego.gov/city-clerk/officialdocs/legisdocs/muni.shtml. Site visited July 1, 2015.

County of San Diego. 2007. County of San Diego Guidelines for Determining Significance: Geologic Hazards. Online.

http://www.sandiegocounty.gov/dplu/docs/Geologic_Hazards_Guidelines.pdf. Site visited July 1, 2015.

County of San Diego. 2011a. *County of San Diego General Plan*.

County of San Diego. 2011b. County of San Diego General Plan Update Environmental Impact Report. Online. http://www.sandiegocounty.gov/pds/gpupdate/environmental.html. Site visited July 1, 2015.

County of San Diego. 2015. San Diego County Code of Regulatory Ordinances. Online. http://www.amlegal.com/nxt/gateway.dll?f=templates&fn=default.htm&vid=amlegal:sandiegoco_ca_mc. Site visited July 1, 2015.

Department of Conservation (DOC). 2015a. Appendix A – 2002 California Fault Parameters: A Faults. Online. http://www.consrv.ca.gov/cgs/rghm/psha/fault_parameters/pdf/Documents/A_flt.pdf. Site visited July 1, 2015.

DOC. 2015b. Appendix A – 2002 California Fault Parameters: B Faults. Online. http://www.consrv.ca.gov/cgs/rghm/psha/fault_parameters/pdf/Documents/B_flt.pdf. Site visited July 1, 2015.

DOC. 2015c. Appendix A – 2002 California Fault Parameters: C Faults. Online. http://www.consrv.ca.gov/cgs/rghm/psha/fault_parameters/pdf/Documents/C_zones.pdf. Site visited July 1, 2015.

DOC. 2015d. Ground Motion Interpolator (2008). Online. http://www.quake.ca.gov/gmaps/PSHA/psha_interpolator.html. Site visited July 1, 2015.

San Diego Natural History Museum. 2015. Faults and Earthquakes in San Diego County. Thomas A. Deméré, Ph.D.; Curator of Paleontology. Online. https://www.sdnhm.org/archive/research/paleontology/sdfaults.html. Site visited July 1, 2015.

San Diego State University. 2015. KML Geology San Diego Geology. Department of Geological Sciences. Online. http://www.geology.sdsu.edu/kmlgeology/san_diego_geology.html. Site visited July 1, 2015.

SanGIS. 2015. Regional Data Warehouse. Online. http://www.sangis.org/download/index.html. Site visited July a, 2015.

USDA. 2015a. Soil survey, San Diego area, California, Volume 1. Roy H. Bowman, United States Soil Conservation Service, United States Forest Service. Online. http://books.google.com/books?id=KxBAAAAAIAAJ&pg=RA1-PA99&lpg=RA1-PA99&dq=%22linne+soil%22&source=bl&ots=IkPBx37YA0&sig=x4SbYWquNWV8bMBEF3AZQ8GuIvk&hl=en&sa=X&ei=7mfFU6WNCom-oQShl4HACw&ved=0CEgQ6AEwCA#v=onepage&q&f=false. Site visited July 1, 2015.

USDA. 2015b. Web Soil Survey. Online. http://websoilsurvey.nrcs.usda.gov. USDA Natural Resources Conservation Service. Site visited July 1, 2015.

USGS. 2015a. Preliminary Geologic Map of the El Cajon 30' x 60' Quadrangle, Southern California, Version 1.0. Online. http://pubs.usgs.gov/of/2004/1361/ec1_pamphlet.pdf. Site visited July 1, 2015.

USGS. 2015b. Quaternary Faults in Google Earth. USGS Earthquake Hazards Program. Online. http://earthquake.usgs.gov/hazards/qfaults/google.php. Site visited July 1, 2015.

Wald, D. 1999. Relationships between Peak Ground Acceleration, Peak Ground Velocity, and Modified Mercalli Intensity in California. Online. http://ecf.caltech.edu/~heaton/papers/Wald_intensity.pdf. Site visited July 1, 2015.

TABLE OF CONTENTS

LIST OF TABLES

4.7 GREENHOUSE GAS EMISSIONS

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact 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?			✓	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				✓

4.7.0 Introduction

This section describes the existing conditions in the area of the proposed San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project) and evaluates the potential for greenhouse gas (GHG) impacts associated with the Proposed Project. The operation of construction equipment and vehicles may result in GHG emissions from the combustion of fossil fuels. However, the Proposed Project is not anticipated to generate GHG emissions, either directly or indirectly, that will have a significant impact on the environment or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

4.7.1 Methodology

Federal, state, and regional/local regulations and policies were reviewed to determine the Proposed Project's consistency with applicable climate action plans and/or compliance with GHG standards. Information for this section was obtained from searches of federal, state, and regional/local agency websites. The simulated GHG emissions presented in this section were developed using the latest version of California Emissions Estimator Model (CalEEMod) (version 2013.2.2). The analysis of GHG emissions evaluates the Proposed Project's potential to generate GHG emissions for the construction and operational phases of the Proposed Project. GHG emissions were calculated with the intent of identifying the primary GHGs that will result from the Proposed Project.

4.7.2 Existing Conditions

Global climate change refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), which are known as GHGs. These gases allow solar radiation (i.e., sunlight) into Earth's atmosphere, but prevent radiative heat from escaping, thus warming the atmosphere. GHGs are emitted by both natural processes and human activities.

Emissions from human activities, such as burning of fossil fuels for electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere.

Different GHGs have varying global warming potentials. Global warming potential is the effectiveness of a gas or aerosol to trap heat in the atmosphere. According to the United States (U.S.) Environmental Protection Agency (EPA), global warming potential is the "cumulative radiative forcing effect of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas." The reference gas for global warming potential is CO_2; therefore, CO_2 has a global warming potential of 1. The other main GHGs that have been attributed to human activity are CH_4, which has a global warming potential of 21; and N_2O, which has a global warming potential of 310. Table 4.7-1: Global Warming Potentials and Atmospheric Lifetimes of Greenhouse Gases presents the global warming potential and atmospheric lifetimes of common GHGs.

Table 4.7-1: Global Warming Potentials and Atmospheric Lifetimes of Greenhouse Gases

Greenhouse Gas	Formula	100-Year Global Warming Potential	Atmospheric Lifetime (years)
Carbon Dioxide	CO_2	1	Variable
Methane	CH_4	21	12 ± 3
Nitrous Oxide	N_2O	310	120
Sulfur Hexafluoride	SF_6	23,900	3,200

Source: Intergovernmental Panel on Climate Change (IPCC), 1996

In the California Greenhouse Gas Emission Inventory, the California Air Resources Board (CARB) compiled statewide anthropogenic GHG emissions and sinks, which include processes that uptake GHG emissions. The inventory includes estimates for CO_2, CH_4, N_2O, sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). The current inventory covers 1990 through 2012, and is summarized in Table 4.7-2: State of California Greenhouse Gas Emissions by Sector. Data sources used to calculate this GHG inventory include California and federal agencies, international organizations, and industry associations. The calculation methodologies applied are consistent with Intergovernmental Panel on Climate Change guidance. The 1990 emissions level is the sum total of sources and sinks from all sectors and categories in the inventory. CARB's original inventory was divided into seven broad sectors and categories: agriculture, commercial, electricity generation, forestry, industrial, residential, and transportation. The latest inventory includes GHG emissions from recycling and waste management, high global warming potential gas emissions, and reductions in GHG emissions related to forestry (i.e., forestry sinks).

Regulatory Background

The following subsections describe federal, state, and local regulations regarding GHG emissions that are relevant to the Proposed Project.

Table 4.7-2: State of California Greenhouse Gas Emissions by Sector

Sector	Total 2008 Emissions ($MMTCO_2e$)	Percent of Total 2008 Emissions	Total 2012 Emissions ($MMTCO_2e$)	Percent of Total 2012 Emissions
Agriculture	38.0	7.8	37.9	8.3
Commercial	18.5	3.8	22.0	4.8
Electricity Generation (In-State)	54.5	11.2	51.2	11.2
Electricity Generation (Imports)	65.9	13.5	44.1	9.6
Industrial	97.5	20.0	100.7	22.0
Residential	31.2	6.4	31.6	6.9
Transportation	181.3	37.2	171.0	37.3
Unspecified	0.2	< 0.1	0.2	< 0.1
Total	**487.1**	**100**	**458.7**	**100**

Sources: CARB, 2014b
Note: $MMTCO_2e$ = million metric tons of carbon dioxide equivalent

Federal

Endangerment Finding

On April 17, 2009, the EPA issued its proposed endangerment finding for GHG emissions. On December 7, 2009, the EPA Administrator signed the following two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- Endangerment Finding: The EPA found that the current and projected concentrations of the six key well-mixed GHGs—CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs—in the atmosphere threaten the public health and welfare of current and future generations.

- Cause or Contribute Finding: The EPA found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to GHG pollution, which threatens public health and welfare.

The endangerment findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing the EPA's proposed GHG emissions standards for light-duty vehicles, which were jointly proposed by the EPA and the U.S. Department of Transportation's National Highway Safety Administration on September 15, 2009.

Mandatory Reporting of Greenhouse Gases, Title 40, Part 98 of the Code of Federal Regulations

The EPA's rule titled Mandatory Reporting of Greenhouse Gases (Title 40, Part 98 of the Code of Federal Regulations) requires mandatory reporting of GHGs for certain facilities. Subpart DD

of the rule, titled Electrical Transmission and Distribution Equipment Use, applies to SF_6 reporting from gas-insulated substations.

Under the final Mandatory Reporting Rule for Additional Sources of Fluorinated GHGs, owners and operators of electric power system facilities with a total nameplate capacity that exceeds 17,820 pounds (7,838 kilograms) of SF_6 and/or PFCs must report emissions of SF_6 and/or PFCs from the use of electrical transmission and distribution equipment. Owners or operators must collect emissions data; calculate GHG emissions; and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting.

The rule requires each electric power system facility operator to report total SF_6 and PFC emissions (including emissions from equipment leaks, installation, servicing, decommissioning, and disposal, and from storage cylinders) from the following types of equipment:

- gas-insulated substations;
- circuit breakers;
- switchgears, including closed-pressure and hermetically sealed pressure switchgears;
- gas-insulated lines containing SF_6 or PFCs;
- gas containers, such as pressurized cylinders;
- gas carts;
- electric power transformers; and
- other containers of SF_6 or PFCs.

Facilities subject to Subpart DD began monitoring GHG emissions on January 1, 2011, in accordance with the methods specified in Subpart DD. The deadline for reporting is March 31 of each year, unless that date falls on a weekend, in which case the report is due the next business day.

State

The most common GHGs that result from human activity, as defined by California Health and Safety Code Section 38505(g), are any of the following compounds: CO_2, CH_4, N_2O, SF_6, HFCs, or PFCs.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

In September 2006, then-Governor Arnold Schwarzenegger signed California Assembly Bill (AB) 32, the Global Warming Solutions Act, into law. Pursuant to AB 32, CARB adopted a comprehensive AB 32 Scoping Plan in December 2008, which outlined programs designed to achieve the 2020 GHG reduction goal of 174 $MMTCO_2e$ through regulations, market mechanisms, and other actions.

For the electricity sector, the scoping plan adopted the California Public Utilities Commission's (CPUC's) recommendations for investor-owned and publicly owned utilities to intensify their emissions reduction efforts. The recommendations include energy efficiency programs, increased use of electricity supplies from renewable generation sources (to 33 percent by 2020), and adoption of a cap-and-trade system to ensure an overall reduction of emissions from electric generation.

The AB 32 Scoping Plan Measure H-6 led to CARB's Regulation for Reducing Sulfur Hexafluoride Emissions from Gas Insulated Switchgear (Title 17, Sections 95350 to 95359 of the California Code of Regulations). CARB's SF_6 regulation set the maximum emissions rate for SF_6-containing equipment at 10 percent in 2011, with a decrease of one percent each subsequent year. Starting in 2020, the maximum emissions rate will remain at one percent.

State Standards Addressing Vehicular Emissions

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. In September 2009, CARB adopted the regulations to reduce GHG emissions in new passenger vehicles through 2016. CARB has estimated that the regulations will reduce emissions from the light-duty passenger vehicle fleet by an estimated 18 percent in 2020 and by 27 percent in 2030.

Senate Bills 1078 and 107 and Executive Order S-14-08

Senate Bill (SB) 1078 requires retail sellers of electricity to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 then changed the target date to 2010. In November 2008, then-Governor Arnold Schwarzenegger signed Executive Order S-14-08, which expands the Renewables Energy Standard to 33 percent by 2020. In April 2011, the California Legislature enacted SB 2, which mandates the Renewables Portfolio Standard of 33 percent by 2020 for investor-owned and publicly owned utilities.

Executive Order B-30-15

On April 29, 2015, Governor Jerry Brown issued Executive Order B-30-15 into law. This executive order sets a new interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure that California meets its target of 80 percent below 1990 levels by 2050.

Executive Order S-21-09

Executive Order S-21-09 directs CARB to work with the CPUC and the California Energy Commission (CEC) to implement the Renewables Portfolio Standard of 33 percent by 2020. On May 5, 2011, the CPUC adopted Order Instituting Rulemaking 11-05-005 to open a new proceeding for the Renewables Portfolio Standard.

CARB is also working with the California Independent System Operator and other load balancing authorities to address reliability, renewable integration requirements, and interactions with wholesale power markets. CARB established a "loading order" in its Energy Action Plan for resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health.

Local

Because the CPUC has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations. The following discussion of the local regulations relating to GHG emissions is provided for informational purposes. As outlined in the following subsections, the construction and operation

of the Proposed Project will not conflict with any environmental plans, policies, or regulations adopted by agencies with jurisdiction over local regulations related to GHG emissions.

South Coast Air Quality Management District

In October 2008, the South Coast Air Quality Management District (SCAQMD) prepared its Draft Interim CEQA Greenhouse Gas Significance Threshold. To evaluate operational impacts of proposed industrial projects, the SCAQMD recommended an interim threshold of 10,000 $MTCO_2e$ per year. Per SCAQMD guidance, construction emissions should be amortized over the operational life of the project, which is proposed at 30 years.

San Diego County

Ozone Air Quality Management Plan

As described in Section 4.3 Air Quality, the San Diego County Air Pollution Control District (SDAPCD) State Implementation Plan (SIP) predicts that state and local programs will allow the County to reach attainment status for the federal eight-hour ozone (O_3) Ambient Air Quality Standards (AAQS) (per the SIP submitted to the EPA in June 2007). It is anticipated that the EPA will designate San Diego County as a nonattainment area for the new 0.075-part-per-million eight-hour O_3 standard, and the SDAPCD will be required to submit an updated SIP to address the new, more stringent standard at that time. The SDAPCD maintains the Regional Air Quality Strategy (RAQS), which demonstrates how the district will eventually meet the state O_3 AAQS and details the measures and regulations that focus on managing and reducing O_3 precursors. The RAQS control measures concentrate on stationary sources that are under the SDAPCD's jurisdiction.

Climate Action Plan

The County of San Diego adopted their Climate Action Plan in June 2012. The Climate Action Plan was developed to address the issues of growth and climate change within the County of San Diego. In November 2013, the County of San Diego released their Guidelines for Determining Significance for Climate Change which includes a framework for determining the significance of GHG emissions from development projects. More specifically, it indicates that a project will have a significant impact if it increases operational greenhouse gas emissions, either directly or indirectly, by 2,500 $MTCO_2e$ per year.[1] This threshold is designed for projects that included residential, commercial, civic, light industrial uses, or a mixture of these uses. In addition, construction-related emissions do not need to be separately analyzed or included as an assessment against this threshold as construction emissions for land use projects in San Diego County were incorporated into the threshold.

City of San Diego

In March 2015, the City of San Diego released its Draft Climate Action Plan, which identifies measures to effectively meet GHG reduction targets for 2020 and 2035. This plan was developed in response to the mitigation required as part of the 2008 General Plan and will also

[1] Though this threshold was invalidated through legal action in 2014, it was used as a reference for the purpose of this analysis.

serve as a Qualified GHG Reduction Plan for the purposes of tiering under CEQA through 2020. The plan includes strategies for reducing GHG emissions through the development of energy- and water-efficient buildings; use of clean and renewable energy sources; replacement of automobile use with bicycles, walking, and public transportation; reduction of waste; and development of flexible policies to adapt to climate change.

City of Chula Vista

The City of Chula Vista began implementing a Climate Action Plan in 2000 to address the threat of climate change to the local community. The original plan has been revised to incorporate new climate mitigation and adaptation measures to strengthen the City of Chula Vista's climate action efforts and to facilitate utility savings, improve air quality, reduce traffic congestion, and generate local economic development. The measures include replacing the City of Chula Vista's fleet with clean vehicles, evaluating local businesses for energy efficiency, developing green standards for new construction, and implementing renewable energy retrofit programs. The Climate Change Working Group (CCWG), which is composed of residents, businesses, and community organization representatives, assists the City of Chula Vista in the development of climate-related programs and policies. The CCWG is convening to update the Climate Action Plan. Specifically, the CCWG is developing recommendations for new GHG reduction strategies to help the City of Chula Vista meet its carbon reduction goals.

Environmental Setting

SDG&E Programs

SDG&E has been engaged for many years in activities to reduce GHG emissions. These activities include programs to increase energy efficiency and efforts to meet the Renewables Portfolio Standard of 33 percent of its supply from renewable sources by 2020. In 2013, 23.6 percent of SDG&E's retail sales were from renewable energy sources.

SDG&E submits a mandatory Long-Term Procurement Plan (LTPP) to the CPUC that describes its strategy for meeting the forecasted load during the next 10 years. The LTPP must be consistent with the "loading order" prescribed in the Energy Action Plan to meet growth first with conservation, then with renewable sources of electricity, and finally with new fossil fuel sources to the extent necessary. New generation sources must be consistent with the LTPP. The CPUC approved SDG&E's most recent LTPP in September 2008.

The LTPP includes the following programs to reduce GHG emissions:

- Energy efficiency, which will reduce needed capacity by 487 megawatts (MW) by 2016
- Demand response, which will reduce needed capacity by 249 MW by 2016
- Renewables, which will provide 318 MW in 2010 and 727 MW in 2016
- New peaker plants to back up intermittent renewables and support retirement of older plants

Forecasted reductions from these programs are greater than 1.5 $MMTCO_2e$ per year. These efforts will reduce carbon intensity by one-third while accommodating continued population

growth, and will ensure consistency with the applicable plans, policies, and regulations adopted by California to reduce GHG emissions.

4.7.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts from GHG emissions that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

Standards for determining impact significance were derived from Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Under these guidelines, impacts to GHGs would be considered significant if the Proposed Project:

- Generates GHG emissions, either directly or indirectly, that may have a significant impact on the environment
- Conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG

The SDAPCD has not established GHG thresholds under CEQA. The County of San Diego and City of San Diego have drafted or adopted a significance threshold of 2,500 $MTCO_2e$ emissions annually for industrial sources; therefore, an industrial project that generates GHG emissions below this level would not have a significant impact on the environment.

Question 4.7a – Greenhouse Gas Emissions

Construction – Less-than-Significant Impact

The main source of GHG emissions associated with the Proposed Project will be the fossil fuel combustion in vehicles and equipment used during construction. GHG emissions for construction were calculated using the same approach as criteria pollutant emissions for overall construction emissions, as described in Section 4.3 Air Quality. Estimated GHG emissions are summarized in Table 4.7-3: Proposed Project Greenhouse Gas Construction Emissions.

Table 4.7-3: Proposed Project Greenhouse Gas Construction Emissions

Category	Greenhouse Gas Emissions (metric tons)		
	CO_2	CH_4	N_2O
Total Construction Emissions	550.12	0.16	0.00
Global Warming Potential	1	21	310
CO_2e	550.12	3.31	0.00
Total CO_2e	553.43		
Applicable Threshold	2,500		
Threshold Exceeded?	No		

The County of San Diego and City of San Diego have drafted or adopted a significance threshold of 2,500 $MTCO_2e$ emissions annually for each industrial project. The Proposed Project's total construction CO_2e emissions of 553.43 metric tons will be well below the significance threshold of 2,500 $MTCO_2e$. Therefore, the GHG emissions resulting from the Proposed Project will be less than significant.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. As a result, there will be no increase in GHG emissions, and no impact will occur.

Question 4.7b – Applicable Greenhouse Gas Plan Conflicts

Construction – No Impact

The Proposed Project will comply with applicable plans. GHG emissions from construction will be below the significance threshold when amortized over a 30-year period, as recommended by the SDAPCD and the County of San Diego. Equipment and vehicles supporting construction of the Proposed Project will comply with the requirements implemented by CARB and will be consistent with the goals of AB 32. Accordingly, there will be no impact associated with construction.

Operation and Maintenance – No Impact

As described previously, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. As a result, the GHG emissions associated with operation and maintenance will not increase; therefore, there will be no impact.

4.7.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts from GHG emissions, no applicant-proposed measures have been proposed.

4.7.5 References

California Air Pollution Control Officers Association. 2015. California Emissions Estimator Model™. Online. http://caleemod.com/. Site visited June 18, 2015.

California Climate Action Registry. 2009. General Reporting Protocol, Version 3.1. Online. http://www.climateregistry.org/tools/protocols/general-reporting-protocol.html. Site visited June 18, 2015.

CARB. 2007. Staff Report – California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit. Online.

http://www.arb.ca.gov/cc/inventory/pubs/reports/staff_report_1990_level.pdf. Site visited June 18, 2015.

CARB. 2013. San Diego County Air Quality Management Plans. Online. http://www.arb.ca.gov/planning/sip/planarea/sansip.htm. Site visited June 18, 2015.

CARB. 2014a. Assembly Bill 32 Overview. Online. http://www.arb.ca.gov/cc/ab32/ab32.htm. Site visited June 18, 2015.

CARB. 2014b. California Greenhouse Gas Emission Inventory 2000-2012. Online. http://www.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_00-12_report.pdf. Site visited June 18, 2015.

CARB. 2014c. Clean Car Standards – Pavley, Assembly Bill 1493. Online. http://www.arb.ca.gov/cc/ccms/ccms.htm. Site visited June 18, 2015.

City of Chula Vista. 2015. City of Chula Vista Climate Action Plan: Implementation Progress Report. Online. http://38.106.5.202/home/showdocument?id=5441. Site visited June 18, 2015.

City of San Diego. 2014. *City of San Diego Climate Action Plan*.

CPUC. 2015. RPS Program Overview. Online. http://www.cpuc.ca.gov/PUC/energy/Renewables/. Site visited June 18, 2015.

IPCC. 1996. Second Assessment Report: Climate Change 1995.

SDG&E. 2006. SDG&E Company's 2006 Long Term Procurement Plan. Online. https://www.sdge.com/sites/default/files/regulatory/2006LTPP-Redacted.pdf. Site visited June 18, 2015.

U.S. EPA. 2015a. Greenhouse Gas Emissions. Online. http://www.epa.gov/climatechange/ghgemissions/. Site visited June 18, 2015.

U.S. EPA. 2015b. Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act. Online. http://www.epa.gov/climatechange/endangerment/. Site visited June 18, 2015.

U.S. EPA. 2015c. Greenhouse Gas Reporting Program. Online. http://www.epa.gov/ghgreporting/. Site visited June 18, 2015.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF ATTACHMENTS

4.8 HAZARDS AND HAZARDOUS MATERIALS

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact 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?			✓	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?			✓	
e) If located within an airport land use plan or within two miles of a public airport or public use airport for which such a plan has not been adopted, result in a safety hazard for people residing or working in the project area?			✓	
f) If located within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				✓
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✓

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fire, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			✓	

4.8.0 Introduction

This section discusses potential hazards to public health and safety associated with construction, operation, and maintenance of the proposed San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project). This analysis addresses existing hazardous materials, wildland fire potential, hazards to public and worker health and safety, and physical hazards. As described in this section, potential Proposed Project impacts associated with hazards and hazardous materials will be less than significant.

4.8.1 Methodology

Analysis of existing hazards and hazardous materials involved a review of the Environmental Data Resources, Inc. (EDR) DataMap Corridor Study prepared for the Proposed Project; the County of San Diego General Plan; the Otay Mesa Community Plan; the City of San Diego General Plan; the City of Chula Vista General Plan; California Department of Forestry and Fire Protection (CAL FIRE) data; emergency evacuation and response plans for the County of San Diego, the City of San Diego, and the City of Chula Vista; and the Office of Emergency Services (OES) websites for the County of San Diego, the City of San Diego, and the City of Chula Vista. The EDR DataMap Corridor Study is included as Attachment 4.8–A: EDR DataMap Corridor Study.

Records Review

The EDR DataMap Corridor Study included a review of federal, state, local, and other hazardous materials databases to determine areas where contamination might be encountered during construction. The database search covered areas located within 0.125 mile of the Proposed Project alignment and identified the use, generation, storage, and treatment/disposal of hazardous materials and chemicals, as well as any releases of these materials that may impact the Proposed Project. The databases reviewed are provided in Attachment 4.8–A: EDR DataMap Corridor Study.

Historical Use

Aerial photographs and topographic maps were reviewed, where available, to assess historical site and adjacent property uses and to determine the potential for encountering hazardous materials related to historical uses in the Proposed Project area.

Site Reconnaissance

A reconnaissance survey of the Proposed Project was conducted by Erika Carrillo of Insignia Environmental on May 16, 2014. Accessible portions of the Proposed Project area were observed for evidence of hazardous materials use and storage, or releases of hazardous materials or petroleum products. Portions of the Proposed Project not accessible during the site visit due to terrain were observed from public roadways or Proposed Project access roads.

4.8.2 Existing Conditions

The following subsections discuss the regulatory and physical setting of the Proposed Project as it relates to hazards and hazardous materials. Federal, state, and local plans and policies relevant to hazards and hazardous materials are summarized and the Proposed Project's environmental setting is described.

Regulatory Background

The following subsections describe federal, state, and local regulations regarding hazards and hazardous materials that are relevant to the Proposed Project.

Federal

United States Environmental Protection Agency

The United States (U.S.) Environmental Protection Agency (EPA) maintains a list of materials considered to be hazardous to the environment or to human health. Those materials are categorized as follows:

- F-List: Wastes from the F-list are published under Title 40, Section 261.31 of the Code of Federal Regulations (CFR). They include non-specific source wastes common in manufacturing and industrial processes.

- K-List: K-list wastes are published under Title 40, Section 261.32 of the CFR. They include source-specific wastes from particular industries, including pesticide manufacturing and petroleum refining.

- P-List and U-List: Wastes from the P-List and U-List are published under Title 40, Section 261.33 of the CFR. They include discarded commercial chemical products in an unused form.

Waste that has not been previously listed may still be considered hazardous if it exhibits one or more of the following characteristics: ignitibility, corrosivity, reactivity, or toxicity (40 CFR Section 261 Subpart C).

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) regulates potential health and environmental problems associated with both hazardous and non-hazardous waste. This law is implemented by the EPA through Subtitle C, Title 42, Section 6921 et seq. of the U.S. Code (U.S.C.), and its implementing regulations (40 CFR Section 260 et seq.). The generation,

transportation, treatment, storage, and disposal of hazardous waste is regulated through Subtitle C of the RCRA, which addresses a "cradle-to-grave" approach to hazardous waste management. All states are subject to Subtitle C with regard to hazardous waste generation. The RCRA also specifies the quantities of wastes that are regulated.

Comprehensive Environmental Response, Compensation, and Liability Act and Superfund Amendments and Reauthorization Act

The Comprehensive Environmental Response, Compensation, and Liability Act and the Superfund Amendments and Reauthorization Act (SARA), together with their implementing regulations, govern the use, planning, reporting, clean-up, and notification of hazardous materials and hazardous material releases into the environment. These statutes are implemented in Title 40, Sections 239 through 282 of the CFR, and the regulations are defined in Title 40, Sections 302 through 355 of the CFR.

Annual reporting requirements for hazardous materials released into the environment—including both routine discharges and spill releases—are provided in Title 42, Section 11023 of the U.S.C. and Title 40, Section 372.30 of the CFR. In addition, Title III of SARA (identified as the Emergency Planning and Community Right-To-Know Act of 1986) requires that all states develop and implement local chemical emergency preparedness programs and make available information pertaining to hazardous materials used at facilities within local communities.

Clean Water Act and Clean Air Act

The Clean Water Act provides measures governing the accidental release of hazardous materials to surface waters, and the Clean Air Act (CAA) provides measures aimed at preventing the accidental release of hazardous materials into the atmosphere. Regulations implementing the CAA and governing hazardous materials emissions are provided in Title 40, Part 68 of the CFR.

Occupational Safety and Health Act

The hazardous materials regulations of the Occupational Safety and Health Act govern worker safety, with separate standards developed for construction and industrial workers. Generally, Title 29, Part 1926 of the CFR governs construction worker safety, while Title 29, Part 1910 of the CFR applies to industrial workers.

Hazardous Materials Transportation Act

U.S. Department of Transportation regulations govern the interstate transport of hazardous materials and wastes through implementation of the Hazardous Materials Transportation Act (HMTA). The HMTA contains requirements for hazardous materials shipments and packaging, as well as guidelines for marking, manifesting, labeling, packaging, placarding, and spill reporting. Specific regulations dealing with hazardous materials are covered in the CFR under Title 49, Section 173.50 et seq.; Title 49, Section 173.56 (Hazardous Material Regulations, Shippers – General Requirements for Shipping and Packaging); and Title 49, Part 397 (Transportation of Hazardous Materials; Driving and Parking Rules).

State

Division of Occupational Safety and Health

The California Occupational Safety and Health Act of 1970 provides measures that address the safety of construction and industrial workers; Title 8 of the California Code of Regulation (CCR) implements the majority of these measures. The California Occupational Safety and Health Administration (Cal/OSHA) is responsible for enforcing the occupational and public safety laws adopted by the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA). OSHA is responsible for the regulation of workplace hazards and hazardous materials at the federal level, while Cal/OSHA regulates hazards and hazardous materials at the state level.

Department of Toxic Substances Control and California Environmental Protection Agency

The California EPA (CalEPA) is charged with developing, implementing, and enforcing the state's environmental protection laws. CalEPA's Department of Toxic Substances Control (DTSC) regulates hazardous waste, cleans up existing contamination, and attempts to reduce the amount of hazardous waste produced in California.

Regional Water Quality Control Board

The San Diego Regional Water Quality Control Board (RWQCB) is responsible for protecting the beneficial uses of surface water and groundwater resources in the San Diego area. The RWQCB adopted a Water Quality Control Plan (Basin Plan) in September 1994 and amended the plan in April 2011. The Basin Plan sets forth implementation policies, goals, and water management practices in accordance with the Porter-Cologne Water Quality Control Act. The Basin Plan establishes both numerical and narrative standards and objectives for water quality aimed at protecting aquatic resources. Proposed Project discharges to surface waters in the region are subject to the regulatory standards set forth in the Basin Plan, which prevents the discharge of hazardous materials into waters of the U.S. The RWQCB also enforces the provisions of the state statutes that protect groundwater.

California Hazardous Materials and Waste Codes

Within the State of California, the storage, handling, use, and/or disposal of hazardous materials is regulated through various sections of the California Health and Safety Code (HSC). Individual states are required by the RCRA to develop their own programs for the regulation of hazardous waste discharges; however, such plans are required to meet or exceed RCRA requirements.

The California Hazardous Waste Control Law (HWCL) addresses the control of hazardous wastes for the state. The HWCL regulates generators of universal waste (e.g., batteries, mercury control devices, dental amalgams, aerosol cans, and lamps/cathode ray tubes) under HSC Section 25100 et seq., as well as hydrocarbon waste (e.g., oils, lubricants, and greases) that is not classified as hazardous waste under RCRA. The DTSC is responsible for the administration and enforcement of the HWCL.

The Hazardous Materials Release Response Plans and Inventory Act (HSC Section 25500 et seq.) and regulations provided in Title 19, Section 2620 et seq. of the CCR require local

governments to be responsible for the regulation of facilities that store, handle, or use hazardous materials above threshold quantities (TQs). The TQs for identified hazardous materials are as follows: 55 gallons for liquids, 500 pounds for solids, and 200 cubic feet for compressed gases measured at standard temperature and pressure. Any facility storing such hazardous materials in excess of TQs is required to prepare a Hazardous Materials Business Plan (HMBP) to identify its internal response requirements to accidental spills. The HMBP may identify emergency contacts, hazardous material inventory and quantities, control methods, emergency response measures, and employee training methods. HMBPs must be submitted to the appropriate local administering agency (typically, the local fire department or public health agency). In the event of a spill from such a facility, both the local administrative agency and the California Governor's OES must be notified.

HSC Section 25249.5 et seq. of the Safe Drinking Water and Toxics Enforcement Act (i.e., Proposition 65) is administered through the California Office of Environmental Health Hazard Assessment. Proposition 65 regulates cancer-causing and reproduction-impairing chemicals. Under Proposition 65, users of such regulated chemicals are required to issue a public warning before potential exposure to chemicals above a threshold amount occurs (HSC Section 25249.6). In addition, Proposition 65 is aimed at preventing discharges or releases of specified hazardous materials into a drinking water source. The Proposition 65 chemicals of concern list (HSC Section 25249.5) is periodically updated.

HSC Section 25404 et seq. includes the California Unified Hazardous Waste and Hazardous Material Management Regulatory Program Act, which establishes specific requirements for the local handling of hazardous waste by instituting a Certified Unified Program Agency (CUPA). The responsibility for managing local hazardous wastes is delegated by CalEPA to the CUPA through a Memorandum of Understanding. The primary CUPA for the Proposed Project site is the County of San Diego Department of Environmental Health (DEH) Hazardous Materials Management Division (HMMD).

California Public Resources Code

The California Public Resources Code (PRC) provides regulations to enhance safety in the operation and management of electrical power lines. These include, but are not limited to, the following:

- PRC Section 4292: This section requires the clearing of flammable vegetation around specific structures that support certain connectors or types of electrical apparatus. An approximately 10-foot radius around such structures must remain clear of vegetation for the entire the fire season.

- PRC Section 4293: This section requires specific clearance between conductors and vegetation. As the line voltage increases, the radius of clearance also increases. It also requires the removal of some trees if they pose a risk of falling on an electrical power line and causing damage.

California Public Utilities Commission General Order 95

The California Public Utilities Commission (CPUC) regulates privately owned energy facilities, including natural gas, water, and electrical facilities, as well as railroad and passenger transportation facilities. General Order (GO) 95—originally adopted by the CPUC on December 23, 1941 and amended through 2014—contains requirements and specifications for overhead electric power line construction. These requirements are intended to ensure safety to persons engaged in the construction, maintenance, operation, and use of electrical facilities. The regulations are also intended to ensure the general reliability of the state's utility infrastructure and services.

Rule 35 of GO 95 establishes minimum clearances between line conductors and nearby vegetation for fire prevention purposes. These minimum clearances for vegetation management must be maintained through activities such as tree trimming prior to construction and throughout operation and maintenance of utility facilities.

California Department of Forestry and Fire Protection Unit Fire Management Plans

CAL FIRE has developed an individual Unit Fire Management Plan for each of its 21 units and six contract counties. These plans include stakeholder contributions and priorities and identify strategic areas for pre-fire planning and fuel treatment. CAL FIRE has developed a strategic fire management plan for the San Diego Unit, which covers the Proposed Project area, addresses citizen and firefighter safety, watersheds and water, timber, wildlife and habitat (including rare and endangered species), unique areas (scenic, cultural, and historic), recreation, range, structures, and air quality. The plan includes stakeholder contributions and priorities, and identifies strategic areas for pre-fire planning and fuel treatment as defined by the people who live and work with the local fire issues.

Local

Because the CPUC has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations. The following discussion of the local regulations relating to hazards and hazardous materials is provided for informational purposes. As outlined in the following subsections, the construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations related to hazards and hazardous materials.

County of San Diego

Within the County of San Diego, hazardous materials are addressed through various County codes and regulations. As the CUPA, the HMMD's hazardous material requirements include hazardous waste determination, storage and transportation of hazardous waste, treatment and disposal requirements, biennial reporting, emergency preparedness and prevention, emergency procedures, business plans, personnel training, and standards for violations. Regulations for the storage and use of explosives are provided in San Diego County General Regulation Section 6904.

The County of San Diego Fire Code includes requirements for access roads, emergency access, maintenance for vacant property, disposal of wood chips and other organic materials, blasting,

hazardous fire areas, use of spark arresters, open-flame equipment, and use of fire roads and firebreaks. In addition, the Fire Code provides requirements for brush and vegetative growth management along power line rights-of-way (ROWs). Brush clearance requirements for structures and roadways are identified in the County of San Diego Fire Code Section 68. Other fire regulations for the County are provided in the County of San Diego General Regulation Section 6905.

City of San Diego General Plan and Municipal Code

The Public Facilities, Services, and Safety Element of the City of San Diego General Plan addresses public facilities and services, such as fire and rescue, police, storm water protection, and disaster preparedness. The General Plan identifies goals and policies intended to allow for the efficient and adequate provision of public services and facilities, as well as to reduce the potential for hazardous or emergency situations to occur.

In addition, the Proposed Project site is within the Brown Field Municipal Airport Influence Area, as designated in the Brown Field Airport Land Use Compatibility Plan (ALUCP). The Influence Area provides supplemental regulations for property surrounding the Brown Field Municipal Airport, which is located approximately 0.8 mile south of the Proposed Project. The Airport Influence Area provides measures pertaining to land use compatibility, noise impacts, and safety hazards, among other issues.

City of Chula Vista Urban-Wildland Interface Code

The City of Chula Vista's Urban-Wildland Interface Code contains regulations for mitigating life and property hazards due to wildland fire exposures and fire exposures from adjacent structures, and for preventing structure fires from spreading to wildland.

Otay Subregional Plan

The Otay Subregional Plan implements all existing elements of the County of San Diego General Plan. The Subregional Plan identifies policies to discourage industries with pollution or other nuisance characteristics from locating near the U.S.-Mexican border, and to recognize existing and planned safety zones and enforce adequate noise protection near Brown Field Municipal Airport in accordance with the Brown Field ALUCP.

East Otay Mesa Business Park Specific Plan

The East Otay Mesa Business Park Specific Plan establishes a planning framework for a comprehensive approach to the development of the East Otay Mesa area, in accordance with all County of San Diego goals, objectives, and policies. The East Otay Mesa Specific Plan implements the policies of the County of San Diego General Plan, including the Otay Subregional Plan. Consistent with County of San Diego's public safety goal of minimizing injury, loss of life, and damage to property from fire, the East Otay Mesa Specific Plan requires development applicants to have fuel modification plans reviewed by the appropriate fire department and to implement fire suppression/brush management in areas surrounding the development.

Otay Mesa Community Plan

The Land Use Element of the Otay Mesa Community Plan addresses hazardous and toxic substances. The Community Plan contains policies and recommendations to provide adequate distance between land uses with hazardous substances and sensitive receptors, locate intensive uses with hazardous substances within areas designated Heavy-Industrial, establish remediation protocols to reduce public health risks, and require documentation of hazardous materials investigations during review of all development projects.

Brown Field Municipal Airport Land Use Compatibility Plan

The Proposed Project site is approximately 0.8 mile north and 1.3 miles east of the closest Brown Field Municipal Airport runway. The Airport Land Use Commission (ALUC) is required by federal and state law to create or update ALUCPs for San Diego County's 16 public use and military airports. The ALUCP addresses airport compatibility issues related to noise, safety, airspace protection, and aircraft overflight. Local agencies are required to submit proposed actions to the ALUC for compatibility review until their general plans are found to be consistent with the applicable ALUCP.

Environmental Setting

Existing Hazardous Sites

According to the EDR DataMap Corridor Study, there is one property (the former Otay Skeet and Trap Shooting Range) with a past or current hazardous materials case located within 0.125 mile of the Proposed Project. More information on this site is provided in Attachment 4.8–A: EDR DataMap Corridor Study. The California DTSC EnviroStor and the State Water Resources Control Board GeoTracker databases list one additional property, the Brown Field Bombing Range, through which a portion of the Proposed Project passes. A discussion of the former Otay Skeet and Trap Shooting Range and the former Brown Field Bombing Range, which have the potential to impact the Proposed Project based on their location (adjacent or upgradient to and in close proximity to the Proposed Project) and the presence of contaminated soil or groundwater follows.

The former Otay Skeet and Trap Shooting Range is located at 5350 Heritage Road in the City of Chula Vista. Former site activities included operation of a shooting range from the mid-1960s through the mid-1990s. The former shooting area extends from the shooting stations to the southern edge of the Otay River floodplain, which is partly defined by a discontinuous soil berm up to a height of approximately nine feet. Chemicals of potential concern include metals (such as lead, arsenic, and chromium) and polycyclic aromatic hydrocarbons (PAHs) in the soil and perchlorate in the groundwater. The DTSC determined that groundwater remediation was not necessary. Soil remediation has been completed; the contaminated soil was covered with a high-density polyethylene geomembrane, a non-woven geotextile cushion, and approximately five feet of clean protective soil cover, which was placed over the geomembrane cap. Pole location 21 is approximately 30 feet south of a portion of the remediation area. Groundwater wells are being monitored by TRC for Flat Rock Land Company for potential releases of perchlorate from the Area of Contamination Engineered Unit. The lead agency for oversight of the site is the County of San Diego DEH, as delegated by CalEPA through the Site Designation Program.

The former Brown Field Bombing Range is located two miles northeast of the Brown Field Air Field in the City of San Diego. From 1942 to 1960, the property was used by the U.S. Navy as a dive-bombing practice range and aerial rocket range. The property is known or suspected to contain military munitions and explosives of concern (e.g., unexploded ordinance [UXO]), and the chemicals of potential concern are metals in the soil.

No orphan sites—sites listed in various databases as being in the vicinity of the researched properties that do not have addresses designated on a map—were identified within 0.125 mile of the Proposed Project.

Contaminated Soil and Groundwater

As previously described, contaminated soil and groundwater were identified at the former Otay Skeet and Trap Shooting Range; however, the site has been remediated. Contaminated soil has also been identified at the Brown Field Bombing Range.

No visual or olfactory indications of soil or groundwater contamination were identified during the reconnaissance survey along the Proposed Project corridor. Groundwater depths are expected to be between 18 and more than 100 feet below ground surface (bgs), as described further in Section 4.9 Hydrology and Water Quality.

Fire Hazards

The majority of the Proposed Project (approximately 5.9 miles) is located within the CAL FIRE Fire and Resource Assessment Program's Very High Threat to People class, and approximately 1.4 miles of the Proposed Project is located within the Extreme Threat to People class. San Diego County has an extremely fire-prone landscape; the County is dominated by a Mediterranean-type climate (mild, wet winters and hot, dry summers), which supports dense drought-adapted shrub lands that are highly flammable. Winds originating from the Great Basin, locally known as the Santa Ana winds, create extreme fire weather conditions characterized by low humidity, sustained high-speed winds, and extremely strong gusts. The Santa Ana winds create extremely dangerous fire conditions and have been the primary driver of most of California's catastrophic wildfires. High winds can cause power lines to touch, fall onto, or come in contact with adjacent vegetation, causing sparks that could ignite potentially damaging wildfires.

Schools

There are no schools located within 0.25 mile of the Proposed Project. The closest school is Ocean View Hills School, which is approximately one mile south of the Proposed Project.

Airports

The Proposed Project alignment is located approximately 0.8 mile north and 1.3 miles east of the closest Brown Field Municipal Airport runway and, therefore, is required by state and local law to be consistent with the Brown Field Municipal Airport ALUCP. The Brown Field Municipal Airport ALUCP describes the noise, safety, airspace protection, and overflight policies and standards adopted to promote compatibility between the Brown Field Municipal Airport and surrounding future land uses. The Proposed Project is located within ALUCP Review Areas 1

and 2. Review Area 1 consists of locations where noise or safety concerns may necessitate limitation on the type of land use actions. Specifically, Review Area 1 encompasses locations exposed to aircraft noise levels of 60 decibels Community Noise Equivalent Level or greater. Review Area 2 consists of locations beyond Review Area 1, but within the airspace protection and/or overflight notification areas. Limits on the heights of structures, particularly in areas of high terrain, are the only restrictions on land uses within Review Area 2.

Emergency Response and Evacuation Plans

The County of San Diego Office of Disaster Preparedness implements the County of San Diego Operational Area Emergency Plan. The Operational Area consists of the County, 18 cities (including the City of San Diego), and all special districts, including school districts. A formal Joint Powers relationship exists between the County and the 18 incorporated municipalities in the County. The Operational Area staff coordinates among all of the public agencies within the County's boundaries and the California Governor's OES. The Operational Area is staffed by the County of San Diego's OES. During a disaster response, the County of San Diego's OES is responsible for activating the County's Emergency Operations Center and coordinating resources at the Operational Area level, as well as collecting status reports and other information from organizations and facilities that may have sustained damage.

The San Diego County Operational Area Evacuation Annex (Annex) was designed to be used as a template for preparation of other jurisdictional evacuation plans and to supplement or support the evacuation plans developed and implemented by local jurisdictions. Strategies, protocols, organizational frameworks, and recommendations that may be used to implement a coordinated evacuation effort within the County of San Diego Operational Area are included in the Annex. It identifies estimates on the resident population within each jurisdiction that may be potentially impacted by certain hazards and would require evacuation, the number of residents that may need assistance securing shelter or transportation, and the estimated number of household pets that may need to be accommodated in the event of an evacuation effort. In addition, the Annex provides hazard-specific considerations, transportation routes, and capacities for general evacuation, shelter capacities throughout the County, locally available resources, resources available through mutual aid, and other special needs considerations.

The Annex includes hazard-specific evacuation routes for dam failure, earthquakes, tsunamis, floods, and wildfires. Primary evacuation routes consist of the major interstates, highways, and prime arterials within San Diego County.

The City of San Diego's Fire-Rescue Department Community Emergency Response Teams (CERTs) help local communities build an as-needed base of emergency preparedness. The CERT program brings together neighbors, team members, and co-workers within their own community, in coordination with the San Diego Fire-Rescue Department. Other agencies—such as the City of San Diego Office of Homeland Security, the San Diego Police Department, the San Diego County Sheriff's Department, and the County of San Diego's OES—also offer coordinated services in the event of an emergency or evacuation.

4.8.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts from hazards and hazardous materials that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

Standards of significance were derived from Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Impacts to hazards and hazardous materials would be considered significant if the Proposed Project:

- Creates a hazard to public health or the environment by the routine transport, use, or disposal of hazardous materials
- Creates a hazard to the public or the environment by reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment
- Emits hazardous emissions or handles hazardous materials within 0.25 mile of a school
- Is located at a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, creates a hazard to the public or the environment
- Is located within two miles of a public or private airport and results in a safety hazard for people residing or working in the Proposed Project area
- Impairs implementation of, or physically interferes with, an adopted emergency response or evacuation plan
- Exposes people or structures to a risk of loss, injury, or death related to wildland fires

Question 4.8a – Hazardous Material Transport, Use, or Disposal

Construction – Less-than-Significant Impact

Construction of the Proposed Project will require the use of fuel and lubricants inside vehicles and equipment. Use of these hazardous materials during construction may pose health and safety hazards to construction workers, nearby residents, and the environment surrounding the Proposed Project. Potential impacts from the use of hazardous materials are generally associated with spills or other unauthorized releases during Proposed Project activities, such as vegetation trimming; construction of new structures, including excavation and pole setting; and conductor stringing, splicing, and tensioning. Other potential impacts involving the use of hazardous materials during construction are associated with temporary storage sites, transportation to work areas, and refueling and servicing of equipment. A general listing of types of chemicals used during construction is provided in Table 4.8-1: Hazardous Materials Typically Used During Construction. Hazardous materials in the ROWs will be limited to fuel for construction equipment and vehicles, lubricants for tools, and similar substances as described and listed in Table 4.8-1: Hazardous Materials Typically Used During Construction.

Table 4.8-1: Hazardous Materials Typically Used During Construction

Hazardous Materials	
ABC fire extinguisher	Gasoline treatment
Acetylene gas	Hot stick cleaner (cloth treated with polydimethylsiloxane)
Air tool oil	Hydraulic fluid
Ammonium hydroxide	Insecticide (1,1,1-trichloroethene)
Antifreeze (ethylene glycol)	Insulating oil (inhibited, non-polychlorinated biphenyl)
Automatic transmission fluid	Lubricating grease
Battery acid (in vehicles)	Mastic coating
Bottled oxygen	Methyl alcohol
Brake fluid	Motor oils
Canned spray paint	Paint thinner
Chain lubricant (contains methylene chloride)	Propane
Connector grease (penotox)	Puncture seal tire inflator
Contact Cleaner 2000 (precision aerosol cleaner)	Safety fuses
Diesel de-icer	Starter fluid
Diesel fuel	Two-cycle oil (contains distillates and hydro-treated heavy paraffinic)
Diesel fuel additive	WD-40
Eyeglass cleaner (contains methylene chloride)	ZEP (safety solvent)
Gasoline	ZIP (1,1,1-trichloroethane)

No storage or use of large quantities of any of these materials will be required within the Proposed Project ROWs. Due to the limited amount of these materials that will be required, impacts associated with a large release that could affect the local environment are not anticipated. While fuel trucks will be used on site, the likelihood of a major spill from their use is low. Refueling of equipment and vehicles will typically take place at the staging yards with the use of secondary containment devices to minimize potential fuel releases. In addition, SDG&E construction crews will keep a spill kit at each work area for use in the event of a spill, in accordance with SDG&E's Water Quality Construction Best Management Practices (BMP) Manual.

Construction of the Proposed Project will result in the generation of various waste materials that will require recycling and/or disposal. Waste items and materials will be collected by construction crews and stored in roll-off boxes or other similar containers at the staging yards. All waste materials that are not recycled will be characterized by SDG&E to ensure appropriate disposal. Non-hazardous waste will be transported to licensed local waste management facilities, as described in Section 4.17 Utilities and Service Systems. Hazardous materials will be disposed of at facilities that are permitted to accept such materials, in accordance with all applicable local, state and federal laws and regulations. For example, the nearest Class I hazardous waste landfills to the Proposed Project alignment are the Chemical Waste Management Kettleman Hills Facility in Kettleman City and the Clean Harbors Buttonwillow Landfill in Buttonwillow. The nearest Class III landfill to the Proposed Project alignment is the Otay Landfill in Chula Vista, which accepts construction, demolition, and non-hazardous waste.

Prior to the removal of existing poles, the existing overhead 69 kilovolt (kV) conductors will be transferred to the new poles, and the existing underground 69 kV cable currently under State Route 125 will be replaced with overhead 69 kV conductors installed on new poles. Portions of the distribution conductors will be transferred to the new poles, and portions of the distribution conductors will be removed and delivered to a suitable facility for recycling. As the existing wood poles have been treated with chemicals, they will be classified as exempt hazardous waste and disposed of at Otay Landfill, a Class III lined landfill that is permitted to accept treated wood waste.

Soil sampling at the former Brown Field Bombing Range site revealed elevated metals concentrations. SDG&E will implement the following Project Design Feature and Ordinary Construction/Operating Restriction, as described in Chapter 3 – Project Description:

- Soil testing for metals contamination will be conducted for all excavation sites within 500 feet of the former Brown Field Bombing Range Formerly Used Defense Site (FUDS-) eligible property boundary. In addition, an Unanticipated Soil Contamination Handling Plan will be prepared to address the procedures for discovery of contaminated soil encountered during testing or excavation activities. This plan will contain guidelines for the characterization, any necessary removal, transport, and disposal of impacted soil requiring excavation during construction. The plan will also emphasize that all activities within or in close proximity to contaminated areas will adhere to all applicable environmental and hazardous waste laws and regulations.

- Prior to construction, all SDG&E, contractor, and subcontractor Proposed Project personnel will receive training on the work practices necessary for effective implementation of the Project Design Features and Ordinary Construction/Operating Restrictions to comply with applicable hazardous materials-related laws and regulations.

- If soil that is stained, discolored, odorous, or otherwise suspect is encountered in other areas of the Proposed Project during excavation activities, work will be stopped and a qualified Environmental Professional will evaluate. Soil will either be sampled in place and analyzed to determine appropriate management options or containerized and managed in accordance with all applicable federal, state, and local regulations. Based on the results of observation and analysis, SDG&E will decide whether to remove or avoid the contaminated soil.

With implementation of these Project Design Feature and Ordinary Construction/Operating Restriction, impacts associated with contaminated soil and hazardous materials handling will be less than significant.

With the implementation of the Project Design Features and Ordinary Construction/Operating Restrictions, any potential impacts will be less-than-significant.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Consequently, less frequent use of hazardous materials will be required within the Proposed Project ROWs, and no impacts will occur from hazardous material transport, use, or disposal due to operation and maintenance of the Proposed Project.

Question 4.8b – Reasonably Foreseeable Upset and Accident Conditions

Construction – Less-than-Significant Impact

As discussed in the response to Question 4.8a – Hazardous Material Transport, Use, or Disposal, a potential exists for hazardous materials used during construction to be inadvertently released through spills or leaks. With the implementation of the Project Design Features and Ordinary Construction/Operating Restrictions, which include training and compliance with federal and state regulations concerning hazardous materials handling, any potential for a spill and any associated impacts will be less than significant.

Operation and Maintenance – No Impact

As discussed in the response to Question 4.8a – Hazardous Material Transport, Use, or Disposal, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Therefore, no new impacts will

occur from reasonably foreseeable upset or accident conditions due to operation and maintenance of the Proposed Project.

Question 4.8c – Hazardous Substances in Close Proximity to Schools – *No Impact*

The Proposed Project is not located within 0.25 mile of an existing or proposed school location. Thus, no impact will occur.

Question 4.8d – Existing Hazardous Materials Sites

Construction – Less-than-Significant Impact

As described previously in Section 4.8.2 Existing Conditions, two hazardous materials sites pose potential risks to the Proposed Project. The former Brown Field Bombing Range is a DTSC state response site, and the Proposed Project alignment crosses approximately 1.8 miles of the FUDS-eligible property boundary. As described in Section 4.8.2 Existing Conditions, the property is known or suspected to contain UXO and metals in the soil. Preparation of the work areas and excavation of pole holes within the property boundary could harm workers if a UXO is encountered and explodes during construction activities. To prevent workers from encountering UXOs, SDG&E will implement the previously described Project Design Feature and Ordinary Construction/Operating Restriction for soil testing, along with the following Project Design Feature and Ordinary Construction/Operating Restriction, as described in Chapter 3 – Project Description:

- Prior to construction, SDG&E will evaluate the UXO risk along the power line alignment and at the proposed work areas between pole locations 63 and 95 within the former Brown Field Bombing Range FUDS-eligible property boundary. A qualified UXO technician will conduct a surface sweep by walking along the power line route, visually surveying the work areas for any evidence of munitions debris or munitions hazards. All potential munitions hazards will be marked on the Proposed Project alignment sheets and recorded using a Global Positioning System device. The UXO technician will inform SDG&E of munitions findings and direct them to shift the work areas appropriately to a non-hazardous area. A UXO technician will be on site during all earth-disturbing activities in potential munitions hazards areas to monitor the work and ensure that hazardous areas are avoided. If a UXO is discovered during Proposed Project-related construction activities, excavation activities in the vicinity will cease and the on-site UXO technician will assess the condition of the munition. Upon discovery, the San Diego County Sheriff's Bomb/Arson Unit will be notified. Excavation activities in the vicinity will not resume until the UXO has been removed.

The former Otay Skeet and Trap Shooting Range is a DTSC evaluation site; pole location 21 is located approximately 30 feet south of a portion of the DTSC remediation area. As described in Section 4.8.2 Existing Conditions, the property is known to contain lead, arsenic, chromium, and PAHs in the soil and perchlorate in the groundwater. The soil remediation has been completed and the case closed. The DTSC determined that groundwater remediation was not necessary, and groundwater wells are being monitored by TRC for the Flat Rock Land Company to detect releases of perchlorate from the Area of Contamination Engineered Unit; therefore, based on current data, excavation of the pole holes will not encounter contaminated groundwater. As

described previously, groundwater depths are expected to be between 18 and more than 100 feet bgs, and the deepest excavation is approximately 16 feet bgs; therefore, excavation for the new poles is not anticipated to encounter any groundwater. With the implementation of the Project Design Features and Ordinary Construction/Operating Restrictions described previously, any potential impacts from existing hazardous materials sites will be less than significant.

Operation and Maintenance – Less-than–Significant Impact

The only hazardous materials sites located within 0.125 mile of the Proposed Project are the former Brown Field Bombing Range and former Otay Skeet and Trap Shooting Range. No soil disturbance or excavation that would encounter contaminated groundwater associated with these sites is anticipated during routine operation and maintenance activities; however, if required, SDG&E will follow its internal environmental release process in the same manner as currently used for the power line. Therefore, the potential for uncovering existing hazardous materials sites during operation and maintenance of the Proposed Project is unlikely, and any potential impacts will be less than significant.

Question 4.8e – Public Airport Hazards – *Less-than-Significant Impact*

The Proposed Project site is located approximately 0.8 mile north and 1.3 miles east of the Brown Field Municipal Airport. The Proposed Project will be designed and constructed in accordance with the noise, safety, airspace protection, and overflight policies and standards described in the Brown Field Municipal Airport ALUCP, which were designed to prevent new structures from becoming hazards to air navigation. Per the ALUCP, structures that are 200 feet above ground level will require coordination with the Federal Aviation Administration (FAA).

Per the ALUCP requirements, coordination with the FAA is required prior to construction of the Proposed Project due to its proximity to the Brown Field Municipal Airport. Because some of the steel poles—which will be up to approximately 90 feet tall and are located within one mile from the airport—will exceed the one-to-100 ratio required by Title 14, Section 77.9 of the CFR for airspace and navigation, SDG&E consulted with the FAA. The FAA conducted an obstruction evaluation and determined that there is no need for lighting or marking on the poles. Therefore, impacts to public airports will be less than significant.

Question 4.8f – Private Airstrip Hazards – *No Impact*

No components of the Proposed Project are located within two miles of a private airstrip, and thus will not affect or disrupt existing operations or worker safety at such a facility. Therefore, no impact will occur.

Question 4.8g – Emergency Evacuation and Response Plan Interference – *No Impact*

Emergency access will not be impacted by the Proposed Project because the power line does not cross over the evacuation routes in the area identified in the County of San Diego Operational Area Emergency Plan Evacuation Annex—which include Interstate (I-) 5, I-805, and I-905. Therefore, the Proposed Project will not interfere with the County of San Diego Operational Area Emergency Plan.

Question 4.8h – Wildland Fires

Construction – Less-than-Significant Impact

The mechanical and structural design and construction of the line must meet the requirements of CPUC GO 95. SDG&E takes into account normal and unusual structural loading in its designs under GO 95 to prevent fire hazards. The Proposed Project is being implemented to further reduce potential impacts from wildland fires, and the wood-to-steel pole conversion of the line is designed to reduce the potential for a fire hazard.

Construction activities could result in a fire due to the increased presence of vehicles, equipment, and human activity in areas of elevated fire hazard severity. In particular, heat or sparks from construction vehicles or equipment have the potential to ignite dry vegetation. SDG&E will implement the following Proposed Project Design Feature and Ordinary Construction/Operating Restriction, as described in Chapter 3 – Project Description, to assist in safe practices that prevent fires:

- SDG&E will implement the Proposed Project-specific Construction Fire Prevention Plan provided in Attachment 4.8–B: Construction Fire Prevention Plan, which includes the following:

  - a description of the procedures for minimizing fire potential
  - the requirements of Title 14, California Forest Practice Rules of the California Code of Regulations
  - relevant components of the SDG&E Wildland Fire Prevention and Fire Safety Plan
  - the firefighting equipment (e.g., shovels, pulaskis, and backpack pumps) that must be maintained on site and in vehicles for the duration of construction
  - the appropriate timing and use of fire-protective mats or shields during grinding and welding operations
  - emergency response and reporting procedures
  - relevant emergency contact information

Consistent with the aforementioned plans, before starting construction activities, SDG&E will assess the work areas, access roads, and ROW for wildland fire risk prior to beginning operations at the work areas. Hazard reduction will be performed in accordance with the Construction Fire Prevention Plan and environmental specifications. The vegetation removed will be disposed of according to vegetation management standards and landowner guidance. As a result of implementing the practices and plans described in this section, any potential impacts from wildland fires will be less than significant.

Operation and Maintenance – Less-than-Significant Impact

As discussed in the response to Question 4.8a – Hazardous Material Transport, Use, or Disposal, operation and maintenance of the Proposed Project will be conducted in the same manner as the existing line, which is covered under SDG&E's existing policies and procedures for these activities. No change will occur in the operation and maintenance of the line, except with regard to the frequency of these activities, which will decrease.

SDG&E currently implements PRC 4292 and 4293 clearance requirements around the poles. As described previously, SDG&E will also implement its existing Wildland Fire Prevention and Fire Safety Electric Standard Practice (ESP 113.1) during all operation and maintenance work.

Vehicles will use only existing access roads to access Proposed Project components during operation and maintenance activities. In addition, SDG&E will mow or trim vegetation along the roads, which will reduce the potential for vehicle heat to ignite dry vegetation and start a fire. With implementation of these measures, any potential exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires as a result of operation and maintenance of the Proposed Project will be less than significant.

4.8.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts from hazards or hazardous materials, no applicant-proposed measures have been proposed.

4.8.5 References

California DTSC EnviroStor. 2014. Brown Field Bombing Range (80000890). Online. http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=80000890. Site visited July 6, 2015.

California DTSC EnviroStor. 2014. Otay Skeet & Trap Range (60000469). Online. http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=60000469. Site visited July 6, 2015.

CalRecycle Facility Details. 2015. Otay Landfill. Online. http://www.calrecycle.ca.gov/SWFacilities/Directory/37-AA-0010/Detail/. Site visited July 6, 2015.

City of Chula Vista. 2015. Chapter 15.38 Urban-Wildland Interface Code. Online. http://www.codepublishing.com/ca/chulavista/html/ChulaVista15/ChulaVista1538.html. Site visited July 6, 2015.

City of San Diego. 2008. *General Plan, Public Facilities, Services, and Safety Element*.

City of San Diego Fire and Rescue Department. 2014. Online. http://www.sandiego.gov/fireandems/. Site visited July 6, 2015.

Clay, James. 2014. San Diego County DEH. Personal communication with E. Carrillo, Insignia Environmental. June 10, 2014. James.clay@sdcounty.ca.gov.

Clean Harbors. 2014. Buttonwillow Landfill. Online. http://www.cleanharbors.com/locations/index.asp?id=53. Site visited July 6, 2015.

County of San Diego. 1975. *County of San Diego General Plan, Public Safety Element*.

County of San Diego. 2014. Brown Field Municipal ALUCP. Online. http://www.san.org/DesktopModules/Bring2mind/DMX/Download.aspx?Command=Cor

e_Download&EntryId=2982&language=en-US&PortalId=0&TabId=225. Site visited July 6, 2015.

County of San Diego. 2010. *East Otay Mesa Business Park Specific Plan*.

County of San Diego. 2014. *Otay Mesa Community Plan Update*.

County of San Diego. 2011. *Otay Subregional Plan*.

County of San Diego. 2014. Unified San Diego County Emergency Services Organization Operational Area Emergency Plan Annex Q: Evacuation. Online. http://www.sandiegocounty.gov/oes/emergency_management/protected/docs/Annex_Q_2010.pdf. Site visited July 6, 2015.

County of San Diego Department of Health. 2013. Former Otay Skeet and Trap Shooting Range Certificate of Completion.

County of San Diego Department of Health. 2014. Former Otay Skeet and Trap Shooting Range Initial Study. Online. http://www.sdcounty.ca.gov/pds/regulatory/docs/3910-0519013_OTAY_SKEET_CEQA_REVIEW_120430/3910-0519013-Otay-Skeet-Trap-IS.pdf. Site visited June 10, 2014.

County of San Diego Department of Health. 2014. Former Otay Skeet and Trap Shooting Range Mitigated Negative Declaration. Online. http://www.sdcounty.ca.gov/pds/regulatory/docs/3910-0519013_OTAY_SKEET_CEQA_REVIEW_120430/3910-0519013-Otay-Skeet-Trap-MND.pdf. Site visited June 10, 2014.

County of San Diego Department of Health. 2014. Otay Mesa Skeet and Trap Shooting Range Draft Remedial Action Plan. Online. http://www.sdcounty.ca.gov/pds/regulatory/docs/3910-0519013_OTAY_SKEET_CEQA_REVIEW_120430/3910-0519013-Otay-Skeet-Trap-DRAFTRAP.pdf. Site visited June 10, 2014.

County of San Diego Department of Health. 2014. Otay Mesa Skeet and Trap Shooting Range Remediation Project Application for Environmental Initial Study. Online. http://www.sdcounty.ca.gov/pds/regulatory/docs/3910-0519013_OTAY_SKEET_CEQA_REVIEW_120430/3910-0519013-Otay-Skeet-Trap-AEIS.pdf. Site visited June 10, 2014.

USACE. 2007. Final Site Inspection Report: Former Brown Field Bombing Range. Online. http://www.envirostor.dtsc.ca.gov/regulators/deliverable_documents/2060010612/bfbr_si_1.pdf. Site visited July 6, 2015.

U.S. EPA. 2012. RCRA Orientation Manual 2011. Online. http://www.epa.gov/osw/inforesources/pubs/orientat/. Site visited July 6, 2015.

Waste Management. 2015. The Kettleman Hills Facility: There's More Than You Know. Online. http://kettlemanhillslandfill.wm.com/index.jsp. Site visited July 6, 2015.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF ATTACHMENTS

4.9 HYDROLOGY AND WATER QUALITY

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

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?				✓
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?				✓
j) Cause inundation by seiche, tsunami, or mudflow?			✓	

4.9.0 Introduction

This section describes the existing surface and groundwater hydrology, use, and quality, and the potential for erosion and flooding in the proposed San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project) area. This section also describes potential impacts to hydrology and water resources from construction, operation, and maintenance of the Proposed Project. The Proposed Project will implement a Storm Water Pollution Prevention Plan (SWPPP), which is required by law. The Proposed Project will also follow SDG&E's Water Quality Construction Best Management Practices (BMPs) Manual. As demonstrated in the sections that follow, the Proposed Project will have less-than-significant impacts to hydrology and water quality.

4.9.1 Methodology

Water resources and potential impacts to hydrology and water quality resulting from construction, operation, and maintenance of the Proposed Project were evaluated through a jurisdictional delineation survey of the Proposed Project area, as well as a review of the following:

- watershed and groundwater basin maps and basin plans;
- inventories of impaired waterbodies; and
- documents from the California Department of Water Resources and the State Water Resources Control Board (SWRCB).

Federal Emergency Management Agency (FEMA) maps and Dam Inundation Maps were referenced to identify flood hazard zones in proximity to the Proposed Project area, and local plans were reviewed for relevant policies regarding water quality and protection. United States (U.S.) Geological Survey 7.5-minute series quadrangle maps and aerial photography of the Proposed Project area were also examined to identify major water features and drainage patterns.

Hydrological features were then confirmed and additional features were noted during a delineation of potentially jurisdictional waters and wetlands conducted by RECON Environmental, Inc. (RECON), and Chambers Group. Following the guidelines set forth by the U.S. Army Corps of Engineers (USACE), RECON performed a jurisdictional delineation to gather field data at potential wetlands and waters within and adjacent to the Proposed Project area. In order to account for potential impacts and to provide a greater landscape context to sensitive aquatic resources, the Jurisdictional Delineation Survey Area (Survey Area) includes an approximately 150-foot buffer from the center of the power line; an approximately 20-foot buffer on either side of all access roads; and an approximately 50-foot buffer surrounding temporary Proposed Project features, such as staging yards and stringing sites. RECON wetland specialists delineated jurisdictional waters on the approximately 336.8-acre Survey Area on May 14 and 22, 2014. Additional site visits were conducted on July 28 and November 3, 2014 to assess jurisdictional waters within additional Proposed Project areas, and to investigate potential vernal pools. On March 20, 2015 Chambers Group, ICF International, and the SDG&E Aquatic Resource Specialist conducted an additional site visit.

Sites were examined to evaluate the presence of wetlands or drainage channels. In accordance with USACE guidance, potential jurisdictional areas were evaluated for the presence of wetlands, definable channels, ordinary high water marks (OHWMs), and connectivity to a traditional navigable waterway. Additional details on the methodology used to perform the jurisdictional delineation are provided in Attachment 4.9–A: Jurisdictional Delineation Report.

4.9.2 Existing Conditions

Regulatory Background

The following federal, state, and local regulations and policies pertain to hydrology and water quality and are relevant to the Proposed Project.

Federal

Clean Water Act

The Clean Water Act (CWA) (Title 33 of the U.S. Code [U.S.C.] § 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of waters of the U.S. The definition of waters of the U.S., as recently defined in the Clean Water Rule, includes traditional navigable waters, interstate waters, territorial seas, and impoundments of waters of the U.S.; tributaries of waters of the U.S.; waters adjacent to waters of the U.S., including ponds, lakes, wetlands, and similar water features; and waters determined to have a significant nexus to a water of the U.S. (Title 33, § 328.3[b] of the Code of Federal Regulations [CFR].[1] Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Title 33, § 328.3[c] of the CFR).

[1] The Clean Water Rule: Definition of Waters of the United States—published in the Federal Register on June 29, 2015 and effective August 28, 2015—was issued to ensure that waters protected under the CWA are more precisely defined and predictably determined.

The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point sources and certain non-point source discharges to surface water.

Clean Water Act Section 402

The National Pollutant Discharge Elimination System (NPDES) program was established in 1972 to control discharges of pollutants from defined point sources (33 U.S.C. § 1342). The program originally focused on industrial-process wastewater and publically owned treatment works. In 1987, Section 402 of the CWA was amended to include requirements for five separate categories of storm water discharges, known as Phase I facilities. Phase I facilities include the following:

- facilities already covered by an NPDES permit for storm water,
- facilities that engage in industrial activities,
- large municipal separate storm sewer systems (MS4s) that serve more than 250,000 people,
- medium MS4s that serve between 100,000 and 250,000 people, and
- facilities that are considered significant contributors of pollutants to waters of the U.S.

The U.S. Environmental Protection Agency (EPA) issued a final rule for Phase II discharges in August 1995. Phase II storm water discharges include light industrial facilities, small construction sites (i.e., less than five acres), and small municipalities (i.e., populations of less than 100,000 people).

In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). On August 19, 1999, the SWRCB reissued General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order No. 99-08-DWQ) and, later that year, amended the permit to apply to sites as small as one acre.

On September 2, 2009, the SWRCB adopted Order No. 2009-0009-DWQ (Construction General Permit), which reissued Water Quality Order No. 99-08-DWQ for projects disturbing one or more acres of land, or that are part of a common plan of development or sale that disturbs more than one acre of land where the rainfall erosivity waiver does not apply. The new permit became effective July 1, 2010, whereby all existing dischargers and new dischargers are required to obtain coverage under the new permit by submitting permit registration documents (PRDs).

The Construction General Permit requires the implementation of a SWPPP, which must be prepared before construction begins and kept on site throughout the construction process. In accordance with Water Quality Order No. 2009-0009-DWQ, the SWPPP must include the following:

- identification of pollutant sources and non-storm water discharges associated with construction activity;

- specifications for BMPs that will be implemented during project construction to minimize the potential for accidental releases and runoff from the construction areas, including temporary construction yards, pull sites, and other temporary work areas;
- calculations and design details, as well as BMP controls for site run-on;
- BMPs used to eliminate or reduce pollutants after construction is complete; and
- certification from a Qualified SWPPP Developer.

While the SWPPP lays out the groundwork for compliance with the Construction General Permit, it is also a repository for completed Rain Event Action Plans (REAPs). During construction, the REAP is the site-specific plan that is geared to each specific phase of construction and rain event. The REAP was not previously required under Water Quality Order No. 99-08-DWQ.

The Construction General Permit requires that the site sediment risk be calculated based on rainfall, soil erodibility, and slope. It also requires that the receiving water risk be calculated based on whether the disturbed areas discharge to a 303(d)-listed waterbody that is impaired for sediment or that has a U.S. EPA-approved Total Maximum Daily Load (TMDL) implementation plan for sediment. The receiving water risk must also be calculated based on whether the disturbed areas discharge to a waterbody with a beneficial use of fish spawning, cold freshwater habitat, and fish migration. The result of this analysis determines the combined risk level (i.e., 1, 2, or 3), which dictates the monitoring and reporting requirements.

Clean Water Act Section 404

Section 404 of the CWA authorizes the USACE to regulate the discharge of dredged or fill material to waters of the U.S., including wetlands (33 U.S.C. § 1344). The USACE issues individual site-specific permits or general permits (i.e., Nationwide Permits or Regional General Permits) for such discharges.

Clean Water Act Section 401

Under Section 401 of the CWA, any applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters must provide the licensing or permitting agency with a Water Quality Certification (WQC) that the discharge would comply with the applicable CWA provisions or a waiver (33 U.S.C. § 1341). If a federal permit is required (e.g., a USACE permit for dredge and fill discharges), the project proponent must also obtain a WQC from the RWQCB.

Clean Water Act Sections 303 and 304

Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the U.S. (33 U.S.C. § 1313). Section 304(a) requires the U.S. EPA to publish water quality criteria that accurately reflect the latest scientific knowledge on the kind of effects and extent of effects that pollutants in water may have on health and welfare (33 U.S.C. § 1314[a]). Where multiple uses exist, water quality standards must protect the most sensitive use. Water quality standards are typically numeric, although narrative criteria based on biomonitoring methods may

be employed when numerical standards cannot be established or when they are needed to supplement numerical standards.

Section 303(c)(2)(b) of the CWA requires states to adopt numerical water quality standards for toxic pollutants for which the U.S. EPA has published water quality criteria and which could reasonably be expected to interfere with designated uses in a waterbody.

Under Section 303(d) of the CWA, states, territories, and authorized tribes are required to develop a list of waterbodies where beneficial uses are impaired. The waters on the list do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for water segments on the lists and develop action plans (i.e., TMDLs) to improve water quality.

Rivers and Harbors Appropriation Act Section 10

Section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 U.S.C. § 401 et seq.) makes it unlawful to obstruct or alter a navigable river or other navigable water of the U.S. Construction, excavation, or deposition of materials in, over, or under such waters—or any work that would affect the course, location, condition, or capacity of those waters—requires a Section 10 permit and approval from the USACE.

National Flood Insurance Program

FEMA is responsible for determining flood elevations and floodplain boundaries based on USACE studies. FEMA is also responsible for distributing the Flood Insurance Rate Maps used in the National Flood Insurance Program (NFIP). These maps identify the locations of special flood hazard areas, including the 100-year floodplain. FEMA allows non-residential development in floodplains; however, construction activities are restricted within flood hazard areas, depending on the potential for flooding within each area. Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations, enabling FEMA to require municipalities that participate in the NFIP to adopt certain flood hazard reduction standards for construction and development in 100-year floodplains.

State

California Fish and Game Code

Sections 1601 through 1606 of the California Fish and Game Code require a Lake or Streambed Alteration Agreement (LSAA) between the California Department of Fish and Wildlife (CDFW) and an entity proposing to substantially divert or obstruct the natural flow or affect changes to the bed, channel, or bank of any river, stream, or lake. The LSAA is designed to protect the fish and wildlife resources of a river, lake, or stream.

State Water Resources Control Board Order Number 2001-11-DWQ

The SWRCB adopted the Statewide General NPDES Permit for Discharges from Utility Vaults & Underground Structures to Surface Waters (General Permit CAG990002) in 2001. This permit authorizes permittees to discharge uncontaminated water from vaults and substructures to surface waters during the operational phase of projects.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1967, California Water Code Section 13000 et seq., requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect waters of the State. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The criteria for the Proposed Project area are contained in the San Diego RWQCB's Basin Plan (Basin Plan).

Local

Because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations. The following analysis of the local regulations relating to hydrology and water quality is provided for informational purposes. As outlined in the following subsections, the construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations related to hydrology and water quality.

San Diego Regional Water Quality Control Board Basin Plan

The San Diego RWQCB (Region 9) is responsible for protecting the beneficial uses of surface water and groundwater resources in the San Diego area. The RWQCB adopted the Basin Plan in September 1994. The plan sets forth implementation policies, goals, and water management practices in accordance with the Porter-Cologne Water Quality Control Act and establishes both numerical and narrative standards and objectives for water quality aimed at protecting aquatic resources. Discharges to surface waters within the approximately 3,900 square miles of the San Diego Basin are subject to the regulatory standards set forth in the Basin Plan, which prevents the unauthorized discharge of pollutants into waters of the U.S. and State. NPDES permits, waste discharge requirements, and waivers are mechanisms used by the RWQCB to control discharges and protect water quality.

San Diego Regional Water Quality Control Board Municipal Storm Water Permit

The San Diego RWQCB issued the San Diego Municipal Permit Order No. R9-2013-0001 (NPDES No. CAS0109266) to the County of San Diego, the San Diego Unified Port District, San Diego Regional Airport Authority, and 18 cities in San Diego County (Co-permittees) with the primary goal of preventing polluted discharges from entering the storm water conveyance system and local receiving and coastal waters. Pursuant to the permit, the Co-permittees are required to develop and implement measures that would address and prevent pollution from development projects. Priority development projects are also required to include BMPs in the permanent design to reduce pollutant discharges from project sites.

County of San Diego Standard Urban Stormwater Mitigation Plan

In order to comply with the San Diego RWQCB's San Diego Municipal Permit (NPDES No. CAS0109266), a Standard Urban Stormwater Mitigation Plan (SUSMP) was developed for San Diego County. A Storm Water Management Plan that complies with the criteria provided in the SUSMP must be developed for applicable priority development projects in San Diego County.

Existing San Diego Gas & Electric Plans

San Diego Gas & Electric Company Subregional Natural Community Conservation Plan

Under Section 10(a) of the federal Endangered Species Act, SDG&E developed a comprehensive multiple species and habitat Natural Community Conservation Plan (NCCP) to effectively preserve and enhance covered sensitive species and their native habitats during operation, maintenance, and expansion of its electric and natural gas transmission system (16 U.S.C. § 1539). The purpose of the NCCP is to establish and implement a long-term agreement between SDG&E, the U.S. Fish and Wildlife Service, and the CDFW for the preservation and conservation of sensitive species and their habitats while allowing SDG&E to develop, install, maintain, operate, and repair its facilities as necessary to provide energy services to customers within SDG&E's service area.

The NCCP identifies 69 Operational Protocols designed to avoid and minimize potential impacts to sensitive (i.e., special-status) species and their habitats, including sensitive hydrological features. These features include drainages, wetlands, and vernal pools. The NCCP is used to comply with the state and federal Endangered Species Act (ESA) and will not be used for construction of the Proposed Project, but will be used for operation and maintenance of the Proposed Project. Specific Operational Protocols will be implemented to ensure that impacts to special-status species and their habitats are avoided or minimized.

A revision to the NCCP was filed in 2004, entitled the SDG&E Subregional Plan Clarification Document, which addressed vernal pool resources located both on and off SDG&E access roads. Vernal Pool Protocols 62 through 69 were designed to minimize and avoid impacts to vernal pools, as described in the Clarification Document for vernal pools and incorporated into the Subregional NCCP. Applicable Vernal Pool Protocols from the Clarification Document include the requirement that a biological monitor be present for construction activities occurring adjacent to vernal pools, and ensuring that vehicles are fueled and maintained at least 100 feet from the nearest vernal pool. Other Vernal Pool Protocols include provisions for personnel training, maintenance, and repair and construction of facilities, including access roads, survey work, and emergency repairs.

Environmental Setting

The Proposed Project occurs within a dissected coastal mesa and canyon system on the southern bank of the Otay River. Topography within the Proposed Project area includes steep canyon slopes, ephemeral drainages, river terraces, vegetated riparian valleys, and coastal clay mesas. The Proposed Project area generally occurs within undeveloped open space, with the exception of minor agricultural uses within the Otay River floodplain. Coastal mesas are either developed (residential) or contain vernal pool complexes of varying size and quality. Larger intact canyon systems within the project area (e.g., Johnson Canyon) generally contain riparian scrub vegetation, while smaller drainage systems in the area typically contain ephemeral drainages or vegetated swales. All drainages and wetlands in the area are within the Otay Valley Watershed and Tijuana Valley Watershed, which are depicted in Figure 4.9-1: Watersheds and Hydrology Overview, and have direct connectivity to the Pacific Ocean, approximately 5.9 miles west of the Proposed Project alignment.

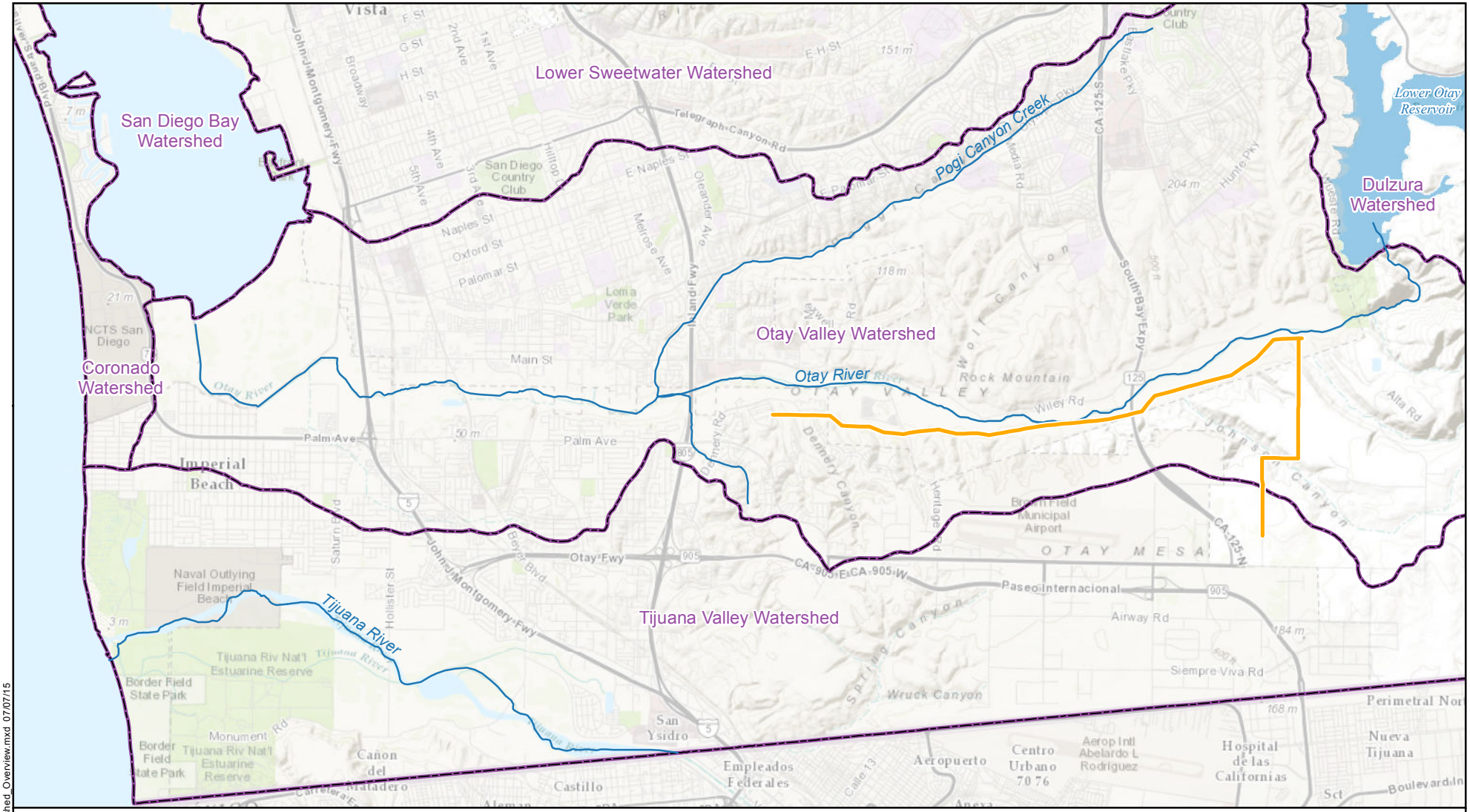

Figure 4.9-1: Watersheds and Hydrology Overview

Tie Line 649 Wood-to-Steel Replacement Project

- Project Location
- Basin/Watershed Boundary
- River

1:84,000

0 1 2 Miles

N

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Surface Waters

As described in Attachment 4.9–A: Jurisdictional Delineation Report, the power line ROW crosses numerous non-jurisdictional swales and jurisdictional ephemeral drainages that drain into the Otay River. No drainages were observed within the portion of the Survey Area that is located within the Tijuana Hydrologic Unit. Major streams, rivers, and waterbodies are shown in Attachment 3-A: Detailed Route Map in Chapter 3 – Project Description.

Twenty-one potentially jurisdictional drainages were observed within the Survey Area, all of which are located within the Otay Hydrologic Unit. Twelve non-jurisdictional features were also identified, including nine non-jurisdictional swales, one brow-ditch, and two erosional features.

In addition, vernal pools potentially under the jurisdiction of the USACE and RWQCB were located within the Survey Area. Attachment 4.9–A: Jurisdictional Delineation Report shows the location of vernal pools within the Survey Area. Vernal pools identified within the report are considered both waters of the U.S. and waters of the State, and therefore, are under the jurisdiction of the USACE and RWQCB.

Groundwater

Groundwater basins can be found along major drainages in San Diego County. Groundwater recharge occurs from dam releases and underflow past existing dams. Other sources of recharge may include precipitation, stream flow, and discharges from municipal wastewater treatment plants. Approximately 4.3 miles of the Proposed Project alignment is located within the Otay Valley Groundwater Basin.

The regional groundwater level is expected to be between 18 to more than 100 feet below the site grade. Groundwater was not encountered within the borings or adjacent areas during the geotechnical investigation conducted by Geocon for the Proposed Project (See Section 4.6 Geology and Soils), and groundwater is not expected to significantly impact Proposed Project construction. Slight seepage was encountered in two borings at depths of approximately 18 and 30 feet. Groundwater or perched groundwater could be encountered during construction following heavy rainfall, runoff, and/or irrigation.

Surface Water Quality

The Basin Plan designates beneficial uses for surface and groundwater in the basin, and it also sets narrative and numeric objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy. Beneficial uses of inland surface waters near the Proposed Project area include municipal and domestic supply; agricultural supply; industrial service supply; contact water recreation; non-contact water recreation; warm freshwater habitat; wildlife habitat; and rare, threatened, and endangered species.

According to the San Diego RWQCB's 2006 CWA Section 303(d) List of Water Quality Limited Segments Requiring TMDLs (303[d]-listed), Pogi Canyon Creek is listed for dichlorodiphenyltrichloroethane (DDT) from unknown sources. The stretch of Pogi Canyon Creek that is 303(d)-listed is located approximately one mile west of and downstream of the Proposed Project where it enters the Otay River. The Lower Otay Reservoir, located

approximately 0.6 mile northeast and upstream of the Proposed Project, is listed for color, iron, manganese, nitrogen, ammonia (total ammonia), and pH (high) from unknown sources. The Tijuana River, located approximately three miles southwest of the Proposed Project, is listed for eutrophic indicator bacteria, low dissolved oxygen, pesticides, solids, synthetic organics, trace elements, and trash from non-point/point sources. No surface water connection to the Tijuana River was observed within the Proposed Project area.

Floodplains

According to FEMA's Flood Insurance Rate Maps, the Proposed Project is located in FEMA Zones AE,[2] AO,[3] and 0.2 Percent Annual Change Flood Hazard (or 500-year flood), as shown in Figure 4.9-2: FEMA Flood Hazards. FEMA Zone A[4] is also depicted in Figure 4.9-2: FEMA Flood Hazards, but is not crossed by the Proposed Project. The Proposed Project crosses approximately 0.2 mile of 100-year flood zones (Zones AE and AO) and approximately 0.3 mile of 500-year flood zones.

Dam Failure Inundation Areas

The Office of Emergency Services is responsible for the identification of inundation areas for dam failures in California. The Proposed Project is located within an inundation area for dam failure, specifically Savage Dam, which impounds the Otay River approximately 0.6 mile northeast of the Proposed Project. Savage Dam is the terminus for the Second San Diego Aqueduct, which transports imported water from the Colorado River. The dam and reservoir are owned by the City of San Diego.

4.9.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts to hydrology and water quality that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, impacts to hydrology and water quality will be considered significant if the Proposed Project:

- Violates any water quality standards or waste discharge requirements

[2] Zone AE refers to areas that are subject to inundation by a one-percent-annual-chance flood event, as determined by detailed methods.

[3] Zone AO refers to areas that are subject to inundation by a one-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet. Some Zone AO have been designated in areas with high flood velocities, such as alluvial fans and washes. Communities are encouraged to adopt more restrictive requirements for these areas.

[4] Zone A is also subject to inundation by the one-percent-annual-chance flood event; however it lacks the detailed hydraulic analyses performed for Zone AE and no Base Flood Elevations (BFEs) or flood depths are shown.

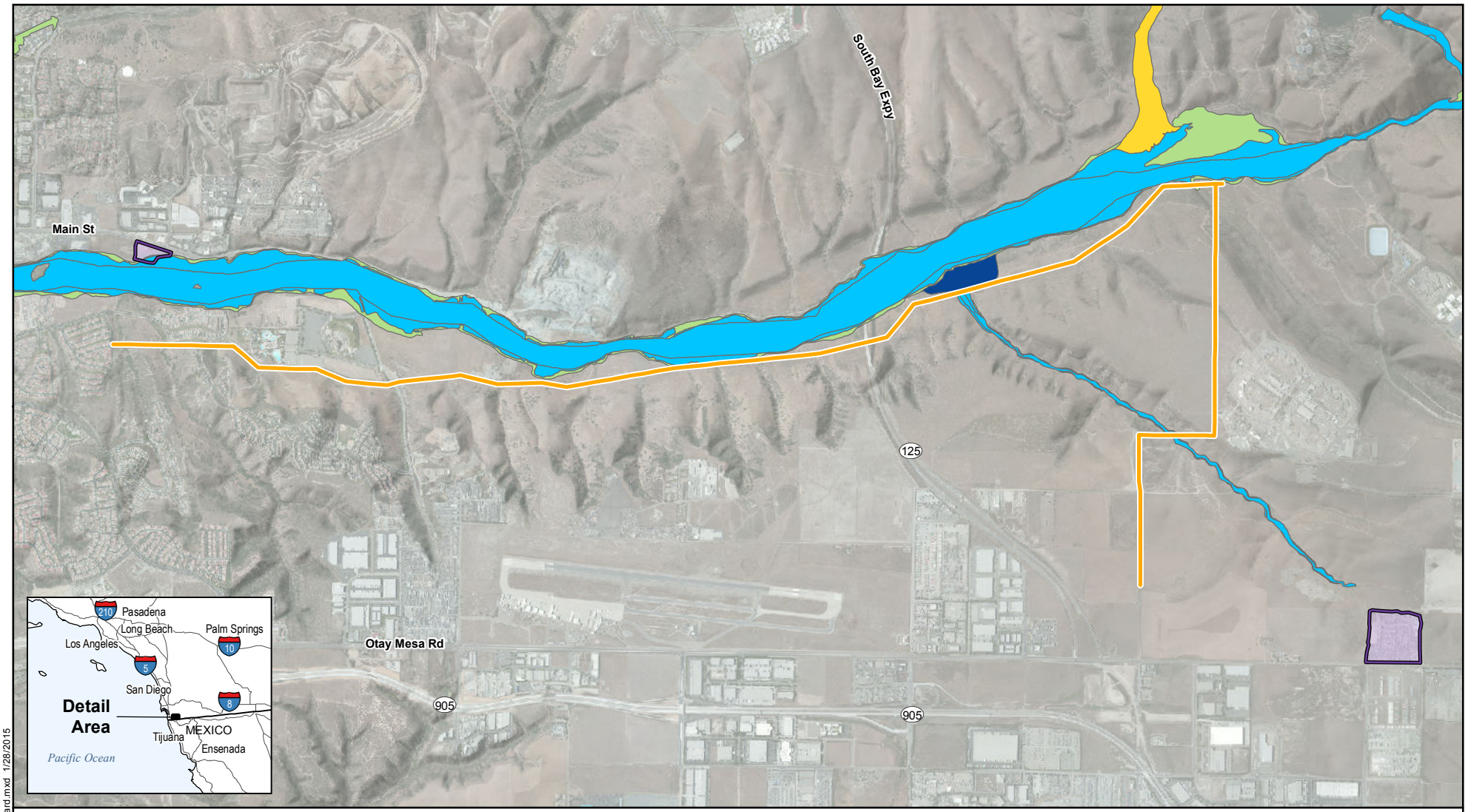

Figure 4.9-2: FEMA Flood Hazards

Tie Line 649 Wood-to-Steel Replacement Project

Project Location

Staging Yard

FEMA Flood Zones

100-Year Flood Zones

AO

A

AE

500-Year Flood Zone

0.2-Percent Annual Chance Flood Hazard

1:40,000

0 0.5 1 Miles

N

SDGE A Sempra Energy utility

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- Substantially depletes groundwater supplies or interferes substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level

- Substantially alters the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site

- Substantially alters the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increases the rate or amount of surface runoff in a manner that would result in flooding on site or off site

- Creates or contributes to runoff water that would exceed the capacity of existing or planned storm water drainage systems, or provides substantial additional sources of polluted runoff

- Otherwise substantially degrades water quality

- Places housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map, or other flood hazard delineation map

- Places structures that would impede or redirect flood flows within a 100-year flood hazard area

- Exposes 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

- Causes inundation by seiche, tsunami, or mudflow

Question 4.9a – Water Quality Standards and Waste Discharge Violations

Construction – Less than Significant Impact

No permanent or temporary impacts to jurisdictional waters are anticipated as a result of the Proposed Project. Use of existing access roads for the Proposed Project will temporarily increase traffic through disturbed vernal pools located within the roads. SDG&E will implement the NCCP Operational Protocols and Vernal Pool Protocols listed in Chapter 3 – Project Description, as well as the following Project Design Features and Ordinary Construction/Operating Restrictions

- Jurisdictional drainage crossings will be avoided during periods of high flow, as determined by the aquatic resource monitor. After each rain event, drainage crossings will be evaluated for surface flows and ponding by the aquatic resource monitor to determine if a dry-out period of 24 hours or more (full avoidance of the crossing) is required to avoid substantial impacts to the drainage crossings. If it becomes necessary to place a temporary bridge over a jurisdictional drainage during construction, the bridge will be placed over the drainage, spanning the channel from bank to bank, avoiding the ordinary high water mark, and allowing natural flow to continue downstream. An aquatic

resource monitor will be present to provide guidance to the work crew during placement and removal of the bridge to avoid substantial impacts to the drainage.

- Vernal pools (as defined in Attachment 4.9-A: Jurisdictional Delineation Report) will be avoided by the Proposed Project-related activities, with the exception of driving through dry vernal pools. Steel plates may be placed to span over vernal pools to allow Proposed Project-related activities, where feasible.

- When a pole location or staging yard is adjacent to a drainage feature that is jurisdictional for the United States Army Corps of Engineers, RWQCB, or CDFW, the following constraints will apply:

  - An aquatic resource monitor, with the authority to stop work if necessary, will be present on site as needed to ensure minimization and avoidance measures are complied with. Monitoring will be conducted in particular during BMP installation, spot checking during construction, and at the end of construction.

  - Prior to construction activity, the aquatic resource monitor or SDG&E Environmental will provide an Environmental Tailgate to the crew to go over the construction restrictions.

  - If work is conducted at pole locations during the rainy season (October 1 through May 1), before scheduling Proposed Project activities, the weather forecast will be monitored. Work will not be scheduled if a greater than 40 percent chance of rain is forecasted during the time needed to complete the activity. If rain does occur unexpectedly during Proposed Project activities, the site will be secured using BMPs (e.g., fiber rolls) to prevent sedimentation and erosion.

  - Stockpiled material will not be placed within the jurisdictional drainage or where it could be washed into the jurisdictional drainage feature during a storm event. If left overnight, the stockpile will be covered with plastic and secured.

  - Any vegetation that has been mowed or trimmed to provide access or work space will not be discharged within a jurisdictional drainage or placed where it could be washed into a jurisdictional drainage during a storm event.

  - Appropriate BMPs will be used before, during, and after construction to prevent erosion and off-site sedimentation.

  - At the end of construction, all unused construction material and debris will be removed and disposed of appropriately.

As a result, no permanent or temporary impacts to vernal pools are anticipated. A Section 404 Nationwide Permit from the USACE and a Section 401 WQC from the RWQCB are not expected to be required for the Proposed Project.

Water quality standards could be violated by release and transport of hazardous materials, erosion that results in sediment transport, or the discharge of waste. The Proposed Project will result in ground disturbance and expose soils, potentially resulting in increased erosion and sedimentation. These potential impacts are discussed further in the response to Question 4.9c – Drainage Patterns – Erosion/Siltation.

Equipment and construction materials stored within the ROW or staging areas could come in contact with rainwater or storm water runoff that could potentially transport deleterious substances to the nearby Otay River or Tijuana River. Accidental releases of hazardous materials used during construction (e.g., diesel fuel, hydraulic fluid, oils and grease, and concrete) have the potential to occur. Transport of these substances could occur either through overland sheet flow and/or flow through ephemeral drainages that are tributaries to the Otay River or Tijuana River. A list of hazardous materials that are anticipated to be used during construction is included in Table 4.8-1: Hazardous Materials Typically Used During Construction in Section 4.8 Hazards and Hazardous Materials. In addition, storm water contact with litter and/or construction materials could pose a threat to water quality in nearby rivers and streams.

Because the Proposed Project is greater than one acre in size, SDG&E will be required to comply with the Construction General Permit (Water Quality Order No. 2009-0009-DWQ) and submit PRDs to the SWRCB. Under the Construction General Permit, the Proposed Project is anticipated to be considered a Type 1 Linear Underground/Overhead Project (LUP). The monitoring requirements for Type 1 LUPs are less than Type 2 and 3 projects because Type 1 projects have a lower potential to impact water quality. Type 1 LUPs typically do not have a high potential to impact storm water quality because these construction activities are not typically conducted during a rain event; these projects are normally construction over a short period of time, minimizing the duration that pollutants could potentially be exposed to rainfall; and disturbed soils such as those from trench excavation are required to be hauled away, backfilled into the trench, and/or covered at the end of the construction day..

Projects are considered to have a high receiving water risk if they discharge to a 303(d)-listed waterbody impaired for sediment, have a waterbody with a TMDL plan for sediment, or a waterbody with beneficial uses for cold freshwater habitat, spawning, and migration. Waterbodies in the vicinity of the Proposed Project do not meet these criteria.

Potential impacts to water quality will be minimized through implementation of SDG&E's Water Quality Construction BMP Manual and the SWPPP developed for the Proposed Project. In addition, the results of post-storm inspections and the effectiveness of BMPs will be submitted to the SWRCB in accordance with the Construction General Permit. SDG&E will also comply with local storm water requirements detailed in the County of San Diego SUSMP, as required. As a result, the Proposed Project will result in a less-than-significant impact to compliance with water quality standards and waste discharge requirements.

Operation and Maintenance – Less-than-Significant Impact

Following construction, SDG&E will continue to regularly inspect, maintain, and repair the power line facilities. Operation and maintenance activities for the Proposed Project will be

conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Existing access roads will be utilized to access the new structures. Because no new roads will be constructed and only minor modifications to existing roads will occur, impacts to water quality standards and waste discharge requirements associated with operation and maintenance of the Proposed Project will be less than significant.

Question 4.9b – Groundwater Depletion or Recharge

Construction – Less-than-Significant Impact

As described in Chapter 3 – Project Description, two to three water trucks, completing an average of two trips per day, are anticipated to be required to deliver water to each active construction area for dust control, compaction, and fire protection. Water will be obtained from a recycled water source, such as the South Bay Water Reclamation Plant, and/or a municipal source, such as the Otay Water District, and will not affect local groundwater supplies. Therefore, the Proposed Project will not substantially deplete groundwater supplies.

SDG&E will remove approximately 132 wood poles and replace them with approximately 117 steel poles; therefore, construction of the Proposed Project will not substantially increase the amount of impervious surfaces in the Proposed Project area. As a result, the rate of groundwater recharge will not be affected. Therefore, the impact will be less than significant.

Operation and Maintenance – No Impact

Following construction, SDG&E will continue to regularly inspect, maintain, and repair the power line facilities, as well as protect against fire. Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Therefore, there will be no impact to groundwater depletion or recharge during operation and maintenance.

Question 4.9c – Drainage Patterns – Erosion/Siltation

Construction – Less-than-Significant Impact

Erosion and siltation are generally caused by runoff from areas of ground disturbance or from the alteration of existing drainage patterns. Ground disturbance in the Proposed Project area will occur during minor earthwork and vegetation trimming associated with the use of temporary construction work areas and access roads.

The Proposed Project primarily involves the replacement of existing power lines in previously disturbed areas, and existing access roads will be used to travel to work sites and pole locations. Vehicles and equipment are prone to tracking soil and/or spoil from work areas to paved roadways, which is another form of erosion. Water trucks used during construction to assist with fugitive dust abatement will also have the potential to cause erosion and subsequent sedimentation. In addition, soil compaction—whether intentional or as a result of heavy vehicle and equipment use—can increase surface runoff, which in turn increases the erosion potential.

The majority of the ground disturbance will be temporary in nature and attributed to vegetation trimming and minor earthwork.

Because ground disturbance for the Proposed Project will exceed one acre, SDG&E will obtain coverage under the SWRCB Construction General Permit. In order to obtain coverage under the permit, SDG&E will develop and submit PRDs—including a Notice of Intent, SWPPP, risk assessment, site map, certification, and annual fee—to the SWRCB prior to initiating construction activities. The SWPPP will identify BMPs for each activity that has the potential to degrade surrounding water quality through erosion, sediment run-off, and other pollutants. These BMPs will then be implemented and monitored throughout the Proposed Project by a Qualified SWPPP Practitioner. The potential for erosion resulting from Proposed Project ground disturbance will be generally temporary, limited, and controlled through the use of BMPs, including soil stabilization in temporary work areas. Therefore, potential impacts resulting from erosion or sedimentation will be less than significant.

During construction, SDG&E will use existing access roads that pass through 12 jurisdictional drainage features. Proposed Project activities include driving through jurisdictional drainage features; however, parking of vehicles, staging of equipment, and the placement of fill will not occur within drainage features. SDG&E will implement the Project Design Features and Ordinary Construction/Operation Restrictions described previously in response to Question 4.9a – Water Quality Standards and Waste Discharge Violations, to avoid substantial impacts to jurisdictional drainages.

In addition, SDG&E will implement BMPs outlined in the SDG&E Water Quality Construction BMP Manual in order to minimize erosion and off-site sedimentation. With the implementation of BMPs, the SWPPP, Project Design Features and Ordinary Operating Restrictions, and NCCP Operational Protocols and Vernal Pool Protocols, any changes to drainage patterns and associated erosion and sedimentation are anticipated to be less than significant.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities, including implementation of SDG&E's Water Quality Construction BMP Manual and NCCP Operational Protocols and Vernal Pool Protocols. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Existing access roads will be utilized to access the new structures. Because no new roads will be constructed, there will be no increase in the erosion or sedimentation potential, and impacts associated with operation and maintenance of the Proposed Project will not occur.

Question 4.9d – Drainage Patterns – Runoff/Flooding

Construction – Less-than-Significant Impact

No steel poles or construction equipment will be placed within a drainage. The new steel poles will not be large enough to impede the natural flow of surface water and will not significantly redirect drainage patterns or increase runoff resulting in flooding. Minimal increases in

impermeable surfaces will not substantially increase the existing velocity or volume of storm water flows or elevation either on site or in off-site areas. As such, flow rates and volumes will not be substantially altered. Therefore, existing drainage patterns on site will not change significantly from pre-construction conditions. No flooding is anticipated to occur as a result of the Proposed Project.

As mentioned previously in the response to Question 4.9c – Drainage Patterns – Erosion/Siltation, the Proposed Project will not substantially alter existing drainage patterns. Therefore, construction activities will not substantially alter on- or off-site flow rates or volumes. Because downstream flow rates and volumes will not change substantially, impacts to drainage patterns that will result in flooding will be less than significant.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Drainage patterns will remain unchanged and the Proposed Project will not result in the potential for increased runoff volumes. As a result, there will be no impact on water runoff or flooding.

Question 4.9e – Storm Water Runoff

Construction – Less-than-Significant Impact

During construction of the Proposed Project, existing vegetation may need to be trimmed in temporary construction areas, including construction yards, pole work areas, existing access roads, and stringing sites. These activities have the potential to increase storm water runoff by removing existing vegetation and compacting soils. In general, compaction increases surface runoff when all other factors, such as slope steepness and slope length, remain the same. Installation of poles and the temporary stockpiling of excavated soil surrounding the poles could also increase the potential for storm water runoff. Any remaining material from pole hole excavation will be placed around the holes, spread onto access roads, or removed to an appropriate off-site disposal facility. If contaminated soil is encountered, the material will be hauled off site and disposed of properly in accordance with the Project Design Feature and Ordinary Construction/Operating Restriction described in Section 4.8 Hazards and Hazardous Materials and in Chapter 3 – Project Description. SDG&E will revegetate temporary construction areas in accordance with the NCCP Operational Protocols listed in Chapter 3 – Project Description, the SWPPP, and vegetation management standards.

As described in Chapter 3 – Project Description, where existing access roads are damaged, typical repairs may be made, such as smoothing the access road, stabilizing loose areas, and improving the surface quality of the road. Importing and compacting more stable materials in loose areas, or applying additional surface materials to improve access conditions may also occur in upland areas. These repairs are also intended to reduce storm water runoff that may be occurring to minimize erosion and subsequent sedimentation. Minor earthwork—such as waterbars or rolling dips in accordance with SDG&E's Water Quality Construction BMP Manual—will also minimize runoff during construction of the Proposed Project.

The use of water for dust- and fire-suppression could increase surface runoff if water is applied in excess and the soil infiltration capacity is exceeded. SDG&E will implement the BMPs outlined in the Proposed Project's SWPPP, including managing water use for dust suppression, so that runoff and off-site sedimentation are minimized.

Construction will introduce new sources of pollutants that can enter storm water and be transported off site. Sources of pollutants are discussed in response to Question 4.9a – Water Quality Standards and Waste Discharge Violations. They may include hazardous materials, such as diesel fuel, hydraulic fluid, oil and grease, as well as typical construction materials, sediment, and trash. In accordance with the Proposed Project's SWPPP, SDG&E will implement BMPs to minimize the introduction of sediment and other pollutants into the storm water system. With the implementation of BMPs, impacts associated with an increase of storm water runoff and the introduction of pollutants to storm water runoff will be less than significant.

Operation and Maintenance – Less-than-Significant Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. The amount of surface runoff is expected to be similar to or less than the existing conditions, and no impact will occur to existing storm water conveyance systems. Steel poles will be exposed to storm water; however, steel poles are not readily soluble or considered to contribute to water quality degradation.

Maintenance activities, such as routine inspections and vegetation management, can introduce pollutants to the site. To prevent vegetation from recurring, SDG&E may apply herbicides around the poles following the mechanical clearing of vegetation. Application of herbicides will be conducted in accordance with the NCCP Operational Protocols and the SDG&E Water Quality Construction BMP Manual to control, contain, clean up, and dispose of any pollutants that may occur during maintenance activities. Because the replacement steel poles will be taller and thus the conductors will be farther from surrounding vegetation, vegetation management will be required less frequently than with the existing wood poles. As a result, impacts from storm water runoff will be less than significant.

Question 4.9f – Water Quality Degradation – *Less-than-Significant Impact*

Potential sources of pollutants and activities that can contribute to water quality degradation are discussed in detail in the responses to Question 4.9a – Water Quality Standards and Waste Discharge Violations and Question 4.9e – Storm Water Runoff. No other foreseeable sources of pollution are anticipated to be associated with construction, operation, or maintenance of the Proposed Project. As a result, impacts will be less than significant.

Question 4.9g – Housing in Flood Hazard Areas – *No Impact*

No housing will be constructed as part of the Proposed Project. Therefore, no housing will be placed within flood hazard areas, and no impact will occur.

Question 4.9h – Structures in Flood Hazard Areas

Construction – No Impact

As mentioned previously in the response to Question 4.9d – Drainage Patterns – Runoff/Flooding, no new steel poles are proposed within drainages. Three of the direct-bury steel poles proposed for construction are located within a 100-year flood zone, and three direct-bury steel poles are located within the 500-year floodplain. The remaining project components are outside of both the 100-year and 500-year floodplain.

New steel poles will be more robust than the existing wood poles and will be more capable of withstanding flood flows than the existing wood poles, should flooding occur in the Proposed Project area. The majority of the new poles will be located within 10 feet of the existing poles. The direct-bury steel poles will be approximately 2.5 foot (30 inches) in diameter at the maximum. These poles will not be large enough to impede flood flows. The new steel poles will not redirect flood flows and will not create any new impediments or obstructions within the flood hazard areas. Therefore, there will be no impact.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. The structures located within flood hazard areas will remain unchanged during operation and maintenance activities; therefore, there will be no impact.

Question 4.9i – Flood Exposure – *No Impact*

Construction, operation, and maintenance of the Proposed Project will not expose people or structures to a significant risk of loss, injury, or death due to flooding, as no on- or off-site flood impacts are expected, as described in the response to Question 4.9h – Structures in Flood Hazard Areas. Various portions of the Proposed Project components will be located within dam inundation zones. This includes portions of the Proposed Project that are located downstream of Savage Dam, which impounds the Otay River approximately 0.6 mile northeast of the Proposed Project area. Furthermore, proposed activities will not differ from those already occurring along the existing power lines. No permanent buildings will be constructed in a known 100-year flood zone. Thus, no impact will occur.

Question 4.9j - Flooding, Seiche, Tsunami, and Mudflow – *Less-than-Significant Impact*

The historic record and the distance of the Proposed Project area from the coastline indicate that there is no potential for the Proposed Project area to be inundated by a tsunami. A seiche is a standing wave in a completely or partially enclosed body of water. Areas located along the shoreline of a lake or reservoir are susceptible to inundation by a seiche. High winds, seismic activity, or changes in atmospheric pressure are typical causes of seiches. The size of a seiche and the affected inundation area are dependent on different factors, including the size and depth of the waterbody, elevation, source, and—if man-made—the structural condition of the body of water in which the seiche occurs. Lower Otay Reservoir is located approximately 0.6 mile to the

northeast of the Proposed Project area; however, if a seiche were to occur, it is unlikely to affect structures associated with the Proposed Project given the distance from the waterbody.

Similar to a landslide, a mudflow is a flow of dirt and debris that occurs after intense rainfall, earthquakes, or severe wildfires. The potential for a mudflow to occur depends on the amount of precipitation, the slope steepness, soil type, and soil moisture content prior to the storm event. The Proposed Project will be predominantly located in areas with moderately to steeply sloping terrain, where the potential for a localized shallow landslide is increased. Temporary impacts from construction activities have the potential to increase surface instability, as does permanent site disturbance for the Proposed Project. Minor earthwork will be limited to that necessary to establish a safe work area. Temporary work areas will be restored to approximate pre-construction conditions to the extent practicable once construction activities are completed, thereby limiting the amount of denuded surface soils and minimizing the potential for shallow landslides to occur.

Because the proposed construction methods used will limit ground-disturbing activities that increase the potential for mudflows, the areas that will be potentially impacted by the construction of the power lines are relatively small in scale. In addition, the foundation design of the new structures will minimize risks associated with slope failure or instability, and impacts associated with mudflows will be less than significant.

4.9.4 Applicant-Proposed Measures

Because the Proposed Project will not result in significant impacts to hydrology or water quality, no applicant-proposed measures have been proposed.

4.9.5 References

California Department of Transportation. 2014. Water Quality Planning Tool. Online. http://svctenvims.dot.ca.gov/wqpt/wqpt.aspx. Site visited June 26, 2015.

California Department of Water Resources. 2003. California's Groundwater, Bulletin 118 – Update 2003. Online. http://www.water.ca.gov/pubs/groundwater/bulletin_118/california's_groundwater__bulletin_118_-_update_2003_/bulletin118_entire.pdf. Site visited June 26, 2015.

FEMA. 2015. FEMA Map Service Center. Online. https://msc.fema.gov/. Site visited June 26, 2015.

National Oceanic and Atmospheric Administration National Climatic Data Center. 2014. Data Tools: 1981-2010 Normals. Online. http://ncdc.noaa.gov/cdo-web/datatools/normals. Site visited June 26, 2015.

Otay Water District. 2009. Water Resources Master Plan Programmatic Environmental Impact Report. Online. http://69.16.208.249/wp-content/uploads/2014/05/Index.pdf. Site visited June 26, 2015.

RECON. 2014. *Wetland Delineation Report for Tile-Line 649 Otay to San Ysidro Border Wood-to-Steel Pole Replacement Project*.

San Diego RWQCB. 2007. 2006 CWA Section 303(d) List of Water Quality Limited Segments Requiring TMDLs. Online. http://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303dlists2006/epa/r9_06_303d_reqtmdls.pdf. Site visited June 26, 2015.

San Diego RWQCB. 2011. *Water Quality Control Plan for the San Diego Basin*.

San Diego Geographic Information Source. 2014. Regional Data Warehouse. Online. http://www.sangis.org/download/index.html. Site visited June 26, 2015.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ATTACHMENTS

4.10 LAND USE AND PLANNING

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Physically divide an established community?				✓
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				✓
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				✓

4.10.0 Introduction

This section describes existing land uses in the vicinity of the San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project) and analyzes potential land use impacts that may result from construction, operation, and maintenance of the Proposed Project. The Proposed Project will not result in any impacts to existing or proposed land uses, nor will the Proposed Project physically divide an established community. Based on SDG&E's current and ongoing coordination efforts with local agencies, the Proposed Project will be compatible with applicable land use plans and policies. Therefore, there will be no impact to land use and planning as a result of the Proposed Project.

4.10.1 Methodology

This land use analysis involves a review of various city, county, and regional land use plans, policies, and regulations that are applicable within the Proposed Project area. A review of applicable general plans and specific plans for the County of San Diego, City of San Diego, and City of Chula Vista was conducted. Plans that were developed and are currently implemented by SDG&E—such as the Subregional Natural Community Conservation Plan (NCCP) and the Low-Effect Habitat Conservation Plan (HCP) for the Quino Checkerspot Butterfly (QCB)—were also reviewed, as were the San Diego Multiple Species Conservation Program (MSCP) for the area and the local plans that implement it. Other regional plans considered in the analysis include the San Diego County Regional Comprehensive Plan (RCP) and the Otay Valley Regional Park Concept Plan. Land use-related geographic information system (GIS) data was obtained from the County of San Diego, as well as the City of San Diego and City of Chula Vista.

4.10.2 Existing Conditions

Regulatory Background

The following subsections describe federal, state, and local regulations regarding land use and planning that are relevant to the Proposed Project. Pursuant to Article XII, Section 8 of the California Constitution, the California Public Utilities Commission (CPUC) has exclusive jurisdiction, in relation to local government, to regulate the design, siting, installation, operation, maintenance, and repair of electric power line facilities. Although local governments do not have the power to regulate activities related to electric power line facilities, the CPUC encourages, and SDG&E participates in, cooperative discussions with affected local governments to address their concerns where feasible. As part of the environmental review process, SDG&E has considered relevant land use plans, policies, and issues, and has prepared this evaluation of the Proposed Project's potential impacts to land use and planning.

Federal

There are no federal lands located within the Proposed Project area or in the vicinity of the Proposed Project; therefore, there are no federal regulations related to land use that are relevant to the Proposed Project.

State

Natural Community Conservation Plan

The NCCP Act of 1991 is designed to conserve natural communities at the ecosystem scale while accommodating compatible land uses. The California Department of Fish and Wildlife (CDFW) is the principal state agency implementing the NCCP program. The SDG&E Subregional NCCP developed in 1995 and revised in 2004 and the SDG&E Low-Effect HCP for the QCB are relevant to the Proposed Project and are discussed further in Section 4.4 Biological Resources.

Regional

Final Multiple Species Conservation Plan

Under the NCCP Act of 1991, an MSCP has been developed for southwestern San Diego County in order to protect 85 species in the area. The MSCP was approved in 1997 and is the result of a joint planning effort between the County of San Diego and the cities in the southwestern part of the County, including San Diego and Chula Vista. The County of San Diego, City of San Diego, and City of Chula Vista have each adopted subarea plans that conform to and implement the MSCP requirements. The City of San Diego and the City of Chula Vista MSCP subarea plans are further discussed in the sections that follow.

SANDAG Regional Comprehensive Plan

The San Diego Association of Governments (SANDAG) is a regional planning organization consisting of San Diego County and its 18 cities. Responsible for regional population growth planning as well as transportation planning, SANDAG produced the area's RCP in 2004 to address San Diego's regional growth, while preserving natural resources and limiting urban sprawl. The RCP provides the region's vision for accommodating additional population growth

from 2000 to 2030, establishes a policy framework to address key regional issues, and creates a public investment strategy for regionally significant infrastructure.

Otay Valley Regional Park Concept Plan

The County of San Diego and the cities of San Diego and Chula Vista adopted the Otay Valley Regional Park Concept Plan after a multi-year planning effort to coordinate an inter-jurisdictional approach to park and recreational planning for the area. The plan calls for a regional park to extend from the salt ponds on the coast, through the Otay River Valley, to Upper and Lower Otay Lakes. The goal of the Otay Valley Regional Park Concept Plan is to provide policy direction to the three jurisdictions for the acquisition of properties and development of a regional park. The plan also provides for a regional trail system to be developed along the river, as well as viewpoints, recreational areas, and two interpretive centers. The plan calls for sensitive areas within the boundaries established by the San Diego MSCP to be designated as Open Space/Core Preserve Areas. Efforts toward implementation of this plan have been made by the cooperating jurisdictions, including the partial development of a trail system and a large acquisition of open space by San Diego County. The portions of the regional trail system that have been developed are outside of the Proposed Project area, but the land acquired for open space by the County is located immediately south and west of the Proposed Project.

Brown Field Municipal Airport Land Use Compatibility Plan

Adopted in 2010 by the San Diego County Regional Airport Authority, the Brown Field Municipal Airport Land Use Compatibility Plan (ALUCP) addresses land uses in the areas surrounding the airport, including the area in the vicinity of the Proposed Project, which is located approximately 0.8 mile north of Brown Field's runway. The ALUCP defines noise and safety zones around the airport and was established for the purpose of evaluating land use actions that could interfere with air traffic. The Proposed Project is located within Safety Zone 6 – Traffic Pattern Zone, and is also located within the Federal Aviation Authority (FAA) Height Notification Boundary. Per the ALUCP requirements, coordination with the FAA is required prior to construction of the Proposed Project due to its proximity to the Brown Field Municipal Airport. Because some of the steel poles—which will be up to approximately 90 feet tall and are located within one mile from the airport—will exceed the one-to-100 ratio required by Title 14, Section 77.9 of the Code of Federal Regulations for airspace and navigation, SDG&E consulted with the FAA. The FAA conducted an obstruction evaluation and determined that there is no need for lighting or marking on the poles.

Local

Because the CPUC has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations. The following discussion of the local regulations relating to land use and planning is provided for informational purposes. As outlined in the following subsections, the construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations adopted by agencies with jurisdiction over local regulations related to land use and planning.

The Proposed Project travels through three local jurisdictions—the County of San Diego, the City of San Diego, and the City of Chula Vista. Relevant land use plans for the three jurisdictions are described in the following subsections.

San Diego County

County of San Diego General Plan

The County of San Diego's General Plan provides a framework for land use planning in the unincorporated areas of the County. The Land Use Element of the General Plan designates land uses and contains policies relevant to the Proposed Project. The intent of the Land Use Element is to provide a framework to guide the location, character and intensity of land uses in the unincorporated areas of the County. The eastern portion of the line between pole locations 79 and 117 is located within unincorporated San Diego County.

General Plan-designated land uses that are crossed by the Proposed Project include Open Space (Conservation), Public/Semi-Public Facilities, and Specific Plan Area (East Otay Mesa Business Park Specific Plan). Open Space (Conservation) areas are large, undeveloped tracts of land that are owned by a public entity or conservation group. This area has been acquired by the County for the purpose of developing the Otay Valley Regional Park, in coordination with the cities of San Diego and Chula Vista. Allowed uses are limited to habitat preservation, passive recreation, and reservoirs. The Public/Semi-Public Facilities designation allows major facilities to be built and maintained for public use, and the East Otay Mesa Business Park Specific Plan specifies uses that are allowed in the Specific Plan Area. The County of San Diego General Plan allows for the development of utility infrastructure, provided that it is compatible with the community's character and minimizes visual and environmental impacts. The relevant General Plan land use policies are listed in Attachment 4.10-A: Policies Consistency Analysis.

East Otay Mesa Business Park Specific Plan

The intent of the East Otay Mesa Business Park Specific Plan is to promote the development of large-scale industrial uses and a business district. Within this plan, the land uses surrounding the Proposed Project are designated as Technology Business Park. The purpose of this designation is to encourage the development of manufacturing operations and office space that accommodates research and development related to advanced technologies, such as defense and aerospace, communications, computer technology, and medical research. Relevant goals from this plan are described in Attachment 4.10-A: Policies Consistency Analysis.

County of San Diego Multiple Species Conservation Program Subarea Plan

The County of San Diego MSCP Subarea Plan applies to unincorporated lands in the Proposed Project area. The MSCP Subarea Plan designates lands in the vicinity of the Proposed Project as Public Lands and Dedicated Private Open Space. These lands are part of the Otay Valley Regional Park.

San Diego County Zoning Ordinance

The County of San Diego's Zoning Ordinance implements the General Plan for parcels located in unincorporated areas. The Proposed Project crosses lands that are zoned by the County of San Diego as Open Space, Holding Area, and Specific Planning Area (East Otay Mesa Business Park

Specific Plan). Electrical power lines and poles are considered Essential Services, and are considered Permitted Uses in all three zones. Figure 4.10-1: Generalized Zoning Categories shows the designated zoning for properties within 1,000 feet of the Proposed Project, which are summarized in Table 4.10-1: Generalized Zoning Categories.

Table 4.10-1: Generalized Zoning Categories

General Zoning Categories	Approximate Distance Crossed by Proposed Project (Miles)
Open Space	0.9
Agricultural	0.7
Residential-Agricultural	0.2
Holding Area	0.7
Specific Planning Area	0.7
Planned Community	4.0
Total	**7.3**

Sources: SanGIS, 2014b

To support the Proposed Project, one of the two temporary construction staging yards will be located on land within the unincorporated County. The Otay Staging Yard will be located on approximately four acres of property currently used as a wrecking yard. This property is located southeast of Otay Mesa Road and Enrico Fermi Drive. The zoning for this property is S88, indicating a Specific Planning Area designation. Within the East Otay Mesa Specific Plan, the land use designation for this area is Technology Business Park.

City of San Diego

City of San Diego General Plan

The westernmost portion of the Proposed Project, between pole locations 1 and 8, is located within the City of San Diego's jurisdiction. Land use within the city limits is guided by the General Plan. The Land Use and Community Planning Element of the General Plan provides policy guidance for the development of land uses in the City of San Diego. Land uses crossed by the Proposed Project are designated Residential and Park, Open Space, and Recreation. The General Plan employs a "City of Villages" structure, and land use in the City of San Diego is further broken down into community planning areas, including the Otay Mesa Community Plan area, which is crossed by the western portion of the Proposed Project and is described further in the following subsection.

The City of San Diego General Plan also identifies land use-related policies, which are presented in Attachment 4.10-A: Policies Consistency Analysis.

Otay Mesa Community Plan

The City of San Diego's General Plan is complemented by a series of more specific community plans, including the Otay Mesa Community Plan. This plan, originally adopted in 1981, was

updated in March 2014. The plan further divides the Otay Mesa area into districts, and the Proposed Project area is located in the Northwest District. The Otay Mesa Community Plan designates areas crossed by the Proposed Project as Residential – Low (five to nine dwelling units per acre) and Open Space.

The Otay Mesa Community Plan Conservation Element recognizes the sensitivity and habitat value of the canyons that are located in the Proposed Project area, including Dennery Canyon, and designates them as Environmentally Sensitive Lands. Utilities are allowed in the Otay Mesa Community Plan area, provided that they operate in the most cost-effective and environmentally sensitive manner. The policies contained within the Otay Mesa Community Plan are described further in Attachment 4.10-A: Policies Consistency Analysis.

City of San Diego Multiple Species Conservation Program Subarea Plan

The City of San Diego has adopted its own MSCP Subarea Plan to implement the regional MSCP. Broken down into priority areas, the MSCP Subarea Plan designates the undeveloped canyons in the Otay Mesa area as protected Coastal Sage Oak. New development must comply with the boundaries established within the plan, and guidelines for development include restoration of coastal sage oak when disturbed. In addition, the MSCP Subarea Plan includes the policies and design guidelines regarding utilities, which are discussed in Attachment 4.10-A: Policies Consistency Analysis.

City of San Diego Land Development Code

The City of San Diego's Land Development Code is included in the San Diego Municipal Code and regulates land use and development within the city limits. Properties crossed by the Proposed Project are zoned RS 1-14 (single family residential areas with minimum 5,000-square-foot lots). The canyons between the residential areas are zoned AR-1-1 (Agricultural-Residential, minimum 10-acre lots). Figure 4.10-1: Generalized Zoning Categories shows the general zoning designations for properties within 1,000 feet of the Proposed Project.

City of Chula Vista

City of Chula Vista Vision 2020 General Plan

Land use is addressed within the Land Use and Transportation Element of the City of Chula Vista General Plan. The land use designation primarily crossed by the Proposed Project is Open Space Preserve; other designated land uses include Open Space, Open Space – Active Recreation, Limited Industrial, and Mixed Use Commercial. Open Space Preserve is intended for areas designated within the City of Chula Vista MSCP Subarea Plan for the permanent conservation of biological resources and habitat. The City of Chula Vista Vision 2020 General Plan provides policies supporting the development of public utility infrastructure throughout the city. The relevant City of Chula Vista General Plan land use policies are listed in Attachment 4.10-A: Policies Consistency Analysis.

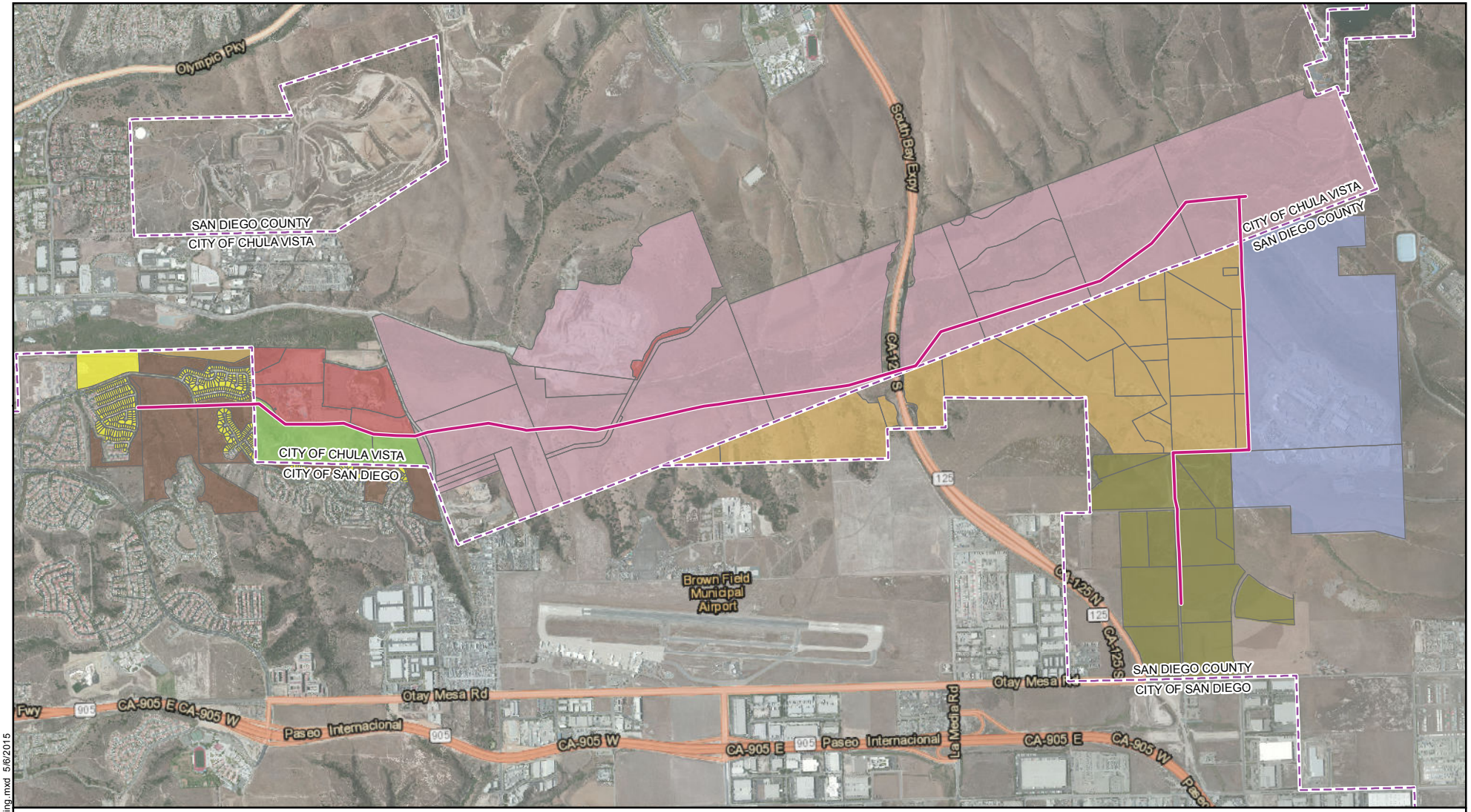

Figure 4.10-1: Generalized Zoning Categories

Tie Line 649 Wood-to-Steel Replacement Project

- Alignment
- Municipal Boundary
- Agricultural
- Holding Area
- Industrial
- Open Space
- Planned Community
- Residential
- Residential-Agricultural
- Specific Planning Area

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As a subset of the City of Chula Vista General Plan, the city has adopted the East Area Plan for southeastern Chula Vista. The Planned Community of Otay Ranch, which surrounds the Proposed Project, is included in the East Area Plan. Otay Ranch was jointly planned by the City of Chula Vista and the County of San Diego. The concept for Otay Ranch is to develop several villages surrounded by residential neighborhoods. In the southern part of Otay Ranch, closest to the Proposed Project, the plan calls for recreational uses on three parcels that are adjacent to open space and areas protected by the City of Chula Vista MSCP Subarea Plan.

City of Chula Vista Multiple Species Conservation Program Subarea Plan

The City of Chula Vista MSCP Subarea Plan was adopted in 2003 and provides for the conservation of covered species and their associated habitats, consistent with the regional plan. The subarea plan shows land uses in the area of the Proposed Project to be designated as Development, 100 Percent Conservation Areas – Habitat Preserve, and Planned Active Recreation Area.

Planning and Zoning Code

Title 19 Planning and Zoning of the City of Chula Vista Municipal Code provides a basis for implementation of the City of Chula Vista General Plan. The Proposed Project crosses the Limited Industrial, Agricultural, and Planned Community zoning districts. The Planned Community designation refers to the East Area Plan and Otay Ranch. Figure 4.10-1: Generalized Zoning Categories shows zoning on properties within 1,000 feet of the Proposed Project. Table 4.10-1: Generalized Zoning Categories includes a summary of zoning designations for lands within the City's jurisdiction.

To support the Proposed Project, one of the two temporary construction staging yards will be located within the City of Chula Vista. The Main Street Staging Yard will be located on approximately six acres of vacant property south of Main Street. The zoning for this property is Limited Industrial (ILP). The "P" designation indicates that this area is within a Precise Plan Modifying District and subject to the conditions within a Precise Plan for the area. The area is also designated as the Otay Valley Road Redevelopment Area.

Environmental Setting

Summary of Zoning Designations

A summary of the generalized zoning categories crossed by the Proposed Project are provided in Table 4.10-1: Generalized Zoning Categories.

Existing Land Uses

Existing land uses within the Proposed Project vicinity are shown in Figure 4.10-2: Existing Land Uses. Suburban residential land uses are located predominantly in the western area, within the City of San Diego. East of the residential area (and north of the Proposed Project) are private recreational facilities, including a water park and concert amphitheater. Further to the east and north of the Proposed Project area is the Otay Valley Quarry. The central portion of the Proposed Project runs parallel to the Otay River for several miles, and crosses rural/undeveloped land, indicating the lack of structures on the properties and uses such as grazing and other rural or semi-agricultural uses. At the eastern end of the Proposed Project, the line travels adjacent to

and within the property boundary of the Richard J. Donovan Correctional Facility. Parcels to the west of and adjacent to the correctional facility are open space park land. Parcels at the southwestern end of the Proposed Project are currently undeveloped. Table 4.10-2: Existing Land Uses summarizes the existing land uses crossed by the Proposed Project.

Table 4.10-2: Existing Land Uses

Land Use	Approximate Distance Crossed by Proposed Project (Miles)
Open Space	3.1
Public/Institutional	0.4
Utilities	0.3
Rural/Undeveloped	2.7
Undeveloped	0.8
Roadways	0.1
Total Length	**7.4**[1]

Source: SanGIS, 2014a

4.10.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts to land use and planning that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

The following impact significance criteria were derived from Appendix G of the California Environmental Quality Act Guidelines. Impacts to land use and planning would be considered significant if the Proposed Project:

- physically divides an established community
- conflicts with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect
- conflicts with any applicable HCP or NCCP

The following sections describe the potential for the Proposed Project to create significant impacts according to these criteria.

[1] Note that this total is longer than the length of the alignment due to rounding.

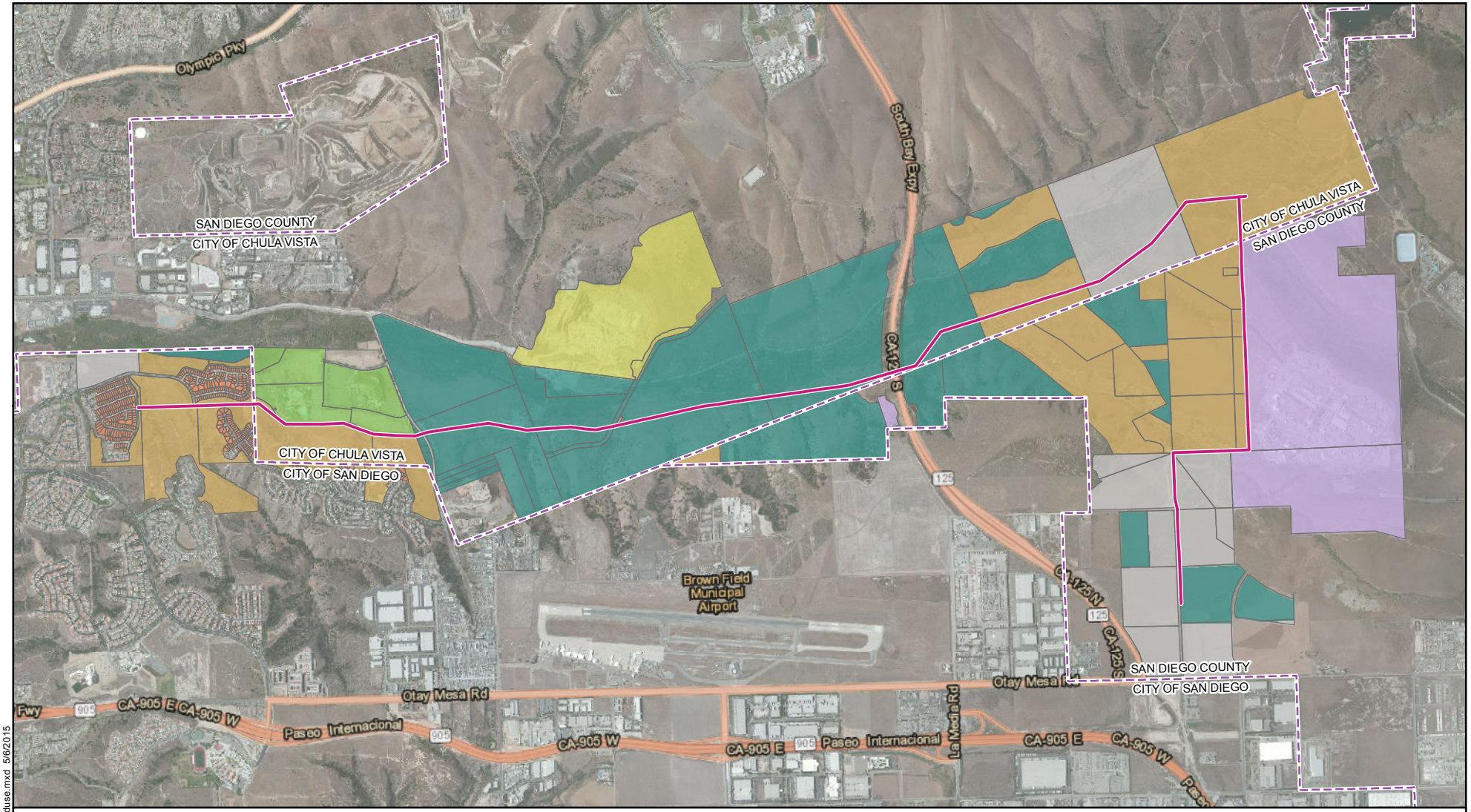

Figure 4.10-2: Existing Land Uses

Tie Line 649 Wood-to-Steel Replacement Project

- Alignment
- Municipal Boundary
- Active Recreation
- Mining
- Open Space
- Public/Institutional
- Residential
- Rural/Undeveloped
- Utilities
- Undeveloped

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Question 4.10a – Physical Division of an Established Community

Construction – No Impact

As described in Chapter 3 – Project Description, Proposed Project construction will consist of replacing the existing wood poles with steel poles. No new lines or facilities will be constructed as part of the Proposed Project. Pole replacement will generally be within 10 feet of the existing poles, except in a few locations where design requirements or site conditions require that replacement poles be located more than 10 feet from the existing pole locations. The Proposed Project will be constructed entirely within existing ROWs. The existing ROW is located in an area dominated by open space and crosses one residential area on the western end of the route within the City of San Diego. Existing poles within the ROW in this area are located at the ends of residential streets and within the open spaces between residential neighborhoods. The corridor will remain as is, and no new facilities that will divide these residential areas will be added. SDG&E maintains a network of unimproved access roads to maintain poles and power lines within the Proposed Project area. These roads and other existing access roads will be utilized to access poles during construction. Because the Proposed Project will be constructed within the existing ROW, will include replacement of existing poles, and does not include the addition of new access roads, construction will not physically divide an established community, and no impact will occur.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. These activities will be performed at select pole locations and for temporary periods of time, and will not divide an established community. Operation and maintenance activities will not involve the construction of new facilities or roadways that will result in the physical division of established communities, and no impact will occur.

Question 4.10b – Plans and Policy Conflicts

Construction – No Impact

Although local governments do not have the power to regulate activities related to electric power line facilities, SDG&E has considered relevant land use plans, policies, and issues as part of the environmental review process. A discussion of the Proposed Project's consistency with those policies is provided in Attachment 4.10-A: Policies Consistency Analysis. As described in the analysis, the Proposed Project is consistent with relevant land use policies, and there will be no conflict.

The line is existing in this location and the City of San Diego has policies supporting utility infrastructure to serve existing development throughout the city, as described in Attachment 4.10-A: Policies Consistency Analysis. Because the line already exists and the Proposed Project is an allowed use, land use plan or policy conflicts are not anticipated, and no impact will occur.

To support the Proposed Project, temporary construction staging yards will be located in close proximity to the Proposed Project alignment. Within the City of Chula Vista, the staging yard will be located on land adjacent to Main Street. Chula Vista Municipal Code Section 15.06.040 allows for temporary uses, such as staging yards. The other staging yard is within the jurisdiction of the County of San Diego. County Code Section 6110, the County's temporary Use Regulations, allows for construction support areas adjacent to major construction sites.

The Proposed Project is located within the Brown Field Municipal ALUCP Safety Zone 6 – Traffic Pattern Zone and several of the poles triggered the need for an FAA Obstruction Evaluation. The FAA conducted an obstruction evaluation and determined that there is no need for lighting or marking on the poles. Because the Proposed Project will comply with all FAA requirements, no conflict with the ALUCP will occur. Therefore, construction of the Proposed Project will be consistent with existing land use plans, policies, and regulations, and no impact will occur.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Therefore, operation and maintenance of the Proposed Project will not conflict with any existing land use plans, policies, or regulations, and no impact will occur.

Question 4.10c – Habitat Conservation Plan or Natural Community Conservation Plan Conflicts – *No Impact*

Construction, operation, and maintenance of the Proposed Project will be consistent with the conservation policies established in the regional MSCP and the individual County and cities' MSCP subarea plans that implement it. During construction, operation, and maintenance of the Proposed Project, SDG&E will comply with the biological and habitat-related protocols of SDG&E's existing Subregional NCCP[2] listed in Chapter 3 – Project Description. The Subregional NCCP was developed to be consistent with local HCPs, including the regional MSCP; therefore, the Proposed Project will not conflict with the provisions of any other conservation plan. Furthermore, no intrusion into conservation areas established by the MSCP will occur as part of the Proposed Project. In addition, if QCBs are identified in the vicinity of the proposed work area, SDG&E will mitigate for permanent impacts to the species in accordance with SDG&E's Low-Effect HCP for QCB, as discussed further in Section 4.4 Biological Resources. Therefore, no impact will occur.

4.10.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts to land use or planning, no applicant-proposed measures have been proposed.

[2] SDG&E will consult with the U.S. Fish and Wildlife Service and the CDFW, as appropriate, for Proposed Project construction compliance with the federal and California endangered species acts, but operation and maintenance will continue to be conducted under the NCCP.

4.10.5 References

City of Chula Vista, et al. 2001. *Otay Valley Regional Park Concept Plan.*

City of Chula Vista. 2003. *City of Chula Vista Final MSCP Subarea Plan.*

City of Chula Vista. 2005. *Chula Vista Vision 2020 General Plan.*

City of Chula Vista. 2015a. Chula Vista Municipal Code. Online. http://www.codepublishing.com/CA/ChulaVista/. Site visited June 25, 2015.

City of Chula Vista. 2015b. Zoning with Redevelopment Areas and Specific Plan Areas. Online. https://sphinx.chulavistaca.gov/City_Services/Administrative_Services/ITS/GIS/PDF/ZoneCVEastSM.pdf?s=ED3F31CADEEAA234E5460E11D854ED62886E2F6D. Site visited June 25, 2015.

City of San Diego. 1997. *City of San Diego MSCP Subarea Plan.*

City of San Diego. 2008. *City of San Diego General Plan.*

City of San Diego. 2014a. *Otay Mesa Community Plan Update*.

City of San Diego. 2015a. San Diego Municipal Code. Online. http://www.sandiego.gov/city-clerk/officialdocs/legisdocs/muni.shtml. Site visited June 25, 2015.

City of San Diego. 2015b. Zoning Grid Map. Online. http://www.sandiego.gov/development-services/zoning/zoninggridmap.shtml. Site visited June 25, 2015.

County of San Diego. 1997. *County of San Diego MSCP Subarea Plan.*

County of San Diego. 2010. *East Otay Mesa Business Park Specific Plan.*

County of San Diego. 2011. *County of San Diego General Plan.*

County of San Diego. 2015a. 2014 Ordinances. Online. http://www.sandiegocounty.gov/content/sdc/cob/ordinances/ord_2014.html. Site visited June 25, 2015.

County of San Diego. 2015b. Zoning and Property Information – Simplified. Online. https://www.arcgis.com/home/webmap/viewer.html?webmap=f1b69ba9d3dd4940b8d1efcc9dac2ac4. Site visited June 25, 2015.

Multiple Species Conservation Program. 1998. *Final Multiple Species Conservation Plan.*

San Diego County Regional Airport Authority. 2010. *Brown Field Municipal Airport Land Use Compatibility Plan.*

SANDAG. 2004. *Regional Comprehensive Plan for the San Diego Region.*

SanGIS. 2015a. Land Use Current. Online. http://www.sangis.org/index.html. Site visited June 25, 2015.

SanGIS. 2015b. San Diego Geographic Information Source. Online. http://www.sangis.org/index.html. Site visited June 25, 2015.

TABLE OF CONTENTS

4.11 MINERAL RESOURCES

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact 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?				✓
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?				✓

4.11.0 Introduction

This section discusses the existing conditions and potential impacts to mineral resources resulting from the San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project). The Proposed Project will not cross any active mining operations, nor will it have any impact on local or regional mineral resource sites. Further, no impacts to mineral resources will result from either the construction or operation and maintenance activities required for the Proposed Project.

4.11.1 Methodology

Mineral resource data were obtained from the United States Geological Survey (USGS), California Geological Survey (CGS), and the State of California Department of Conservation (DOC), as well as from the San Diego County General Plan, City of San Diego General Plan, and City of Chula Vista General Plan.

4.11.2 Existing Conditions

Regulatory Background

Federal, state, and local regulations were reviewed for relevancy to the Proposed Project.

Federal

No federal regulations pertaining to mineral resources are applicable to the Proposed Project.

State

Surface Mining and Reclamation Act of 1975

The CGS designates mineral resource zones where access to important mineral resources may be threatened, according to provisions of the California Surface Mining and Reclamation Act (SMARA) of 1975. The SMARA requires that all jurisdictions incorporate mapped mineral

resource designations approved by the State Mining and Geology Board (SMGB) into their general plans. The SMGB and the DOC's Office of Mine Reclamation (OMR) are jointly charged with ensuring proper administration of the SMARA's requirements. The SMGB promulgates regulations to clarify and interpret the SMARA's provisions, as well as to serve as a policy and appeals board. The OMR provides an ongoing technical assistance program for lead agencies and operators, maintains a database of mine locations and operational information statewide, and is responsible for compliance-related matters.

Local

Because the California Public Utilities Commission has sole and exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land use regulations. The following discussion of the local regulations relating to mineral resources is provided for informational purposes only. As outlined in the following subsections, the construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations related to mineral resources.

San Diego County General Plan

The San Diego Department of Planning and Land Use maintains and implements the San Diego County General Plan and ensures regulatory compliance with applicable County codes and regulations. The San Diego County Code of Regulatory Ordinances, Title 8, Division 7 includes regulations related to grading, excavation, clearing, and mining in San Diego County. Additionally, the Land Use section of the San Diego County General Plan contains a special Extractive designation. The Extractive designation is applied only to areas containing economically or potential economically extractable mineral resources—including construction materials (e.g., sand, gravel, and crushed rock), industrial and chemical mineral materials, and metallic and rare minerals found within the County. The designation promotes extraction as the principal and dominant use. Uses other than extraction and processing of mineral resources are allowed only when they will not interfere with present or future extraction. Uses such as processing, agriculture, and open space that are supportive of or compatible with mining are also allowed. Interim uses that are not compatible, but that will be removed, may also be allowed.

City of San Diego General Plan

The City of San Diego General Plan includes the following policies aimed at preserving access to mineral resources, reducing the need for new construction materials, and allowing for certain limited mineral extraction:

1. Promote the recycling and reclamation of construction materials to provide for the City of San Diego's current and future growth and development needs.

2. Permit new or expanding mining operations within the Multiple-Habitat Planning Area (MHPA) in accordance with Multiple Species Conservation Program Preserve (MSCP) policies and guidelines.

3. Produce sand and gravel with minimal harm and disturbance to adjacent property and communities.

4. Plan rehabilitation of depleted mineral areas to facilitate reuse consistent with state requirements, the SMARA, and local planning goals and policies, including the MSCP.

5. Consider local evaporative salt production for future economic value, open space use, and important ecological habitat.

City of San Diego Multiple Species Conservation Program Preserve

In general, the MSCP provides for the continuation of existing mining operations. However, new or expanded mining operations on lands conserved as part of the MHPA are incompatible with MSCP preserve goals for covered species and their habitats, unless otherwise agreed to by the wildlife agencies at the time the parcel is conserved. New operations may be permitted in the MHPA if the following occurs:

- impacts have been assessed and conditions incorporated to mitigate biological impacts and restore mined areas;
- adverse impacts to covered species in the MHPA have been mitigated consistent with the Subarea Plan; and
- requirements of other City of San Diego land use policies and regulations have been satisfied.

The MSCP requires that existing and new mining operations adjacent to or within the MHPA adequately protect adjacent preserved areas and covered species.

City of Chula Vista General Plan

The Environmental Element of the Chula Vista General Plan contains Objective - E5 and supporting policies to support the efficient extraction of regionally significant mineral resources, and requires the appropriate reclamation of mined areas for suitable future development, recreation, open space, and/or habitat restoration.

Environmental Setting

The Proposed Project is located in a primarily undeveloped area that encompasses parts of the County of San Diego, City of San Diego, and City of Chula Vista. The Otay River Valley contains significant deposits of construction-quality sand reserves. Otay Valley Quarry, situated immediately north of the Otay River at Heritage Road and Wiley Road, is currently mining Rock Mountain for boulders that are processed into crushed rock. The crushed rock meets the quality specifications for Portland cement concrete grade aggregate. Although historical sand and gravel mining operations have occurred in the Otay River Valley, most of this area is now within the Chula Vista MSCP where new or expanded mining operations are impermissible. In addition, Jamul Quarry is an active mine located approximately 4.5 miles northeast of the Proposed Project, and 27 sites with either mineral occurrences, prospects, or past mining activities are located within five miles of the Proposed Project. The Proposed Project is located within an area designated as Mineral Resource Zone (MRZ-) 2, areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence. Within the MRZ-2 area, the Proposed Project crosses designated Sector R, channel and floodplain deposits of the Otay River from Interstate 805 to near the head of Otay

Valley, and is located approximately 0.1 mile south of designated Sector S, metavolcanic rock deposits of Rock Mountain on the north side of upper Otay Valley. There is no active well drilling in the Proposed Project area.

4.11.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts to mineral resources that may result from implementation of the Proposed Project, and examine those potential impacts

Significance Criteria

Under the California Environmental Quality Act, impacts to mineral resources would be considered significant if the Proposed Project:

- Results in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state
- Results 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

Question 4.11a – Loss of Regional- or State-Valued Mineral Resources

Construction – No Impact

The nearest mining site to the Proposed Project is the Otay Mesa Quarry, which is a crushed stone quarry owned and operated by Otay Valley Quarry LLC and Rimrock CA LLC. The Otay Mesa Quarry is located approximately 0.2 mile north of the Proposed Project. The Otay Mesa Quarry mining site will not be affected by construction due to its distance from the Proposed Project. Further, although the Proposed Project is located in an area designated as MRZ-2, the replacement poles will be installed within existing SDG&E rights-of-way (ROWs). Future extraction of aggregate resources is not permitted in ROWs, so there will be no change in the availability of mineral resources. The wood-to-steel replacement of the existing power line will not prevent the mineral resources in the surrounding areas from being extracted. Therefore, there will be no loss of availability of regionally valuable aggregate resources, and no impact will occur.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Routine operation and maintenance activities will continue to occur within SDG&E ROWs and will not reduce the availability of known mineral resources. Therefore, no impact will occur as a result of operation and maintenance of the Proposed Project.

Question 4.11b – Loss of Locally Important Mineral Resources – *No Impact*

The San Diego County, City of San Diego, and City of Chula Vista general plans do not identify any important mineral resource recovery sites that will be crossed by the Proposed Project, and

the Proposed Project does not cross any lands designated as Extractive by the San Diego County Zoning Ordinance. Construction and operation and maintenance activities for the Proposed Project will generally be conducted within SDG&E ROWs and will not reduce the availability of any locally important mineral resources. Therefore, no impact will occur.

4.11.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts to mineral resources, no applicant-proposed measures have been proposed.

4.11.5 References

California DOC Division of Oil, Gas, and Geothermal Resources. 2014. Regional Wildcat Map W1-7. Online. ftp://ftp.consrv.ca.gov/pub/oil/maps/dist1/w1-7/Mapw1-7.pdf. Site visited July 6, 2015.

California DOC. 2014. SMARA Mineral Land Classification Maps. Online. http://www.quake.ca.gov/gmaps/WH/smaramaps.htm. Site visited July 6, 2015.

City of Chula Vista. 2015. *City of Chula Vista General Plan*.

City of San Diego. 2014. City of San Diego Final General Plan Program EIR, Mineral Resources. Online. http://www.sandiego.gov/planning/genplan/pdf/peir/3p9d0mineralresourcesfinal.pdf. Site visited July 6, 2015.

County of San Diego. 2014. San Diego County General Plan Update EIR, Mineral Resources. Online. http://www.sdcounty.ca.gov/pds/gpupdate/docs/BOS_Aug2011/EIR/FEIR_2.10_-_Minerals_2011.pdf. Site visited July 6, 2015.

USGS. 2015. Mineral Resources Data System. Online. http://mrdata.usgs.gov/mineral-resources/mrds-us.html. Site visited July 6, 2015.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ATTACHMENTS

4.12 NOISE

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact 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?			✓	
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			✓	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				✓
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			✓	
e) If located within an airport land use plan or within two miles of a public airport or public use airport for which such a plan has not been adopted, would the project result in exposure of persons residing or working in the project area to excessive noise levels?				✓
f) If located within the vicinity of a private airstrip, would the project result in exposure of persons residing or working in the project area to excessive noise levels?				✓

4.12.0 Introduction

This section describes the ambient noise conditions in the vicinity of the proposed San Diego Gas & Electric Company Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project) and assesses noise impacts that have a potential to occur as a result of Proposed Project implementation. Construction of the Proposed Project will not result in a significant increase in temporary, periodic, or permanent ambient noise levels in the Proposed Project area. In addition, the Proposed Project will not expose sensitive receptors to significant vibration levels.

4.12.1 Methodology

Information regarding existing noise sources and standards was obtained from review of federal, state, regional, and local literature reviews to identify the noise standards for the Proposed Project location. Evaluation of potential noise impacts from the Proposed Project included estimating existing noise levels in the vicinity of the Proposed Project site, characterizing the existing noise environment, and examining typical noise levels resulting from construction and operation activities.

4.12.2 Existing Conditions

Regulatory Background

The following subsections describe federal, state, and local regulations regarding noise that are relevant to the Proposed Project.

Federal

No federal noise standards directly regulate noise from operation of electrical power lines and substation facilities. However, in 1974, the United States (U.S.) Environmental Protection Agency (EPA) established guidelines for noise levels, below which no reason exists to suspect that the general population will be at risk from any of the identified effects of noise. The EPA guidelines include the following:

- limit equivalent sound level (L_{eq})(24) that is less than or equal to 70 A-weighted decibels (dBA) to protect against hearing loss;[1]

- maintain a day-night equivalent noise level (L_{dn}) that is less than or equal to 55 dBA to protect against activity interference and annoyance in residential areas, farms, and other outdoor areas where quiet is a basis for use;

- limit L_{eq}(24) to less than or equal to 55 dBA to protect against outdoor activity interference where limited time is spent, such as school yards and playgrounds;

- limit L_{dn} to less than or equal to 45 dBA to protect against indoor activity interference and annoyance in residences; and

- limit L_{eq}(24) to less than or equal to 45 dBA to protect against indoor activity interference in school yards.

These levels are not standards, criteria, regulations, or goals, but are defined to protect public health and welfare with an adequate margin of safety, and to provide guidelines for implementing noise standards locally. The federal government has passed various general laws to regulate and limit noise levels, as identified in the following subsections.

[1] The human ear is not uniformly sensitive to all sound frequencies; therefore, the A-weighting scale has been devised to correspond with the human ear's sensitivity. The A-weighting scale uses the specific weighting of sound pressure levels from approximately 31.5 hertz (Hz) to 16 kilohertz for determining the human response to sound.

Noise Control Act of 1972

The Noise Control Act of 1972 was the first comprehensive statement of national noise policy. It declares, "It is the policy of the U.S. to promote an environment for all Americans free from noise that jeopardizes their health or welfare."

Quiet Communities Act of 1978

The Noise Control Act was amended by the Quiet Communities Act of 1978 to promote the development of effective state and local noise control programs, to provide funds for noise research, and to produce and disseminate educational materials to the public on the harmful effects of noise and ways to effectively control it.

By 2002, agencies—including the Department of Transportation, Department of Labor, Federal Railroad Administration, and Federal Aviation Administration (FAA)—developed their own noise control programs, with each agency setting its own criteria.

Occupational Health and Safety Act of 1970

This act covers all employers and their employees in the 50 states, the District of Columbia, Puerto Rico, and other U.S. territories. Administered by the Occupational Health and Safety Administration (OSHA), the act assigns OSHA two regulatory functions: setting standards and conducting inspections to ensure that employers are providing safe and healthful workplaces. OSHA standards may require that employers adopt certain practices, means, methods, or processes that are reasonably necessary and appropriate to protect workers on the job. Employers must become familiar with the standards applicable to their establishments and eliminate hazards. Included in this act is a regulation for worker noise exposure at 90 dBA over an eight-hour work shift. High-noise-level areas must be designated and labeled as such where exposure exceeds 85 dBA, and hearing protection is required.

Federal Transit Administration Transit Noise and Vibration Guidelines

Originally published in 1995 and updated in 2006, the Federal Transit Administration (FTA) has issued guidelines entitled *Transit Noise and Vibration Impact Assessment.* The document provides guidance for the methods and procedures to be used to assess noise and vibration caused by construction equipment and other sources. The guidelines regarding vibration serve as the basis for maximum vibration standards utilized by several state agencies, including the California Department of Transportation (Caltrans).

Federal Aviation Administration

The FAA establishes 65 decibels (dB) Community Noise Equivalent Level (CNEL) [2] as the noise standard associated with aircraft noise measured at exterior locations in noise-sensitive land uses

[2] CNEL measurements are weighted averages of sound levels gathered over a 24-hour period, essentially measuring ambient noise. Measurements taken during day, evening, and nighttime periods are weighted separately, recognizing that humans are most sensitive to noise in late night hours and are more sensitive during evening hours than in daytime hours.

(NSLU).[3] This standard is also generally applied to railroad noise.

State

California Noise Control Act

The California Noise Control Act states that excessive noise is a serious hazard to public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. It also recognizes that continuous and increasing noise levels exist in urban, suburban, and rural areas. This act declares that the State of California has the responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise.

California Department of Transportation: Transportation- and Construction-Induced Vibration Guidance Manual

This document provides practical guidance to Caltrans engineers, planners, and consultants who must address vibration issues associated with the construction, operation, and maintenance of Caltrans projects. Continuous or frequent intermittent vibration sources, such as impact pile drivers, are significant when their peak particle velocity (PPV) exceeds 0.1 inch per second. More specific criteria for human annoyance have been developed by Caltrans and were used to evaluate potential Proposed Project vibration sources. Table 4.12-1: Human Response to Transient Vibration lists the Caltrans thresholds of perception.

Table 4.12-1: Human Response to Transient Vibration

Human Response	PPV (inches/second)
Severe	2.0
Strongly Perceptible	0.9
Distinctly Perceptible	0.24
Barely Perceptible	0.035

Source: Caltrans, 2013

Caltrans also provides guidance on vibration damage thresholds to buildings from blasting. These thresholds have been categorized by building type as shown in Table 4.12-2: Vibration Damage Threshold Guidance.

Local

Because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land-use regulations. The following discussion of the local regulations relating to noise is provided for informational purposes. As outlined in the following subsections, the

[3] NSLU is defined as any residence, hospital, school, hotel, resort, library, or any other facility where quiet is an important attribute of the environment.

construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations related to noise.

Table 4.12-2: Vibration Damage Threshold Guidance

Structure Type/Condition	Maximum PPV[4] (inches per second)	
	Single Blast	Repeated Blast
Structures of substantial construction	4	2
Relatively new residential structures in sound condition	2	1
Relatively old residential structures in poor condition	1	0.5
Relatively old residential structures in very poor condition	0.5	--

Source: Caltrans, 2013

San Diego County Guidelines for Determining Significance for Noise

The San Diego County Guidelines for Determining Significance for noise is used by County staff for review of discretionary projects and environmental documents, pursuant to the California Environmental Quality Act (CEQA). Project implementation is considered significant if it is anticipated to result in the exposure of any on- or off-site, existing or reasonably foreseeable future noise-sensitive land use to exterior or interior noise (including noise generated from a project together with noise from roads, railroads, airports, heliports, and all other noise sources) that is either in excess of 60 dB (CNEL) or an increase of 10 dB (CNEL) over pre-existing noise.

County of San Diego Noise Ordinance

The County of San Diego Noise Ordinance (Municipal Code §36.400) establishes prohibitions for disturbing, excessive, or offensive noise and contains provisions, such as sound level limits, for the purpose of securing and promoting public health, comfort, safety, peace, and quiet. Limits, as specified by zoning, are provided in Table 4.12-3: San Diego County Sound Level Limits. In the case that two adjacent properties each have different zone classifications, the sound level limit at the location on the boundary between the two properties is the arithmetic mean of the respective limits for the two zones, except for extractive industries.

It is unlawful for any person to cause or allow the creation of any noise that exceeds the applicable limits of the Noise Ordinance at any point on or beyond the boundaries of the property on which the sound is produced. Furthermore, the Noise Ordinance allows the County to grant variances from the noise limitations for temporary on-site noise sources, subject to terms and conditions intended to achieve compliance. The County of San Diego Department of Planning and Land Use recommends the use of these limits to establish thresholds of significance for noise. Fixed-location public utility power line facilities located on or adjacent to a property line

[4] Transient sources create a single, isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Table 4.12-3: San Diego County Sound Level Limits

Zone Categories	Period	One-Hour Average Noise Level (dBA)
Single Family, Duplex, Variable Family, Rural, Urban, and Mobile Home Residential; Limited and General Agriculture; Open Space; Ecological Resource Area; Specific Plan; Holding Area; and General Rural with a General Plan Land Use Designation density of less than 10.9 dwelling units per acre	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	50 45
Multi-Family Residential, Residential-Recreation Oriented, Residential-Commercial, Office-Professional, Parking, Fallbrook Village 5, Variable Family Residential, and Urban Residential with a General Plan Land Use Designation density of 10.9 or more dwelling units per acre	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	55 50
Transportation and Utility Corridor; Fallbrook Village 4; Alpine Village Core; Alpine Village Edge; Alpine Village Civic; Ramona Village 3, 4, and 5; Ramona Village Civic; and all other commercial zones	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	60 55
Fallbrook Village 1 and 2, and Ramona Village 1 and 2	7 a.m. to 7 p.m. 7 p.m. to 10 p.m.	60 55
Fallbrook Village Zone 1 and Ramona Village Zone 2	10 p.m. to 7 a.m.	55
Fallbrook Village Zone 2 and Ramona Village Zone 1	10 p.m. to 7 a.m.	50
Fallbrook Village Zone 3	7 a.m. to 10 p.m. 10 p.m. to 7 a.m.	70 65
Basic, Limited, and General Impact Industrial	Anytime	70
Extractive Use, Mixed Industrial, and High-Impact Industrial	Anytime	75

Source: San Diego County, 2009a

are subject to this noise level limit, measured at or beyond six feet from the boundary of the easement upon which the equipment is located.

The Noise Ordinance establishes additional noise limitations for the operation of construction equipment. Except for emergency work, it is unlawful for any person to operate construction equipment at any construction site at the following times without a variance:

- Monday through Saturday, except between the hours of 7 a.m. and 7 p.m.;
- Sunday;
- any day appointed by the President as a special national holiday or the Governor of the State as a special State holiday;
- Thanksgiving; or
- holidays.

Construction noise cannot exceed an average of 75 dB during the allowed construction period when measured at or within the property lines of any property developed for residential purposes, unless a variance is granted.

Section 36.410 of the Noise Ordinance establishes limits on impulsive noise.[5] This section prohibits the production of impulsive noise that exceeds a maximum of 82 dBA at the boundary of any occupied residential, village zoning, or civic properties for 25 percent of the minutes in the measuring period.[6] At agricultural, commercial, or industrial properties, the maximum allowable impulsive noise is 85 dBA.

County of San Diego General Plan Noise Element

The San Diego County General Plan establishes limitations on sound levels to be received by NSLUs. New development may cause an existing NSLU to be affected by noise or it may create or locate an NSLU in such a place that it is affected by noise.[7] The Noise Element identifies airports and traffic on public roadways as the major sources of noise. The Noise Element states that an acoustical study is required if it appears that an NSLU will be subject to noise levels of CNEL equal to 60 dBA or greater. If that study confirms that greater than 60 dBA CNEL will be experienced, modifications that reduce the exterior noise level to less than 60 dBA CNEL and the interior noise levels to below 45 dBA CNEL must be made to the development. If these modifications are not made, the development will not be approved unless a finding is made that specific social or economic considerations warrant project approval. However, if the noise level

[5] The use of pile drivers, jackhammers, and pavement breakers or the use of explosives during blasting operations often produce impulsive noise. This type of noise is short in duration (generally less than one second), high intensity, with an abrupt onset and rapid decay. For impact equipment, the noise is produced by the impact of a mass on a surface, typically repeating over time.

[6] The minimum measurement period is one hour. During the measurement period, the maximum sound levels will be measured every minute from a fixed location on the occupied property. If the sound level caused by construction equipment or the producer of the impulsive noise exceeds the maximum sound level for any portion of any minute it will deemed that the maximum sound level was exceeded during that minute.

[7] Development is defined as any physical development including, but not limited to, residences, commercial or industrial facilities, roads, civic buildings, hospitals, schools, and airports.

is expected to exceed 75 dBA CNEL even with such modifications, the development will not be approved, irrespective of such social or economic considerations.

The Noise Element includes special provisions for County road construction projects and interior noise levels in rooms that are usually occupied for only a part of the day (e.g., schools, libraries, etc.).

County of San Diego Department of Planning and Land Use Noise and Vibration Guidelines

The Department of Planning and Land Use has issued guidelines for determining significance for noise and vibration based largely on federal transit guidelines. Vibration is considered significant if project implementation will expose the uses listed in Table 4.12-1: Human Response to Transient Vibration to groundborne vibration or noise levels equal to or in excess of the levels shown.

City of San Diego General Plan Noise Element

Noise levels within the City of San Diego are regulated by the city's General Plan. The purpose of the Noise Element in the General Plan is to identify existing conditions and to provide general guidelines that would reduce the negative impact of noise on the community in the future. The General Plan's objective is to protect people living and working in the City of San Diego from excessive noise.

The City of San Diego has an exterior noise level standard of 65 dB CNEL for noise-sensitive uses. These standards are designed to protect noise-sensitive land uses from high noise levels and to be used as guidelines in the planning for future land uses. Noise-sensitive land uses include, but are not necessarily limited to residential areas, hospitals, nursing facilities, intermediate care facilities, educational facilities, libraries, museums, places of worship, child care facilities, and certain types of passive recreational parks and open space.

City of San Diego Noise Ordinance

The City of San Diego Noise Ordinance (Chapter 5, Article 9.5, Division 4 of the City of San Diego Municipal Code) establishes prohibitions for disturbing, excessive, or offensive noise and contains provisions (e.g., sound level limits) for the purpose of securing and promoting public health, comfort, safety, peace, and quiet. Limits, as specified by land use, are provided in Table 4.12-4: City of San Diego Noise Limits. When two adjacent properties each have different zone classifications, the average of the two sound level limits is used. The Noise Ordinance prohibits the creation of any noise that exceeds the applicable limits of the Noise Ordinance at any point on or beyond the boundaries of the property on which the sound is produced unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator. Fixed-location public utility distribution or power line facilities located on or adjacent to a property line are subject to these noise level limits, measured at or beyond six feet from the boundary of the property upon which the equipment is located.

Table 4.12-4: City of San Diego Noise Limits

Zone Categories	Time Period	One-Hour Average Noise Level (dB)
Single-Family Residential	7:00 a.m. to 7:00 p.m.	50
	7:00 p.m. to 10:00 p.m.	45
	10:00 p.m. to 7:00 a.m.	40
Multi-Family Residential (Up to a maximum density of 1/2,000)	7:00 a.m. to 7:00 p.m.	55
	7:00 p.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45
All Other Residential	7:00 a.m. to 7 p.m.	60
	7:00 p.m. to 10:00 p.m.	55
	10:00 p.m. to 7:00 a.m.	50
Commercial	7:00 a.m. to 7:00 p.m.	65
	10:00 p.m. to 7:00 a.m.	60
	7:00 p.m. to 10:00 p.m.	60
Industrial or Agricultural	Any time	75

Source: City of San Diego, 2015

According to the City of San Diego Noise Ordinance, construction is not allowed during the following timeframes:

- between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day;
- on legal holidays, as specified in Section 21.04 of the City of San Diego Municipal Code; or
- on Sundays.

A permit can be obtained from the Noise Abatement and Control Administrator if construction activities must be conducted outside of these previously listed timeframes. In addition, it is prohibited to conduct any construction activity that results in an average sound level of 75 dB or greater during the 12-hour period between 7:00 a.m. and 7:00 p.m. at or beyond the property lines of any property zoned residential. Emergency work is exempted from the construction noise limits.

City of Chula Vista General Plan Noise Element

Noise levels within the City of Chula Vista are regulated by the city's General Plan. The purpose of the Noise Element in the General Plan is to identify existing conditions and to provide general guidelines that would reduce the negative impact of noise on the community in the future. In part, the city's objectives are to identify the main sources of sound that impact residents and to suggest some ways in which the city may create a quieter environment.

According to the General Plan Noise Element, all land uses are considered incompatible with noise levels in excess of 75 dBA CNEL. For other types of land uses—such as offices, businesses, churches, athletic fields, and community parks—a limit of 70 dBA CNEL has been established. More sensitive land uses—such as residences, schools, neighborhood parks, and libraries—are considered significantly affected by noise in excess of 65 dBA CNEL.

City of Chula Vista Municipal Code Noise Ordinance

The City of Chula Vista Noise Ordinance (Chapter 19.68 of the Chula Vista Municipal Code) establishes prohibitions for disturbing, excessive, or offensive noise and contains provisions—such as sound level limits—for the purpose of securing and promoting public health, comfort, safety, peace, and quiet. Limits, as specified by zoning, are provided in Table 4.12-5: City of Chula Vista Sound Level Limits. In the case that two adjacent properties each have different zone classifications, the sound level limit at the more restrictive property is used. The Noise Ordinance prohibits the creation of any noise that exceeds the applicable limits of the ordinance at any point on or beyond the boundaries of the property on which the sound is produced unless a variance is granted. The Noise Ordinance allows the City of Chula Vista to grant exemptions from the noise limitations for temporary on-site noise sources, subject to terms and conditions intended to achieve compliance. Fixed-location public utility power line facilities located on or adjacent to a property line are subject to this noise level limit, measured at or beyond six feet from the boundary of the easement upon which the equipment is located.

Table 4.12-5: City of Chula Vista Sound Level Limits

Zone Categories	One-Hour Average Noise Level (dBA)	
	10 p.m. to 7 a.m. (weekdays) 10 p.m. to 8 a.m. (weekends)	7 a.m. to 10 p.m. (weekdays) 8 a.m. to 10 p.m. (weekends)
All Residential (Except Multiple Dwelling)	45	55
Multiple Dwelling Residence	50	60
Commercial	60	65
Light Industry (I-R and I-L Zones)	70	70
Heavy Industry (I Zone)	80	80

Source: City of Chula Vista, 2015

Section 19.68.060 of the Noise Ordinance establishes an exemption from the noise levels presented in Table 4.12-5: City of Chula Vista Sound Level Limits for construction and demolition activities. In addition, Section 19.68.050(C) regulates construction-related vibration, such that it is prohibited to operate or permit the operation of any device that creates a vibration above the perception threshold of any individual at or beyond the property boundary of the source if on private property or at 150 feet from the source if on a public space or public right-of-way.

Chapter 17.24 of the Municipal Code prohibits the use of tools, power machinery, or equipment or the conduct of construction and building work in residential zones between the hours of 10:00 p.m. and 7:00 a.m., Monday through Friday. Construction activities are also prohibited between 10:00 p.m. and 8:00 a.m., Saturday and Sunday. These restrictions do not apply to emergency repair activities.

Section 19.68.050 of the Noise Ordinance regulates vibration from construction and operational sources. It prohibits operating or permitting the operation of any device that creates a vibration that is above the vibration perception threshold of any individual at or beyond the property boundary of the source if on private property or at 150 feet from the source if on a public space or public rights-of-way.

Environmental Setting

Existing Noise Sources

The dominant ambient noise sources in the Proposed Project area are related to transportation. One of these sources is aircraft traffic from Brown Field Municipal Airport. A portion of the Proposed Project is located within the airport's CNEL 60 dB contour. Additional sources include on-road traffic from Interstate 805, State Route (SR-) 905, and SR-125.

Noise Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals. In addition, uses where quiet is an essential element of their intended purpose are considered sensitive. Residential dwellings, including senior housing, are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses—such as parks, historic sites, cemeteries, and recreation areas—are also considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The nearest residences to the Proposed Project are located approximately 75 feet from planned construction activities within the City of San Diego. In addition to these residences, there are seven recreational facilities located within one mile of the Proposed Project. The Proposed Project is also located within Otay Valley Regional Park. The school nearest to the Proposed Project alignment is Ocean View Hills School, located approximately 1.01 miles to the southwest. The Proposed Project is also located adjacent to Richard J. Donovan Correctional Facility.

4.12.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts from noise that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

Noise

Standards of significance were derived from Appendix G of the CEQA Guidelines. Impacts to noise would be considered significant if the Proposed Project:

- Results in 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
- Results in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels
- Results in a substantial permanent increase in ambient noise levels in the Proposed Project vicinity above levels existing without the Proposed Project
- Results in a substantial temporary or periodic increase in ambient noise levels in the Proposed Project vicinity above levels existing without the Proposed Project
- Lies 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, and, as a result, exposes people residing or working in the Proposed Project area to excessive noise levels
- Lies in the vicinity of a private airstrip and, as a result, exposes people residing or working in the Proposed Project area to excessive noise levels

The construction and operational noise thresholds of significance for the Proposed Project components have been derived from the applicable regulatory documents, as discussed previously in Section 4.12.2 Existing Conditions. The following thresholds of significance for temporary or periodic increases from construction noise have been developed for the Proposed Project-related L_{eq} values at noise-sensitive receptor locations:

- less than 75 dBA when measured at the receiving property line will be considered noticeable, but not significant; and
- 75 dBA and above when measured at the receiving property line will be considered significantly impacted.

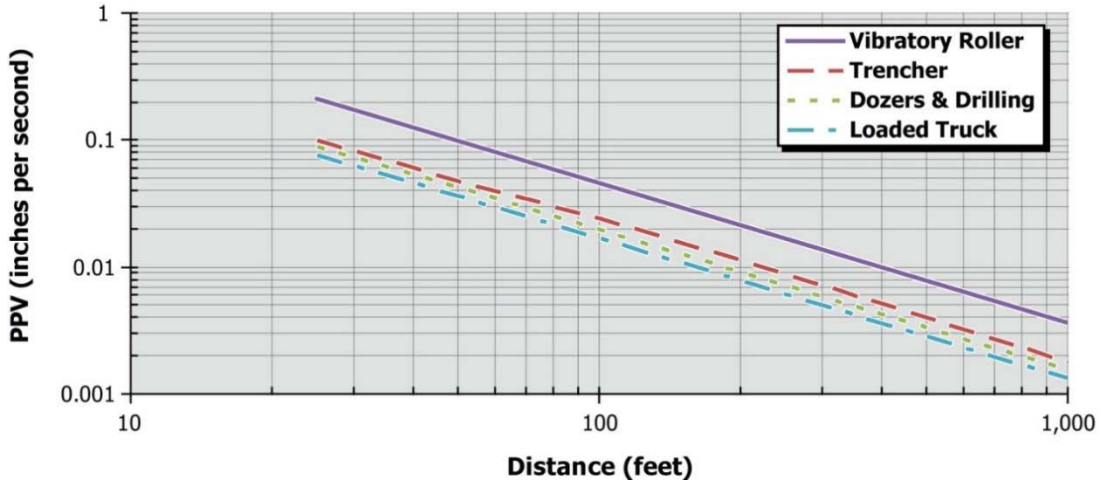
For impulsive noise, construction-related noise in excess of the following significance thresholds will be considered significant:

- 82 dBA maximum sound pressure level (L_{max} or Maximum SPL) for occupied residential, village zoning, or civic land uses.
- 85 dBA maximum sound pressure level (L_{max} or Maximum SPL) for occupied agricultural, commercial, or industrial land uses.

Vibration

Vibration amplitude decreases with distance from the source, as presented in Figure 4.12-1: Construction Vibration Amplitudes. Perceptibility of vibrations from construction equipment can be estimated by comparing the vibration thresholds provided in Table 4.12-1: Human Response to Transient Vibration to Figure 4.12-1: Construction Vibration Amplitudes. Vibration amplitudes with a PPV above 0.24 inch per second will be considered potentially significant. This amplitude corresponds with a distance of approximately 20 feet from construction activities.

Figure 4.12-1: Construction Vibration Amplitudes



Source: Caltrans, 2013

As described previously, Caltrans has recommended thresholds to evaluate potential impacts to structures from blasting. In review of these standards, vibration amplitudes with a PPV above 0.5 inch per second will be considered potentially significant.

Question 4.12a – Noise in Excess of Standards

Construction – Less-than-Significant Impact

Construction of all of the Proposed Project components will require the temporary use of various types of noise-generating equipment, including backhoes, augers, flatbed boom trucks, air compressors and generators, mobile cranes, concrete trucks, and man lifts. Typical noise levels from construction equipment are provided in Table 4.12-6: Noise Levels Generated by Typical Construction Equipment. As demonstrated by Table 4.12-6: Noise Levels Generated by Typical Construction Equipment, noise levels from this equipment during construction will typically range from 75 to 89 dBA when measured at a reference distance of approximately 50 feet.

Table 4.12-6: Noise Levels Generated by Typical Construction Equipment

Equipment	Noise Level Range at Approximately 50 Feet (dBA)
Earth-Moving	
Front loader	79 to 80
Backhoe	78 to 80
Tractor, dozer	82 to 85
Scraper, grader	84 to 85
Paver	77 to 85
Truck	74 to 84
Materials-Handling	
Concrete mixer truck	79 to 85
Concrete pump	81 to 82
Crane (movable)	81 to 85
Stationary	
Pump	77 to 81
Generator	70 to 82
Compressor	78 to 80
Impact	
Jackhammers and rock drills	81 to 89
Compactors	80 to 83

Source: U.S. Department of Transportation (DOT), 2006

The construction schedule and equipment list from Chapter 3 – Project Description was used to simulate the anticipated eight-hour average noise levels from construction. The anticipated noise level from each construction phase has been provided in Table 4.12-7: Simulated Construction Noise Levels. This table also includes the distance at which the 75 dBA threshold for construction noise will be exceeded and the distance to the nearest noise-sensitive receptor for each phase. As indicated in Table 4.12-7: Simulated Construction Noise Levels, with the exception of temporary stringing activities along Sea Lavender Way, it is anticipated that all construction activities will comply with the 75-dBA threshold. Because construction-related noise levels are expected to be below the applicable threshold, impacts will be less than significant in these locations.

Table 4.12-7: Simulated Construction Noise Levels

Construction Phase	Approximate 12-Hour Leq at 50 feet (dBA)	Approximate Distance to 75 dBA (feet)	Approximate Distance to Nearest Sensitive Receptor (feet)	75-dBA Threshold Exceeded?
Staging Yard Setup/Road Refreshing	79.1	80.0	> 1,000	No
Micropile Foundation Construction	77.5	67.0	> 1,000	No
Pier Foundation Construction	77.7	68.3	260	No
Direct Bury Construction and Pole Installation	77.4	65.6	140	No
Trenching for Installation of Underground Cables	71.9	71.5	> 1,000	No
Stringing Activities	76.0	56.1	20	Yes
Demobilization/Cleanup	81.1	101.1	> 1,000	No

As shown in Attachment 3-A: Detailed Route Map, a temporary stringing site will be located along Sea Lavender Way, near the intersection with Black Coral Way, in the City of San Diego. The boundaries of this stringing site will be located approximately five to 10 feet from existing residential parcel lines. As a result, preliminary noise modeling indicates that construction may generate 12-hour noise levels in excess of 75 dBA at these residences for approximately one to two days during stringing activities. SDG&E will implement the following Project Design Feature and Ordinary Construction/Operating Restrictions as described in Chapter 3 – Project Description:

- SDG&E will meet and confer with the City of San Diego to discuss temporarily deviating from the requirements of the Noise Ordinance as necessary.
- Functional mufflers will be maintained on all equipment to minimize noise levels during construction.

With the implementation of these Project Design Feature and Ordinary Construction/Operating Restrictions, noise levels will be less than significant.

Rock splitting/blasting may be required in two locations along the alignment—between pole locations 75 and 82 and between pole locations 97 and 103—if construction crews encounter bedrock during the excavation process. Blasting activities will typically involve drilling multiple holes into the rock. Charges will then be inserted into each hole and detonated sequentially, limiting the blasting-related noises to one individual charge at a time. Smaller charges and/or multiple blasting operations may be utilized to further limit blasting-related noise levels at individual pole locations. Pole locations 75 through 78 are located within the City of Chula Vista and the remaining pole locations where blasting may occur are located within the County. Because the City of Chula Vista does not have an impulsive noise standard, the County standards were applied to all blasting locations. SDG&E will implement the following Project Design Feature and Ordinary Construction/Operating Restriction to ensure the impulsive noise from blasting will not exceed the applicable County standards, as described in Chapter 3 – Project Description:

- A site-specific Blasting Plan will be prepared at each pole location where the use of explosives is anticipated. The Blasting Plan will identify the type and quantity of explosive material required, describe the timing of the blasts if multiple are required, and quantify the impulsive noise and groundborne vibration that will result. The resulting impulsive noise levels and groundborne vibration amplitudes will be compared against the applicable thresholds. If the blasting process is expected to exceed these thresholds, additional control measures (e.g., covering the charge area with soil, rubber mats, and/or steel plates; and/or reducing the charge size) will be implemented if feasible. If these control measures do not reduce the noise and vibration to below applicable thresholds, SDG&E will meet and confer with the County to discuss the planned blasting operation.

With the implementation of SDG&E's Project Design Features and Ordinary Construction/Operation Restrictions, impacts from impulsive noise will be less than significant.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. As a result, there will be no change in the noise levels from these activities, and there will be no impact.

Question 4.12b – Groundborne Vibration and Noise

Construction – Less-than-Significant Impact

Construction activities can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operating construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiving

buildings. Table 4.12-1: Human Response to Transient Vibration shows that vibrations become perceptible by humans at an amplitude of approximately 0.035 inch per second. When compared to Figure 4.12-1: Construction Vibration Amplitudes, a PPV of 0.24 inch per second is generated at a distance of approximately 20 feet by a loaded truck. Because there are no sensitive receptors located within 20 feet of the Proposed Project, construction activities will not generate perceivable levels of groundborne vibrations.

As described previously, blasting may be required in two locations along the alignment—between pole locations 75 and 82 and between pole locations 97 and 103. If blasting occurs, the process will generate groundborne vibrations. Due to the short-term nature of blasting, this activity is not anticipated to affect individuals; however, it does have the potential to damage buildings. As shown in Table 4.12-2: Vibration Damage Threshold Guidance, groundborne vibration with a PPV above 0.5 inch per second from blasting could potentially damage older residential structures. In order to avoid damage to structures, SDG&E will implement the Project Design Feature and Ordinary Construction/Operating Restriction described previously in response to Question 4.12a – Noise in Excess of Standards, which require preparation of a Blasting Plan prior to the use of explosives that will evaluate the anticipated groundborne vibration to ensure that damage to buildings does not occur. As a result, impacts will be less than significant.

Operation and Maintenance – No Impact

As described previously, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. As a result, no new receptors will be subject to groundborne vibration, and there will be no impact.

Question 4.12c – Substantial Permanent Ambient Noise Increases

Construction – No Impact

Construction activities will occur over a finite period; therefore, no permanent increase in noise will occur, and there will be no impact.

Operation and Maintenance – No Impact

When a power line is in operation, an electric field is generated in the air surrounding the conductors, forming a "corona." The corona results from the partial breakdown of the electrical insulating properties of air surrounding the conductors. When the intensity of an electric field at the surface of the conductor exceeds the insulating strength of the surrounding air, a corona discharge occurs at the conductor surface, representing a small dissipation of heat and energy.

Some of the energy may dissipate in the form of small local pressure changes that create audible noise. Audible noise generated by corona discharge is characterized as a hissing or crackling sound that may be accompanied by a 120 Hz hum. Slight irregularities or water droplets on the conductor and/or insulator surface accentuate the electric field strength near the conductor surface, thereby making corona discharge and the associated audible noise more likely. Therefore, audible noise from power lines is generally a foul weather (i.e., wet conductor)

phenomenon. However, during fair weather, insects and dust on the conductors can also serve as sources of corona discharge.

Because TL 649 will continue to be operated at 69 kilovolts and the existing conductors will remain, the anticipated corona noise from these conductors will not change from existing conditions. As a result, there will be no impact from corona noise.

As described in response to Question 4.12a – Noise in Excess of Standards, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. As such, there will be no new sources of ambient noise, and there will be no impact.

Question 4.12d – Substantial Temporary or Periodic Ambient Noise Level Increases

Construction – Less-than-Significant Impact

Impacts during construction are identified in the response to Question 4.12a – Noise in Excess of Standards. These impacts will be temporary and last approximately seven months. With the exception of some residences along Sea Lavender Way, noise-sensitive receptors will not experience a significant increase in ambient noise during construction activities, as previously described. Impacts will be less than significant due to the short-term nature of the construction phase of the Proposed Project and the distance between the site and sensitive receptors.

As described previously in response to Question 4.12a – Noise in Excess of Standards, preliminary noise calculations indicate that the potential exists for residents along Sea Lavender Way to be temporarily exposed to noise in excess of 75 dBA during stringing activities. Work at this location will be short-term, lasting approximately one day. As described previously in response to Question 4.12a – Noise in Excess of Standards and in Chapter 3 – Project Description, Project Design Feature and Ordinary Construction/Operating Restrictions will be implemented in order to minimize noise impacts from construction. In the event that noise is anticipated to exceed 75 dBA at the boundary of any residential parcels along Sea Lavender Way, SDG&E will meet and confer process with the City of San Diego. As a result, impacts will be less than significant.

Operation and Maintenance – No Impact

As described in response to Question 4.12a – Noise in Excess of Standards, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. As such, there will be no new sources of ambient noise, and there will be no impact.

Question 4.12e – Air Traffic Noise from Public Airports – *No Impact*

The Proposed Project site is located approximately 0.8 mile north and 1.3 miles east of the Brown Field Municipal Airport and lies within Airport Land Use Compatibility Plan (ALUCP).

The noise compatibility policies and standards in the ALUCP are designed to avoid the establishment of new noise-sensitive land uses—including residences, public and private schools, hospitals and convalescent homes, and places of worship—within the CNEL 65 dB contour. While the Proposed Project is located adjacent to the CNEL 65 dB contour, replacing the existing line will be considered a compatible land use and workers will not be exposed to excessive noise levels. As a result, there will be no impact.

Question 4.12f – Air Traffic Noise from Private Airstrips – *No Impact*

There are no private airstrips located within two miles of the Proposed Project. Therefore, people working in the Proposed Project area during the construction, operation, or maintenance phases will not be exposed to excessive noise levels attributable to a private airstrip, and no impact will occur.

4.12.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts from noise, no applicant-proposed measures have been proposed.

4.12.5 References

California Health and Safety Code. 2011. California Noise Control Act of 1973. Online. http://www.noisefree.org/cityord/california-noise-control-act.pdf. Site visited June 26, 2015.

Caltrans. 2013. Transportation- and Construction-Induced Vibration Guidance Manual. Online. http://www.dot.ca.gov/hq/env/noise/pub/TCVGM_Sep13_FINAL.pdf. Site visited June 26, 2015.

City of Chula Vista. 2015. *City of Chula Vista General Plan.*

City of Chula Vista. 2015. City of Chula Vista Municipal Code. Online. http://www.codepublishing.com/CA/ChulaVista/#!/ChulaVista01/ChulaVista01.html. Site visited June 26, 2015.

City of San Diego. 2015. Municipal Code: Sound Level Limits. Online. http://docs.sandiego.gov/municode/MuniCodeChapter05/Ch05Art9.5Division04.pdf. Site visited June 26, 2015.

City of San Diego. 2008. *General Plan*. Noise Element. Online. http://www.sandiego.gov/planning/genplan/pdf/generalplan/adoptednoiseelem.pdf Site visited July 6, 2015.

Code of Federal Regulations, Title 29, Part 1910.95. 2004. Occupational Health and Safety Act of 1970. Online. https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=OSHACT&p_id=2743. Site visited June 26, 2015.

County of San Diego. 2009a. Ordinance No. 9962 (N.S.): An Ordinance Amending Title 3, Division 6, Chapter 4 of the San Diego County Code of Regulatory Ordinances Relating to Noise Control and Abatement. Online. http://www.sandiegocounty.gov/dplu/docs/NO-401.pdf. Site visited June 26, 2015.

County of San Diego. 2009b. Guidelines for Determining Significance: Noise. Online. http://www.sandiegocounty.gov/content/dam/sdc/dplu/docs/Noise-Guidelines.pdf. Site visited June 26, 2015.

County of San Diego. 2011. *County of San Diego General Plan*.

Federal Interagency Committee on Noise. 1992. Table B.1 - Federal Agency Review of Selected Airport Noise Analysis Issues. Online. http://www.fican.org/pdf/nai-8-92.pdf. Site visited June 26, 2015.

Harris, Cyril. 1979. *Handbook of Noise Control*. University of Michigan: McGraw-Hill, 1979.

U.S. DOT. 2006. FHWA Roadway Construction Noise Model User's Guide. Online. http://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf. Site visited June 26, 2015.

U.S. DOT. 2006. Transit Noise and Vibration Impact Assessment. Online. http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf. Site visited June 26, 2015.

TABLE OF CONTENTS

LIST OF TABLES

4.13 POPULATION AND HOUSING

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact 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)?			✓	
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				✓
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				✓

4.13.0 Introduction

This section identifies existing population and housing trends in the vicinity of the proposed San Diego Gas & Electric Company (SDG&E) Tie Line 649 Wood-to-Steel Replacement Project (Proposed Project). The Proposed Project is located within the County of San Diego, the City of San Diego, and the City of Chula Vista. The Proposed Project will involve replacement of existing wood poles with steel poles and will not extend service into new areas, and therefore, will have a less-than-significant impact on the local or regional population. In addition, the Proposed Project will not require the displacement of housing or people. As such, no impacts will occur with regard to population and housing.

4.13.1 Methodology

Data used to conduct demographic and economic analyses were obtained primarily from statistical reports published by the United States (U.S.) Census Bureau from the most recent census conducted in 2010 and the California Employment Development Department (EDD). U.S. Census Bureau data were collected for the County of San Diego, City of San Diego, and the City of Chula Vista, as well at the Otay Subregional Plan area within the County of San Diego. A document search was also conducted and included County of San Diego, City of San Diego, and City of Chula Vista publications and government websites, such as the San Diego Association of Governments (SANDAG) website. Temporary housing data was also obtained from Internet and Google Earth searches.

4.13.2 Existing Conditions

Regulatory Background

No federal, state, or local regulations related to population and housing are relevant to the Proposed Project.

Environmental Setting

Population

Table 4.13-1: Population Totals and Trends depicts the population totals and trends within the jurisdictions where the Proposed Project is located.

Table 4.13-1: Population Totals and Trends

Jurisdiction	2000 Census Total	2010 Census Total	Approximate Change between 2000 and 2010 (percent)	Projected Population for 2020
County of San Diego	2,813,833	3,095,313	10.0	3,391,010
Otay Subregional Plan area (County of San Diego)[1]	6,804	4,669	-31.4	12,650
City of San Diego	1,223,400	1,307,402	6.9	1,542,324
Otay Mesa Community, Planning Area (City of San Diego)	1,740	15,001	762.1	37,102
City of Chula Vista	173,556	243,916	40.5	267,427

Sources: U.S. Census Bureau, 2015a, 2015b, and 2015c; SANDAG, 2015

In 2010, the County of San Diego had an estimated population of 3,095,313 residents, or approximately 8.3 percent of the total population of the State of California. In 2010, the Otay Subregional Plan area had a population of 4,669, or approximately 0.15 percent of the population of the County of San Diego.

The City of San Diego had an estimated population of 1,307,402 residents in 2010, or approximately 42 percent of the total population of the County of San Diego and approximately 3.5 percent of the total population of the State of California. In 2010, the Otay Mesa community

[1] The vast majority of the population in Otay comes from three correctional facilities: East Mesa Detention Facility, George F. Bailey Detention Facility, and Richard J. Donovan Correctional Facility.

planning area had a population of 15,001, which was approximately 1.1 percent of the total population of the City of San Diego.

In 2010, the City of Chula Vista had an estimated population of 243,916 residents, or approximately 7.9 percent of the total population of the County of San Diego and approximately 0.7 percent of the total population of the State of California.

The populations in the County of San Diego, the City of San Diego, and the City of Chula Vista continue to grow, as demonstrated by Table 4.13-1: Population Totals and Trends. The County's population has increased by approximately 10 percent, and populations in the City of San Diego and the City of Chula Vista have increased by approximately 6.9 percent and 40.5 percent, respectively. Continued growth is also demonstrated by projected population growth in all five jurisdictions associated with the Proposed Project, and particularly in the Otay Mesa community planning area.

Housing

Table 4.13-2: Housing Units and Vacancy Rates lists data for all jurisdictions in the Proposed Project area with regard to the number of housing units and associated vacancy rates. In 2010, SANDAG estimated that the County of San Diego had 1,164,786 housing units with a vacancy rate of approximately 6.1 percent.

Table 4.13-2: Housing Units and Vacancy Rates

Jurisdiction	Total Housing Units in 2010	Approximate 2010 Vacancy (percent)
County of San Diego	1,164,786	6.7
Otay Subregional Plan Area (County of San Diego)	7	14.3
City of San Diego	516,033	6.4
Otay Mesa Community Planning Area (City of San Diego)	4,145	4.3
City of Chula Vista	79,416	4.9

Sources: U.S. Census Bureau, 2015a, 2015b, and 2015c; SANDAG, 2015

In 2010 the City of San Diego had an estimated 515,426 housing units with a vacancy rate of approximately 6.7 percent. The Otay Mesa community planning area, which is within the City of San Diego, had an estimated 4,145 housing units and a vacancy rate of approximately 4.3 percent.

In 2010 the City of Chula Vista had an estimated 79,416 housing units with a vacancy rate of approximately 4.9 percent.

According to the U.S. Census Bureau, approximately 51.7 percent of the total housing units in the County of San Diego were detached, single-family homes in 2010. Approximately 45.8 percent of the 516,033 total housing units in the City of San Diego were estimated as detached,

single-family homes in 2010. Approximately 52.4 percent of the 79,416 total housing units in the City of Chula Vista were estimated as detached, single-family homes in 2010.

Temporary Housing

The Proposed Project area is located near various visitor accommodations. In 2012, the San Diego Convention Center and Visitors Bureau reported that approximately 461 hotel and motel properties with over 56,000 rooms were available to visitors within the County of San Diego. The total average occupancy rate for these lodging establishments was approximately 70.7 percent. There are several hotel and motel facilities in the vicinity of the Proposed Project, including the Holiday Inn Express & Suites Otay Mesa, which is located at 2296 Niels Bohr Court in the City San Diego and is approximately 1.1 miles from the southeastern terminus of the Proposed Project. The Best Western Plus Otay Valley Hotel is located at 4450 Main Street in the City of Chula Vista, which is approximately 0.9 mile from the western terminus of the Proposed Project. In addition, the Quality Suites San Diego Otay Mesa is located at 2351 Otay Center Drive in the City of San Diego and is approximately 1.1 miles from the Proposed Project.

Employment and Income

Table 4.13-3: Employment Figures and Unemployment Range identifies the total employment and unemployment rates for the Proposed Project area. In February 2015, the unemployment rate for the County of San Diego was 5.3 percent, and approximately 83,000 people of the total available labor force of 1,551,600 were unemployed. The City of San Diego had a similar unemployment rate of 5.1 percent for February 2015, with approximately 35,300 unemployed people of the total available labor force of 694,200. In February 2015, the unemployment rate in the City of Chula Vista was approximately 6.7 percent, and approximately 8,000 people were unemployed of the total available labor force of 118,700.

Table 4.13-3: Employment Figures and Unemployment Range

County/City	Total Employed	Total Unemployed	Approximate Unemployment Rate (percent)
County of San Diego	1,468,600	83,000	5.3
City of San Diego	658,900	35,300	5.1
City of Chula Vista	110,700	8,000	6.7

Source: California EDD, 2015

According to U.S. Census Bureau data for 2010, the median annual household income for the County of San Diego was estimated at $62,771, and $52,500 for the Otay Subregional Plan area. For the City of San Diego, the median annual household income was estimated at $63,198 for 2010, and $82,259 for the Otay Mesa community planning area. In addition, the median household income for the City of Chula Vista was $64,576 in 2010.

4.13.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts to population and housing that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

Determination of impacts was derived from Appendix G of the California Environmental Quality Act Guidelines. Impacts to population and/or housing will be considered potentially significant if they:

- Induce substantial population growth
- Displace a substantial number of housing units
- Displace a substantial number of people

Question 4.13a – Population Growth

Construction – Less-than-Significant Impact

SDG&E anticipates that approximately 35 personnel will be required to construct the Proposed Project, and it is anticipated that the majority will commute from within the San Diego County area. However, even if personnel from outside of the San Diego County area are utilized to construct the Proposed Project, temporary impacts to population growth will be less than significant since the number of personnel required to construct the Proposed Project is relatively small and there are a large number of temporary housing options available in the vicinity of the Proposed Project.

Construction of the Proposed Project is not expected to increase the desirability or affordability of the area, or facilitate population growth in the area. While the population of the County of San Diego, the City of San Diego, and the City of Chula Vista may increase slightly during the construction phase, the increase will be temporary and will not cause a permanent increase in population. The Proposed Project will not directly induce any permanent population growth since it does not involve the construction of any new homes or business, and will not indirectly induce population growth by extending infrastructure into previously unserved areas. The Proposed Project is only intended to increase the reliability and safety of an existing power line; therefore, no permanent population growth resulting from construction of the Proposed Project will occur, and impacts will be less than significant.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be performed by current SDG&E personnel, and no new personnel will be needed. Therefore, operation of the Proposed Project will not result in increased population growth. As a result, the Proposed Project will not induce population growth directly or indirectly, and no impact will occur.

Question 4.13b – Displacement of Existing Housing – *No Impact*

The Proposed Project will generally be limited to existing rights-of-way (ROWs) and existing access roads. No houses will be displaced and none will be built elsewhere; therefore, no impacts will occur.

Question 4.13c – Displacement of People – *No Impac*t

The Proposed Project will generally be limited to existing ROWs and existing access roads. Construction, operation, and maintenance of the Proposed Project will not displace any people; therefore, no impacts will occur.

4.13.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts to population and housing, no applicant-proposed measures have been proposed.

4.13.5 References

California EDD. 2015. LMI for San Diego County, California. Online. http://www.labormarketinfo.edd.ca.gov/county/sdiego.html. Site visited July 6, 2015.

City of San Diego Planning Department. 2015. Community Profiles: Otay Mesa. Online. http://www.sandiego.gov/planning/community/profiles/otaymesa/. Site visited July 6, 2015.

City of San Diego. 2013. Otay Mesa Community Plan Update. Online. http://www.sandiego.gov/planning/community/profiles/otaymesa/pdf/otay_mesa_cmmty_plan_update_final.pdf. Site visited July 6, 2015.

County of San Diego. 2011. Otay Subregional Plan. Online. http://www.sdcounty.ca.gov/pds/docs/CP/Otay_CP.pdf. Site visited July 6, 2015.

County of San Diego. 2013a. County of San Diego General Plan Housing Element Background Report. Online. http://www.sandiegocounty.gov/content/dam/sdc/pds/advance/HousingElementUpdate/Background_Report_final.pdf. Site visited July 6, 2015.

County of San Diego. 2013b. San Diego County Fact Sheet. Online. http://www.sdcounty.ca.gov/economicroundtable/docs/ertfact.pdf. Site visited July 6, 2015.

SANDAG. 2015. Data Surfer. Online. http://profilewarehouse.sandag.org. Site visited July 6, 2015.

U.S. Census Bureau. 2015a. Chula Vista (city), California. Online. http://quickfacts.census.gov/qfd/states/06/0613392.html. Site visited July 6, 2015.

U.S. Census Bureau. 2015b. San Diego (city), California. Online. http://quickfacts.census.gov/qfd/states/06/0666000.html. Site visited July 6, 2015.

U.S. Census Bureau. 2015c. San Diego County, California. Online. http://quickfacts.census.gov/qfd/states/06/06073.html. Site visited July 6, 2015.

TABLE OF CONTENTS

LIST OF TABLES

4.14 PUBLIC SERVICES

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?				✓
Police protection?				✓
Schools?				✓
Parks?			✓	
Other public facilities?				✓

4.14.0 Introduction

This section describes local public services in the area of the proposed San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project) and evaluates potential impacts on existing services. The following discussion addresses fire and emergency services, police and protective services, hospitals, schools, parks, and other public services, and evaluates the potential for construction, operation, and maintenance of the Proposed Project to adversely affect these services. As a result of this analysis, it was determined that the Proposed Project will have a less-than-significant impact on public services.

4.14.1 Methodology

Data regarding fire, police, emergency services, and public libraries were provided by the County of San Diego, City of San Diego, and City of Chula Vista. Data pertaining to local area schools were provided by the Chula Vista Elementary School District (CVESD), Sweetwater Union High School District (SWUHSD), and San Ysidro School District (SYSD). Statistics for local hospitals and parks were obtained from online sources and included a review of aerial imagery using Google Earth software.

4.14.2 Existing Conditions

Regulatory Background

No federal, state, or local regulations related to public services are relevant to the Proposed Project.

Environmental Setting

Fire and Emergency Services

The San Diego Rural Fire Protection District provides paid and volunteer fire protection services to approximately 26,500 people within a service area of 720 square miles in unincorporated San Diego County. The Proposed Project alignment will be served by Station 22, located approximately one mile to the east at 446 Alta Road in San Diego.

The San Diego Fire-Rescue Department (SDFD) provides City of San Diego residents with fire and life-saving services, including fire protection, emergency medical services, and lifeguard protection at San Diego beaches. The SDFD serves a population of approximately 1,337,000 within a service area of approximately 331 square miles. The SDFD operates 47 stations with approximately 801 uniformed personnel and 161 civilian personnel. The Proposed Project will be served by Fire Station 6, located approximately 1.3 miles to the southwest at 693 Twinning Avenue in San Diego; Station 6 provides both fire protection and medical/rescue services. The Proposed Project will also be served by Station 43, located approximately 1.05 miles to the southwest at 1590 La Media Road in San Diego; this station provides general fire protection services as well as a brush rig and aircraft-crash firefighting truck.

Fire protection and emergency services for the City of Chula Vista are provided by the City of Chula Vista Fire Department. The Chula Vista Fire Department serves the City's approximately 52 square miles, with its main headquarters located at 447 F Street. The department employs an estimated 120 employees, the majority of which are sworn professional firefighters. During a typical 24-hour shift, an estimated 36 six-line firefighters and two Battalion Chiefs are on constant duty spread among the City's nine fire stations. The Chula Vista Fire Department's medical transport is provided through a contract with American Medical Response. The Proposed Project area will be served by Fire Station #3, located at 1410 Brandywine Avenue, and Fire Station #7, located at 1640 Santa Venetia Street. These stations are approximately 1.6 miles northwest and 2.4 miles north of the Proposed Project alignment, respectively.

Police and Protection Services

The San Diego County Sheriff's Department serves the eastern portion of the Proposed Project and provides general law enforcement, detention, and court services. The San Diego County Sheriff's Department has a service area of approximately 4,200 square miles, which includes the unincorporated regions of the County and nine cities under law enforcement contracts. The department employs approximately 4,000 sworn officers and support staff and operates seven detention facilities, including four (East Mesa Reentry Facility, Facility 8 Detention Facility, George Bailey Detention Facility, and Las Colinas Detention Facility) in the Otay Mesa area near the Proposed Project alignment. The station nearest the Proposed Project is located approximately 5.4 miles to the west at 845 Imperial Beach Boulevard in Imperial Beach.

The City of San Diego Police Department serves the western and central portions of the Proposed Project area. The main headquarters are located at 1401 Broadway in downtown San Diego, approximately 11.5 miles northwest of the Proposed Project site. In addition to police protection services, the San Diego Police Department operates a number of specialized divisions, including domestic violence, financial crimes, forensic science, and traffic units. The Proposed Project area is served by the department's Southern Division, which serves approximately 108,000 people within an approximately 31.5-square-mile patrol area that covers the communities of Border, Egger Highlands, Nestor, Ocean Crest, Otay Mesa, Otay Mesa West, Palm City, and San Ysidro. The Southern Division is headquartered at 1120 27th Street in San Diego, approximately 3.2 miles west of the Proposed Project alignment.

The Chula Vista Police Department serves the western portion of the Proposed Project area that is not within the City of San Diego. The Chula Vista Police Department serves approximately 52 square miles within the City. The main headquarters is located at 315 4th Avenue, approximately five miles northwest of the Proposed Project alignment. The department employs an estimated 240 officers, including supervisors.

The California Department of Corrections and Rehabilitation Richard J. Donovan Correctional Facility is located approximately 275 feet east of the Proposed Project alignment and just southwest of the San Diego County Sheriff's detention facilities. The correctional facility has the capacity for 3,480 inmates.

The United States (U.S.) Customs and Border Patrol has a strong presence in the Proposed Project area due to its proximity to the U.S.-Mexico border. The San Diego Region Border Patrol headquarters is located approximately 2.6 miles south of the Proposed Project alignment at 2411 Boswell Road in San Diego.

Hospitals

There are no major hospitals within the immediate vicinity of the Proposed Project. The nearest medical facility is Kaiser Permanente Adult and Pediatric Urgent Care, located approximately 0.6 mile southwest of the western terminus of the Proposed Project alignment at 4650 Palm Avenue in San Diego. The nearest hospitals with emergency medical care are both in the City of Chula Vista: Sharp Chula Vista Medical Center, located approximately 2.2 miles north of the Proposed Project alignment at 751 Medical Center Court, and Bayview Hospital, located approximately 3.5 miles from the Proposed Project alignment at 330 Moss Street.

Schools

The Proposed Project alignment lies within the CVESD, SWUHSD, and SYSD. The CVESD operates 45 schools serving kindergarten through sixth grade; the SWUHSD operates 11 middle schools and 15 high schools, as well as ancillary programs; and the SYSD operates seven elementary schools, one middle school, and a preschool program and child development center. As shown in Table 4.14-1: Schools within Two Miles, there are 15 schools within two miles of the Proposed Project alignment. The school nearest to the Proposed Project alignment is Ocean View Hills School, located approximately one mile to the southwest.

Table 4.14-1: Schools within Two Miles

School Name	Address	Approximate Distance from the Proposed Project (Miles)
Ocean View Hills School	4919 Del Sol Boulevard, San Diego, California, 92154	1.01
Vista Del Mar School	4885 Del Sol Boulevard, San Diego, California, 92154	1.15
San Ysidro Middle School	4345 Otay Mesa Road, San Diego, California, 92173	1.99
San Ysidro High School	5353 Airway Road, San Diego, California, 92154	1.49
Los Altos Elementary School	1332 Kenalan Drive, San Diego, California, 92154	1.92
Juarez Lincoln Elementary School	849 Twining Avenue San Diego, California, 92154	1.24
Berean Bible Baptist Academy	4110 Palm Avenue, San Diego, California, 92154	1.31
Loma Verde Elementary School	1450 Loma Lane, Chula Vista California, 91911	1.87
Rohr Elementary School	1540 Malta Avenue, Chula Vista California, 91911	1.47
Valle Lindo Elementary School	1515 Oleander Avenue, Chula Vista, CA, 91911	1.25
East Hills Academy	1791 Rock Mountain Road, Chula Vista, California,	1.36
Olympian High School	1925 Magdalena Avenue, Chula Vista, California, 91913	1.40
Wolf Canyon Elementary School	1950 Wolf Canyon Loop, Chula Vista, California, 91913	1.69
Concordia Church and School	1695 Discovery Falls Drive, Chula Vista, California, 91915	1.94
High Tech High Chula Vista	1945 Discovery Falls Drive, Chula Vista, California, 91915	1.40

Sources: Google Earth Pro, 2015; CVESD, 2014; SWUHSD, 2014; SYSD, 2015

Parks and Other Services

Several local, city, and regional parks are located near the Proposed Project alignment. The closest public libraries to the Proposed Project are both in San Diego: San Ysidro Branch Library is located approximately 2.7 miles to the west of the Proposed Project at 101 West San Ysidro Boulevard, and Otay Mesa Nestor Library is located approximately 2.7 miles to the west of the Proposed Project at 3003 Coronado Avenue. Section 4.15 Recreation provides more information on parks and recreational facilities.

4.14.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts to public services that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

Determination of impacts was derived from Appendix G of the California Environmental Quality Act Guidelines. Impacts to public services are considered potentially significant if they result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities in order to maintain acceptable service ratios, response times, or other performance objectives. These public services include fire protection, police services, emergency services, hospitals, schools, parks, and public facilities.

Question 4.14a – Adverse Impact to Public Services

Construction

Fire and Police Protection – No Impact

Several emergency providers are located in the vicinity of the Proposed Project, but none are immediately adjacent to or within 0.25 mile of any of the Proposed Project components. The Proposed Project will neither increase the temporary demand for nor alter the level of local public services required because it will not significantly increase local population or housing demands. Emergency services may be required as a result of Proposed Project construction; however, such incidents are not anticipated and will not burden existing emergency services beyond current capabilities. To decrease the potential for fires and the need for fire services, SDG&E will implement the Proposed Project-specific Construction Fire Prevention Plan provided in Attachment 4.8: Construction Fire Prevention Plan, which is part of SDG&E's Project Design Features and Ordinary Construction/Operating Restrictions. This Project Design Feature and Ordinary Construction/Operating Restriction is described in Chapter 3 – Project Description and Section 4.8 Hazards and Hazardous Materials. Construction is not anticipated to affect response times because no complete road closures will be required for construction activities. While lane closures will be necessary during construction, traffic controls will be implemented as required by the encroachment permits that will be obtained from the appropriate jurisdiction, and emergency vehicles will be provided access. Additional details on potential lane closures are discussed in Section 4.16 Traffic and Transportation. As a result, no impacts to fire and police protective services are anticipated.

Schools – No Impact

The Proposed Project will not increase the temporary demand for school enrollment because it will not perceptibly increase local population during the short duration of construction. Family relocations are not anticipated as a result of the Proposed Project. Therefore, school enrollment will not be affected and no new schools will be necessary as a result of the Proposed Project. Additionally, because the Proposed Project alignment is not located immediately adjacent to any schools, noise or air pollution generated by Proposed Project construction activities will not impact schools. As previously discussed, no road closures will be required in the vicinity of any schools, and therefore school access will not be blocked. As a result, no impacts to schools are expected.

Parks – Less-than-Significant Impact

There are two privately owned recreation facilities and one public recreational facility within 0.25 mile of the Proposed Project, as described in Section 4.15 Recreation. Construction of the Proposed Project will not significantly increase the local population, and it will not reduce the number of park facilities or require temporary or permanent closure of these existing facilities sufficient to require new parks. As described in Section 4.15 Recreation, the Proposed Project will not require any park closures; however, in order to access pole locations 4 through 17, construction crews may utilize the Aquatica San Diego parking lot and entrance roads. Additionally, construction crews may utilize the curbside fire hydrants at the Aquatica San Diego and the Sleep Train Amphitheatre to obtain water for dust control purposes. Therefore, impacts to parks or other recreational facilities will be less than significant.

Other Public Facilities – No Impact

No other public facilities are located in close proximity to the Proposed Project alignment. The Proposed Project will not increase the local population or otherwise result in a change that will require alteration or expansion of existing libraries or other public services. As a result, no impacts are anticipated.

Operation and Maintenance – No Impact

Following construction, the Proposed Project will be unstaffed and will be maintained according to SDG&E's existing operation and maintenance plans. Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Because the steel poles will improve the power lines' fire safety, fewer impacts to fire and emergency services are likely to occur during operation and maintenance. As a result, there will be no impact to public services from operation and maintenance of the Proposed Project.

4.14.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts to public services, no applicant-proposed measures have been proposed.

4.14.5 References

California Department of Corrections and Rehabilitation. 2015. Richard J. Donovan Correctional Facility. Online. http://www.cdcr.ca.gov/Facilities_Locator/RJD.html. Site visited July 6, 2015.

CVESD. 2014. School List. Online. http://www.cvesd.org/schools/allschools/Pages/schools.aspx. Site visited July 6, 2015.

City of Chula Vista. 2015a. Chula Vista Fire Department. Online. https://www.chulavistaca.gov/City_Services/Public_Safety/Fire_Department/About_CVFD/Default.asp. Site visited July 6, 2015.

City of Chula Vista. 2015b. Chula Vista Police Department Online. http://www.chulavistaca.gov/City_Services/Public_Safety/Police_Department/default.asp. Site visited July 6, 2015.

City of San Diego. 2015. San Diego Fire-Rescue Department. Online. http://www.sandiego.gov/fire/. Site visited July 6, 2015.

City of San Diego. 2014. San Diego Public Library. Online. http://www.sandiego.gov/public-library/. Site visited July 6, 2015.

Google. 2015. Google Earth Pro Version 7.1.2.2041. Software. Program used July 6, 2015.

San Diego County Sheriff's Department. 2015. About Us. Online. http://sdsheriff.net/aboutus.html. Site visited July 6, 2015.

San Diego Rural Fire Protection District. 2014. Station Locations. Online. http://www.sdruralfire.org/station_locations.php. Site visited July 6, 2015.

SYSD. 2015. Directory of Schools. Online. http://www.sysd.k12.ca.us/cms/page_view?d=x&piid=&vpid=1431940843044. Site visited July 6, 2015.

Sharp Chula Vista Medical Center. 2015. Sharp Chula Vista Medical Center. Online. http://www.sharp.com/chula-vista/index.cfm. Site visited July 6, 2015.

SWUHSD. 2014. Schools. Online. http://www.sweetwaterschools.org/schools/. Site visited July 6, 2015.

TABLE OF CONTENTS

4.15 RECREATION

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated?				✓
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?				✓

4.15.0 Introduction

This section describes the existing recreational facilities in the vicinity of the San Diego Gas & Electric Company Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project) and evaluates potential impacts to recreational resources that may result from construction, operation, and maintenance of the Proposed Project. No impacts to recreational facilities are anticipated as a result of construction or operation and maintenance of the Proposed Project.

4.15.1 Methodology

The assessment of impacts to recreation facilities in the vicinity of the Proposed Project involved a review of the County of San Diego General Plan, City of San Diego General Plan, City of Chula Vista General Plan, and Otay Valley Regional Park Concept Plan. In addition, Google Earth aerial photographs were reviewed to determine the potential for impacts to recreational facilities in the Proposed Project area.

4.15.2 Existing Conditions

Regulatory Background

No federal, state, or local regulations related to recreational resources are relevant to the Proposed Project.

Environmental Setting

Recreational areas and facilities in the vicinity of the Proposed Project are described in the following subsections.

Otay Valley Regional Park

Otay Valley Regional Park represents one of the major open space areas within the southern area of San Diego County, linking south San Diego Bay with Otay Mountain, San Miguel Mountain,

and the Jamul Mountains. The park is managed under a Joint Exercise of Powers Agreement by the County of San Diego, City of San Diego, and City of Chula Vista. There are currently no permanent facilities in the portions of the park that intersect or overlap the Proposed Project or temporary work areas associated with the Proposed Project.

County of San Diego

Otay Lakes County Park is located approximately 0.7 mile northeast of pole location 76 at 2270 Wueste Road. This park contains facilities for bird watching and picnicking as well as playground facilities and bathroom facilities.

Otay County Open Space Preserve is located approximately 0.7 mile east of pole location 76 at 2155 East Beyer Boulevard. This facility contains numerous hiking trails.

City of San Diego

Ocean View Hills Neighborhood Park is located approximately 0.4 mile southwest of pole location 1 at 4915 Ocean View Hills Parkway. This park contains playground facilities, a basketball court, picnic areas, and bathroom facilities.

Vista Pacifica Park is approximately 0.2 mile south of pole location 15 at 6000 Avenida De Las Vistas. This park is equipped with playground facilities, baseball fields, a basketball court, picnic areas, and bathroom facilities.

Palm Ridge Park is located approximately 0.9 mile southwest of pole location 1 at 751 Firethorn Street. This park is equipped with sports fields, playground equipment, a basketball court, and restroom facilities.

City of Chula Vista

The City of Chula Vista contains two privately owned recreational facilities in the vicinity of the Proposed Project. The Aquatica San Diego is located approximately 100 feet north of the Proposed Project at 2052 Entertainment Circle. This facility contains multiple water slides and other attractions and is open seasonally from June to September. Sleep Train Amphitheatre, an outdoor music venue owned by Live Nation Entertainment, is located approximately 0.1 mile north of the Proposed Project at 2050 Entertainment Circle, just east of the water park. This outdoor theater venue hosts concerts and events year round and seats approximately 10,500 people.

4.15.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts to recreational resources that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

Standards of significance were derived from Appendix G of the California Environmental Quality Act Guidelines. Impacts to recreation will be considered significant if the Proposed Project:

- Increases the use of existing neighborhood and regional parks or other recreational facilities to the extent that substantial physical deterioration of the facility will occur or be accelerated.

- Requires the construction or expansion of recreational facilities to meet population demand, potentially resulting in an adverse physical effect on the environment.

Question 4.15a – Recreational Facilities Use

Construction – No Impact

Construction personnel will be on site during various phases of construction. However, a majority of these crew members will likely commute from within the San Diego County area and are not expected to use any of the parks or recreational facilities during construction. Because the anticipated increase in personnel will be small and temporary in nature, construction will not result in additional demands for existing recreational facilities. While the Proposed Project will not cross any existing park or recreational facilities, the Aquatica San Diego parking lot may be used to access pole locations 4 through 17 during construction. In addition, fire hydrants located at Aquatica San Diego and the Sleep Train Amphitheatre may be used to obtain water for dust control purposes. These temporary uses will not require the temporary closure of any recreational facilities or parks. Therefore, no impacts will occur.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Operation and maintenance practices do not currently impact recreational uses or facilities in the area; therefore, no impacts will occur.

Question 4.15b – Recreational Facilities Changes

Construction – No Impact

The Proposed Project will not include the construction or expansion of any recreational facilities or result in an increase in demand for existing recreational facilities. Additionally, the Proposed Project will not increase the capacity of the existing power line and, as described in Section 4.13 Population and Housing, will not induce significant population growth. Therefore, no impacts will occur.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project facilities will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to

decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Operation and maintenance practices do not currently impact recreational uses or facilities in the area; therefore, no impacts will occur.

4.15.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts to recreational resources, no applicant-proposed measures have been proposed.

4.15.5 References

Aquatica San Diego. 2015. Aquatic San Diego. Online. http://aquaticabyseaworld.com/en/sandiego/. Site visited July 6, 2015.

City of Chula Vista. 2014. *City of Chula Vista General Plan*.

City of San Diego. 2008. *City of San Diego General Plan*.

County of San Diego. 2011. *San Diego County General Plan*.

County of San Diego. 2011. *Otay Subregional Plan*.

Live Nation Worldwide, Inc. 2015. Sleep Train Amphitheatre. Online. http://www.livenation.com/venues/14468/sleep-train-amphitheatre-in-chula-vista. Site visited July 6, 2015.

Otay Valley Regional Park. 1997. *Concept Plan*.

Otay Valley Regional Park. 2014. Otay Valley Regional Park. Online. http://www.ovrp.org/. Site visited July 6, 2015.

TABLE OF CONTENTS

LIST OF TABLES

4.16 TRANSPORTATION AND TRAFFIC

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact 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?			✓	
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?			✓	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				✓
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				✓
e) Result in inadequate emergency access?			✓	
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				✓

4.16.0 Introduction

This section describes the existing transportation and traffic conditions within the proposed San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project) area and evaluates potential Proposed Project-related transportation and traffic impacts. The following subsections summarize the existing roadways, transit and rail services, airports, and bicycle facilities; discuss the policies and regulations related to transportation and traffic; and analyze the transportation and traffic impacts that may result from construction, operation, and maintenance of the Proposed Project.

Although the Proposed Project is situated near several major roadways—including Interstate (I-) 805, State Route (SR-) 905, SR-125, and Otay Mesa Road—as well as near Brown Field Municipal Airport, it will not have a significant impact on transportation and traffic in the area and will not conflict with any adopted transportation policies.

4.16.1 Methodology

Transportation and traffic data for the Proposed Project area were obtained primarily through internet research and reviews of relevant literature—including the City of San Diego General Plan, the City of San Diego Municipal Code, the Transportation Analysis for Otay Mesa Community Plan Update, the City of San Diego Traffic Impact Study Manual, the City of San Diego Bicycle Master Plan, the City of Chula Vista General Plan Land Use and Transportation Element, the San Diego County Code of Regulatory Ordinances, and the San Diego Association of Governments (SANDAG) 2050 Regional Transportation Plan (RTP).[1]

4.16.2 Existing Conditions

Regulatory Background

Construction projects that cross public transportation corridors may be subject to federal, state, and local encroachment permits. Permits may also be required for activities that result in the use or obstruction of navigable airspace. The following summarizes transportation and traffic regulations relevant to the construction of electric facilities, such as the Proposed Project.

Federal

All airports and navigable airspace not administered by the Department of Defense are under the jurisdiction of the Federal Aviation Administration (FAA). Title 14, Section 77 of the Code of Federal Regulations (CFR) establishes the standards and required notification for construction of objects affecting navigable airspace. In general, construction of projects that exceed 200 feet above ground level are considered potential obstructions and require notification to the FAA. Additionally, projects that extend at a ratio greater than 100 to one (horizontal to vertical) from a public or military airport runway more than 3,200 feet long out to a horizontal distance of 20,000 feet are also considered potential obstructions and require notification to the FAA.

[1] The Environmental Impact Report (EIR) for the SANDAG 2050 RTP was challenged and overturned by a court of appeal on November 24, 2014 finding that the EIR was deficient. SANDAG's petition for review of the decision was granted by the California Supreme Court on March 11, 2015. However, the applicability of the RTP is not anticipated to change as a result of the lawsuit.

State

The use of California state highways for purposes other than normal transportation may require written authorization or an encroachment permit from the California Department of Transportation (Caltrans). Caltrans has jurisdiction over the state's highway system and is responsible for protecting the public and infrastructure. Caltrans reviews all requests from utility companies that plan to conduct activities within Caltrans rights-of-way (ROWs). Encroachment permits may include conditions or restrictions that limit when construction activities can occur within or above roadways under the jurisdiction of Caltrans.

Local

Because the California Public Utilities Commission has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, the Proposed Project is not subject to local discretionary land-use regulations. The following analysis of the local regulations relating to transportation and traffic is provided for informational purposes. As outlined in the following sections, the construction and operation of the Proposed Project will not conflict with any environmental plans, policies, or regulations related to transportation and traffic.

County of San Diego

Roads maintained by San Diego County are recorded in an official document known as the Road Register, which is approved by the San Diego County Board of Supervisors. However, many of the roads in San Diego County are not within the County-maintained system, including private roads maintained by adjacent property owners and many public roads such as those within cities. In addition, freeways and state highways within San Diego County are maintained by Caltrans.

San Diego County Code of Regulatory Ordinances Section 71 governs the placement of any structures on, over, or under County roads. The County requires an encroachment permit for the construction of any tower, pole, pole line, private pipe, private pipeline, nonstandard driveway, private road, fence, billboard, stand or building, or any structure or object of any kind or character, which is placed in, under, or over any portion of a County roadway.

City of San Diego

The Mobility Element of the City of San Diego General Plan provides measures for improving the efficiency of the city's transportation system and facilitates the long-term planning required to improve mobility through the development of a balanced, multi-modal transportation network, while minimizing potential environmental and neighborhood impacts. The Mobility Element is aimed at creating a system wherein each mode of transportation contributes to an overall goal of providing transportation services that meet varied user needs, while implementing a strategy to reduce traffic congestion and provide increased transportation choices with consideration for varying land use types. The City of San Diego also utilizes a Traffic Impact Study Manual, which provides acceptable level of service (LOS) standards for the city and contains guidelines for the preparation of traffic studies.

Chapter 12, Article 9, Division 7: Public ROW Permits of the City of San Diego Municipal Code addresses the use of or encroachment into public ROWs for private uses. The City of San Diego

requires approval of a public ROW permit for the construction of privately owned structures or facilities within the public ROW.

City of Chula Vista

The Circulation Element of the City of Chula Vista General Plan provides guidance to help achieve an efficient and economical transportation system, and to facilitate the planning required to maintain and expand the existing transportation network. Chapter 12.28 of the City of Chula Vista Municipal Code governs the use of or encroachment into public ROWs for private uses. The City requires an encroachment permit for the construction of any tower, pole, pole line, private pipe, private pipeline, nonstandard driveway, private road, fence, billboard, stand or building, or any structure or object of any kind or character, which is placed in, under, or over any portion of a roadway.

San Diego Association of Governments

SANDAG's 2050 RTP[1] was approved in October 2011 and provides guidance for the establishment of a coordinated transportation system for the greater San Diego area. This plan is intended to connect and improve the regional transportation network of freeways, public transit, and roadways.

Environmental Setting

Existing Roadway Network

The Proposed Project is located within the County of San Diego, the City of San Diego, and the City of Chula Vista. Figure 3-1: Project Location Map in Chapter 3 – Project Description depicts the location of the Proposed Project area and the existing roadway network. The major roadways that may be used for construction equipment travel are listed in Table 4.16-1: Major Roadways near the Proposed Project Area. This list includes the classification, number of lanes, and LOS information for each roadway where available. LOS is defined by a letter scale of A through F; a road with LOS A has unrestricted free-flowing traffic, and a road with LOS F experiences significant traffic gridlock during peak hours.

I-805 is a major north-south transportation corridor located approximately 0.75 mile west of the Proposed Project alignment. It is an eight-lane divided freeway with a posted speed limit of 70 miles per hour.

SR-905 is a major east-west transportation corridor located approximately 1.4 miles south of the Proposed Project alignment. It is a six-lane divided freeway with a posted speed limit of 65 miles per hour. SR-905 is the main route near the eastern portion of the Proposed Project alignment, with access from the Britannia Boulevard and La Media Road exits.

The Proposed Project alignment crosses two paved roads. The first crossing occurs at Heritage Road just south of its intersection with Entertainment Circle between existing pole locations 17 and 18. At the approximate crossing, Heritage Road is a two-lane collector with a center turn lane. The second crossing occurs under the SR-125 Otay River Valley Bridge. SR-125 is a major north-south transportation corridor that crosses over the Proposed Project alignment

Table 4.16-1: Major Roadways near the Proposed Project Area

Roadway	Cross Streets	Classification	Number of Lanes	Average Weekday Traffic Volume	LOS	Crossed by the Proposed Project Alignment (Y/N)
Otay Mesa Road	SR-125 to Sanyo Avenue	Major Arterial	4	14,800	A	N
Otay Valley Road/Heritage Road	Entertainment Circle to Otay Mesa Road	Collector	2	8,700	F	Y
Main Street	Nirvana Avenue and Heritage Drive	Primary Arterial	6	14,900	A	N
Ocean View Hills Parkway	Dennery Road to Del Sol Boulevard	Major Arterial	4	14,200	A	N
Dennery Road	Palm Avenue to Regatta Lane	Major	4	10,300	A	N
Alta Road	Otay Mesa Road to End	Collector	2	Unknown	Unknown	N
Palm Avenue	I-805 Northbound Ramps to Dennery Road	Primary Arterial	6	46,900	C	N
SR-125	Birch Road and Otay Mesa Road	Other Freeway or Expressway (Private Toll Road)	6	9,082	A	Y
SR-905	I-805 to Otay Mesa Road	Expressway	6	63,800	D	N
I-805	Main Street/Auto Park Drive to Pal Avenue	Interstate	8	150,300	E	N

Sources: SANDAG, 2015b; City of San Diego Traffic Impact Study Manual, 1998; Urban Systems Associates, Inc., 2012; Gao, H., 2014

between existing pole locations 50 and 51. It is a six-lane divided expressway with a toll system and a posted speed limit of 65 miles per hour.

Railway

The nearest railway line is the San Diego and Arizona Eastern (SD&AE) Railway, located approximately 2.7 miles southwest of the Proposed Project. This railway is owned and operated by the San Diego Metropolitan Transit System (MTS) within San Diego County. The line runs from downtown San Diego to Plaster City, near the City of El Centro.

In 1979, the San Diego Metropolitan Transit Development Board (now the MTS) purchased the SD&AE Railway with the intention of bringing light rail transportation to the San Diego area. This service began in 1981, and three lines currently operate in and around San Diego.

Airports

The nearest public airport to the Proposed Project—Brown Field Municipal Airport—is located approximately 0.8 mile to the south. This airport has two runways, approximately 8,000 and 3,200 feet long. There are 152 aircraft based at the airport, with an average of 277 aircraft operations per day. This airport is owned and operated by the City of San Diego.

The General Abelardo L. Rodriguez International Airport is located approximately 2.7 miles south of the Proposed Project, just south of the United States-Mexico international border. This airport has a single runway, approximately 9,700 feet long. The airport served 3,649,500 passengers in 2010 and is owned and operated by Grupo Aeroportuario del Pacífico. This airport is not located in the United States and will not be impacted by the Proposed Project; therefore, it is not discussed in the impact analysis.

Buses

Bus service to the Proposed Project area is provided by the San Diego MTS. Serving the immediate area are bus routes 905, 905A, 933/934, and 703/704. The Proposed Project does not cross any existing bus routes.

Trolleys

The Blue Line of the San Diego MTS connects San Ysidro in the south to Old Town San Diego in the north. This trolley line is located approximately 2.5 miles west of the Proposed Project area and runs along the east side of I-5. Northbound weekday service from San Ysidro begins at 4:43 a.m. and continues until 12:58 a.m., with routes departing every 30 minutes or less. Similar service is provided on Saturday and Sunday, with routes beginning at 4:59 a.m. Southbound service from America Plaza begins at 4:48 a.m. and continues until 11:48 p.m., with routes departing every 30 minutes or less. Approximately 97,400 passengers use the Blue Line per day. The Proposed Project will not cross any trolley routes.

Bicycle Facilities

There are several bikeways near the Proposed Project site—including Class II bike lanes,[2] which are located and marked either along the curb or parking lane, and Class III bike routes,[3] which share the same travel lanes as motor vehicles and have signs to that effect. Class II bikeways near the Proposed Project are included on Main Street, Heritage Road, Ocean View Hill Parkway, and Dennery Road. Class III bikeways near the Proposed Project are included on Otay Mesa Road. In addition, SR-125 allows bicycle access on the shoulder.

4.16.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts to transportation and traffic that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

According to Appendix G of the California Environmental Quality Act Guidelines, the Proposed Project would have a significant impact if it:

- Results in a conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the circulation system
- Results in a conflict with an applicable congestion management program
- Results in a change in air traffic patterns
- Results in a substantial increase in hazards due to design feature or incompatible uses
- Results in inadequate emergency access
- Conflicts with adopted policies, plans, or programs supporting alternative transportation

Question 4.16a – Traffic Plan or Policy Conflicts

Construction – Less-than-Significant Impact

Proposed Project construction personnel will generally drive to the work site at the beginning of the day and leave at the end of the day, with few people traveling to and from the work site during the day. This will result in approximately 70 to 80 vehicle trips per day in the Proposed Project area during peak construction times, which is a negligible increase in the existing daily traffic. In addition to the personnel commute travel, approximately 20 to 27 truck trips per day will be required for construction purposes. If recycled water is used, an additional 10 trips per day will be required for water delivery to the staging yards. The possibility exists for large trucks or construction vehicles to temporarily disrupt traffic flows as they enter and exit the Proposed Project alignment at designated access points from public roads. However, any disturbance will be short term (i.e., during the construction period) and each of short duration (i.e., vehicles merging in and out of traffic flows), and will not permanently affect LOS, as LOS

[2] According to the SANDAG 2050 RTP, Class II Bike Lanes are "defined by pavement markings and signage used to allocate a portion of a roadway for exclusive or preferential bicycle travel."

[3] According to the SANDAG 2050 RTP, Class III Bike Routes are defined as being "located on shared roadways that accommodate vehicles and bicycles in the same travel lane. Established by signs, bike routes provide continuity to other bike facilities or designate preferred routes through corridors with high demand."

is a long-term measure of operational conditions. The County of San Diego, City of San Diego, and City of Chula Vista have established LOS standards for their roadways. Generally, the acceptable LOS standard in urban areas is D, and the acceptable LOS standard in undeveloped areas is C. While the Proposed Project will cross Otay Valley Road and Heritage Road, which are both operating at an unacceptable level of service, the Proposed Project will result in less than an approximately six percent increase in the average weekday traffic volume, the Proposed Project will not further reduce the LOS of affected roadways to levels below the current LOS. Therefore, impacts are anticipated to be less than significant.

The power line currently crosses under the SR-125 Otay River Valley Bridge in an underground duct bank configuration. The Proposed Project will convert this power line crossing to an overhead configuration. However, as the Proposed Project will cross under the bridge deck, no impacts to traffic will occur at this location. SDG&E proposes to use temporary guard structures where the Proposed Project crosses Heritage Road in the City of Chula Vista. The guard structures will be installed prior to any conductor work to prevent the conductor from sagging onto other overhead lines, into travel lanes, and to avoid prolonged road closures. These guard structures will limit the need for temporary lane closures during construction of the Proposed Project. At the stringing site location on Sea Lavender Way and Black Coral Way in the City of San Diego, temporary lane closures may be required during stringing activities to ensure public safety. In the event that temporary lane closures are required to ensure public safety during stringing activities or to erect and remove guard structures, SDG&E will coordinate with the County of San Diego, City of San Diego and the City of Chula Vista and develop and implement a Traffic Control Plan. The Traffic Control Plan will include a discussion of work hours, haul routes, work area definitions, traffic control and flagging methods, parking restrictions, and methods for coordinating construction activities with emergency service providers. The Traffic Control Plan will be developed in accordance with all applicable transportation plans, city and County ordinances, and LOS standards. Thus, traffic increases will be minimal and the impact will be less than significant.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. In addition, operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Therefore, SDG&E does not anticipate that any additional trips will be necessary for operation and maintenance of the upgraded facilities. As a result, there will be no increase in traffic and no reduction in LOS, resulting in no impact.

Question 4.16b – Congestion Management Plan Conflicts

Construction – Less-than-Significant

The congestion management program for the County of San Diego, City of San Diego, and City of Chula Vista is administered through the SANDAG 2050 RTP. The plan offers goals, measures, and projects that could potentially improve traffic and congestion due to future growth of the region. The plan focuses on providing more comprehensive public transportation, reducing transportation-related emissions, providing social equity within communities, and

reducing travel times. The 2050 RTP does not outline specific areas where problems exist; rather, it provides direction on general areas of improvement for transportation systems in San Diego County.

As previously discussed in the response to Question 4.16a – Traffic Plan or Policy Conflicts, Proposed Project-related construction traffic will result in a less-than-significant increase in daily traffic. Within the Proposed Project area in the County of San Diego, City of San Diego, and City of Chula Vista, existing LOS ranges from A through F. While some roads in the Proposed Project area are subject to congestion—including Heritage Road/Otay Valley Road (LOS F) and Palm Avenue from I-805 to Dennery Road (LOS C)—generally less than 80 personnel vehicle trips, 27 truck trips, and 10 recycled water delivery trips per day will be required during peak construction periods. In the western portion of the Proposed Project alignment, Black Coral Way and Sea Lavender Way will be used to access a stringing site. However, construction traffic at this location is not expected to result in substantial delays or congestion on either street as there are multiple routes of ingress and egress available for residents to utilize during construction. Additionally, vehicle traffic will generally be in the areas of active construction as well as at the two staging yards. The staging yards will be located on opposite sides of the Proposed Project, with the Main Street Staging Yard located west of the Proposed Project at the intersection of Main Street and Maxwell Road in Chula Vista and the Otay Staging Yard located southeast of the Proposed Project at the intersection of Otay Mesa Road and Enrico Fermi Drive. Due to the nature of linear construction, work will only occur at a specific pole or a number of poles for a relatively short time, and the number of vehicle trips will correspond with those construction activities. As such, increases in vehicle trips on roads near the Proposed Project will be relatively low and short in duration, and will not significantly contribute to congestion or contribute to an increase in LOS. Therefore, impacts to the existing LOS will be less than significant as a result of the Proposed Project.

Operation and Maintenance – No Impact

As described previously, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. As a result, there will be no impact to the existing LOS due to operation and maintenance of the Proposed Project.

Question 4.16c – Air Traffic Changes

Construction – No Impact

Helicopter use is not anticipated for the construction of the Proposed Project. Because no aircraft will be required for the Proposed Project, no changes to air traffic patterns will be required to accommodate construction. Thus, there will be no impact.

As discussed in Section 4.10 Land Use and Planning, the Proposed Project is located within the Brown Field Municipal Airport Land Use Compatibility Plan (ALUCP) study area and within the FAA Height Notification Boundary. The Proposed Project is located within 20,000 feet of the Brown Field Municipal Airport, which has a runway length longer than 3,200 feet. Because the 69 kV steel poles—which will reach approximately 90 feet high and are located within

one mile of the airport—will exceed the one-to-100 ratio required by 14 CFR Part 77.9 for airspace and navigation, SDG&E consulted with the FAA. The FAA conducted an obstruction evaluation and determined that there is no need for lighting or marking on the poles. Therefore, the Proposed Project will not result in a change in air traffic patterns or an increase in safety risks, and no impact to air traffic will occur.

Operation and Maintenance – No Impact

Operation and maintenance activities will include routine inspections, ongoing maintenance, and repairs necessary to ensure that integrity of the system is maintained over the long term. Inspections may occur in the form of aerial patrol via helicopter or ground patrols visiting the facilities. Consistent with the existing operation and maintenance protocols for inspecting TL 649, if helicopters are used to assist with operation and maintenance activities, SDG&E will notify the FAA and any additional local agencies, as appropriate, in advance. Therefore, no impact will occur.

Question 4.16d – Increase in Hazards

Construction – No Impact

Because the Proposed Project construction will take place within or immediately adjacent to an existing SDG&E alignment and because pole construction will occur in generally the same locations as existing poles, there will be no permanent modifications to existing public roadways or construction of new roadways and no new uses incompatible to existing roads will be introduced. Therefore, there will be no increase in hazards and no impact will occur.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease as a result of the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. The Proposed Project will be built along the existing alignment. As a result, no additional hazards will be created and no impact will occur.

Question 4.16e – Emergency Access Effects

Construction –Less-than-Significant Impact

Emergency access will not be directly impacted during construction because all streets will remain open to emergency vehicles at all times throughout construction. Increased vehicle traffic and brief (10- to 15-minute) lane closures may occur while the conductor is pulled across roadways, if flaggers are used, or during the installation and removal of guard structures. Although this can indirectly impact emergency access by causing slower response times due to congestion, emergency vehicles will be provided access even in the event of temporary lane closures. Thus, impacts will be less than significant.

Operation and Maintenance – No Impact

As discussed previously, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance

requirements of the replacement steel poles relative to the existing wood poles. Emergency vehicle access in the Proposed Project area will not change following construction. Therefore, no impact to emergency vehicle access will occur from operation and maintenance activities.

Question 4.16f – Alternative Transportation Conflicts

Construction – No Impact

Pole construction will occur within existing power line alignment and will not involve any activities that conflict with transportation policies, plans, or programs, including bus transportation in the area. The only overhead roadway crossing on the Proposed Project, Heritage Road, is not a bikeway at the location of the crossing and is not part of an MTS bus route. Additionally at the stringing site located on Sea Lavender Way and Black Coral Way, neither of the streets are classified as bikeways and are not part of MTS bus routes. Therefore, there will be no impacts to alternative transportation.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Therefore, there will be no impact to alternative transportation during operation and maintenance activities.

4.16.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts to transportation and traffic, no applicant-proposed measures have been proposed.

4.16.5 References

AirNav, LLC. 2015. Brown Field Municipal Airport, San Diego, California, USA. http://www.airnav.com/airport/KSDM. Site visited July 6, 2015.

City of Chula Vista. 2005. City of Chula Vista General Plan: Land Use and Transportation Element. Online. http://www.chulavistaca.gov/City_Services/Development_Services/Planning_Building/PDF/Chapter_05-LUT-part_03_000.pdf. Site visited July 6, 2015.

City of San Diego. 2013. City of San Diego Bicycle Master Plan. Final – December 2013. Prepared by Alta Planning + Design. Online. http://www.sandiego.gov/planning/programs/transportation/mobility/pdf/bicycle_master_plan_final_dec_2013.pdf. Site visited July 6, 2015.

City of San Diego. 2008. *City of San Diego General Plan*.

City of San Diego. 2015. Municipal Code. Online. http://www.sandiego.gov/city-clerk/officialdocs/legisdocs/muni.shtml. Site visited July 6, 2015.

City of San Diego. 1998. Traffic Impact Study Manual. Online. http://www.sandiego.gov/development-services/pdf/industry/trafficimpact.pdf. Site visited July 6, 2015.

Gao, Helen. SANDAG. Public Information Officer. Personal Communication with A. Lievers, Insignia Environmental. August 20, 2014. Helen.Gao@sandag.org.

Tijuana International Airport. 2014. Online. http://www.tijuana-airport.com/. Site visited July 6, 2015.

Miller Starr Regalia. 2015. Supreme Court Will Review California Environmental Quality Act Decision Invalidating SANDAG's 2050 RTP. Online. http://www.jdsupra.com/legalnews/supreme-court-will-review-ceqa-decision-46340/. Site visited July 6, 2015.

MTS. 2014. SD&AE Railway Fact Sheet. Online. http://www.sdmts.com/MTS/documents/SDAEFactSheet.pdf. Site visited July 6, 2015.

Perkins Coie. 2014. EIR for SANDAG's RTP Rejected by Court of Appeal. Online. http://www.californialandusedevelopmentlaw.com/2014/11/25/eir-for-sandags-regional-transportation-plan-rejected-by-court-of-appeal/. Site visited July 6, 2015.

San Diego County. 2015. San Diego County Code of Regulatory Ordinances. Online. http://www.amlegal.com/nxt/gateway.dll?f=templates&fn=default.htm&vid=amlegal:sandiegoco_ca_mc. Site visited July 6, 2015.

SANDAG. 2015a. SANDAG Board to Appeal RTP Ruling to California Supreme Court. Online. http://www.sandag.org/index.asp?newsid=859&fuseaction=news.detail. Site visited July 6, 2015.

SANDAG. 2015b. Demographics and Other Data, Transportation Data: Average Weekday Traffic Volumes Data. Online. http://www.sandag.org/resources/demographics_and_other_data/transportation/adtv/index.asp. Site visited July 6, 2015.

SANDAG. 2011. *2050 RTP*.

Urban Systems Associates, Inc. 2012. Transportation Analysis for Otay Mesa Community Plan Update. Final Report, June 14, 2012. Online. http://www.sandiego.gov/planning/community/cpu/otaymesa/pdf/omcpu_transportation_analysis_rpt_061412.pdf. Site visited July 6, 2015.

TABLE OF CONTENTS

LIST OF ATTACHMENTS

4.17 UTILITIES AND SERVICE SYSTEMS

Would the Proposed Project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				✓
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities (the construction of which could cause significant environmental effects)?				✓
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities (the construction of which could cause significant environmental effects)?				✓
d) Have sufficient water supplies available from existing entitlements and resources to serve the project from existing entitlements and resources, or are new and expanded entitlements needed?				✓
e) Result in a determination by the wastewater treatment provider that 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?			✓	
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			✓	
g) Comply with federal, state, and local statutes and regulations related to solid waste?				✓

4.17.0 Introduction

This section describes local utility services and infrastructure—including cable television and telephone, water treatment, sewer, and electricity services—in the vicinity of the San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project). The Proposed Project will require limited use of public utilities during

construction including electricity to power construction trailers and water for dust control purposes. Less-than-significant impacts to utilities and service systems will result from the Proposed Project.

4.17.1 Methodology

Information on utility service providers in the vicinity of the Proposed Project was obtained from Internet searches, local government websites, and local utility provider websites.

4.17.2 Existing Conditions

Regulatory Background

No federal, state, or local regulations related to utilities and services systems are relevant to the Proposed Project.

Environmental Setting

Potable Water

Water service within the Proposed Project area is provided by the Otay Water District and the City of San Diego Public Utilities Department through a purchase agreement with the San Diego County Water Authority (SDCWA), a wholesale water agency that provides imported water to its 24 member agencies. The SDCWA, in turn, purchases the majority of its water from the Metropolitan Water District of Southern California (MWD), which is composed of 26 cities and water agencies serving 18 million people in six counties. The MWD imports water from two primary sources: the Colorado River via the MWD's Colorado Aqueduct and Northern California via the State Water Project (SWP). Water is delivered to Southern California by way of the MWD's approximately 242-mile-long aqueduct, which transports Colorado River water from Lake Havasu to MWD's service area. In addition, water from Northern California is delivered to Southern California through an approximately 444-mile-long aqueduct. The water is captured in reservoirs north of Sacramento and released through natural rivers and streams into the Sacramento-San Joaquin Delta. The MWD then blends the Colorado River and SWP water at a facility in Riverside County and transfers the untreated water via pipelines operated by MWD and SDCWA to San Diego's three treatment facilities: the Miramar Water Treatment Plant, the Alvarado Water Treatment Plant, and the Otay Water Treatment Plant.

Water within the City of San Diego is also obtained from the city's local water supplies consisting of nine surface water reservoirs (with more than 408,000 acre-feet of capacity), eight of which are connected directly or indirectly to the city's three water treatment facilities. The geographic areas served by the three water treatment facilities are flexible such that various areas within the City of San Diego can be supplied by more than one of the plants. The City of San Diego provides water to approximately 1.3 million customers.

For the portions of the Proposed Project not located within the City of San Diego, water is provided by the Otay Water District. As previously discussed, the Otay Water District purchases water from the SDCWA; it also purchases water from the Helix Water District and provides water service for approximately 213,000 customers within its 125.5-square-mile service area. The Otay Water District operates the Ralph W. Chapman Water Reclamation Facility, which has the capacity to produce approximately 1.2 million gallons of recycled water per day.

Additionally, the Otay Water District can supply another six million gallons of recycled water per day through a connection with the City of San Diego's South Bay Water Reclamation Plant. In the year 2014, the Otay Water District provided approximately 31,546 acre-feet of potable water and 4,619 acre-feet of recycled water to its customers.

Water Drainage Facilities

The majority of the Proposed Project is in a rural area that crosses several natural drainages. Runoff from the Proposed Project primarily travels as sheet flow into one of the natural drainages that are tributary to the Otay River. Drainage within the Proposed Project area between Black Coral Way in the City of San Diego and Heritage Road in the City of Chula Vista (generally between pole locations 1 and 17) is handled by a curb-and-gutter drainage system that flows into the City of Chula Vista and City of San Diego Municipal Separate Storm Sewer System (MS4). The MS4 drains to the Otay River watershed, which in turn empties into San Diego Bay.

Electricity and Natural Gas

Electricity and natural gas in the County of San Diego, the City of San Diego, and the City of Chula Vista is provided by SDG&E. SDG&E provides electricity and natural gas to approximately 3.4 million people within its approximately 4,100-square-mile service area in San Diego and Orange counties.

Cable and Telephone

Telephone, video/cable, DSL, and broadband services are available from AT&T for residents within the Proposed Project area. Cox Communications also provides cable, broadband, and telephone services.

Sewer

County of San Diego

The San Diego County Sanitation District provides sewer service to approximately 35,000 customers within the unincorporated area. It owns and operates approximately 430 miles of pipeline, 8,200 manholes, 10 lift stations/pressurized mains, and three wastewater treatment plants. Wastewater flows originating from the Otay Mesa area, in which the Proposed Project is located, are transmitted to the City of San Diego's Point Loma Wastewater Treatment Plant for treatment and disposal.

City of San Diego

The Metropolitan Wastewater System provides sewer services to the City of San Diego and 15 other cities and districts within an approximately 450-square-mile area with a population of over 2.2 million. An average of 180 million gallons of wastewater is treated daily. Wastewater is conveyed through approximately 3,000 miles of collection pipelines and 83 pump stations to the North City Water Reclamation Plant, the Point Loma Wastewater Treatment Plant, and the South Bay Water Reclamation Plant. Treated effluent is discharged to the Pacific Ocean through two ocean outfalls. Solids from the wastewater treatment plants are processed at the Metro Biosolids Center located at the Marine Corps Air Station Miramar.

City of Chula Vista

The City of Chula Vista currently provides sewer services to its residents through more than 495 miles of sewer pipes and 12 sewer pump stations. Collection facilities convey wastewater generated within eight distinct drainage basins and transmit these flows to regional facilities located along San Diego Bay to the west and the Sweetwater River to the north. These regional facilities then transport Chula Vista's wastewater to the Point Loma Wastewater Treatment Plant. The Point Loma Wastewater Treatment Plant is owned and operated by the City of San Diego Metropolitan Wastewater Department.

Solid Waste

Solid waste disposal in San Diego County is accommodated through the operation of five landfills and 14 rural bin sites and transfer stations. The nearest landfill to the Proposed Project is the Otay Landfill, located at 1700 Maxwell Road in Chula Vista, approximately one mile from the western terminus of the Proposed Project alignment. As of 2012, the Otay Landfill's remaining capacity was approximately 24.5 million cubic yards, approximately 40 percent of its total capacity. The landfill is expected to reach total capacity by the year 2028. The Otay Landfill is owned and operated by Allied Waste Industries Incorporated, which provides solid waste curbside pick-up service within the City of Chula Vista.

4.17.3 Impacts

The following subsections describe the criteria of significance used to assess potential impacts to utilities and service systems that may result from implementation of the Proposed Project, and examine those potential impacts.

Significance Criteria

Potential impacts to utilities and service systems were determined in accordance with Appendix G of the California Environmental Quality Act Guidelines. Significant adverse impacts to utilities and service systems would only occur if the Proposed Project:

- Exceeds wastewater treatment requirements of the Regional Water Quality Control Board (RWQCB)
- Requires or results in the construction of new water or wastewater treatment facilities, or the expansion of existing facilities
- Requires or results in the construction of new storm water drainage facilities or expansion of existing facilities
- Results in the need for a new or expanded water supply
- Results in a determination by the wastewater treatment provider that it has inadequate capacity to serve the Proposed Project's projected demand
- Results in inadequate access to a landfill with sufficient permitted capacity to accommodate the Proposed Project's solid waste disposal needs
- Causes a breach of published national, state, or local standards relating to solid waste

In addition to the guidelines specified in Appendix G, the Proposed Project would have significant adverse impacts if it would result in the disruption of existing utility systems.

Question 4.17a – Wastewater Treatment Requirement Exceedances

Construction – No Impact

Water use during construction will be minimal and limited to dust-control and fire-suppression activities. Water used during construction activities will be distributed over the Proposed Project area and will infiltrate the ground. Portable restrooms will be used and maintained during construction and removed after the completion of the Proposed Project. Wastewater will be disposed of by a licensed portable restroom vendor at a wastewater treatment facility that has capacity. No new point sources of water pollution will result from construction, and no wastewater treatment requirements established by the RWQCB will be exceeded. No dewatering is anticipated during construction; however, in the event that groundwater is encountered during excavation of the hole for the pole installation or during trenching for the underground distribution lines, SDG&E will pump the groundwater to a baker tank for sediment filtering, tested to ensure compliance with the applicable RWQCB or State Water Resources Control Board National Pollutant Discharge Elimination System permit requirements and discharged to surface waters or an upland area, or disposed of at an approved SDG&E disposal site licensed to handle wastewater in accordance with local, state, and federal dewatering requirements. Therefore, there will not be any exceedance of wastewater treatment requirements, and no impact will result from construction of the Proposed Project.

Operation and Maintenance – No Impact

Once construction of the Proposed Project has been completed, operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. Current operation and maintenance activities do not produce wastewater; therefore, continued operation and maintenance of the Proposed Project will not result in an exceedance of RWQCB wastewater treatment requirements. There will be no impact as a result of operation and maintenance of the Proposed Project.

Question 4.17b – Water and Wastewater Treatment Facility Expansion

Construction – No Impact

Potable water used for the Proposed Project will come from existing municipal sources, and no new water treatment facilities will be required to meet the demands of the Proposed Project. As discussed previously, portable restrooms will be used and maintained during construction and will be removed after the completion of the Proposed Project. Wastewater will be disposed of by a licensed portable restroom vendor at a wastewater treatment facility that has current capacity. As described previously, dewatering is not anticipated, but if groundwater disposal is required, the amount will be relatively small and will not require or result in the construction of new water or wastewater treatment facilities or the expansion of existing facilities. No impact to local sewer systems will result from the Proposed Project, and no new water or wastewater treatment facilities will be required. Because the Proposed Project will only result in upgrades to an existing power line, construction will not directly or indirectly result in new or expanded development. As a result, no new extension of sewer or water lines will be required to serve the

Proposed Project, and no new or expanded water or wastewater treatment facilities will be needed. Thus, there will be no impact as a result of Proposed Project construction.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. The Proposed Project will not require water or produce wastewater that results in the need for any new water or wastewater treatment facilities, and it will not require the expansion of any existing facilities. As a result, no impact will occur due to operation and maintenance of the Proposed Project.

Question 4.17c – Water Drainage Facility Expansion

Construction –No Impact

Construction of the Proposed Project will occur largely in undeveloped land away from the City of San Diego and City of Chula Vista MS4 systems. Construction of the Proposed Project will not result in a substantial increase in impervious surfaces that will increase storm water runoff from the Proposed Project area, and it is expected that rates of storm water runoff during construction will be similar to pre-construction conditions. As discussed in Section 4.9 Hydrology and Water Quality, the Proposed Project will not result in an increase in storm water runoff that may impact existing MS4 systems. As a result, no permanent alterations to drainage systems will occur, and no impacts will result due to construction of the Proposed Project.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles. No new permanent storm water drainage facilities or expansion of existing facilities will be required as a result of operation and maintenance of the Proposed Project. As a result, there will be no impact.

Question 4.17d – Water Supply Availability

Construction – No Impact

As described in Chapter 3 – Project Description, water is anticipated to be the primary means of dust control during construction of the Proposed Project, with approximately two or three water trucks to be used on access roads and at work areas. Approximately 4.5 million gallons of water will be required during construction of the Proposed Project; however, actual volumes will depend on weather conditions at the time of construction.[1] Recycled water will be used to the extent feasible and where the applicable regulations permit its use. However, if such recycled

[1] Soil moisture content and wind speed are the primary factors in determining how much water to apply for dust control during construction. During excessively dry periods or when wind reaches speeds capable of detaching soil particles, additional water is required to suppress dust. Heavy vehicle and/or equipment traffic also dictates water use. The estimate provided was calculated from the anticipated water use based on statistics from similar projects.

non-potable water is not available or allowed by regulations, potable water will be obtained from local water purveyors, such as the Otay Water District. The South Bay Water Reclamation Plant in the City of San Diego is currently the closest recycled water source to the Proposed Project. If recycled water is used, it will be handled, stored, and applied in accordance with all applicable federal, state, and local rules and regulations. The use of recycled water will not impact water supply availability. The Otay Water District provided a Will-Serve letter on September 29, 2014, stating that they have adequate capacity to provide the approximately 4.5 million gallons of potable water required for construction of the Proposed Project. This letter has been provided as Attachment 4.17–A: Otay Water District Will Serve Letter. Therefore, sufficient sources of water are available for SDG&E to conduct standard dust control activities, and water requirements during construction will not exceed the available supply in the area. As a result, there will be no impact on existing water supplies due to construction of the Proposed Project.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles. No additional water beyond the current water usage will be required. Therefore, water supplies from existing entitlements and resources will be sufficient to continue accommodating these activities, and there will be no impact.

Question 4.17e – Wastewater Treatment Capacity

Construction – Less-than-Significant Impact

During construction of the Proposed Project, portable restrooms will be used and wastewater will be hauled to and disposed of at the nearest wastewater treatment facility with available capacity. The Point Loma Wastewater Treatment Plant currently treats 175 million gallons of wastewater per day and has the capacity to treat 240 million gallons per day. Because there is a facility with a large amount of available capacity in close proximity to the Proposed Project, impacts to wastewater treatment capacity will be less than significant.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles. No new restrooms will be required for the operation and maintenance of the Proposed Project, and no additional wastewater will be generated. As a result, no impacts to wastewater treatment capacity will occur from operations and maintenance of the Proposed Project.

Question 4.17f – Landfill Capacity

Construction – Less-than-Significant Impact

The Proposed Project will not significantly affect landfill capacity because it will generate a limited amount of construction waste, including wood poles, construction materials, and 12 kilovolt conductor wire, which will be recycled to the maximum extent possible.

Construction and demolition waste that is not recyclable will be disposed of at the Otay Landfill (which has estimated capacity through 2028, as stated Section 4.17.2 Existing Conditions) or at another appropriately permitted landfill. Treated wood poles will be disposed of at the Otay Landfill, located at 1700 Maxwell Road, Chula Vista, CA, which is the nearest hazardous waste facility to the Proposed Project with the capacity to accommodate waste from the Proposed Project. Section 4.8 Hazards and Hazardous Waste provides additional details on the hazardous waste requirements of the Proposed Project. Additionally, as described in Chapter 3 – Project Description, vegetation and trees may be trimmed, and one tree will be removed in temporary work areas to provide a safe working environment during construction. All trimmed vegetation and trees will be chipped and left on site for the landowner or will be hauled to a green recycling center, if necessary. The removed tree limbs will be chipped and hauled to a green recycling center, and the logs will be left on site for the landowner or will be hauled to a green recycling center, if necessary. No removed vegetation will be disposed of in a landfill. Therefore, impacts to landfill capacity due to construction activities will be less than significant.

Operation and Maintenance – No Impact

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles. As a result, wastes generated from operation and maintenance activities will generally decrease, however handling and disposal of any waste products associated with operation and maintenance activities will continue to be in compliance with all applicable regulations. Therefore, no impact to landfill capacity will occur.

Question 4.17g – Solid Waste Statutes and Regulations

Construction – No Impact

SDG&E will dispose of all wastes during Proposed Project construction in accordance with federal, state, and local statutes and regulations related to solid waste. Therefore, no impact will occur as a result of construction of the Proposed Project.

Operation and Maintenance – No Impact

Handling and disposal of all waste products associated with operation and maintenance activities will comply with all applicable regulations. Therefore, no impact will occur as a result of operation and maintenance of the Proposed Project.

4.17.4 Applicant-Proposed Measures

Because the Proposed Project will not result in any significant impacts to utilities and service systems, no applicant-proposed measures have been proposed.

4.17.5 References

California Department of Resources Recycling and Recovery. 2015. Facility/Site Summary Details: Otay Landfill (37-AA-0010). Online. http://www.calrecycle.ca.gov/SWFacilities/Directory/37-AA-0010/Detail/. Site visited June 30, 2015.

City of Chula Vista. 2015a. Storm Water Pollution Prevention. Online. http://www.chulavistaca.gov/departments/public-works/services/storm-water-pollution-prevention. Site visited June 30, 2015.

City of Chula. 2015b. Wastewater Division. Online. http://www.chulavistaca.gov/departments/public-works/operations/wastewater. Site visited June 30, 2015.

City of San Diego. 2015a. Wastewater. Online. http://www.sandiego.gov/mwwd/facilities/index.shtml. Site visited June 30, 2015.

City of San Diego. 2015b. Water. Online. http://www.sandiego.gov/water/gen-info/overview/factsfigures.shtml. Site visited June 30, 2015.

City of San Diego. 2015c. Storm Water Division. Online. http://www.sandiego.gov/stormwater/index.shtml. Site visited June 30, 2015.

County of San Diego Department of Public Works. 2015. Wastewater Management. Online. http://www.sandiegocounty.gov/content/sdc/dpw/wasteh2o.html. Site visited June 30, 2015.

County of San Diego Department of Public Works. 2015. Five Year Review Report of the County Integrated Waste Management Plan for the County of San Diego. Online. http://www.sdcounty.ca.gov/dpw/recycling/Files/FINAL_5_YEAR_UPDATE_OF_THE_SAN_DIEGO_COUNTYWIDE_CIWMP.pdf. Site visited June 30, 2015.

Otay Water District. 2015. Otay At-A-Glance. Online. http://www.otaywater.gov/otay-at-a-glance/. Site visited June 30, 2015.

SDCWA. 2015. SDCWA. Online. http://www.sdcwa.org/. Site visited June 30, 2015.

SDG&E. 2015. Company Facts. Online. http://www.sdge.com/aboutus. Site visited June 30, 2015.

TABLE OF CONTENTS

LIST OF TABLES

4.18 CUMULATIVE ANALYSIS

4.18.0 Introduction

This section discusses potential cumulative impacts related to the construction and operation of the proposed San Diego Gas & Electric Company (SDG&E) Tie Line 649 Wood-to-Steel Replacement Project (Proposed Project).

The California Environmental Quality Act (CEQA) Guidelines require a discussion of cumulative impacts of a project. Cumulative impacts refer to two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. The following cumulative analysis evaluates the potential cumulative impacts from the Proposed Project in combination with other planned and proposed projects in the area. Based on the cumulative impacts analysis, the Proposed Project will not result in a significant cumulative environmental impact in any of the resource areas evaluated.

4.18.1 Significance Criteria

CEQA defines cumulative impacts as changes in the physical environment resulting from the incremental impact of the project when added to other nearby past, present, and future projects. Impacts will be considered significant if they exceed the individual criterion established for each resource area, as described in Section 4.1 Aesthetics through Section 4.17 Utilities and Service Systems. If this occurs, the Proposed Project's contribution will be analyzed to determine whether it is cumulatively considerable (CEQA Guidelines § 15064[h][1]). Section 15064(h)(1) of the CEQA Guidelines further explains that "when assessing whether a cumulative effect requires an [Environmental Impact Report], the lead agency shall consider whether the cumulative impact is significant and whether… the project's incremental effect, though individually limited, is 'cumulatively considerable.'" Applying this qualitative standard necessarily requires application of judgment based on the facts of a particular project subject to CEQA. Further, the significance of an impact may be weighed against the overall effect as both increases and decreases in impacts may balance one another. As noted in Section 15064(h)(4) of the CEQA Guidelines, "the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable."

4.18.2 Timeframe of Analysis

For the purpose of this cumulative impacts analysis, the Proposed Project is defined in terms of construction duration and post-construction operation and maintenance. SDG&E anticipates that construction of the entire Proposed Project will take approximately seven months from initial site development through energization. Construction of the Proposed Project is anticipated to begin in September 2016, depending on agency approvals.

4.18.3 Area of Analysis

The analysis of potential cumulative impacts is limited to projects occurring within an approximately two-mile-wide corridor centered on the approximately seven-mile Proposed Project alignment (i.e., one mile on each side of the alignment). The analysis area represents the physical extent of the limits in which permanent impacts of the Proposed Project may occur. An approximately one-mile buffer is based on the size, location, and the minimal impacts associated

with the Proposed Project. For these reasons, the approximately one-mile buffer is an appropriate distance to determine the potential for other reasonably foreseeable projects to be cumulatively considerable. It is assumed that potential cumulative impacts will not occur in conjunction with other projects beyond this distance because of the nature of power line construction and operation. Construction of power lines entails a short duration of construction activity at each pole site or crossing, and operation of the line involves few impacts due to occasional inspections and repairs. Neither construction nor operation will result in impacts significant enough to be cumulatively considerable, particularly if the planned projects are greater than one mile away.

4.18.4 Methodology

Existing conditions and reasonably foreseeable projects were identified within a one-mile buffer of each Proposed Project component. Information was gathered from Internet searches of local planning department and state agency websites. The websites of the following entities were reviewed for development projects, road and utility improvement projects, and capital investment projects:

- Federal Aviation Administration (FAA)
- California Energy Commission (CEC)
- California Department of Transportation
- California Independent System Operator (CAISO)
- California Public Utilities Commission (CPUC)
- California Department of Corrections and Rehabilitation
- County of San Diego
- City of San Diego
- City of San Diego Airports Division
- City of Chula Vista

4.18.5 Existing/Operating Projects

Past projects within the vicinity of the Proposed Project include residential, light industrial, and commercial developments; private recreational facilities; and correctional facilities. Suburban residential land uses are located predominantly in the western area, within the City of San Diego. East of the residential area (and north of the Proposed Project) are private recreational facilities, including a water park and concert amphitheater. Further to the east and north of the Proposed Project area is the Otay Valley Quarry. Brown Field Municipal Airport is located approximately 0.8 miles south of the Proposed Project. The central portion of the Proposed Project runs parallel to the Otay River for several miles, and crosses rural/undeveloped land, indicating the lack of structures on the properties and uses such as grazing and other rural or semi-agricultural uses. At the eastern end of the Proposed Project, the line travels adjacent to and within the property boundary of the Richard J. Donovan Correctional Facility. Parcels to the west of and adjacent to the correctional facility are open space park land. Parcels at the southwestern end of the Proposed Project are currently undeveloped. As such, the existing and operating projects in the area consist mainly of residential, light industrial, commercial, and public institutional uses. The existing power line has been a part of the local landscape for several decades.

4.18.6 Foreseeable Projects Inventory

For the purposes of this document, "reasonably foreseeable" refers to projects that federal, state, or local agency representatives have knowledge of from the formal application process. Table 4.18-1: Planned and Proposed Projects within One Mile lists 11 known projects that are within one mile of any Proposed Project component. Given that the Proposed Project involves the replacement of poles of an existing power line, it does not have the potential to change land use patterns in the area. Environmental impacts associated with the Proposed Project are expected to be less than significant or have no impact for most resources.

4.18.7 Potential Cumulative Impacts

This section discusses whether the Proposed Project will result in significant short-term or long-term environmental impacts when combined with other past, present, planned, and probable future projects in the area. Short-term impacts are generally associated with construction of the Proposed Project, while long-term impacts are those that result from permanent Proposed Project features or operation of the Proposed Project.

Construction, operation, and maintenance of the Proposed Project will not impact the following resources and, therefore, will not contribute to a cumulative effect in these areas:

- Agriculture and Forestry Resources
- Land Use and Planning
- Mineral Resources
- Recreation

As a result, these resource areas were not further analyzed with regard to cumulative impacts.

Cumulative impacts to the following resources could occur as a result of construction of the Proposed Project in conjunction with the other planned and probable projects:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas (GHG) Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Population and Housing
- Public Services
- Transportation and Traffic
- Utilities and Service Systems

These resources are discussed further in the subsections that follow.

Table 4.18-1: Planned and Proposed Projects within One Mile

Project	Approximate Location	Approximate Distance from the Proposed Project (miles)	Project Description/Size	Anticipated Construction Schedule	
				Start	End
Parkside at Dennery Ranch	North of Dennery Road/West of Dennery Canyon (City of San Diego)	0.2	Construction of 73 detached condominium townhomes and a neighborhood park, along with the installation of associated roadways, utilities, and landscaping on an approximately 22-acre site.	Unknown	Unknown
Heritage Road Bridge Replacement	Heritage Road between Main Street and Entertainment Circle North (City of Chula Vista)	0.3	Replacement of an interim bridge over the Otay River, which will accommodate future growth and development of Heritage Road into a six-lane highway. Design will also accommodate a 100-year storm event.	2015	Winter 2018
Otay Ranch University Village 3	North of Main Street at Heritage Road (City of Chula Vista)	0.3[1]	Mixed-use development on approximately 250 acres. Development includes 1,597 homes, a business park, mixed office/commercial uses, and open space.	Late 2014	2018
Pio Pico Energy Center Gas Line	Otay Mesa Road (Unincorporated San Diego County)	0.3	Construction of an approximately 11,000-linear-foot, 16-inch gas pipeline.	May 2015	March 2016

[1] This is the distance to the portion of the planned project involving construction of residential areas. The planned project includes protection of open space that is located closer to the Proposed Project.

Project	Approximate Location	Approximate Distance from the Proposed Project (miles)	Project Description/Size	Anticipated Construction Schedule	
				Start	End
Level II Infill Correctional Facilities Project	Adjacent to (southeast of) Richard J. Donovan Correctional Facility (Unincorporated San Diego County)	0.5	Construction of a 792-bed facility, covering approximately 35 acres. Also under consideration for a potential alternative facility that will consist of a 1,584-bed Level II infill correctional facility complex, covering approximately 55 acres.	April 2014	2016
Otay Ranch University Village 8 East	Wiley Road at State Route (SR-) 125 (City of Chula Vista)	0.6[2]	Mixed-use development on approximately 575 acres with 3,560 dwelling units, commercial/retail uses, an elementary school, neighborhood park, and open space.	Early 2016	2024
Otay Ranch University Village 10	Wiley Road, east of SR-125 (City of Chula Vista)	0.6[2]	Mixed-use development on approximately 363 acres with 1,740 dwelling units, an elementary school, private recreation, a neighborhood park, and open space.	2023	2029

[2] This is the distance to the portion of the planned project that involves construction of residential areas. The planned project includes protection of open space that crosses the Proposed Project.

Project	Approximate Location	Approximate Distance from the Proposed Project (miles)	Project Description/Size	Anticipated Construction Schedule	
				Start	End
Otay Water Treatment Plant Concrete Work	Approximately 0.2 mile southwest of the Lower Otay Reservoir, just south of Wueste Road (City of Chula Vista)	0.7	Replacement of the existing concrete coating of Sedimentation Basins 1 and 2 with a pinhole-free protective coating to preserve surfaces from corrosion and to prevent the plant from future malfunction and failure.	March 2013	June 2016
Runway 8L-26R Rehabilitation Project	Brown Field Municipal Airport (City of San Diego)	0.8	Removal of approximately 50 feet of existing Portland Cement Concrete (PCC), building up of the asphalt/concrete section to the proposed grade, rubblization of existing PCC in the middle 50 feet of Runway 26R, and repairs to the westerly end of Runway 8L-26R.	2015	2016
Taxiway A Rehabilitation and Run-Up Pads	Brown Field Municipal Airport (City of San Diego)	0.8	Rehabilitation of pavement at Taxiway A and Run-Up Pads (i.e., areas for engine warm-up and Instrument checks) to meet FAA, state, and local engineering and construction standards. This project will allow smoother and more expeditious use of the taxiway, and increase the size of the engine run-up areas.	Unknown	Unknown

Sources: CEC, 2014; CAISO, 2014; CPUC, 2014; California Department of Corrections and Rehabilitation, 2013; City of Chula Vista, 2014a, 2014b, 2014c; City of San Diego, 2014; City of San Diego Airports Division, 2014; City of San Diego Council District 8, 2014; County of San Diego, 2014; SDG&E, 2014

Aesthetics

Cumulative impacts to visual resources could occur where Proposed Project facilities are viewed in combination with other past, present, planned, and probable developments. The significance of cumulative visual impacts depends on a number of factors, including the degree to which the viewshed is altered and the extent to which scenic resources in the area are disrupted due to either view obstructions or direct impacts to scenic resource features. The Proposed Project viewshed is defined as the general area from which it is visible or can be seen. For the purpose of this analysis, the potential effects on foreground viewshed conditions are emphasized. The foreground is defined as the zone between 0.25 and 0.5 mile from the viewer. Landscape detail is most noticeable and objects generally appear most prominent when seen in the foreground.

The construction schedule for the Proposed Project could overlap with the construction schedules for four of the planned and proposed projects listed in Table 4.18-1: Planned and Proposed Projects within One Mile. An additional two projects have construction timelines that are unknown and could overlap with the Proposed Project. These projects will increase the potential for adverse cumulative impacts to occur from construction equipment, vehicles, materials, staging yards, and project personnel. However, views of construction from most of these cumulative projects will not likely be visible within the same viewshed as the Proposed Project, given the intervening topography and existing structures. For residents in the Dennery Canyon neighborhoods, construction of the Proposed Project could overlap with the Parkside at Dennery Ranch condominium construction. Construction of this project could result in a cumulative impact, but more likely will obscure construction of the Proposed Project due to its close proximity to the neighborhoods. Construction of the Heritage Road Bridge Replacement could overlap with construction of the Proposed Project. Construction of the bridge will be visible to the Dennery Canyon neighborhoods as well, and both projects will temporarily affect the middle-ground viewshed from these residential neighborhoods. Construction of mixed-use developments (i.e., the Otay Ranch University Village 3 and 8 East projects) will overlap with construction of the Proposed Project and may affect the distant views from these neighborhoods. Finally, construction of the Level II Infill Correctional Facilities Project at Richard J. Donovan Correctional Facility and, potentially, the two Brown Field Municipal Airport projects will also temporarily affect the views of drivers in the area. Adverse visual impacts during construction will be temporary and are generally accepted by the public. These temporary aesthetic impacts will be cumulative; however, they are not expected to be significant.

Permanent cumulative visual impacts could occur as a result of Proposed Project components being located near other proposed developments. Expected visual changes associated with the future development in the Proposed Project area will result from a combination of the Proposed Project with other planned projects. Seven of the projects identified in Table 4.18-1: Planned and Proposed Projects within One Mile are located within 0.5 mile of the Proposed Project. However, the permanent impact of the Proposed Project involves incremental changes in pole heights and color, given that the Proposed Project involves the modification of an existing power line. From many locations in the surrounding area, views of the Proposed Project will be partially or fully screened by intervening topography. In addition, several of the planned projects are large residential projects that will have a greater impact on the foreground and distant viewsheds than the Proposed Project. The Proposed Project will represent an incremental visual change to the urban landscape and will not be particularly noticeable, given that the current

views are of existing poles and distances of most viewers from the Proposed Project. For these reasons, the Proposed Project is not expected to result in a cumulatively considerable impact to aesthetics.

Air Quality

The construction of the Proposed Project could occur simultaneously with four of the projects listed in Table 4.18-1: Planned and Proposed Projects within One Mile. In addition, the construction schedules for two additional projects listed in Table 4.18-1: Planned and Proposed Projects within One Mile are unknown and could overlap with the Proposed Project. As a result, a cumulative air quality impact could occur in the Proposed Project area during construction. Sources of air pollution can include vehicle trips and construction equipment. SDG&E will implement best management practices (BMPs) to reduce emissions and dust during construction, as discussed in Section 4.3 Air Quality. Similarly, other projects within the study area will be required to comply with local ordinances and regulations regulating air quality, including dust control during construction activities. Measures will be required for the cumulative projects to reduce potential impacts on air quality to less-than-significant levels. As a result, cumulative impacts are expected to be less than significant.

In addition, a significant impact may occur if a project is inconsistent with the rules and regulations of the San Diego County Air Pollution Control District (SDAPCD) or if it induces growth in excess of that anticipated by the SDAPCD Regional Air Quality Strategy. Long-term operation of the Proposed Project will not include any permanent or stationary sources of pollution, and will not induce population growth or area employment. Therefore, the Proposed Project will not contribute to a cumulatively considerable air quality impact associated with operation, power generation, or population growth.

Biological Resources

Proposed Project impacts to special-status plant and wildlife species, critical habitat, and wetlands and jurisdictional waters will be less than significant, as discussed in Section 4.4 Biological Resources. The construction of the Proposed Project could occur simultaneously with four of the projects listed in Table 4.18-1: Planned and Proposed Projects within One Mile. In addition, the construction schedules for two additional projects listed in Table 4.18-1: Planned and Proposed Projects within One Mile are unknown and could overlap with the Proposed Project. Cumulative impacts to biological resources could occur as a result of increased ground-disturbing activities by multiple projects, and the potential removal of suitable habitat for multiple special-status plant and animal species, including species that are protected under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA). As a result, a cumulative impact to biological resources could occur in the vicinity of the Proposed Project.

The projects with the largest expected ground disturbance, and therefore the largest potential to contribute to cumulative impacts to biological resources when considered in conjunction with the Proposed Project, are the Otay Ranch University Village 3, Otay Ranch University Village 8 East, and Otay Ranch University Village 10. Based on a review of aerial photographs and other available data, including the draft and final Environmental Impact Statements for the projects, these three projects contain native habitats that could support many of the same special-status

species that occur or potentially occur within the Proposed Project area. As a result, implementation of these projects in conjunction with the Proposed Project could result in cumulative impacts to these special-status species and their habitats. However, most of the temporary impacts to sensitive biological resources as a result of projects in the area will be avoided or minimized during construction through permit requirements and regulatory agency protocols. The other proposed projects will all be subject to the same permitting requirements under the CESA and CEQA, which are intended to minimize impacts to species, both at the project level and in a regional context.

In addition, the Proposed Project's contribution to a significant cumulative effect will be minimized with the implementation of extensive Operational Protocols contained within the SDG&E Subregional Natural Community Conservation Plan (NCCP) aimed at comprehensively minimizing impacts to biological resources. For Proposed Project construction, SDG&E will consult with the United States (U.S.) Fish and Wildlife Service and California Department of Fish and Wildlife (CDFW), as appropriate, for compliance with the FESA and CESA, but operation and maintenance will continue to be conducted under the NCCP. Many of the proposed and probable projects in the area will be subject to mitigation requirements for the permanent loss of habitat under the applicable Multiple Species Conservation Plan (MSCP) documents, such as the City of San Diego MSCP, the County of San Diego MSCP and the City of Chula Vista MSCP. The mitigation requirements resulting from developments in this area will result in a net increase in native habitats that are protected in perpetuity within the MSCP preserve system, conferring benefits to multiple special-status species. With the implementation of the Project Design Features and Ordinary Construction/Operating Restrictions, which include the NCCP and Vernal Pool Operational Protocols, and mitigation in accordance with SDG&E's Low-Effect Habitat Conservation Plan for Quino checkerspot butterfly (*Euphydryas editha quino*), cumulative impacts will be less-than-significant and will not be cumulatively considerable.

Operation and maintenance activities for the Proposed Project will be conducted in the same manner as the existing facilities. Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles relative to the existing wood poles; therefore, impacts will be less than significant. As a result, no permanent losses of habitat, special-status species, or jurisdictional waters are expected from operation and maintenance activities. Therefore, cumulative impacts from operations and maintenance activities will be less than significant.

Cultural Resources

Cumulative impacts to cultural resources could occur as a result of increased ground-disturbing activities by multiple projects. Archaeological surveys conducted along the Proposed Project alignment and the surrounding survey area revealed several lithic artifacts associated with early cultures along the Otay River, as well as several historic structures. Other projects shown in Table 4.18-1: Planned and Proposed Projects within One Mile are located in close proximity to the Otay River and are on undeveloped properties that may encounter similar artifacts. These projects include the Heritage Road Bridge Replacement project, the Parkside at Dennery Ranch development, and the Otay Ranch University Village development projects. These projects also have the potential to encounter artifacts related to early cultures, and the Environmental Impact

Report for the Otay Villages indicates the presence of several sites, including sites of cultural significance. The impact analysis for the University Villages 3, 8, and 10 indicate the presence of significant sites, and impacts from these phases of the project are evaluated to be potentially significant. Mitigation is proposed for these phases to reduce the impacts to less than significant. Similarly, other projects with significant ground disturbance will be subjected to a CEQA review process, and it is expected that cultural impacts associated with these planned developments will be mitigated to a less-than-significant level. Additionally, with the implementation of Project Design Features and Ordinary Construction/Operating Restrictions (such as training, unanticipated discovery procedures, and paleontological monitoring), the Proposed Project is not anticipated to impact any significant cultural resources. Other projects are anticipated to implement similar measures to protect and/or catalogue resources. Therefore, cumulative impacts to cultural resources are anticipated to be less than significant.

Geology and Soils

The potential cumulative impacts that may occur as a result of construction of the Proposed Project in conjunction with other planned and proposed projects include risks associated with ground shaking from earthquakes and liquefaction, landslides in areas with unstable soils, and soil disturbance from grading and excavation activities that may cause erosion and sedimentation. All of the construction projects listed in Table 4.18-1: Planned and Proposed Projects within One Mile will be located in areas near fault lines and subject to earthquakes. However, conformance with CPUC General Order 95 for the Proposed Project, as well as the Uniform Building Code for construction of new buildings for the other development projects, will ensure that new structures will be able to withstand ground-shaking events, and as a result, the cumulative impact related to earthquakes and ground shaking is not expected to be significant. Similarly, all of the projects shown in Table 4.18-1: Planned and Proposed Projects within One Mile have the potential for soil erosion and sedimentation. However, impacts related to soil erosion or sedimentation will be minimized through the implementation of Storm Water Pollution Prevention Plans (SWPPPs), which are required for all projects that disturb one or more acres of soil. As a result, the potential for a significant cumulative impact to geology and soils is not expected to be significant.

Greenhouse Gas Emissions

The construction schedule for the Proposed Project and four of the projects listed in Table 4.18-1: Planned and Proposed Projects within One Mile could occur simultaneously. In addition, two other projects do not have defined construction timelines. A cumulative GHG impact in the Proposed Project area could occur during construction of these projects. The vehicles and heavy equipment used during construction will be the primary sources of these emissions. However, emissions generated during Proposed Project construction are projected to be well below the adopted 10,000 million metric tons of carbon dioxide equivalent adopted by the County of San Diego and the South Coast Air Quality Management District. Regardless, SDG&E will be required to adhere to the standards and requirements established by the SDAPCD, which will minimize the potential for the Proposed Project's construction activities to contribute GHG emissions. The other projects in the area will also be required to adhere to the SDAPCD standards and requirements. As such, cumulative impacts contributed by the Proposed Project will be less-than-significant.

During operation, various projects may potentially contribute to GHG accumulation by emitting carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Projects that will contribute to GHG accumulation generally include those that will induce population growth, such as the large residential and condominium developments listed in Table 4.18-1: Planned and Proposed Projects within One Mile. The Proposed Project, on the other hand, will not contribute to this cumulative impact because SDG&E already operates the existing line and the Proposed Project will not facilitate an increased capacity resulting in future growth. As a result, no cumulative GHG impact related to the Proposed Project will occur.

Hazards and Hazardous Materials

Cumulative impacts associated with hazards and/or hazardous materials can result from the construction of concurrent projects and the Proposed Project having an increased effect on public or worker safety, including exposure to hazardous materials, increased fire potential, or physical hazards. The Proposed Project and four of the projects listed in Table 4.18-1: Planned and Proposed Projects within One Mile could occur simultaneously. In addition, two other projects do not have a defined timeline. As a result, several of these projects have the potential to result in a cumulative impact related to overall hazards or hazardous materials when combined with the Proposed Project. Because each of these projects requires construction equipment, these projects have the potential to create a temporary impact from accidental releases of diesel and gasoline fuel, hydraulic fluids, and other hazardous liquids. While a significant impact is not anticipated, there is a potential for accidental spills or leaks. Though this potential hazard will exist during construction, it is very unlikely that a spill will occur in the same immediate vicinity during a similar timeframe. Large releases of hazardous materials from multiple projects are highly unlikely with adherence to federal, state, and local regulations. Small releases are expected to be contained, cleaned up, and disposed of properly. As the nearest project that could be constructed during the Proposed Project's timeframe is approximately 0.2 mile away, the potential for accidental releases to result in a cumulative impact is low. As a result, a cumulative impact to hazards and hazardous materials is not anticipated.

Hydrology and Water Quality

Construction of the Proposed Project and four of the projects listed in Table 4.18-1: Planned and Proposed Projects within One Mile could occur simultaneously. Two additional projects could also occur in the same timeframe, as their construction schedules are currently unknown. A cumulative impact could result from projects involving a significant amount of grading, which could alter natural drainage patterns, contribute to increases in runoff, or result in a degradation of water quality. Cumulative impacts could also result from multiple projects altering water courses. Under Section 402 of the Clean Water Act, all projects disturbing more than one acre will be required to obtain a General Construction Permit, which will require the implementation of a SWPPP and BMPs to avoid erosion and water quality degradation. With the implementation of SWPPPs and BMPs, cumulative impacts to water resources will be less than significant

Some of the projects in the cumulative scenario could also have temporary or permanent impacts to jurisdictional waters regulated by the U.S. Army Corps of Engineers, the CDFW, and/or the Regional Water Quality Control Board, which will require permitting from the respective

agency. Construction of the Proposed Project will not impact jurisdictional waters; therefore, the Proposed Project will not contribute to cumulative impacts to jurisdictional water resources.

Noise

Construction of the Proposed Project and four of the projects listed in Table 4.18-1: Planned and Proposed Projects within One Mile could occur simultaneously. Two additional projects could also occur in the same timeframe, as their construction schedules are currently unknown. Temporary cumulative noise impacts could occur due to the simultaneous or consecutive construction of the Proposed Project and the planned projects, or if the planned projects are in close proximity to the Proposed Project. With the exception of temporary stringing activities along Sea Lavender Way in the City of San Diego, the typical construction-related noise levels from the Proposed Project will not exceed the 75 A-weighted decibel threshold established for construction noise by the County of San Diego and the City of San Diego. Potential blasting operations could exceed the County of San Diego's impulsive noise standard at Richard J. Donovan Correctional Facility. However, with implementation of the Project Design Features and Ordinary Construction/Operating Restrictions described in Section 4.12 Noise (which require implementation of control measures and potentially meeting and conferring with the County of San Diego and the City of San Diego) impacts will be less than significant. If planned projects—such as the Parkside at Dennery Ranch project—are close to the Proposed Project, some temporary cumulative impacts to noise could occur. In this area, sensitive noise receptors (e.g., single-family homes) are located nearby. However, construction noise associated with the projects will be intermittent and temporary, and significant cumulative impacts are not likely, given the transportation-related ambient noise sources in the area, particularly air traffic associated with Brown Field Municipal Airport. Therefore, the Proposed Project is not anticipated to contribute to a cumulatively significant noise impact.

Long-term operation of the Proposed Project will not increase noise levels beyond the noise levels associated with the existing power line. As a result, the Proposed Project's contribution to a significant cumulative noise impact associated with operation and maintenance will be minimal and the cumulative impact will be less than significant.

Public Services

Fire, police protection, or emergency services could be required due to an emergency during construction of the Proposed Project. In this case, the construction schedule of the Proposed Project will potentially overlap with four of the projects listed in Table 4.18-1: Planned and Proposed Projects within One Mile. Two additional projects could also overlap with Proposed Project construction as their construction timelines are unknown. Should there be multiple emergencies at several construction sites, cumulative impacts to local public services could occur. However, the probability of a single emergency incident is low, and the probability of simultaneous emergencies at multiple construction sites will be even lower. In addition, temporary slowdowns related to traffic congestion have the potential to cause temporary reductions in response times of emergency services. However, because major road closures and detours are not planned along emergency service routes, the Proposed Project impacts will not be cumulatively considerable.

Permanent cumulative impacts are not anticipated as a result of the Proposed Project in combination with the other planned or proposed projects. The purpose of the Proposed Project is to reduce fire risks by replacing wood poles with steel poles, which are fire resistant. Therefore, the Proposed Project's contribution to impacts on public services will not be cumulatively considerable.

Transportation and Traffic

During the construction phase, cumulative traffic impacts will occur from projects that have overlapping construction timeframes. In this case, construction of the Proposed Project will potentially overlap with four of the projects listed in Table 4.18-1: Planned and Proposed Projects within One Mile. Two additional projects could also overlap with Proposed Project construction as their construction timelines are unknown. Traffic could be increased in the surrounding area during concurrent construction of these projects. Within the Proposed Project area, Main Street, Ocean View Hills Parkway, Otay Mesa Road, and SR-905 are public highways and roadways that run east to west. Interstate 805, Dennery Road, Ocean View Hills Parkway, Heritage Road, and SR-125 are major roadways that run north to south. During construction, approximately 70 to 80 vehicle trips per day, 20 to 27 truck trips per day, and 10 water delivery truck trips per day will be generated by the Proposed Project during peak construction periods, which is less than an approximately six percent increase in the average weekday traffic volume. In addition, all of the roadways within the Proposed Project area are currently operating at acceptable Level of Service (LOS) standards, with the exception of Heritage Road, which operates at LOS F. The Proposed Project will not further reduce the LOS of affected roadways to levels below the current LOS.

Construction of the Heritage Road Bridge will likely result in temporary closure of that roadway as a means of access to the Proposed Project and other planned projects, as well as increased congestion on other roadways. Alternate roadways can be used by Proposed Project personnel to access the Proposed Project. Construction of the Proposed Project is not expected to cause a significant impact because Proposed Project-generated traffic will be minimal, will occur over the course of the day, and will not result in an increase in the volume/capacity ratio to the point that a significant impact will occur. For these reasons, the Proposed Project's contribution to transportation and traffic impacts during construction will not be cumulatively considerable.

Permanent cumulative impacts are not anticipated as a result of the Proposed Project in combination with the other planned projects. Maintenance of the Proposed Project will generate fewer trips per year. Nonetheless, the amount of trips required to operate the Proposed Project is negligible and will not result in a measurable increase in traffic in the area. Therefore, a significant impact is not expected. For these reasons, the Proposed Project's contribution to transportation and traffic impacts related to operation and maintenance will not be cumulatively considerable.

Utilities and Service Systems

The Proposed Project will utilize limited amounts of water during construction, and disposal of the replaced wood poles will be necessary. Sewer service will not be required as temporary restrooms will be utilized during construction. Construction of the Proposed Project will potentially overlap with four of the projects listed in Table 4.18-1: Planned and Proposed

Projects within One Mile. Two additional projects could also overlap with Proposed Project construction as their construction timelines are unknown. Usage of utilities—including water, sewer, drainage facilities, and landfill—will be needed in greater quantities by these other projects, particularly the large mixed-use developments that are part of Otay Ranch University Village projects. However, because the Proposed Project will utilize relatively small amounts of water and recycled water to the extent feasible, and has a relatively small need for landfill space, the Proposed Project will not contribute to cumulatively considerable impacts.

Permanent cumulative impacts are not anticipated as a result of the Proposed Project in combination with the other planned projects. Operation and maintenance of the Proposed Project will not result in the need for significant amounts of water or other utilities. Therefore, the Proposed Project's contribution to utility impacts will not be cumulatively considerable.

4.18.8 Conclusion

While the Proposed Project will contribute to certain cumulative impacts associated with concurrent development activity in its vicinity, impacts associated with the Proposed Project are minimal and its contribution to cumulative impacts is anticipated to be small or negligible. It is anticipated that the other projects within the vicinity of the Proposed Project will be required to implement avoidance and minimization measures similar to SDG&E's Project Design Features and Ordinary Construction/Operating Restrictions, and permit conditions. These measures will minimize potential environmental impacts, thereby minimizing the overall cumulative effects. As a result, cumulative impacts are expected to be less than significant.

4.18.9 References

CAISO. 2014. The California ISO Controlled ISO Controlled Grid Generation Queue – Cisco Active. Online. http://www.caiso.com/Documents/ISOGeneratorInterconnectionQueue.pdf. Site visited June 25, 2015.

California Department of Corrections and Rehabilitation. 2014. Draft Environmental Impact Report: Level II Infill Correctional Facilities Project, Volume 2, Site-Specific Evaluation of Level II Infill Correctional Facilities at R.J. Donovan Correctional Facility. Online. http://www.cdcr.ca.gov/Infill-projects/Draft_Envir_Impact_Rpts.html. Site visited June 25, 2015.

CEC. 2015. Status of All Projects. Online. http://www.energy.ca.gov/sitingcases/all_projects.html. Site visited June 25, 2014.

City of Chula Vista. 2014a. Environmental Notices & Reports. Online. http://www.chulavistaca.gov/departments/development-services/planning/public-notices/environmental-notices. Site visited June 25, 2015.

City of Chula Vista. 2014b. FY 2014-15 Proposed CIP Budget. Online. http://www.chulavistaca.gov/home/showdocument?id=2560. Site visited June 25, 2015.

City of Chula Vista. 2014c. Otay Ranch University Villages Project: Draft Environmental Impact Report.

City of Chula Vista. 2014d. Otay Ranch University Villages Project: Final Environmental Impact Report.

City of Chula Vista. 2015. FY2015-16 Adopted CIP Budget. Online. http://www.chulavistaca.gov/home/showdocument?id=10004. Site visited June 25, 2015.

City of San Diego Airports Division. 2014. Brownfield. Online. http://www.sandiego.gov/airports/brown/. Site visited June 25, 2015.

City of San Diego Council District 8. 2014. CIP Project List. Online. http://cipapp.sandiego.gov/CIPDistrictNav.aspx?district=8. Site visited June 25, 2015.

City of San Diego. 1998. Traffic Impact Study Manual. Online. http://www.sandiego.gov/development-services/pdf/industry/trafficimpact.pdf. Site visited June 25, 2015.

City of San Diego. 2014. *City of San Diego Fiscal Year 2015 Proposed Budget.* Online. http://www.sandiego.gov/fm/proposed/pdf/2015/vol3/v3airports.pdf. Site visited June 25, 2015.

County of San Diego. 2014. Citizen Access Portal. Online. https://publicservices.sdcounty.ca.gov/CitizenAccess/. Site visited June 25, 2015.

CPUC. 2014. Current Projects. Online. http://www.cpuc.ca.gov/PUC/energy/Environment/Current+Projects/. Site visited June 25, 2015.

Klingbeil, Mike. SDG&E. Principal Engineer. Personal communication with A. Renger, SDG&E. September 9, 2014.

Ruiz, Liborio. City of San Diego. Project Engineer. Personal communication with N. Vente, Insignia Environmental. June 25, 2015.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 5 – DETAILED DISCUSSION OF SIGNIFICANT IMPACTS

5.0 INTRODUCTION

In accordance with the Proponent's Environmental Assessment (PEA) Checklist issued by the California Public Utilities Commission (CPUC) on November 24, 2008, this section:

- identifies the potentially significant impacts that will result from the construction, operation, and maintenance of the San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project);
- discusses the alternatives that were evaluated in determining the Proposed Project and the justification for the selection of the preferred alternative; and
- discusses the Proposed Project's potential to induce growth in the area.

5.1 APPLICANT-PROPOSED MEASURES TO MINIMIZE SIGNIFICANT IMPACTS

Based on the findings in Chapter 4 – Environmental Impact Assessment, the Proposed Project is not likely to result in significant impacts to any resource areas after implementation of the Project Design Features and Ordinary Construction/Operating Restrictions. Therefore, no applicant-proposed measures are provided. Chapter 3 – Project Description provides the Project Design Features and Ordinary Construction/Operating Restrictions that have been proposed as part of the Proposed Project.

5.2 DESCRIPTION OF PROJECT ALTERNATIVES AND IMPACT ANALYSIS

5.2.0 Introduction

Section 15126.6, subdivisions (a) and (f)(2)(A) of the California Environmental Quality Act (CEQA) Guidelines (Title 14 California Code of Regulations) and Assigned Commissioner's Ruling on Application 01-07-004 (dated October 16, 2002) do not require a review of alternatives when a project will not result in significant environmental impacts after mitigation, as is the case with the Proposed Project. However, the CPUC has adopted an "Information and Criteria List" to determine whether applications for projects are complete, which specifies the information required from any applicant for a project subject to CEQA. As the lead agency, the CPUC requires applicants for a Permit to Construct or a Certificate of Public Convenience and Necessity to describe a reasonable range of alternatives within the PEA.

This section summarizes and compares the environmental advantages and disadvantages of the Proposed Project and the alternatives considered. In accordance with CPUC requirements, SDG&E evaluated a reasonable range of alternatives that meet most of the project objectives.

This environmental alternatives analysis evaluates the No Project Alternative, the Underground Alternative, and the State Route (SR-) 905 Alternative for the Proposed Project. Each alternative is evaluated for its feasibility and ability to fulfill the Proposed Project objectives, as well as its ability to reduce environmental impacts compared to the Proposed Project. Table 5-1:

Alternatives Considered lists each alternative that was considered during the evaluation process. Alternatives to the Proposed Project that were evaluated, including the No Project Alternative, are summarized in the following subsections. Feasible alternatives that were considered but eliminated because they did not meet the Proposed Project objectives or reliability requirements are discussed briefly in Sections 5.2.3 No Project Alternative, 5.2.5 Underground Alternative, and 5.2.6 State Route 905 Alternative.

Table 5-1: Alternatives Considered

Alternative	Evaluated or Eliminated
No Project Alternative	Eliminated Prior to Environmental Review
Proposed Project	Evaluated
Underground Alternative	Eliminated Prior to Environmental Review
SR-905 Alternative	Eliminated Prior to Environmental Review

5.2.1 Methodology

The alternatives were considered based on their ability to meet the engineering requirements and the Proposed Project objectives. Because the No Project Alternative, Underground Alternative, and SR-905 Alternative did not meet all of the Proposed Project objectives, no environmental review was conducted.

5.2.2 Proposed Project Objectives

The Proposed Project is intended to meet several objectives identified by SDG&E. The overall objective of the Proposed Project is to increase the fire safety and service reliability of TL 649. The Proposed Project is designed to protect the electric system against wildfire damage and reduce the potential for the power line to be an ignition source. Specifically, the Proposed Project has the following three objectives:

1. Increase the fire safety and service reliability of TL 649.
2. Minimize potential adverse environmental effects.
3. Locate proposed facilities within existing utility corridors to the extent feasible.

Each of these Proposed Project objectives is more thoroughly described in Chapter 2 – Project Purpose and Need.

5.2.3 No Project Alternative

CEQA requires an evaluation of the No Project Alternative so that decision makers can compare the impacts of approving the Proposed Project with the impacts of not approving the Proposed Project (CEQA Guidelines, Section 15126.6(e)). Under the No Project Alternative, the existing TL 649 wood poles along the Proposed Project route would not be replaced with galvanized steel poles.

The No Project Alternative is feasible; however, it would not meet Objective 1 since the No Project Alternative would not address the fire safety concerns or provide the opportunity to

increase the service reliability of the power line. In addition, the No Project Alternative would not meet Objective 2 because it would entail continued operation and maintenance of wood poles in a high fire risk area; therefore, the potential environmental impacts from a fire associated with baseline environmental conditions would remain the same, rather than be minimized. The No Project Alternative would keep the existing power line within existing utility corridors and would be consistent with Objective 3. Because the No Project Alternative would not meet Objective 1 or 2, it was eliminated prior to environmental review.

5.2.4 Proposed Project

The Proposed Project will involve the replacement of the existing wood poles along TL 649 from approximately Black Coral Way and Sea Lavender Way east and south to just north of Otay Mesa Road with new steel poles. The majority of the existing 69 kilovolt (kV) conductor will be transferred to the new poles, and the 12 kV distribution conductor will be replaced or transferred to the new poles. The portion of TL 649 that is currently in an underground configuration under SR-125 will be replaced with new 69 kV conductor in an overhead configuration. The new poles will typically be replaced within approximately 10 feet of the existing pole locations and within the existing rights-of-way (ROWs). Construction of the Proposed Project will result in the temporary disturbance of approximately 19 acres.

The Proposed Project is feasible and meets all of the Proposed Project objectives. The Proposed Project will meet Objective 1 because it will remove the existing wood poles in a high fire risk area, and install new steel poles that will be able to better withstand wildfire damage. The Proposed Project will also meet Objective 2 because the temporary disturbance area and the potential to impact resources is less than the underground and SR-905 alternatives. Compared to the No Project Alternative, the Proposed Project will result in more temporary and permanent disturbance and impacts to resources, but will reduce the impact from potential fires in the area. The Proposed Project will also meet Objective 3 because the new steel poles will be installed within existing ROWs. Because the Proposed Project is feasible and will meet all of the objectives, it was evaluated for environmental impacts to each resource area. A detailed analysis of the Proposed Project is provided in Chapter 4 – Environmental Impact Assessment. Because the Proposed Project is feasible and meets all of the Proposed Project objectives, the Proposed Project was selected as the preferred alternative.

5.2.5 Underground Alternative

The Underground Alternative would involve replacing the existing TL 649 from approximately Black Coral Way and Sea Lavender Way east and south to just north of Otay Mesa Road with a new, completely underground 69 kV power line. The Underground Alternative would include the removal of the same existing wood structures that will be removed as part of the Proposed Project; however, the Underground Alternative would require modification of the easement to allow for an underground configuration. The Underground Alternative would include new underground cable installation along the current TL 649 route, including new splice vaults and cable poles, as needed. Construction of the Underground Alternative would result in the temporary and permanent disturbance of approximately 27 acres. In addition, the Underground Alternative would likely require extensive blasting; impact vegetation, cultural, and water resources; and potentially impact existing underground gas and water utilities.

The Underground Alternative is not feasible because the site is not suitable for underground construction, which would likely require extensive blasting of rock to install the underground duct banks. The Underground Alternative would meet Objective 1 because it would remove the existing wood poles in a high fire risk area, and the underground power line would be able to withstand wildfire damage better than the wood poles. The Underground Alternative would not meet Objective 2 because the temporary and permanent disturbance areas and the potential to impact resources is greater than that of the Proposed Project. The Underground Alternative would meet Objective 3 because it would be installed in an existing utility corridor; however, modification to the easements would be required to allow for an underground configuration. Because the Underground Alternative is not feasible and would not meet Objective 2, it was eliminated prior to environmental review.

5.2.6 State Route 905 Alternative

The SR-905 Alternative would include the construction of a new approximately six-mile-long overhead or underground route, depending on City of San Diego and California Department of Transportation (Caltrans) requirements, along SR-905 to intercept the existing portion of TL 649 going to San Ysidro Substation from Otay Substation. In addition, the SR-905 Alternative would conceptually require the loop-in of an existing nearby power line into Otay Lake Substation to maintain area reliability and keep the Otay Lake substation energized. Further studies would be required to confirm that the loop-in would be feasible and would sufficiently maintain area reliability.

Construction of the SR-905 Alternative would result in up to approximately 22 acres of temporary and permanent impacts not including the aforementioned loop-in or any associated transmission upgrades. For the latter impacts, further studies would be required. If the line were installed underground, it would be located within the road franchise; if the line were installed overhead, new easements may be required.

The SR-905 Alternative may be feasible if the City of San Diego and Caltrans allow overhead installation, if SDG&E could obtain the required easements and permitting, and if Otay Lake Substation could be kept in service via the aforementioned loop-in of an existing power line. If however the City of San Diego and Caltrans were to require the SR-905 Alternative to be installed underground, the additional cost of construction would be considerable and likely render it infeasible. The SR-905 Alternative would meet Objective 1, since it would remove the portion of TL 649 located in a high fire risk area. The SR-905 Alternative would not meet Objective 2, since the temporary and permanent disturbance areas is greater than that of the Proposed Project, although it would primarily occur along an existing highway with less potential for sensitive resources than the Proposed Project, and it would require a loop-in of a nearby power line into Otay Lakes Substation, which would result in additional temporary and permanent impacts in areas with potential sensitive resources. If the SR-905 Alternative is installed overhead, it would not meet Objective 3 because the new route would not be constructed within existing utility corridors. Because the SR-905 Alternative may not be feasible, would not meet Objective 2, and may not meet Objective 3, it was eliminated prior to environmental review.

5.2.7 Conclusion

Three alternatives to the Proposed Project were evaluated against the Proposed Project objectives. The No Project, Underground Alternative, and SR-905 Alternative were evaluated and rejected based on their inability to meet all of the Proposed Project objectives. The Proposed Project was selected as the preferred alternative because it is feasible and meets all of the Proposed Project objectives.

5.3 GROWTH-INDUCING IMPACTS

5.3.0 Growth-Inducing Impacts

CEQA requires a lead agency to review and discuss ways in which a project could induce growth. CEQA Guidelines Section 15126.2(d) considers a project to be growth inducing if it fosters economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding area. New employees hired for proposed commercial and industrial development projects and population growth resulting from residential development projects represent direct forms of growth. Other examples of growth-inducing projects are the expansion of urban services into previously undeveloped areas or the removal of major obstacles to growth, such as transportation corridors and potable water supply.

The growth-inducing potential of the Proposed Project could be considered significant if it were to stimulate population growth or an increase in population density in the County of San Diego, City of San Diego, City of Chula Vista, or other surrounding communities, above what is assumed in local and regional land use plans or in projections made by regional planning authorities. Significant growth impacts could also occur if the Proposed Project were to provide infrastructure or service capacity to accommodate growth levels beyond those permitted by local or regional plans and policies. The Proposed Project will improve the reliability of the existing system by fire hardening, but will not increase housing, bring in new services, or increase the capacity of the existing infrastructure system. Therefore, the Proposed Project will not stimulate population growth or result in a new concentration of residents, businesses, or industries.

5.3.1 Growth Caused by Direct and Indirect Employment

Construction and operation of the Proposed Project itself will not affect employment patterns in the area. SDG&E will employ approximately 35 workers for the construction of the Proposed Project over an approximately seven month-long period. Most of the construction workers are expected to come from San Diego County and will not require lodging. Contractors from outside San Diego County may be mobilized to the job site for all or part of the construction phase of the Proposed Project and may stay at existing local hotels. There are sufficient hotels and other lodging facilities within close proximity to the Proposed Project area to accommodate the maximum number of crew members anticipated to construct the Proposed Project, as discussed in Section 4.13 Population and Housing.

Operation and maintenance activities are expected to decrease slightly as a result of the Proposed Project due to the lower maintenance requirements of the replacement steel poles. Therefore, operations and maintenance of the Proposed Project will not create new jobs. Because the

Proposed Project will not result in an increase in employment during the operation and maintenance phase, the Proposed Project will not increase the demand for new housing.

5.3.2 Growth Related to the Provision of Additional Electric Power

Regional Background

The population of San Diego County has increased every year since 1944. As a result, growth is part of the past, present, and expected future of the region. The San Diego Association of Governments (SANDAG) is the regional planning entity for the San Diego region and is composed of representatives from 18 cities and the County government. SANDAG serves as the forum for regional decision making. SANDAG makes strategic plans, obtains and allocates resources, and provides information on a broad range of topics pertinent to the region's quality of life.

The cities of San Diego and Chula Vista and the County of San Diego (cities and County) have designated SANDAG as the regional planning board, pursuant to a voter-approved proposition. The cities and County provide SANDAG with information about their general plans, local growth patterns, and land use regulations. In return, SANDAG generates regional management plans and population forecasts. As members of SANDAG, the cities and County review and approve all plans and forecasts prepared by SANDAG. The cities and County use SANDAG's findings to develop and shape their respective general plans and land use regulations. The County and each city are required to adopt a general plan, which must be updated on a regular basis. All general plans and subsequent amendments are subject to CEQA review.

SANDAG prepared a Regional Comprehensive Plan (RCP) in 2004 to provide policy guidance on accommodating the growth projected by SANDAG. A key element of the RCP is the Integrated Regional Infrastructure Strategy (IRIS), which outlines guidance for planning the region's infrastructure. The goal of the IRIS is to ensure internal consistency with respect to long-term regional infrastructure planning to meet the needs of the growth projected by SANDAG. The IRIS addresses the energy supply and delivery system as key infrastructure elements. As the primary utility that provides electric service to approximately 3.4 million people using approximately 1.4 million meters in its service area, which includes all of San Diego County and part of Orange County, SDG&E participates in and supports this aspect of the planning process. SANDAG has been preparing long-range forecasts of population, housing, and employment since the 1970s. SANDAG's forecasts represent the changes anticipated for the region based on the best available information. The forecast is produced by using established computer models that evaluate land use, demographics, regional and local economics, and transportation patterns. SANDAG forecasts utilize a complex set of assumptions, input data, computations, and model interactions.

The latest Regional Growth Forecast (RGF) was developed for 2050 and provides an update of expected growth from the previous model that was developed for 2030. The 2050 RGF is based on data from the 2008 estimate produced by the California Department of Finance as well as updated information for all model inputs.

The 2050 RGF predicts that economic and local population growth will continue at a steady rate through 2050, although at a slightly slower rate than in the previous 40 years. These updated

projections suggest that the region will approach 4.4 million residents, 1.9 million jobs, and 1.5 million housing units by 2050.

SANDAG does not consider the availability of energy as a driver of growth; however, its regional growth model recognizes the investment in energy infrastructure as necessary to support the implementation of the RCP. Only local government entities with jurisdiction over land use approvals can either directly cause or prevent growth. How and where development occurs within SDG&E's service area is dictated by the land use agencies with this authority. SDG&E responds to such development.

Proposed Project and Growth

The objectives of the Proposed Project are to increase fire safety and service reliability, minimize environmental impacts, and utilize existing utility corridors when feasible. The Proposed Project will not increase capacity or extend service into previously unserved areas that will directly or indirectly allow for an increase in population growth or population density. The Proposed Project will only serve to supply existing demand and improve fire safety and reliability while decreasing the operations and maintenance requirements of the existing facilities.

The Proposed Project will accommodate existing power demands within SDG&E's service territory, as well as those based on state and locally adopted plans and projections. SDG&E responds to projected development and forecasts, rather than inducing growth by extending infrastructure for future unplanned development. Therefore, the Proposed Project will not induce population growth or increase demand for housing in the vicinity of the Proposed Project.

5.4 REFERENCES

SANDAG. 2004. *Regional Comprehensive Plan for the San Diego Region*.

SANDAG. 2015. Series 12: 2050 Regional Growth Forecast – Historical Projection. Online. http://www.sandag.org/2050forecast. Site visited July 2, 2015.

Appendix E

Air Quality and Greenhouse Gas Emissions Evaluations

Note: This appendix presents construction emissions calculations. Refer to the PEA for operational emissions.

SDG&E Wood to Steel

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - updated construction duration and phases based on P.D.

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Trips and VMT - Assume max 1-way worker trips (36) for all phases, except where addl worker trips listed in PEA Attach G. Modified trips and lengths on Att. G. for each construction phase, added water truck haul trips (1036) among phases.

On-road Fugitive Dust - Assumed 95% Paved Road travel for trucks

Grading - Source: PEA Attachment I - Imported and Exported Materials. Total square feet of each phase converted to acres of disturbance. 10 acre staging area base on Main St. and Otay in Proj. Descrip.

Construction Off-road Equipment Mitigation - Tier 3 Offroad Equipment; Water twice daily; Unpaved Road moisture content of 12% and speed limit of 15 mph

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	13.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstructionPhase	NumDays	0.00	63.00
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tblConstructionPhase	NumDays	0.00	26.00
tblConstructionPhase	PhaseEndDate	3/29/2017	3/24/2017
tblConstructionPhase	PhaseEndDate	3/31/2017	11/25/2016
tblConstructionPhase	PhaseEndDate	5/3/2017	2/3/2017
tblConstructionPhase	PhaseEndDate	11/30/2016	1/4/2017
tblConstructionPhase	PhaseStartDate	1/5/2017	1/1/2017
tblConstructionPhase	PhaseStartDate	2/4/2017	10/1/2016
tblConstructionPhase	PhaseStartDate	12/29/2016	10/1/2016

tblConstructionPhase	PhaseStartDate	11/26/2016	1/1/2017
tblGrading	AcresOfGrading	0.00	0.20
tblGrading	AcresOfGrading	3.75	10.00
tblGrading	AcresOfGrading	0.00	2.71
tblGrading	AcresOfGrading	0.00	0.64
tblGrading	AcresOfGrading	9.75	13.00
tblGrading	MaterialExported	0.00	55.00
tblGrading	MaterialExported	0.00	898.00
tblGrading	MaterialExported	0.00	839.00
tblOffRoadEquipment	HorsePower	171.00	87.00
tblOffRoadEquipment	HorsePower	100.00	89.00
tblOffRoadEquipment	HorsePower	100.00	89.00
tblOffRoadEquipment	LoadFactor	0.42	0.34
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
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tblOffRoadEquipment	PhaseName		Direct Bury Pole Installation
tblOffRoadEquipment	PhaseName		Micro-pile Foundation Construction

tblOffRoadEquipment	PhaseName		Pier Foundation
tblOffRoadEquipment	PhaseName		Direct Bury Pole Installation
tblOffRoadEquipment	PhaseName		Micro-pile Foundation Construction
tblOffRoadEquipment	PhaseName		Stringing Activities
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tblOffRoadEquipment	PhaseName		Micro-pile Foundation Construction
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tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00

tblOffRoadEquipment	UsageHours	8.00	7.00
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	95.00
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tblOnRoadDust	HaulingPercentPave	100.00	95.00
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tblOnRoadDust	VendorPercentPave	100.00	95.00
tblOnRoadDust	VendorPercentPave	100.00	95.00
tblOnRoadDust	VendorPercentPave	100.00	95.00
tblOnRoadDust	VendorPercentPave	100.00	95.00
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tblTripsAndVMT	HaulingTripNumber	112.00	210.00
tblTripsAndVMT	HaulingTripNumber	105.00	718.00
tblTripsAndVMT	HaulingTripNumber	7.00	14.00
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tblTripsAndVMT	HaulingVehicleClass		HHDT
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tblTripsAndVMT	VendorTripLength	7.30	30.00
tblTripsAndVMT	VendorTripLength	7.30	30.00
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
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tblTripsAndVMT	WorkerTripNumber	5.00	36.00

tblTripsAndVMT	WorkerTripNumber	0.00	38.00
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tblTripsAndVMT	WorkerVehicleClass		LD_Mix
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tblTripsAndVMT	WorkerVehicleClass		LD_Mix

2.0 Emissions Summary

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					
2016	0.3649	3.9977	2.3548	6.0800e-003	1.9229	0.1717	2.0945	0.2077	0.1612	0.3690	0.0000	548.3431	548.3431	0.1142	0.0000	550.7412
2017	0.1977	2.2046	1.3302	3.4000e-003	1.7852	0.0914	1.8765	0.1896	0.0845	0.2741	0.0000	301.1844	301.1844	0.0628	0.0000	302.5022
Total	**0.5626**	**6.2023**	**3.6850**	**9.4800e-003**	**3.7081**	**0.2630**	**3.9711**	**0.3973**	**0.2457**	**0.6430**	**0.0000**	**849.5275**	**849.5275**	**0.1769**	**0.0000**	**853.2434**

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					
2016	0.1417	2.4524	3.0185	6.0800e-003	0.6873	0.1019	0.7892	0.0841	0.1015	0.1856	0.0000	548.3427	548.3427	0.1142	0.0000	550.7407
2017	0.0775	1.2997	1.6079	3.4000e-003	0.6253	0.0516	0.6769	0.0735	0.0513	0.1248	0.0000	301.1841	301.1841	0.0628	0.0000	302.5020
Total	**0.2192**	**3.7521**	**4.6264**	**9.4800e-003**	**1.3126**	**0.1534**	**1.4661**	**0.1577**	**0.1528**	**0.3104**	**0.0000**	**849.5268**	**849.5268**	**0.1769**	**0.0000**	**853.2426**

	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	N20	CO2e
Percent Reduction	**61.04**	**39.51**	**-25.55**	**0.00**	**64.60**	**41.66**	**63.08**	**60.31**	**37.84**	**51.73**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	0.0000					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**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					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**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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	N20	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	Staging Yard Setup	Site Preparation	9/23/2016	9/30/2016	5	6	
2	Pier Foundation	Site Preparation	10/1/2016	12/28/2016	5	63	
3	Direct Bury Pole Installation	Site Preparation	10/1/2016	2/3/2017	5	90	
4	Micro-pile Foundation Construction	Grading	10/1/2016	11/25/2016	5	40	
5	Trench Undrgound Cables	Trenching	1/1/2017	1/4/2017	5	3	
6	Stringing Activities	Building Construction	1/1/2017	3/24/2017	5	60	
7	Demobilization/Road Refresh	Site Preparation	3/25/2017	5/1/2017	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Staging Yard Setup	Graders	2	5.00	174	0.41
Staging Yard Setup	Off-Highway Trucks	2	4.00	400	0.38
Staging Yard Setup	Other Construction Equipment	2	4.00	171	0.42
Staging Yard Setup	Skid Steer Loaders	1	5.00	64	0.37
Staging Yard Setup	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Pier Foundation	Air Compressors	2	3.00	78	0.48
Pier Foundation	Bore/Drill Rigs	2	7.00	205	0.50

Pier Foundation	Cranes	2	3.00	226	0.29
Pier Foundation	Generator Sets	2	4.00	84	0.74
Pier Foundation	Graders	0	8.00	174	0.41
Pier Foundation	Off-Highway Trucks	4	3.00	400	0.38
Pier Foundation	Pumps	1	2.00	84	0.74
Pier Foundation	Rough Terrain Forklifts	2	3.00	89	0.20
Pier Foundation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Direct Bury Pole Installation	Aerial Lifts	3	5.00	62	0.31
Direct Bury Pole Installation	Air Compressors	2	3.00	78	0.48
Direct Bury Pole Installation	Bore/Drill Rigs	3	7.00	205	0.50
Direct Bury Pole Installation	Cranes	3	5.00	226	0.29
Direct Bury Pole Installation	Graders	0	8.00	174	0.41
Direct Bury Pole Installation	Off-Highway Trucks	2	4.00	400	0.38
Direct Bury Pole Installation	Pumps	1	2.00	84	0.74
Direct Bury Pole Installation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Micro-pile Foundation Construction	Air Compressors	2	3.00	78	0.48
Micro-pile Foundation Construction	Bore/Drill Rigs	2	7.00	205	0.50
Micro-pile Foundation Construction	Concrete/Industrial Saws	0	8.00	81	0.73
Micro-pile Foundation Construction	Cranes	2	3.00	226	0.29
Micro-pile Foundation Construction	Generator Sets	2	4.00	84	0.74
Micro-pile Foundation Construction	Off-Highway Trucks	1	3.00	400	0.38
Micro-pile Foundation Construction	Pumps	1	2.00	84	0.74
Micro-pile Foundation Construction	Rough Terrain Forklifts	2	2.00	89	0.20
Micro-pile Foundation Construction	Rubber Tired Dozers	0	1.00	255	0.40
Micro-pile Foundation Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trench Undrgound Cables	Pumps	1	2.00	84	0.74
Trench Undrgound Cables	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Stringing Activities	Aerial Lifts	3	8.00	62	0.31

Stringing Activities	Concrete/Industrial Saws	1	2.00	81	0.73
Stringing Activities	Cranes	3	7.00	226	0.29
Stringing Activities	Forklifts	0	6.00	89	0.20
Stringing Activities	Off-Highway Trucks	2	5.00	400	0.38
Stringing Activities	Other Construction Equipment	1	6.00	87	0.34
Stringing Activities	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demobilization/Road Refresh	Graders	1	6.00	174	0.41
Demobilization/Road Refresh	Off-Highway Trucks	2	4.50	400	0.38
Demobilization/Road Refresh	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Staging Yard Setup	8	37.00	5.00	42.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Pier Foundation	16	36.00	5.00	210.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Direct Bury Pole Installation	15	36.00	5.00	718.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Micro-pile Foundation Construction	12	38.00	5.00	14.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Trench Undrgound Cables	2	36.00	5.00	2.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Stringing Activities	10	38.00	5.00	294.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Demobilization/Road Refresh	4	38.00	5.00	156.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Staging Yard Setup - 2016

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					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3600e-003	0.1012	0.0526	9.0000e-005		5.1100e-003	5.1100e-003		4.7000e-003	4.7000e-003	0.0000	8.4667	8.4667	2.5500e-003	0.0000	8.5203
Total	**9.3600e-003**	**0.1012**	**0.0526**	**9.0000e-005**	**5.3000e-003**	**5.1100e-003**	**0.0104**	**5.7000e-004**	**4.7000e-003**	**5.2700e-003**	**0.0000**	**8.4667**	**8.4667**	**2.5500e-003**	**0.0000**	**8.5203**

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	5.5000e-004	8.9100e-003	5.7200e-003	2.0000e-005	0.0418	1.2000e-004	0.0419	4.2600e-003	1.1000e-004	4.3700e-003	0.0000	2.1350	2.1350	1.0000e-005	0.0000	2.1353
Vendor	3.4000e-004	5.0400e-003	3.1100e-003	1.0000e-005	0.0299	9.0000e-005	0.0300	3.0500e-003	8.0000e-005	3.1300e-003	0.0000	1.2570	1.2570	1.0000e-005	0.0000	1.2572
Worker	5.8000e-004	1.2900e-003	0.0117	3.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	2.2627	2.2627	1.2000e-004	0.0000	2.2651
Total	**1.4700e-003**	**0.0152**	**0.0206**	**6.0000e-005**	**0.0741**	**2.3000e-004**	**0.0744**	**7.9700e-003**	**2.1000e-004**	**8.1700e-003**	**0.0000**	**5.6547**	**5.6547**	**1.4000e-004**	**0.0000**	**5.6576**

3.2 Staging Yard Setup - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2000e-003	0.0432	0.0588	9.0000e-005		1.9900e-003	1.9900e-003		1.9900e-003	1.9900e-003	0.0000	8.4667	8.4667	2.5500e-003	0.0000	8.5203
Total	**2.2000e-003**	**0.0432**	**0.0588**	**9.0000e-005**	**2.3900e-003**	**1.9900e-003**	**4.3800e-003**	**2.6000e-004**	**1.9900e-003**	**2.2500e-003**	**0.0000**	**8.4667**	**8.4667**	**2.5500e-003**	**0.0000**	**8.5203**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.5000e-004	8.9100e-003	5.7200e-003	2.0000e-005	0.0139	1.2000e-004	0.0140	1.4700e-003	1.1000e-004	1.5800e-003	0.0000	2.1350	2.1350	1.0000e-005	0.0000	2.1353
Vendor	3.4000e-004	5.0400e-003	3.1100e-003	1.0000e-005	9.9400e-003	9.0000e-005	0.0100	1.0600e-003	8.0000e-005	1.1400e-003	0.0000	1.2570	1.2570	1.0000e-005	0.0000	1.2572
Worker	5.8000e-004	1.2900e-003	0.0117	3.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	2.2627	2.2627	1.2000e-004	0.0000	2.2651
Total	**1.4700e-003**	**0.0152**	**0.0206**	**6.0000e-005**	**0.0263**	**2.3000e-004**	**0.0265**	**3.1900e-003**	**2.1000e-004**	**3.3900e-003**	**0.0000**	**5.6547**	**5.6547**	**1.4000e-004**	**0.0000**	**5.6576**

3.3 Pier Foundation - 2016

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					1.5000e-003	0.0000	1.5000e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1293	1.3874	0.7231	1.7100e-003		0.0651	0.0651		0.0615	0.0615	0.0000	158.3511	158.3511	0.0416	0.0000	159.2254
Total	**0.1293**	**1.3874**	**0.7231**	**1.7100e-003**	**1.5000e-003**	**0.0651**	**0.0666**	**1.6000e-004**	**0.0615**	**0.0617**	**0.0000**	**158.3511**	**158.3511**	**0.0416**	**0.0000**	**159.2254**

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	2.7700e-003	0.0445	0.0286	1.2000e-004	0.2090	6.0000e-004	0.2096	0.0213	5.5000e-004	0.0219	0.0000	10.6749	10.6749	7.0000e-005	0.0000	10.6765
Vendor	3.5900e-003	0.0529	0.0327	1.4000e-004	0.3137	9.0000e-004	0.3146	0.0321	8.3000e-004	0.0329	0.0000	13.1988	13.1988	9.0000e-005	0.0000	13.2007
Worker	5.9800e-003	0.0132	0.1200	3.1000e-004	0.0252	1.8000e-004	0.0254	6.7000e-003	1.6000e-004	6.8700e-003	0.0000	23.1165	23.1165	1.1800e-003	0.0000	23.1412
Total	**0.0123**	**0.1106**	**0.1813**	**5.7000e-004**	**0.5479**	**1.6800e-003**	**0.5496**	**0.0601**	**1.5400e-003**	**0.0616**	**0.0000**	**46.9902**	**46.9902**	**1.3400e-003**	**0.0000**	**47.0184**

3.3 Pier Foundation - 2016

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					6.8000e-004	0.0000	6.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0405	0.8176	0.9689	1.7100e-003		0.0384	0.0384		0.0384	0.0384	0.0000	158.3509	158.3509	0.0416	0.0000	159.2253
Total	**0.0405**	**0.8176**	**0.9689**	**1.7100e-003**	**6.8000e-004**	**0.0384**	**0.0391**	**7.0000e-005**	**0.0384**	**0.0385**	**0.0000**	**158.3509**	**158.3509**	**0.0416**	**0.0000**	**159.2253**

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	2.7700e-003	0.0445	0.0286	1.2000e-004	0.0695	6.0000e-004	0.0701	7.3600e-003	5.5000e-004	7.9100e-003	0.0000	10.6749	10.6749	7.0000e-005	0.0000	10.6765
Vendor	3.5900e-003	0.0529	0.0327	1.4000e-004	0.1044	9.0000e-004	0.1053	0.0111	8.3000e-004	0.0120	0.0000	13.1988	13.1988	9.0000e-005	0.0000	13.2007
Worker	5.9800e-003	0.0132	0.1200	3.1000e-004	0.0252	1.8000e-004	0.0254	6.7000e-003	1.6000e-004	6.8700e-003	0.0000	23.1165	23.1165	1.1800e-003	0.0000	23.1412
Total	**0.0123**	**0.1106**	**0.1813**	**5.7000e-004**	**0.1991**	**1.6800e-003**	**0.2008**	**0.0252**	**1.5400e-003**	**0.0267**	**0.0000**	**46.9902**	**46.9902**	**1.3400e-003**	**0.0000**	**47.0184**

3.4 Direct Bury Pole Installation - 2016

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					4.0000e-004	0.0000	4.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1347	1.5859	0.7482	1.8600e-003		0.0688	0.0688		0.0640	0.0640	0.0000	173.6881	173.6881	0.0499	0.0000	174.7365
Total	**0.1347**	**1.5859**	**0.7482**	**1.8600e-003**	**4.0000e-004**	**0.0688**	**0.0692**	**5.0000e-005**	**0.0640**	**0.0641**	**0.0000**	**173.6881**	**173.6881**	**0.0499**	**0.0000**	**174.7365**

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	6.8500e-003	0.1100	0.0706	2.9000e-004	0.7139	1.4800e-003	0.7154	0.0726	1.3600e-003	0.0740	0.0000	26.3597	26.3597	1.8000e-004	0.0000	26.3635
Vendor	3.7000e-003	0.0546	0.0337	1.5000e-004	0.3236	9.3000e-004	0.3245	0.0331	8.5000e-004	0.0339	0.0000	13.6178	13.6178	1.0000e-004	0.0000	13.6198
Worker	6.1700e-003	0.0136	0.1238	3.1000e-004	0.0260	1.8000e-004	0.0262	6.9200e-003	1.7000e-004	7.0900e-003	0.0000	23.8504	23.8504	1.2100e-003	0.0000	23.8758
Total	**0.0167**	**0.1781**	**0.2281**	**7.5000e-004**	**1.0636**	**2.5900e-003**	**1.0662**	**0.1126**	**2.3800e-003**	**0.1150**	**0.0000**	**63.8278**	**63.8278**	**1.4900e-003**	**0.0000**	**63.8592**

3.4 Direct Bury Pole Installation - 2016

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					1.8000e-004	0.0000	1.8000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0451	0.8978	1.0462	1.8600e-003		0.0397	0.0397		0.0397	0.0397	0.0000	173.6879	173.6879	0.0499	0.0000	174.7363
Total	**0.0451**	**0.8978**	**1.0462**	**1.8600e-003**	**1.8000e-004**	**0.0397**	**0.0398**	**2.0000e-005**	**0.0397**	**0.0397**	**0.0000**	**173.6879**	**173.6879**	**0.0499**	**0.0000**	**174.7363**

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	6.8500e-003	0.1100	0.0706	2.9000e-004	0.2370	1.4800e-003	0.2385	0.0249	1.3600e-003	0.0263	0.0000	26.3597	26.3597	1.8000e-004	0.0000	26.3635
Vendor	3.7000e-003	0.0546	0.0337	1.5000e-004	0.1077	9.3000e-004	0.1087	0.0115	8.5000e-004	0.0123	0.0000	13.6178	13.6178	1.0000e-004	0.0000	13.6198
Worker	6.1700e-003	0.0136	0.1238	3.1000e-004	0.0260	1.8000e-004	0.0262	6.9200e-003	1.7000e-004	7.0900e-003	0.0000	23.8504	23.8504	1.2100e-003	0.0000	23.8758
Total	**0.0167**	**0.1781**	**0.2281**	**7.5000e-004**	**0.3707**	**2.5900e-003**	**0.3733**	**0.0433**	**2.3800e-003**	**0.0457**	**0.0000**	**63.8278**	**63.8278**	**1.4900e-003**	**0.0000**	**63.8592**

3.4 Direct Bury Pole Installation - 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					4.0000e-004	0.0000	4.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0470	0.5464	0.2754	7.1000e-004		0.0232	0.0232		0.0216	0.0216	0.0000	65.8154	65.8154	0.0191	0.0000	66.2172
Total	**0.0470**	**0.5464**	**0.2754**	**7.1000e-004**	**4.0000e-004**	**0.0232**	**0.0236**	**5.0000e-005**	**0.0216**	**0.0217**	**0.0000**	**65.8154**	**65.8154**	**0.0191**	**0.0000**	**66.2172**

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	2.4700e-003	0.0377	0.0260	1.1000e-004	0.7129	5.0000e-004	0.7134	0.0723	4.6000e-004	0.0727	0.0000	9.9657	9.9657	7.0000e-005	0.0000	9.9672
Vendor	1.3100e-003	0.0186	0.0121	6.0000e-005	0.1245	3.1000e-004	0.1248	0.0127	2.9000e-004	0.0130	0.0000	5.1490	5.1490	3.0000e-005	0.0000	5.1497
Worker	2.1000e-003	4.7500e-003	0.0429	1.2000e-004	0.0100	7.0000e-005	0.0101	2.6600e-003	6.0000e-005	2.7200e-003	0.0000	8.8186	8.8186	4.3000e-004	0.0000	8.8276
Total	**5.8800e-003**	**0.0610**	**0.0809**	**2.9000e-004**	**0.8474**	**8.8000e-004**	**0.8483**	**0.0876**	**8.1000e-004**	**0.0885**	**0.0000**	**23.9333**	**23.9333**	**5.3000e-004**	**0.0000**	**23.9445**

3.4 Direct Bury Pole Installation - 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					1.8000e-004	0.0000	1.8000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0173	0.3453	0.4024	7.1000e-004		0.0153	0.0153		0.0153	0.0153	0.0000	65.8153	65.8153	0.0191	0.0000	66.2172
Total	**0.0173**	**0.3453**	**0.4024**	**7.1000e-004**	**1.8000e-004**	**0.0153**	**0.0154**	**2.0000e-005**	**0.0153**	**0.0153**	**0.0000**	**65.8153**	**65.8153**	**0.0191**	**0.0000**	**66.2172**

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	2.4700e-003	0.0377	0.0260	1.1000e-004	0.2360	5.0000e-004	0.2365	0.0246	4.6000e-004	0.0250	0.0000	9.9657	9.9657	7.0000e-005	0.0000	9.9672
Vendor	1.3100e-003	0.0186	0.0121	6.0000e-005	0.0414	3.1000e-004	0.0417	4.4200e-003	2.9000e-004	4.7000e-003	0.0000	5.1490	5.1490	3.0000e-005	0.0000	5.1497
Worker	2.1000e-003	4.7500e-003	0.0429	1.2000e-004	0.0100	7.0000e-005	0.0101	2.6600e-003	6.0000e-005	2.7200e-003	0.0000	8.8186	8.8186	4.3000e-004	0.0000	8.8276
Total	**5.8800e-003**	**0.0610**	**0.0809**	**2.9000e-004**	**0.2874**	**8.8000e-004**	**0.2883**	**0.0316**	**8.1000e-004**	**0.0324**	**0.0000**	**23.9333**	**23.9333**	**5.3000e-004**	**0.0000**	**23.9445**

3.5 Micro-pile Foundation Construction - 2016

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					1.1000e-004	0.0000	1.1000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0545	0.5737	0.2979	7.3000e-004		0.0274	0.0274		0.0262	0.0262	0.0000	66.7802	66.7802	0.0163	0.0000	67.1214
Total	**0.0545**	**0.5737**	**0.2979**	**7.3000e-004**	**1.1000e-004**	**0.0274**	**0.0275**	**1.0000e-005**	**0.0262**	**0.0262**	**0.0000**	**66.7802**	**66.7802**	**0.0163**	**0.0000**	**67.1214**

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	1.8000e-004	2.9700e-003	1.9100e-003	1.0000e-005	0.0139	4.0000e-005	0.0140	1.4200e-003	4.0000e-005	1.4600e-003	0.0000	0.7117	0.7117	0.0000	0.0000	0.7118
Vendor	2.2800e-003	0.0336	0.0208	9.0000e-005	0.1991	5.7000e-004	0.1997	0.0204	5.3000e-004	0.0209	0.0000	8.3802	8.3802	6.0000e-005	0.0000	8.3814
Worker	4.0000e-003	8.8200e-003	0.0804	2.0000e-004	0.0169	1.2000e-004	0.0170	4.4900e-003	1.1000e-004	4.6000e-003	0.0000	15.4925	15.4925	7.9000e-004	0.0000	15.5091
Total	**6.4600e-003**	**0.0454**	**0.1031**	**3.0000e-004**	**0.2300**	**7.3000e-004**	**0.2307**	**0.0263**	**6.8000e-004**	**0.0269**	**0.0000**	**24.5844**	**24.5844**	**8.5000e-004**	**0.0000**	**24.6023**

3.5 Micro-pile Foundation Construction - 2016

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					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
Off-Road	0.0169	0.3445	0.4115	7.3000e-004		0.0166	0.0166		0.0166	0.0166	0.0000	66.7801	66.7801	0.0163	0.0000	67.1214
Total	**0.0169**	**0.3445**	**0.4115**	**7.3000e-004**	**5.0000e-005**	**0.0166**	**0.0167**	**1.0000e-005**	**0.0166**	**0.0166**	**0.0000**	**66.7801**	**66.7801**	**0.0163**	**0.0000**	**67.1214**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8000e-004	2.9700e-003	1.9100e-003	1.0000e-005	4.6300e-003	4.0000e-005	4.6700e-003	4.9000e-004	4.0000e-005	5.3000e-004	0.0000	0.7117	0.7117	0.0000	0.0000	0.7118
Vendor	2.2800e-003	0.0336	0.0208	9.0000e-005	0.0663	5.7000e-004	0.0669	7.0700e-003	5.3000e-004	7.5900e-003	0.0000	8.3802	8.3802	6.0000e-005	0.0000	8.3814
Worker	4.0000e-003	8.8200e-003	0.0804	2.0000e-004	0.0169	1.2000e-004	0.0170	4.4900e-003	1.1000e-004	4.6000e-003	0.0000	15.4925	15.4925	7.9000e-004	0.0000	15.5091
Total	**6.4600e-003**	**0.0454**	**0.1031**	**3.0000e-004**	**0.0878**	**7.3000e-004**	**0.0886**	**0.0121**	**6.8000e-004**	**0.0127**	**0.0000**	**24.5844**	**24.5844**	**8.5000e-004**	**0.0000**	**24.6023**

3.6 Trench Undrgound Cables - 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	6.4000e-004	5.6900e-003	4.5800e-003	1.0000e-005		4.2000e-004	4.2000e-004		3.9000e-004	3.9000e-004	0.0000	0.5909	0.5909	1.3000e-004	0.0000	0.5937
Total	**6.4000e-004**	**5.6900e-003**	**4.5800e-003**	**1.0000e-005**		**4.2000e-004**	**4.2000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**0.5909**	**0.5909**	**1.3000e-004**	**0.0000**	**0.5937**

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	2.0000e-005	3.8000e-004	2.6000e-004	0.0000	1.9900e-003	1.0000e-005	2.0000e-003	2.0000e-004	0.0000	2.1000e-004	0.0000	0.0999	0.0999	0.0000	0.0000	0.1000
Vendor	1.6000e-004	2.2300e-003	1.4500e-003	1.0000e-005	0.0149	4.0000e-005	0.0150	1.5300e-003	3.0000e-005	1.5600e-003	0.0000	0.6179	0.6179	0.0000	0.0000	0.6180
Worker	2.5000e-004	5.7000e-004	5.1400e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0582	1.0582	5.0000e-005	0.0000	1.0593
Total	**4.3000e-004**	**3.1800e-003**	**6.8500e-003**	**2.0000e-005**	**0.0181**	**6.0000e-005**	**0.0182**	**2.0500e-003**	**4.0000e-005**	**2.1000e-003**	**0.0000**	**1.7760**	**1.7760**	**5.0000e-005**	**0.0000**	**1.7772**

3.6 Trench Undrgound Cables - 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	1.5000e-004	3.4000e-003	4.6000e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.5909	0.5909	1.3000e-004	0.0000	0.5937
Total	**1.5000e-004**	**3.4000e-003**	**4.6000e-003**	**1.0000e-005**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.5909**	**0.5909**	**1.3000e-004**	**0.0000**	**0.5937**

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	2.0000e-005	3.8000e-004	2.6000e-004	0.0000	6.6000e-004	1.0000e-005	6.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0999	0.0999	0.0000	0.0000	0.1000
Vendor	1.6000e-004	2.2300e-003	1.4500e-003	1.0000e-005	4.9700e-003	4.0000e-005	5.0100e-003	5.3000e-004	3.0000e-005	5.6000e-004	0.0000	0.6179	0.6179	0.0000	0.0000	0.6180
Worker	2.5000e-004	5.7000e-004	5.1400e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0582	1.0582	5.0000e-005	0.0000	1.0593
Total	**4.3000e-004**	**3.1800e-003**	**6.8500e-003**	**2.0000e-005**	**6.8300e-003**	**6.0000e-005**	**6.8900e-003**	**9.2000e-004**	**4.0000e-005**	**9.6000e-004**	**0.0000**	**1.7760**	**1.7760**	**5.0000e-005**	**0.0000**	**1.7772**

3.7 Stringing Activities - 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	0.1004	1.1499	0.5636	1.1900e-003		0.0511	0.0511		0.0472	0.0472	0.0000	110.0909	110.0909	0.0329	0.0000	110.7807
Total	**0.1004**	**1.1499**	**0.5636**	**1.1900e-003**		**0.0511**	**0.0511**		**0.0472**	**0.0472**	**0.0000**	**110.0909**	**110.0909**	**0.0329**	**0.0000**	**110.7807**

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	3.6400e-003	0.0555	0.0383	1.6000e-004	0.2926	7.4000e-004	0.2933	0.0298	6.8000e-004	0.0305	0.0000	14.6904	14.6904	1.0000e-004	0.0000	14.6925
Vendor	3.1400e-003	0.0446	0.0291	1.4000e-004	0.2987	7.4000e-004	0.2995	0.0305	6.8000e-004	0.0312	0.0000	12.3575	12.3575	8.0000e-005	0.0000	12.3593
Worker	5.3300e-003	0.0120	0.1086	3.1000e-004	0.0254	1.7000e-004	0.0256	6.7400e-003	1.6000e-004	6.9000e-003	0.0000	22.3403	22.3403	1.1000e-003	0.0000	22.3634
Total	**0.0121**	**0.1121**	**0.1759**	**6.1000e-004**	**0.6167**	**1.6500e-003**	**0.6183**	**0.0671**	**1.5200e-003**	**0.0686**	**0.0000**	**49.3883**	**49.3883**	**1.2800e-003**	**0.0000**	**49.4152**

3.7 Stringing Activities - 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	0.0290	0.5816	0.6833	1.1900e-003		0.0265	0.0265		0.0265	0.0265	0.0000	110.0907	110.0907	0.0329	0.0000	110.7806
Total	**0.0290**	**0.5816**	**0.6833**	**1.1900e-003**		**0.0265**	**0.0265**		**0.0265**	**0.0265**	**0.0000**	**110.0907**	**110.0907**	**0.0329**	**0.0000**	**110.7806**

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	3.6400e-003	0.0555	0.0383	1.6000e-004	0.0973	7.4000e-004	0.0980	0.0103	6.8000e-004	0.0110	0.0000	14.6904	14.6904	1.0000e-004	0.0000	14.6925
Vendor	3.1400e-003	0.0446	0.0291	1.4000e-004	0.0994	7.4000e-004	0.1002	0.0106	6.8000e-004	0.0113	0.0000	12.3575	12.3575	8.0000e-005	0.0000	12.3593
Worker	5.3300e-003	0.0120	0.1086	3.1000e-004	0.0254	1.7000e-004	0.0256	6.7400e-003	1.6000e-004	6.9000e-003	0.0000	22.3403	22.3403	1.1000e-003	0.0000	22.3634
Total	**0.0121**	**0.1121**	**0.1759**	**6.1000e-004**	**0.2221**	**1.6500e-003**	**0.2238**	**0.0276**	**1.5200e-003**	**0.0292**	**0.0000**	**49.3883**	**49.3883**	**1.2800e-003**	**0.0000**	**49.4152**

3.8 Demobilization/Road Refresh - 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					6.8900e-003	0.0000	6.8900e-003	7.4000e-004	0.0000	7.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0256	0.2725	0.1429	2.9000e-004		0.0132	0.0132		0.0122	0.0122	0.0000	26.7590	26.7590	8.2000e-003	0.0000	26.9312
Total	**0.0256**	**0.2725**	**0.1429**	**2.9000e-004**	**6.8900e-003**	**0.0132**	**0.0201**	**7.4000e-004**	**0.0122**	**0.0129**	**0.0000**	**26.7590**	**26.7590**	**8.2000e-003**	**0.0000**	**26.9312**

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	1.9300e-003	0.0295	0.0203	9.0000e-005	0.1553	3.9000e-004	0.1556	0.0158	3.6000e-004	0.0162	0.0000	7.7949	7.7949	5.0000e-005	0.0000	7.7960
Vendor	1.3600e-003	0.0193	0.0126	6.0000e-005	0.1294	3.2000e-004	0.1298	0.0132	3.0000e-004	0.0135	0.0000	5.3549	5.3549	4.0000e-005	0.0000	5.3557
Worker	2.3100e-003	5.2200e-003	0.0470	1.3000e-004	0.0110	8.0000e-005	0.0111	2.9200e-003	7.0000e-005	2.9900e-003	0.0000	9.6808	9.6808	4.7000e-004	0.0000	9.6908
Total	**5.6000e-003**	**0.0540**	**0.0800**	**2.8000e-004**	**0.2957**	**7.9000e-004**	**0.2965**	**0.0320**	**7.3000e-004**	**0.0327**	**0.0000**	**22.8307**	**22.8307**	**5.6000e-004**	**0.0000**	**22.8425**

3.8 Demobilization/Road Refresh - 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					3.1000e-003	0.0000	3.1000e-003	3.3000e-004	0.0000	3.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0400e-003	0.1392	0.1740	2.9000e-004		6.2100e-003	6.2100e-003		6.2100e-003	6.2100e-003	0.0000	26.7589	26.7589	8.2000e-003	0.0000	26.9311
Total	**7.0400e-003**	**0.1392**	**0.1740**	**2.9000e-004**	**3.1000e-003**	**6.2100e-003**	**9.3100e-003**	**3.3000e-004**	**6.2100e-003**	**6.5400e-003**	**0.0000**	**26.7589**	**26.7589**	**8.2000e-003**	**0.0000**	**26.9311**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0295	0.0203	9.0000e-005	0.0516	3.9000e-004	0.0520	5.4700e-003	3.6000e-004	5.8300e-003	0.0000	7.7949	7.7949	5.0000e-005	0.0000	7.7960
Vendor	1.3600e-003	0.0193	0.0126	6.0000e-005	0.0431	3.2000e-004	0.0434	4.5900e-003	3.0000e-004	4.8900e-003	0.0000	5.3549	5.3549	4.0000e-005	0.0000	5.3557
Worker	2.3100e-003	5.2200e-003	0.0470	1.3000e-004	0.0110	8.0000e-005	0.0111	2.9200e-003	7.0000e-005	2.9900e-003	0.0000	9.6808	9.6808	4.7000e-004	0.0000	9.6908
Total	**5.6000e-003**	**0.0540**	**0.0800**	**2.8000e-004**	**0.1057**	**7.9000e-004**	**0.1065**	**0.0130**	**7.3000e-004**	**0.0137**	**0.0000**	**22.8307**	**22.8307**	**5.6000e-004**	**0.0000**	**22.8425**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511818	0.073499	0.191840	0.131575	0.036332	0.005186	0.012677	0.022513	0.001864	0.002072	0.006564	0.000601	0.003458

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	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**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	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**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

10.0 Vegetation

SDG&E Wood to Steel

San Diego County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Demobilization/Road Refresh	0.60	0.41	-0.14	0.00	0.50	0.46	0.00	0.00	0.00	0.00	0.00	0.00
Direct Bury Pole Installation	0.58	0.37	-0.32	0.00	0.39	0.35	0.00	0.00	0.00	0.00	0.00	0.00
Micro-pile Foundation Construction	0.62	0.37	-0.28	0.00	0.38	0.36	0.00	0.00	0.00	0.00	0.00	0.00
Pier Foundation	0.63	0.38	-0.27	0.00	0.40	0.37	0.00	0.00	0.00	0.00	0.00	0.00
Staging Yard Setup	0.66	0.50	-0.08	0.00	0.58	0.55	0.00	0.00	0.00	0.00	0.00	0.00
Stringing Activities	0.63	0.45	-0.16	0.00	0.47	0.43	0.00	0.00	0.00	0.00	0.00	0.00
Trench Undrgound Cables	0.46	0.26	0.00	0.00	0.38	0.35	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Aerial Lifts	Diesel	Tier 3	6	6	No Change	0.00
Air Compressors	Diesel	Tier 3	6	6	No Change	0.00
Bore/Drill Rigs	Diesel	Tier 3	7	7	No Change	0.00
Concrete/Industrial Saws	Diesel	Tier 3	1	1	No Change	0.00
Cranes	Diesel	Tier 3	10	10	No Change	0.00
Forklifts	Diesel	No Change	0	0	No Change	0.00
Generator Sets	Diesel	Tier 3	4	4	No Change	0.00
Graders	Diesel	Tier 3	3	3	No Change	0.00
Off-Highway Trucks	Diesel	Tier 3	13	13	No Change	0.00
Other Construction Equipment	Diesel	Tier 3	3	3	No Change	0.00
Pumps	Diesel	Tier 3	4	4	No Change	0.00
Rough Terrain Forklifts	Diesel	Tier 3	4	4	No Change	0.00
Rubber Tired Dozers	Diesel	No Change	0	0	No Change	0.00
Skid Steer Loaders	Diesel	Tier 3	1	1	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	Tier 3	5	5	No Change	0.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Aerial Lifts	8.91000E-003	1.47120E-001	1.88570E-001	2.90000E-004	5.52000E-003	5.08000E-003	0.00000E+000	2.68705E+001	2.68705E+001	8.19000E-003	0.00000E+000	2.70424E+001
Air Compressors	3.51000E-002	2.26580E-001	1.81600E-001	2.90000E-004	1.86800E-002	1.86800E-002	0.00000E+000	2.46389E+001	2.46389E+001	2.87000E-003	0.00000E+000	2.46991E+001
Bore/Drill Rigs	7.13600E-002	1.06998E+000	4.24710E-001	1.82000E-003	3.13200E-002	2.88100E-002	0.00000E+000	1.71062E+002	1.71062E+002	5.17200E-002	0.00000E+000	1.72148E+002
Concrete/Industrial Saws	4.36000E-003	3.19600E-002	2.81200E-002	5.00000E-005	2.30000E-003	2.30000E-003	0.00000E+000	4.03242E+000	4.03242E+000	3.50000E-004	0.00000E+000	4.03987E+000
Cranes	1.37900E-001	1.63555E+000	5.78840E-001	1.14000E-003	7.35900E-002	6.77000E-002	0.00000E+000	1.06461E+002	1.06461E+002	3.23700E-002	0.00000E+000	1.07141E+002
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	3.29200E-002	2.48990E-001	1.95860E-001	3.40000E-004	1.74500E-002	1.74500E-002	0.00000E+000	2.91082E+001	2.91082E+001	2.66000E-003	0.00000E+000	2.91641E+001
Graders	1.31100E-002	1.32930E-001	6.56500E-002	8.00000E-005	7.47000E-003	6.87000E-003	0.00000E+000	7.84886E+000	7.84886E+000	2.39000E-003	0.00000E+000	7.89914E+000
Off-Highway Trucks	1.41360E-001	1.61493E+000	7.58910E-001	2.04000E-003	6.05400E-002	5.57000E-002	0.00000E+000	1.90718E+002	1.90718E+002	5.79000E-002	0.00000E+000	1.91934E+002
Other Construction Equipment	9.93000E-003	9.33500E-002	5.83600E-002	8.00000E-005	6.74000E-003	6.20000E-003	0.00000E+000	7.03388E+000	7.03388E+000	2.15000E-003	0.00000E+000	7.07896E+000
Pumps	1.61400E-002	1.18960E-001	9.45200E-002	1.60000E-004	8.58000E-003	8.58000E-003	0.00000E+000	1.38476E+001	1.38476E+001	1.32000E-003	0.00000E+000	1.38753E+001
Rough Terrain Forklifts	3.18000E-003	4.05400E-002	3.52800E-002	5.00000E-005	2.25000E-003	2.07000E-003	0.00000E+000	4.85587E+000	4.85587E+000	1.46000E-003	0.00000E+000	4.88662E+000
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Skid Steer Loaders	2.10000E-004	2.77000E-003	2.61000E-003	0.00000E+000	1.50000E-004	1.40000E-004	0.00000E+000	3.59670E-001	3.59670E-001	1.10000E-004	0.00000E+000	3.61950E-001
Tractors/Loaders/Backhoes	2.70700E-002	2.59080E-001	1.95280E-001	2.50000E-004	1.98200E-002	1.82300E-002	0.00000E+000	2.37052E+001	2.37052E+001	7.18000E-003	0.00000E+000	2.38560E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Aerial Lifts	7.09000E-003	1.61960E-001	2.18710E-001	2.90000E-004	1.13500E-002	1.13500E-002	0.00000E+000	2.68705E+001	2.68705E+001	8.19000E-003	0.00000E+000	2.70424E+001
Air Compressors	5.73000E-003	1.30950E-001	1.76830E-001	2.90000E-004	9.18000E-003	9.18000E-003	0.00000E+000	2.46389E+001	2.46389E+001	2.87000E-003	0.00000E+000	2.46990E+001
Bore/Drill Rigs	4.51800E-002	8.73410E-001	9.78830E-001	1.82000E-003	3.31300E-002	3.31300E-002	0.00000E+000	1.71062E+002	1.71062E+002	5.17200E-002	0.00000E+000	1.72148E+002
Concrete/Industrial Saws	9.40000E-004	2.14300E-002	2.89400E-002	5.00000E-005	1.50000E-003	1.50000E-003	0.00000E+000	4.03242E+000	4.03242E+000	3.50000E-004	0.00000E+000	4.03987E+000
Cranes	2.79800E-002	5.41040E-001	6.06340E-001	1.14000E-003	2.05200E-002	2.05200E-002	0.00000E+000	1.06461E+002	1.06461E+002	3.23700E-002	0.00000E+000	1.07141E+002
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	6.78000E-003	1.54700E-001	2.08900E-001	3.40000E-004	1.08400E-002	1.08400E-002	0.00000E+000	2.91082E+001	2.91082E+001	2.66000E-003	0.00000E+000	2.91641E+001
Graders	2.04000E-003	3.94100E-002	6.28500E-002	8.00000E-005	1.90000E-003	1.90000E-003	0.00000E+000	7.84885E+000	7.84885E+000	2.39000E-003	0.00000E+000	7.89913E+000
Off-Highway Trucks	4.98200E-002	9.63240E-001	1.07950E+000	2.04000E-003	3.65400E-002	3.65400E-002	0.00000E+000	1.90718E+002	1.90718E+002	5.79000E-002	0.00000E+000	1.91934E+002
Other Construction Equipment	1.86000E-003	4.09800E-002	5.74900E-002	8.00000E-005	2.68000E-003	2.68000E-003	0.00000E+000	7.03387E+000	7.03387E+000	2.15000E-003	0.00000E+000	7.07896E+000
Pumps	3.22000E-003	7.36000E-002	9.93800E-002	1.60000E-004	5.16000E-003	5.16000E-003	0.00000E+000	1.38476E+001	1.38476E+001	1.32000E-003	0.00000E+000	1.38753E+001
Rough Terrain Forklifts	1.27000E-003	2.89200E-002	3.90600E-002	5.00000E-005	2.03000E-003	2.03000E-003	0.00000E+000	4.85586E+000	4.85586E+000	1.46000E-003	0.00000E+000	4.88662E+000
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Skid Steer Loaders	9.00000E-005	2.15000E-003	2.90000E-003	0.00000E+000	1.50000E-004	1.50000E-004	0.00000E+000	3.59670E-001	3.59670E-001	1.10000E-004	0.00000E+000	3.61950E-001
Tractors/Loaders/Backhoes	6.16000E-003	1.40700E-001	1.90000E-001	2.50000E-004	9.86000E-003	9.86000E-003	0.00000E+000	2.37051E+001	2.37051E+001	7.18000E-003	0.00000E+000	2.38560E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Aerial Lifts	2.04265E-001	-1.00870E-001	-1.59835E-001	0.00000E+000	-1.05616E+000	-1.23425E+000	0.00000E+000	1.48862E-006	1.48862E-006	0.00000E+000	0.00000E+000	1.10937E-006
Air Compressors	8.36752E-001	4.22058E-001	2.62665E-002	0.00000E+000	5.08565E-001	5.08565E-001	0.00000E+000	1.21759E-006	1.21759E-006	0.00000E+000	0.00000E+000	1.21462E-006
Bore/Drill Rigs	3.66872E-001	1.83714E-001	-1.30470E+000	0.00000E+000	-5.77905E-002	-1.49948E-001	0.00000E+000	1.22763E-006	1.22763E-006	0.00000E+000	0.00000E+000	1.16179E-006
Concrete/Industrial Saws	7.84404E-001	3.29474E-001	-2.91607E-002	0.00000E+000	3.47826E-001	3.47826E-001	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Cranes	7.97099E-001	6.69200E-001	-4.75088E-002	0.00000E+000	7.21158E-001	6.96898E-001	0.00000E+000	1.22110E-006	1.22110E-006	0.00000E+000	0.00000E+000	1.12002E-006
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Generator Sets	7.94046E-001	3.78690E-001	-6.65782E-002	0.00000E+000	3.78797E-001	3.78797E-001	0.00000E+000	1.03064E-006	1.03064E-006	0.00000E+000	0.00000E+000	1.37155E-006
Graders	8.44394E-001	7.03528E-001	4.26504E-002	0.00000E+000	7.45649E-001	7.23435E-001	0.00000E+000	1.27407E-006	1.27407E-006	0.00000E+000	0.00000E+000	1.26596E-006
Off-Highway Trucks	6.47566E-001	4.03541E-001	-4.22435E-001	0.00000E+000	3.96432E-001	3.43986E-001	0.00000E+000	1.15354E-006	1.15354E-006	0.00000E+000	0.00000E+000	1.19833E-006
Other Construction Equipment	8.12689E-001	5.61007E-001	1.49075E-002	0.00000E+000	6.02374E-001	5.67742E-001	0.00000E+000	1.42169E-006	1.42169E-006	0.00000E+000	0.00000E+000	0.00000E+000
Pumps	8.00496E-001	3.81305E-001	-5.14177E-002	0.00000E+000	3.98601E-001	3.98601E-001	0.00000E+000	7.22148E-007	7.22148E-007	0.00000E+000	0.00000E+000	1.44141E-006
Rough Terrain Forklifts	6.00629E-001	2.86630E-001	-1.07143E-001	0.00000E+000	9.77778E-002	1.93237E-002	0.00000E+000	2.05936E-006	2.05936E-006	0.00000E+000	0.00000E+000	0.00000E+000
Rubber Tired Dozers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Skid Steer Loaders	5.71429E-001	2.23827E-001	-1.11111E-001	0.00000E+000	0.00000E+000	-7.14286E-002	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000
Tractors/Loaders/Backhoes	7.72442E-001	4.56925E-001	2.70381E-002	0.00000E+000	5.02523E-001	4.59133E-001	0.00000E+000	1.26555E-006	1.26555E-006	0.00000E+000	0.00000E+000	1.25755E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input		Mitigation Input		Mitigation Input	
No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		

Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
Yes	Unpaved Road Mitigation	Moisture Content %	12.00	Vehicle Speed (mph)	15.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Demobilization/Road Refresh	Fugitive Dust	0.01	0.00	0.00	0.00	0.55	0.55
Demobilization/Road Refresh	Roads	0.30	0.03	0.11	0.01	0.64	0.59
Direct Bury Pole Installation	Fugitive Dust	0.00	0.00	0.00	0.00	0.55	0.56
Direct Bury Pole Installation	Roads	1.91	0.20	0.66	0.07	0.66	0.63
Micro-pile Foundation Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.55	0.00
Micro-pile Foundation Construction	Roads	0.23	0.03	0.09	0.01	0.62	0.54
Pier Foundation	Fugitive Dust	0.00	0.00	0.00	0.00	0.55	0.56
Pier Foundation	Roads	0.55	0.06	0.20	0.03	0.64	0.58
Staging Yard Setup	Fugitive Dust	0.01	0.00	0.00	0.00	0.55	0.54
Staging Yard Setup	Roads	0.07	0.01	0.03	0.00	0.65	0.60
Stringing Activities	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Stringing Activities	Roads	0.62	0.07	0.22	0.03	0.64	0.59
Trench Undrgound Cables	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Trench Undrgound Cables	Roads	0.02	0.00	0.01	0.00	0.62	0.55

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.00	0.15		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			

No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			
No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			

No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	250.00
No	Use Low VOC Paint (Residential Exterior)	250.00
No	Use Low VOC Paint (Non-residential Interior)	250.00
No	Use Low VOC Paint (Non-residential Exterior)	250.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00

DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	
No	Water Efficient Landscape		

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

SDG&E Wood to Steel

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - updated construction duration and phases based on P.D.

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Trips and VMT - Assume max 1-way worker trips (36) for all phases, except where addl worker trips listed in PEA Attach G. Modified trips and lengths on Att. G. for each construction phase, added water truck haul trips (1036) among phases.

On-road Fugitive Dust - Assumed 95% Paved Road travel for trucks

Grading - Source: PEA Attachment I - Imported and Exported Materials. Total square feet of each phase converted to acres of disturbance. 10 acre staging area base on Main St. and Otay in Proj. Descrip.

Construction Off-road Equipment Mitigation - Tier 3 Offroad Equipment; Water twice daily; Unpaved Road moisture content of 12% and speed limit of 15 mph

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	13.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	0.00	60.00
tblConstructionPhase	NumDays	0.00	40.00
tblConstructionPhase	NumDays	0.00	6.00
tblConstructionPhase	NumDays	0.00	63.00
tblConstructionPhase	NumDays	0.00	90.00
tblConstructionPhase	NumDays	0.00	26.00
tblConstructionPhase	PhaseEndDate	3/29/2017	3/24/2017
tblConstructionPhase	PhaseEndDate	3/31/2017	11/25/2016
tblConstructionPhase	PhaseEndDate	5/3/2017	2/3/2017
tblConstructionPhase	PhaseEndDate	11/30/2016	1/4/2017
tblConstructionPhase	PhaseStartDate	1/5/2017	1/1/2017
tblConstructionPhase	PhaseStartDate	2/4/2017	10/1/2016
tblConstructionPhase	PhaseStartDate	12/29/2016	10/1/2016

tblConstructionPhase	PhaseStartDate	11/26/2016	1/1/2017
tblGrading	AcresOfGrading	0.00	0.20
tblGrading	AcresOfGrading	3.75	10.00
tblGrading	AcresOfGrading	0.00	2.71
tblGrading	AcresOfGrading	0.00	0.64
tblGrading	AcresOfGrading	9.75	13.00
tblGrading	MaterialExported	0.00	55.00
tblGrading	MaterialExported	0.00	898.00
tblGrading	MaterialExported	0.00	839.00
tblOffRoadEquipment	HorsePower	171.00	87.00
tblOffRoadEquipment	HorsePower	100.00	89.00
tblOffRoadEquipment	HorsePower	100.00	89.00
tblOffRoadEquipment	LoadFactor	0.42	0.34
tblOffRoadEquipment	LoadFactor	0.40	0.20
tblOffRoadEquipment	LoadFactor	0.40	0.20
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Direct Bury Pole Installation
tblOffRoadEquipment	PhaseName		Stringing Activities
tblOffRoadEquipment	PhaseName		Pier Foundation
tblOffRoadEquipment	PhaseName		Direct Bury Pole Installation
tblOffRoadEquipment	PhaseName		Micro-pile Foundation Construction

tblOffRoadEquipment	PhaseName		Pier Foundation
tblOffRoadEquipment	PhaseName		Direct Bury Pole Installation
tblOffRoadEquipment	PhaseName		Micro-pile Foundation Construction
tblOffRoadEquipment	PhaseName		Stringing Activities
tblOffRoadEquipment	PhaseName		Pier Foundation
tblOffRoadEquipment	PhaseName		Direct Bury Pole Installation
tblOffRoadEquipment	PhaseName		Micro-pile Foundation Construction
tblOffRoadEquipment	PhaseName		Pier Foundation
tblOffRoadEquipment	PhaseName		Micro-pile Foundation Construction
tblOffRoadEquipment	PhaseName		Pier Foundation
tblOffRoadEquipment	PhaseName		Direct Bury Pole Installation
tblOffRoadEquipment	PhaseName		Micro-pile Foundation Construction
tblOffRoadEquipment	PhaseName		Stringing Activities
tblOffRoadEquipment	PhaseName		Demobilization/Road Refresh
tblOffRoadEquipment	PhaseName		Stringing Activities
tblOffRoadEquipment	PhaseName		Pier Foundation
tblOffRoadEquipment	PhaseName		Direct Bury Pole Installation
tblOffRoadEquipment	PhaseName		Micro-pile Foundation Construction
tblOffRoadEquipment	PhaseName		Trench Undrgound Cables
tblOffRoadEquipment	PhaseName		Pier Foundation
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tblOffRoadEquipment	PhaseName		Trench Undrgound Cables
tblOffRoadEquipment	UsageHours	4.00	7.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	7.00

tblOffRoadEquipment	UsageHours	8.00	7.00
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	HaulingPercentPave	100.00	95.00
tblOnRoadDust	VendorPercentPave	100.00	95.00
tblOnRoadDust	VendorPercentPave	100.00	95.00
tblOnRoadDust	VendorPercentPave	100.00	95.00
tblOnRoadDust	VendorPercentPave	100.00	95.00
tblOnRoadDust	VendorPercentPave	100.00	95.00
tblOnRoadDust	VendorPercentPave	100.00	95.00
tblOnRoadDust	VendorPercentPave	100.00	95.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblTripsAndVMT	HaulingTripNumber	0.00	42.00
tblTripsAndVMT	HaulingTripNumber	112.00	210.00
tblTripsAndVMT	HaulingTripNumber	105.00	718.00
tblTripsAndVMT	HaulingTripNumber	7.00	14.00
tblTripsAndVMT	HaulingTripNumber	0.00	2.00
tblTripsAndVMT	HaulingTripNumber	0.00	294.00
tblTripsAndVMT	HaulingTripNumber	0.00	156.00
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT

tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	VendorTripLength	7.30	30.00
tblTripsAndVMT	VendorTripLength	7.30	30.00
tblTripsAndVMT	VendorTripLength	7.30	30.00
tblTripsAndVMT	VendorTripLength	7.30	30.00
tblTripsAndVMT	VendorTripLength	7.30	30.00
tblTripsAndVMT	VendorTripLength	7.30	30.00
tblTripsAndVMT	VendorTripLength	7.30	30.00
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	VendorVehicleClass		HDT_Mix
tblTripsAndVMT	WorkerTripLength	10.80	30.00
tblTripsAndVMT	WorkerTripLength	10.80	30.00
tblTripsAndVMT	WorkerTripLength	10.80	30.00
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tblTripsAndVMT	WorkerTripLength	10.80	30.00
tblTripsAndVMT	WorkerTripLength	10.80	30.00
tblTripsAndVMT	WorkerTripLength	10.80	30.00
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tblTripsAndVMT	WorkerTripNumber	40.00	36.00
tblTripsAndVMT	WorkerTripNumber	38.00	36.00
tblTripsAndVMT	WorkerTripNumber	30.00	38.00
tblTripsAndVMT	WorkerTripNumber	5.00	36.00

tblTripsAndVMT	WorkerTripNumber	0.00	38.00
tblTripsAndVMT	WorkerTripNumber	10.00	38.00
tblTripsAndVMT	WorkerVehicleClass		LD_Mix
tblTripsAndVMT	WorkerVehicleClass		LD_Mix
tblTripsAndVMT	WorkerVehicleClass		LD_Mix
tblTripsAndVMT	WorkerVehicleClass		LD_Mix
tblTripsAndVMT	WorkerVehicleClass		LD_Mix
tblTripsAndVMT	WorkerVehicleClass		LD_Mix
tblTripsAndVMT	WorkerVehicleClass		LD_Mix

2.0 Emissions Summary

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					
2016	12.1910	132.3140	78.8011	0.2059	68.9474	5.7243	74.6717	7.4281	5.3891	12.8172	0.0000	20,415.2066	20,415.2066	4.1905	0.0000	20,503.2069
2017	8.6844	96.1156	60.6947	0.1612	112.4507	3.9994	116.4501	11.8252	3.7121	15.5372	0.0000	15,646.7142	15,646.7142	3.1291	0.0000	15,712.4241
Total	**20.8755**	**228.4296**	**139.4957**	**0.3671**	**181.3981**	**9.7237**	**191.1219**	**19.2533**	**9.1012**	**28.3545**	**0.0000**	**36,061.9208**	**36,061.9208**	**7.3195**	**0.0000**	**36,215.6310**

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					
2016	4.7342	81.5893	101.4551	0.2059	24.5554	3.4396	27.9950	2.9886	3.4260	6.4146	0.0000	20,415.2066	20,415.2066	4.1905	0.0000	20,503.2069
2017	3.6039	59.5598	74.8576	0.1612	38.9076	2.4207	41.3283	4.4708	2.4080	6.8788	0.0000	15,646.7142	15,646.7142	3.1291	0.0000	15,712.4241
Total	**8.3381**	**141.1491**	**176.3127**	**0.3671**	**63.4629**	**5.8603**	**69.3233**	**7.4594**	**5.8341**	**13.2934**	**0.0000**	**36,061.9207**	**36,061.9207**	**7.3195**	**0.0000**	**36,215.6310**

	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	N20	CO2e
Percent Reduction	**60.06**	**38.21**	**-26.39**	**0.00**	**65.01**	**39.73**	**63.73**	**61.26**	**35.90**	**53.12**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**			**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**			**0.0000**

	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	N20	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	Staging Yard Setup	Site Preparation	9/23/2016	9/30/2016	5	6	
2	Pier Foundation	Site Preparation	10/1/2016	12/28/2016	5	63	
3	Direct Bury Pole Installation	Site Preparation	10/1/2016	2/3/2017	5	90	
4	Micro-pile Foundation Construction	Grading	10/1/2016	11/25/2016	5	40	
5	Trench Undrgound Cables	Trenching	1/1/2017	1/4/2017	5	3	
6	Stringing Activities	Building Construction	1/1/2017	3/24/2017	5	60	
7	Demobilization/Road Refresh	Site Preparation	3/25/2017	5/1/2017	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Staging Yard Setup	Graders	2	5.00	174	0.41
Staging Yard Setup	Off-Highway Trucks	2	4.00	400	0.38
Staging Yard Setup	Other Construction Equipment	2	4.00	171	0.42
Staging Yard Setup	Skid Steer Loaders	1	5.00	64	0.37
Staging Yard Setup	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Pier Foundation	Air Compressors	2	3.00	78	0.48
Pier Foundation	Bore/Drill Rigs	2	7.00	205	0.50

Pier Foundation	Cranes	2	3.00	226	0.29
Pier Foundation	Generator Sets	2	4.00	84	0.74
Pier Foundation	Graders	0	8.00	174	0.41
Pier Foundation	Off-Highway Trucks	4	3.00	400	0.38
Pier Foundation	Pumps	1	2.00	84	0.74
Pier Foundation	Rough Terrain Forklifts	2	3.00	89	0.20
Pier Foundation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Direct Bury Pole Installation	Aerial Lifts	3	5.00	62	0.31
Direct Bury Pole Installation	Air Compressors	2	3.00	78	0.48
Direct Bury Pole Installation	Bore/Drill Rigs	3	7.00	205	0.50
Direct Bury Pole Installation	Cranes	3	5.00	226	0.29
Direct Bury Pole Installation	Graders	0	8.00	174	0.41
Direct Bury Pole Installation	Off-Highway Trucks	2	4.00	400	0.38
Direct Bury Pole Installation	Pumps	1	2.00	84	0.74
Direct Bury Pole Installation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Micro-pile Foundation Construction	Air Compressors	2	3.00	78	0.48
Micro-pile Foundation Construction	Bore/Drill Rigs	2	7.00	205	0.50
Micro-pile Foundation Construction	Concrete/Industrial Saws	0	8.00	81	0.73
Micro-pile Foundation Construction	Cranes	2	3.00	226	0.29
Micro-pile Foundation Construction	Generator Sets	2	4.00	84	0.74
Micro-pile Foundation Construction	Off-Highway Trucks	1	3.00	400	0.38
Micro-pile Foundation Construction	Pumps	1	2.00	84	0.74
Micro-pile Foundation Construction	Rough Terrain Forklifts	2	2.00	89	0.20
Micro-pile Foundation Construction	Rubber Tired Dozers	0	1.00	255	0.40
Micro-pile Foundation Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trench Undrgound Cables	Pumps	1	2.00	84	0.74
Trench Undrgound Cables	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Stringing Activities	Aerial Lifts	3	8.00	62	0.31

Stringing Activities	Concrete/Industrial Saws	1	2.00	81	0.73
Stringing Activities	Cranes	3	7.00	226	0.29
Stringing Activities	Forklifts	0	6.00	89	0.20
Stringing Activities	Off-Highway Trucks	2	5.00	400	0.38
Stringing Activities	Other Construction Equipment	1	6.00	87	0.34
Stringing Activities	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demobilization/Road Refresh	Graders	1	6.00	174	0.41
Demobilization/Road Refresh	Off-Highway Trucks	2	4.50	400	0.38
Demobilization/Road Refresh	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Staging Yard Setup	8	37.00	5.00	42.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Pier Foundation	16	36.00	5.00	210.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Direct Bury Pole Installation	15	36.00	5.00	718.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Micro-pile Foundation Construction	12	38.00	5.00	14.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Trench Undrgound Cables	2	36.00	5.00	2.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Stringing Activities	10	38.00	5.00	294.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Demobilization/Road Refresh	4	38.00	5.00	156.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Staging Yard Setup - 2016

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					1.7675	0.0000	1.7675	0.1909	0.0000	0.1909			0.0000			0.0000
Off-Road	3.1212	33.7460	17.5402	0.0299		1.7027	1.7027		1.5665	1.5665		3,110.9644	3,110.9644	0.9384		3,130.6704
Total	**3.1212**	**33.7460**	**17.5402**	**0.0299**	**1.7675**	**1.7027**	**3.4702**	**0.1909**	**1.5665**	**1.7573**		**3,110.9644**	**3,110.9644**	**0.9384**		**3,130.6704**

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	0.1756	2.8632	1.6333	7.7800e-003	15.6297	0.0400	15.6697	1.5903	0.0368	1.6272		784.9908	784.9908	5.4600e-003		785.1053
Vendor	0.1093	1.6200	0.9119	4.5900e-003	11.1695	0.0285	11.1980	1.1390	0.0262	1.1652		462.2619	462.2619	3.2600e-003		462.3304
Worker	0.2003	0.3886	4.1953	0.0105	0.8437	5.8200e-003	0.8495	0.2237	5.3500e-003	0.2290		877.1462	877.1462	0.0423		878.0342
Total	**0.4853**	**4.8718**	**6.7405**	**0.0229**	**27.6428**	**0.0744**	**27.7172**	**2.9530**	**0.0684**	**3.0214**		**2,124.3989**	**2,124.3989**	**0.0510**		**2,125.4699**

3.2 Staging Yard Setup - 2016

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					0.7954	0.0000	0.7954	0.0859	0.0000	0.0859			0.0000			0.0000
Off-Road	0.7317	14.3895	19.6130	0.0299		0.6648	0.6648		0.6648	0.6648	0.0000	3,110.9644	3,110.9644	0.9384		3,130.6703
Total	**0.7317**	**14.3895**	**19.6130**	**0.0299**	**0.7954**	**0.6648**	**1.4602**	**0.0859**	**0.6648**	**0.7507**	**0.0000**	**3,110.9644**	**3,110.9644**	**0.9384**		**3,130.6703**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1756	2.8632	1.6333	7.7800e-003	5.1854	0.0400	5.2254	0.5459	0.0368	0.5827		784.9908	784.9908	5.4600e-003		785.1053
Vendor	0.1093	1.6200	0.9119	4.5900e-003	3.7092	0.0285	3.7377	0.3929	0.0262	0.4192		462.2619	462.2619	3.2600e-003		462.3304
Worker	0.2003	0.3886	4.1953	0.0105	0.8437	5.8200e-003	0.8495	0.2237	5.3500e-003	0.2290		877.1462	877.1462	0.0423		878.0342
Total	**0.4853**	**4.8718**	**6.7405**	**0.0229**	**9.7382**	**0.0744**	**9.8126**	**1.1625**	**0.0684**	**1.2309**		**2,124.3989**	**2,124.3989**	**0.0510**		**2,125.4699**

3.3 Pier Foundation - 2016

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					0.0476	0.0000	0.0476	5.2300e-003	0.0000	5.2300e-003			0.0000			0.0000
Off-Road	4.1059	44.0444	22.9544	0.0543		2.0679	2.0679		1.9524	1.9524		5,541.3411	5,541.3411	1.4569		5,571.9364
Total	**4.1059**	**44.0444**	**22.9544**	**0.0543**	**0.0476**	**2.0679**	**2.1155**	**5.2300e-003**	**1.9524**	**1.9576**		**5,541.3411**	**5,541.3411**	**1.4569**		**5,571.9364**

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	0.0836	1.3634	0.7778	3.7100e-003	7.4427	0.0191	7.4618	0.7573	0.0175	0.7748		373.8051	373.8051	2.6000e-003		373.8597
Vendor	0.1093	1.6200	0.9119	4.5900e-003	11.1695	0.0285	11.1980	1.1390	0.0262	1.1652		462.2619	462.2619	3.2600e-003		462.3304
Worker	0.1949	0.3781	4.0819	0.0102	0.8208	5.6600e-003	0.8265	0.2176	5.2000e-003	0.2229		853.4396	853.4396	0.0411		854.3036
Total	**0.3879**	**3.3615**	**5.7716**	**0.0185**	**19.4330**	**0.0532**	**19.4863**	**2.1139**	**0.0490**	**2.1629**		**1,689.5066**	**1,689.5066**	**0.0470**		**1,690.4936**

3.3 Pier Foundation - 2016

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					0.0214	0.0000	0.0214	2.3500e-003	0.0000	2.3500e-003			0.0000			0.0000
Off-Road	1.2848	25.9548	30.7581	0.0543		1.2183	1.2183		1.2183	1.2183	0.0000	5,541.3411	5,541.3411	1.4569		5,571.9364
Total	**1.2848**	**25.9548**	**30.7581**	**0.0543**	**0.0214**	**1.2183**	**1.2397**	**2.3500e-003**	**1.2183**	**1.2207**	**0.0000**	**5,541.3411**	**5,541.3411**	**1.4569**		**5,571.9364**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0836	1.3634	0.7778	3.7100e-003	2.4692	0.0191	2.4883	0.2600	0.0175	0.2775		373.8051	373.8051	2.6000e-003		373.8597
Vendor	0.1093	1.6200	0.9119	4.5900e-003	3.7092	0.0285	3.7377	0.3929	0.0262	0.4192		462.2619	462.2619	3.2600e-003		462.3304
Worker	0.1949	0.3781	4.0819	0.0102	0.8208	5.6600e-003	0.8265	0.2176	5.2000e-003	0.2229		853.4396	853.4396	0.0411		854.3036
Total	**0.3879**	**3.3615**	**5.7716**	**0.0185**	**6.9993**	**0.0532**	**7.0525**	**0.8705**	**0.0490**	**0.9195**		**1,689.5066**	**1,689.5066**	**0.0470**		**1,690.4936**

3.4 Direct Bury Pole Installation - 2016

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					8.8500e-003	0.0000	8.8500e-003	1.0100e-003	0.0000	1.0100e-003			0.0000			0.0000
Off-Road	4.1445	48.7983	23.0222	0.0571		2.1156	2.1156		1.9693	1.9693		5,891.0264	5,891.0264	1.6933		5,926.5862
Total	**4.1445**	**48.7983**	**23.0222**	**0.0571**	**8.8500e-003**	**2.1156**	**2.1245**	**1.0100e-003**	**1.9693**	**1.9703**		**5,891.0264**	**5,891.0264**	**1.6933**		**5,926.5862**

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	0.2002	3.2631	1.8614	8.8700e-003	24.6447	0.0456	24.6903	2.5026	0.0420	2.5445		894.6403	894.6403	6.2200e-003		894.7708
Vendor	0.1093	1.6200	0.9119	4.5900e-003	11.1695	0.0285	11.1980	1.1390	0.0262	1.1652		462.2619	462.2619	3.2600e-003		462.3304
Worker	0.1949	0.3781	4.0819	0.0102	0.8208	5.6600e-003	0.8265	0.2176	5.2000e-003	0.2229		853.4396	853.4396	0.0411		854.3036
Total	**0.5044**	**5.2612**	**6.8553**	**0.0237**	**36.6350**	**0.0798**	**36.7148**	**3.8592**	**0.0734**	**3.9326**		**2,210.3417**	**2,210.3417**	**0.0506**		**2,211.4048**

3.4 Direct Bury Pole Installation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9800e-003	0.0000	3.9800e-003	4.6000e-004	0.0000	4.6000e-004			0.0000			0.0000
Off-Road	1.3863	27.6243	32.1910	0.0571		1.2203	1.2203		1.2203	1.2203	0.0000	5,891.0264	5,891.0264	1.6933		5,926.5862
Total	**1.3863**	**27.6243**	**32.1910**	**0.0571**	**3.9800e-003**	**1.2203**	**1.2243**	**4.6000e-004**	**1.2203**	**1.2208**	**0.0000**	**5,891.0264**	**5,891.0264**	**1.6933**		**5,926.5862**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2002	3.2631	1.8614	8.8700e-003	8.1633	0.0456	8.2089	0.8544	0.0420	0.8964		894.6403	894.6403	6.2200e-003		894.7708
Vendor	0.1093	1.6200	0.9119	4.5900e-003	3.7092	0.0285	3.7377	0.3929	0.0262	0.4192		462.2619	462.2619	3.2600e-003		462.3304
Worker	0.1949	0.3781	4.0819	0.0102	0.8208	5.6600e-003	0.8265	0.2176	5.2000e-003	0.2229		853.4396	853.4396	0.0411		854.3036
Total	**0.5044**	**5.2612**	**6.8553**	**0.0237**	**12.6933**	**0.0798**	**12.7731**	**1.4650**	**0.0734**	**1.5384**		**2,210.3417**	**2,210.3417**	**0.0506**		**2,211.4048**

3.4 Direct Bury Pole Installation - 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					8.8500e-003	0.0000	8.8500e-003	1.0100e-003	0.0000	1.0100e-003			0.0000			0.0000
Off-Road	3.7601	43.7081	22.0280	0.0571		1.8574	1.8574		1.7290	1.7290		5,803.9231	5,803.9231	1.6875		5,839.3605
Total	**3.7601**	**43.7081**	**22.0280**	**0.0571**	**8.8500e-003**	**1.8574**	**1.8663**	**1.0100e-003**	**1.7290**	**1.7300**		**5,803.9231**	**5,803.9231**	**1.6875**		**5,839.3605**

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	0.1879	2.9048	1.7747	8.8500e-003	63.9960	0.0401	64.0361	6.4776	0.0369	6.5144		879.4097	879.4097	5.9300e-003		879.5343
Vendor	0.1005	1.4325	0.8462	4.5800e-003	11.1695	0.0248	11.1942	1.1390	0.0228	1.1617		454.4404	454.4404	3.0500e-003		454.5044
Worker	0.1738	0.3440	3.6899	0.0102	0.8208	5.4700e-003	0.8263	0.2176	5.0400e-003	0.2227		820.4876	820.4876	0.0381		821.2884
Total	**0.4623**	**4.6812**	**6.3108**	**0.0237**	**75.9863**	**0.0703**	**76.0566**	**7.8342**	**0.0647**	**7.8989**		**2,154.3377**	**2,154.3377**	**0.0471**		**2,155.3271**

3.4 Direct Bury Pole Installation - 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					3.9800e-003	0.0000	3.9800e-003	4.6000e-004	0.0000	4.6000e-004			0.0000			0.0000
Off-Road	1.3863	27.6243	32.1910	0.0571		1.2203	1.2203		1.2203	1.2203	0.0000	5,803.9231	5,803.9231	1.6875		5,839.3605
Total	**1.3863**	**27.6243**	**32.1910**	**0.0571**	**3.9800e-003**	**1.2203**	**1.2243**	**4.6000e-004**	**1.2203**	**1.2208**	**0.0000**	**5,803.9231**	**5,803.9231**	**1.6875**		**5,839.3605**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1879	2.9048	1.7747	8.8500e-003	21.1442	0.0401	21.1843	2.1924	0.0369	2.2293		879.4097	879.4097	5.9300e-003		879.5343
Vendor	0.1005	1.4325	0.8462	4.5800e-003	3.7092	0.0248	3.7340	0.3929	0.0228	0.4157		454.4404	454.4404	3.0500e-003		454.5044
Worker	0.1738	0.3440	3.6899	0.0102	0.8208	5.4700e-003	0.8263	0.2176	5.0400e-003	0.2227		820.4876	820.4876	0.0381		821.2884
Total	**0.4623**	**4.6812**	**6.3108**	**0.0237**	**25.6743**	**0.0703**	**25.7446**	**2.8030**	**0.0647**	**2.8677**		**2,154.3377**	**2,154.3377**	**0.0471**		**2,155.3271**

3.5 Micro-pile Foundation Construction - 2016

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					5.5000e-003	0.0000	5.5000e-003	6.0000e-004	0.0000	6.0000e-004			0.0000			0.0000
Off-Road	2.7245	28.6864	14.8954	0.0364		1.3713	1.3713		1.3115	1.3115		3,680.6265	3,680.6265	0.8957		3,699.4355
Total	**2.7245**	**28.6864**	**14.8954**	**0.0364**	**5.5000e-003**	**1.3713**	**1.3768**	**6.0000e-004**	**1.3115**	**1.3121**		**3,680.6265**	**3,680.6265**	**0.8957**		**3,699.4355**

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	8.7800e-003	0.1432	0.0817	3.9000e-004	0.7815	2.0000e-003	0.7835	0.0795	1.8400e-003	0.0814		39.2495	39.2495	2.7000e-004		39.2553
Vendor	0.1093	1.6200	0.9119	4.5900e-003	11.1695	0.0285	11.1980	1.1390	0.0262	1.1652		462.2619	462.2619	3.2600e-003		462.3304
Worker	0.2057	0.3991	4.3087	0.0108	0.8665	5.9800e-003	0.8724	0.2297	5.4900e-003	0.2352		900.8529	900.8529	0.0434		901.7649
Total	**0.3238**	**2.1622**	**5.3023**	**0.0158**	**12.8174**	**0.0365**	**12.8539**	**1.4482**	**0.0336**	**1.4818**		**1,402.3643**	**1,402.3643**	**0.0470**		**1,403.3505**

3.5 Micro-pile Foundation Construction - 2016

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					2.4700e-003	0.0000	2.4700e-003	2.7000e-004	0.0000	2.7000e-004			0.0000			0.0000
Off-Road	0.8470	17.2252	20.5770	0.0364		0.8315	0.8315		0.8315	0.8315	0.0000	3,680.6265	3,680.6265	0.8957		3,699.4355
Total	**0.8470**	**17.2252**	**20.5770**	**0.0364**	**2.4700e-003**	**0.8315**	**0.8340**	**2.7000e-004**	**0.8315**	**0.8318**	**0.0000**	**3,680.6265**	**3,680.6265**	**0.8957**		**3,699.4355**

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	8.7800e-003	0.1432	0.0817	3.9000e-004	0.2593	2.0000e-003	0.2613	0.0273	1.8400e-003	0.0291		39.2495	39.2495	2.7000e-004		39.2553
Vendor	0.1093	1.6200	0.9119	4.5900e-003	3.7092	0.0285	3.7377	0.3929	0.0262	0.4192		462.2619	462.2619	3.2600e-003		462.3304
Worker	0.2057	0.3991	4.3087	0.0108	0.8665	5.9800e-003	0.8724	0.2297	5.4900e-003	0.2352		900.8529	900.8529	0.0434		901.7649
Total	**0.3238**	**2.1622**	**5.3023**	**0.0158**	**4.8349**	**0.0365**	**4.8714**	**0.6500**	**0.0336**	**0.6835**		**1,402.3643**	**1,402.3643**	**0.0470**		**1,403.3505**

3.6 Trench Undrgound Cables - 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	0.4268	3.7964	3.0525	4.3700e-003		0.2790	0.2790		0.2629	0.2629		434.2405	434.2405	0.0988		436.3144
Total	**0.4268**	**3.7964**	**3.0525**	**4.3700e-003**		**0.2790**	**0.2790**		**0.2629**	**0.2629**		**434.2405**	**434.2405**	**0.0988**		**436.3144**

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	0.0157	0.2427	0.1483	7.4000e-004	1.4886	3.3500e-003	1.4919	0.1515	3.0800e-003	0.1545		73.4883	73.4883	5.0000e-004		73.4987
Vendor	0.1005	1.4325	0.8462	4.5800e-003	11.1695	0.0248	11.1942	1.1390	0.0228	1.1617		454.4404	454.4404	3.0500e-003		454.5044
Worker	0.1738	0.3440	3.6899	0.0102	0.8208	5.4700e-003	0.8263	0.2176	5.0400e-003	0.2227		820.4876	820.4876	0.0381		821.2884
Total	**0.2900**	**2.0192**	**4.6844**	**0.0155**	**13.4789**	**0.0336**	**13.5124**	**1.5081**	**0.0309**	**1.5390**		**1,348.4163**	**1,348.4163**	**0.0417**		**1,349.2915**

3.6 Trench Undrgound Cables - 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	0.0994	2.2686	3.0634	4.3700e-003		0.1590	0.1590		0.1590	0.1590	0.0000	434.2405	434.2405	0.0988		436.3144
Total	**0.0994**	**2.2686**	**3.0634**	**4.3700e-003**		**0.1590**	**0.1590**		**0.1590**	**0.1590**	**0.0000**	**434.2405**	**434.2405**	**0.0988**		**436.3144**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0157	0.2427	0.1483	7.4000e-004	0.4938	3.3500e-003	0.4972	0.0520	3.0800e-003	0.0551		73.4883	73.4883	5.0000e-004		73.4987
Vendor	0.1005	1.4325	0.8462	4.5800e-003	3.7092	0.0248	3.7340	0.3929	0.0228	0.4157		454.4404	454.4404	3.0500e-003		454.5044
Worker	0.1738	0.3440	3.6899	0.0102	0.8208	5.4700e-003	0.8263	0.2176	5.0400e-003	0.2227		820.4876	820.4876	0.0381		821.2884
Total	**0.2900**	**2.0192**	**4.6844**	**0.0155**	**5.0239**	**0.0336**	**5.0575**	**0.6626**	**0.0309**	**0.6935**		**1,348.4163**	**1,348.4163**	**0.0417**		**1,349.2915**

3.7 Stringing Activities - 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	3.3458	38.3310	18.7879	0.0397		1.7040	1.7040		1.5738	1.5738		4,045.1472	4,045.1472	1.2071		4,070.4955
Total	**3.3458**	**38.3310**	**18.7879**	**0.0397**		**1.7040**	**1.7040**		**1.5738**	**1.5738**		**4,045.1472**	**4,045.1472**	**1.2071**		**4,070.4955**

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	0.1154	1.7842	1.0900	5.4400e-003	10.9408	0.0246	10.9654	1.1132	0.0227	1.1359		540.1389	540.1389	3.6400e-003		540.2154
Vendor	0.1005	1.4325	0.8462	4.5800e-003	11.1695	0.0248	11.1942	1.1390	0.0228	1.1617		454.4404	454.4404	3.0500e-003		454.5044
Worker	0.1835	0.3631	3.8949	0.0108	0.8665	5.7700e-003	0.8722	0.2297	5.3200e-003	0.2351		866.0702	866.0702	0.0403		866.9155
Total	**0.3994**	**3.5797**	**5.8311**	**0.0208**	**22.9767**	**0.0552**	**23.0319**	**2.4819**	**0.0508**	**2.5327**		**1,860.6495**	**1,860.6495**	**0.0469**		**1,861.6353**

3.7 Stringing Activities - 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	0.9665	19.3869	22.7770	0.0397		0.8824	0.8824		0.8824	0.8824	0.0000	4,045.1472	4,045.1472	1.2071		4,070.4955
Total	**0.9665**	**19.3869**	**22.7770**	**0.0397**		**0.8824**	**0.8824**		**0.8824**	**0.8824**	**0.0000**	**4,045.1472**	**4,045.1472**	**1.2071**		**4,070.4955**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1154	1.7842	1.0900	5.4400e-003	3.6298	0.0246	3.6544	0.3821	0.0227	0.4048		540.1389	540.1389	3.6400e-003		540.2154
Vendor	0.1005	1.4325	0.8462	4.5800e-003	3.7092	0.0248	3.7340	0.3929	0.0228	0.4157		454.4404	454.4404	3.0500e-003		454.5044
Worker	0.1835	0.3631	3.8949	0.0108	0.8665	5.7700e-003	0.8722	0.2297	5.3200e-003	0.2351		866.0702	866.0702	0.0403		866.9155
Total	**0.3994**	**3.5797**	**5.8311**	**0.0208**	**8.2054**	**0.0552**	**8.2606**	**1.0048**	**0.0508**	**1.0556**		**1,860.6495**	**1,860.6495**	**0.0469**		**1,861.6353**

3.8 Demobilization/Road Refresh - 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					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.9726	20.9580	10.9942	0.0222		1.0172	1.0172		0.9358	0.9358		2,268.9781	2,268.9781	0.6952		2,283.5775
Total	**1.9726**	**20.9580**	**10.9942**	**0.0222**	**0.5303**	**1.0172**	**1.5474**	**0.0573**	**0.9358**	**0.9931**		**2,268.9781**	**2,268.9781**	**0.6952**		**2,283.5775**

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	0.1414	2.1847	1.3347	6.6600e-003	13.3969	0.0302	13.4271	1.3632	0.0277	1.3909		661.3945	661.3945	4.4600e-003		661.4882
Vendor	0.1005	1.4325	0.8462	4.5800e-003	11.1695	0.0248	11.1942	1.1390	0.0228	1.1617		454.4404	454.4404	3.0500e-003		454.5044
Worker	0.1835	0.3631	3.8949	0.0108	0.8665	5.7700e-003	0.8722	0.2297	5.3200e-003	0.2351		866.0702	866.0702	0.0403		866.9155
Total	**0.4253**	**3.9802**	**6.0758**	**0.0220**	**25.4328**	**0.0607**	**25.4935**	**2.7318**	**0.0558**	**2.7877**		**1,981.9051**	**1,981.9051**	**0.0478**		**1,982.9081**

3.8 Demobilization/Road Refresh - 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					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.5416	10.7039	13.3823	0.0222		0.4774	0.4774		0.4774	0.4774	0.0000	2,268.9781	2,268.9781	0.6952		2,283.5775
Total	**0.5416**	**10.7039**	**13.3823**	**0.0222**	**0.2386**	**0.4774**	**0.7160**	**0.0258**	**0.4774**	**0.5032**	**0.0000**	**2,268.9781**	**2,268.9781**	**0.6952**		**2,283.5775**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1414	2.1847	1.3347	6.6600e-003	4.4446	0.0302	4.4748	0.4679	0.0277	0.4957		661.3945	661.3945	4.4600e-003		661.4882
Vendor	0.1005	1.4325	0.8462	4.5800e-003	3.7092	0.0248	3.7340	0.3929	0.0228	0.4157		454.4404	454.4404	3.0500e-003		454.5044
Worker	0.1835	0.3631	3.8949	0.0108	0.8665	5.7700e-003	0.8722	0.2297	5.3200e-003	0.2351		866.0702	866.0702	0.0403		866.9155
Total	**0.4253**	**3.9802**	**6.0758**	**0.0220**	**9.0203**	**0.0607**	**9.0809**	**1.0906**	**0.0558**	**1.1464**		**1,981.9051**	**1,981.9051**	**0.0478**		**1,982.9081**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511818	0.073499	0.191840	0.131575	0.036332	0.005186	0.012677	0.022513	0.001864	0.002072	0.006564	0.000601	0.003458

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**			**0.0000**

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					
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**			**0.0000**

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

10.0 Vegetation

SDG&E Wood to Steel

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - updated construction duration and phases based on P.D.

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Off-road Equipment - Source: PEA Attachment G - Revised Construction Equipment Summary

Trips and VMT - Assume max 1-way worker trips (36) for all phases, except where addl worker trips listed in PEA Attach G. Modified trips and lengths on Att. G. for each construction phase, added water truck haul trips (1036) among phases.

On-road Fugitive Dust - Assumed 95% Paved Road travel for trucks

Grading - Source: PEA Attachment I - Imported and Exported Materials. Total square feet of each phase converted to acres of disturbance. 10 acre staging area base on Main St. and Otay in Proj. Descrip.

Construction Off-road Equipment Mitigation - Tier 3 Offroad Equipment; Water twice daily; Unpaved Road moisture content of 12% and speed limit of 15 mph

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	13.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

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tblGrading	MaterialExported	0.00	898.00
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tblOffRoadEquipment	PhaseName		Direct Bury Pole Installation
tblOffRoadEquipment	PhaseName		Micro-pile Foundation Construction

tblOffRoadEquipment	PhaseName		Pier Foundation
tblOffRoadEquipment	PhaseName		Direct Bury Pole Installation
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tblOffRoadEquipment	PhaseName		Stringing Activities
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2.0 Emissions Summary

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					
2016	12.2548	132.7711	79.1561	0.2039	68.9474	5.7247	74.6721	7.4281	5.3894	12.8176	0.0000	20,249.8316	20,249.8316	4.1906	0.0000	20,337.8351
2017	8.7425	96.5462	61.1451	0.1592	112.4507	3.9997	116.4504	11.8252	3.7124	15.5375	0.0000	15,487.1300	15,487.1300	3.1292	0.0000	15,552.8435
Total	**20.9972**	**229.3173**	**140.3012**	**0.3631**	**181.3981**	**9.7244**	**191.1225**	**19.2533**	**9.1018**	**28.3551**	**0.0000**	**35,736.9616**	**35,736.9616**	**7.3199**	**0.0000**	**35,890.6786**

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					
2016	4.7979	82.0464	101.8101	0.2039	24.5554	3.4400	27.9954	2.9886	3.4264	6.4149	0.0000	20,249.8316	20,249.8316	4.1906	0.0000	20,337.8351
2017	3.6619	59.9904	75.3081	0.1592	38.9076	2.4210	41.3286	4.4708	2.4083	6.8791	0.0000	15,487.1300	15,487.1300	3.1292	0.0000	15,552.8435
Total	**8.4599**	**142.0369**	**177.1182**	**0.3631**	**63.4629**	**5.8610**	**69.3239**	**7.4594**	**5.8347**	**13.2940**	**0.0000**	**35,736.9616**	**35,736.9616**	**7.3199**	**0.0000**	**35,890.6785**

	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	N20	CO2e
Percent Reduction	**59.71**	**38.06**	**-26.24**	**0.00**	**65.01**	**39.73**	**63.73**	**61.26**	**35.90**	**53.12**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**			**0.0000**

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**			**0.0000**

	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	N20	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	Staging Yard Setup	Site Preparation	9/23/2016	9/30/2016	5	6	
2	Pier Foundation	Site Preparation	10/1/2016	12/28/2016	5	63	
3	Direct Bury Pole Installation	Site Preparation	10/1/2016	2/3/2017	5	90	
4	Micro-pile Foundation Construction	Grading	10/1/2016	11/25/2016	5	40	
5	Trench Undrgound Cables	Trenching	1/1/2017	1/4/2017	5	3	
6	Stringing Activities	Building Construction	1/1/2017	3/24/2017	5	60	
7	Demobilization/Road Refresh	Site Preparation	3/25/2017	5/1/2017	5	26	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Staging Yard Setup	Graders	2	5.00	174	0.41
Staging Yard Setup	Off-Highway Trucks	2	4.00	400	0.38
Staging Yard Setup	Other Construction Equipment	2	4.00	171	0.42
Staging Yard Setup	Skid Steer Loaders	1	5.00	64	0.37
Staging Yard Setup	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Pier Foundation	Air Compressors	2	3.00	78	0.48
Pier Foundation	Bore/Drill Rigs	2	7.00	205	0.50

Pier Foundation	Cranes	2	3.00	226	0.29
Pier Foundation	Generator Sets	2	4.00	84	0.74
Pier Foundation	Graders	0	8.00	174	0.41
Pier Foundation	Off-Highway Trucks	4	3.00	400	0.38
Pier Foundation	Pumps	1	2.00	84	0.74
Pier Foundation	Rough Terrain Forklifts	2	3.00	89	0.20
Pier Foundation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Direct Bury Pole Installation	Aerial Lifts	3	5.00	62	0.31
Direct Bury Pole Installation	Air Compressors	2	3.00	78	0.48
Direct Bury Pole Installation	Bore/Drill Rigs	3	7.00	205	0.50
Direct Bury Pole Installation	Cranes	3	5.00	226	0.29
Direct Bury Pole Installation	Graders	0	8.00	174	0.41
Direct Bury Pole Installation	Off-Highway Trucks	2	4.00	400	0.38
Direct Bury Pole Installation	Pumps	1	2.00	84	0.74
Direct Bury Pole Installation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Micro-pile Foundation Construction	Air Compressors	2	3.00	78	0.48
Micro-pile Foundation Construction	Bore/Drill Rigs	2	7.00	205	0.50
Micro-pile Foundation Construction	Concrete/Industrial Saws	0	8.00	81	0.73
Micro-pile Foundation Construction	Cranes	2	3.00	226	0.29
Micro-pile Foundation Construction	Generator Sets	2	4.00	84	0.74
Micro-pile Foundation Construction	Off-Highway Trucks	1	3.00	400	0.38
Micro-pile Foundation Construction	Pumps	1	2.00	84	0.74
Micro-pile Foundation Construction	Rough Terrain Forklifts	2	2.00	89	0.20
Micro-pile Foundation Construction	Rubber Tired Dozers	0	1.00	255	0.40
Micro-pile Foundation Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Trench Undrgound Cables	Pumps	1	2.00	84	0.74
Trench Undrgound Cables	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Stringing Activities	Aerial Lifts	3	8.00	62	0.31

Stringing Activities	Concrete/Industrial Saws	1	2.00	81	0.73
Stringing Activities	Cranes	3	7.00	226	0.29
Stringing Activities	Forklifts	0	6.00	89	0.20
Stringing Activities	Off-Highway Trucks	2	5.00	400	0.38
Stringing Activities	Other Construction Equipment	1	6.00	87	0.34
Stringing Activities	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demobilization/Road Refresh	Graders	1	6.00	174	0.41
Demobilization/Road Refresh	Off-Highway Trucks	2	4.50	400	0.38
Demobilization/Road Refresh	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Staging Yard Setup	8	37.00	5.00	42.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Pier Foundation	16	36.00	5.00	210.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Direct Bury Pole Installation	15	36.00	5.00	718.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Micro-pile Foundation Construction	12	38.00	5.00	14.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Trench Undrgound Cables	2	36.00	5.00	2.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Stringing Activities	10	38.00	5.00	294.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT
Demobilization/Road Refresh	4	38.00	5.00	156.00	30.00	30.00	30.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Staging Yard Setup - 2016

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					1.7675	0.0000	1.7675	0.1909	0.0000	0.1909			0.0000			0.0000
Off-Road	3.1212	33.7460	17.5402	0.0299		1.7027	1.7027		1.5665	1.5665		3,110.9644	3,110.9644	0.9384		3,130.6704
Total	**3.1212**	**33.7460**	**17.5402**	**0.0299**	**1.7675**	**1.7027**	**3.4702**	**0.1909**	**1.5665**	**1.7573**		**3,110.9644**	**3,110.9644**	**0.9384**		**3,130.6704**

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	0.1911	2.9583	2.0400	7.7800e-003	15.6297	0.0401	15.6698	1.5903	0.0369	1.6272		783.7535	783.7535	5.5000e-003		783.8690
Vendor	0.1173	1.6727	1.1012	4.5800e-003	11.1695	0.0286	11.1980	1.1390	0.0263	1.1653		461.3473	461.3473	3.2800e-003		461.4162
Worker	0.2050	0.4359	3.8958	9.8600e-003	0.8437	5.8200e-003	0.8495	0.2237	5.3500e-003	0.2290		823.1363	823.1363	0.0423		824.0243
Total	**0.5134**	**5.0669**	**7.0370**	**0.0222**	**27.6428**	**0.0745**	**27.7173**	**2.9530**	**0.0685**	**3.0215**		**2,068.2371**	**2,068.2371**	**0.0511**		**2,069.3096**

3.2 Staging Yard Setup - 2016

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					0.7954	0.0000	0.7954	0.0859	0.0000	0.0859			0.0000			0.0000
Off-Road	0.7317	14.3895	19.6130	0.0299		0.6648	0.6648		0.6648	0.6648	0.0000	3,110.9644	3,110.9644	0.9384		3,130.6703
Total	**0.7317**	**14.3895**	**19.6130**	**0.0299**	**0.7954**	**0.6648**	**1.4602**	**0.0859**	**0.6648**	**0.7507**	**0.0000**	**3,110.9644**	**3,110.9644**	**0.9384**		**3,130.6703**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1911	2.9583	2.0400	7.7800e-003	5.1854	0.0401	5.2255	0.5459	0.0369	0.5828		783.7535	783.7535	5.5000e-003		783.8690
Vendor	0.1173	1.6727	1.1012	4.5800e-003	3.7092	0.0286	3.7378	0.3929	0.0263	0.4192		461.3473	461.3473	3.2800e-003		461.4162
Worker	0.2050	0.4359	3.8958	9.8600e-003	0.8437	5.8200e-003	0.8495	0.2237	5.3500e-003	0.2290		823.1363	823.1363	0.0423		824.0243
Total	**0.5134**	**5.0669**	**7.0370**	**0.0222**	**9.7382**	**0.0745**	**9.8127**	**1.1625**	**0.0685**	**1.2311**		**2,068.2371**	**2,068.2371**	**0.0511**		**2,069.3096**

3.3 Pier Foundation - 2016

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					0.0476	0.0000	0.0476	5.2300e-003	0.0000	5.2300e-003			0.0000			0.0000
Off-Road	4.1059	44.0444	22.9544	0.0543		2.0679	2.0679		1.9524	1.9524		5,541.3411	5,541.3411	1.4569		5,571.9364
Total	**4.1059**	**44.0444**	**22.9544**	**0.0543**	**0.0476**	**2.0679**	**2.1155**	**5.2300e-003**	**1.9524**	**1.9576**		**5,541.3411**	**5,541.3411**	**1.4569**		**5,571.9364**

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	0.0910	1.4087	0.9714	3.7000e-003	7.4427	0.0191	7.4618	0.7573	0.0176	0.7749		373.2159	373.2159	2.6200e-003		373.2710
Vendor	0.1173	1.6727	1.1012	4.5800e-003	11.1695	0.0286	11.1980	1.1390	0.0263	1.1653		461.3473	461.3473	3.2800e-003		461.4162
Worker	0.1995	0.4241	3.7905	9.5900e-003	0.8208	5.6600e-003	0.8265	0.2176	5.2000e-003	0.2229		800.8894	800.8894	0.0411		801.7534
Total	**0.4078**	**3.5055**	**5.8632**	**0.0179**	**19.4330**	**0.0533**	**19.4864**	**2.1139**	**0.0491**	**2.1630**		**1,635.4526**	**1,635.4526**	**0.0470**		**1,636.4406**

3.3 Pier Foundation - 2016

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					0.0214	0.0000	0.0214	2.3500e-003	0.0000	2.3500e-003			0.0000			0.0000
Off-Road	1.2848	25.9548	30.7581	0.0543		1.2183	1.2183		1.2183	1.2183	0.0000	5,541.3411	5,541.3411	1.4569		5,571.9364
Total	**1.2848**	**25.9548**	**30.7581**	**0.0543**	**0.0214**	**1.2183**	**1.2397**	**2.3500e-003**	**1.2183**	**1.2207**	**0.0000**	**5,541.3411**	**5,541.3411**	**1.4569**		**5,571.9364**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0910	1.4087	0.9714	3.7000e-003	2.4692	0.0191	2.4883	0.2600	0.0176	0.2775		373.2159	373.2159	2.6200e-003		373.2710
Vendor	0.1173	1.6727	1.1012	4.5800e-003	3.7092	0.0286	3.7378	0.3929	0.0263	0.4192		461.3473	461.3473	3.2800e-003		461.4162
Worker	0.1995	0.4241	3.7905	9.5900e-003	0.8208	5.6600e-003	0.8265	0.2176	5.2000e-003	0.2229		800.8894	800.8894	0.0411		801.7534
Total	**0.4078**	**3.5055**	**5.8632**	**0.0179**	**6.9993**	**0.0533**	**7.0526**	**0.8705**	**0.0491**	**0.9196**		**1,635.4526**	**1,635.4526**	**0.0470**		**1,636.4406**

3.4 Direct Bury Pole Installation - 2016

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					8.8500e-003	0.0000	8.8500e-003	1.0100e-003	0.0000	1.0100e-003			0.0000			0.0000
Off-Road	4.1445	48.7983	23.0222	0.0571		2.1156	2.1156		1.9693	1.9693		5,891.0264	5,891.0264	1.6933		5,926.5862
Total	**4.1445**	**48.7983**	**23.0222**	**0.0571**	**8.8500e-003**	**2.1156**	**2.1245**	**1.0100e-003**	**1.9693**	**1.9703**		**5,891.0264**	**5,891.0264**	**1.6933**		**5,926.5862**

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	0.2178	3.3716	2.3249	8.8600e-003	24.6447	0.0457	24.6904	2.5026	0.0420	2.5446		893.2301	893.2301	6.2700e-003		893.3619
Vendor	0.1173	1.6727	1.1012	4.5800e-003	11.1695	0.0286	11.1980	1.1390	0.0263	1.1653		461.3473	461.3473	3.2800e-003		461.4162
Worker	0.1995	0.4241	3.7905	9.5900e-003	0.8208	5.6600e-003	0.8265	0.2176	5.2000e-003	0.2229		800.8894	800.8894	0.0411		801.7534
Total	**0.5346**	**5.4683**	**7.2167**	**0.0230**	**36.6350**	**0.0799**	**36.7150**	**3.8592**	**0.0735**	**3.9327**		**2,155.4668**	**2,155.4668**	**0.0507**		**2,156.5315**

3.4 Direct Bury Pole Installation - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9800e-003	0.0000	3.9800e-003	4.6000e-004	0.0000	4.6000e-004			0.0000			0.0000
Off-Road	1.3863	27.6243	32.1910	0.0571		1.2203	1.2203		1.2203	1.2203	0.0000	5,891.0264	5,891.0264	1.6933		5,926.5862
Total	**1.3863**	**27.6243**	**32.1910**	**0.0571**	**3.9800e-003**	**1.2203**	**1.2243**	**4.6000e-004**	**1.2203**	**1.2208**	**0.0000**	**5,891.0264**	**5,891.0264**	**1.6933**		**5,926.5862**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2178	3.3716	2.3249	8.8600e-003	8.1633	0.0457	8.2090	0.8544	0.0420	0.8965		893.2301	893.2301	6.2700e-003		893.3619
Vendor	0.1173	1.6727	1.1012	4.5800e-003	3.7092	0.0286	3.7378	0.3929	0.0263	0.4192		461.3473	461.3473	3.2800e-003		461.4162
Worker	0.1995	0.4241	3.7905	9.5900e-003	0.8208	5.6600e-003	0.8265	0.2176	5.2000e-003	0.2229		800.8894	800.8894	0.0411		801.7534
Total	**0.5346**	**5.4683**	**7.2167**	**0.0230**	**12.6933**	**0.0799**	**12.7733**	**1.4650**	**0.0735**	**1.5386**		**2,155.4668**	**2,155.4668**	**0.0507**		**2,156.5315**

3.4 Direct Bury Pole Installation - 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					8.8500e-003	0.0000	8.8500e-003	1.0100e-003	0.0000	1.0100e-003			0.0000			0.0000
Off-Road	3.7601	43.7081	22.0280	0.0571		1.8574	1.8574		1.7290	1.7290		5,803.9231	5,803.9231	1.6875		5,839.3605
Total	**3.7601**	**43.7081**	**22.0280**	**0.0571**	**8.8500e-003**	**1.8574**	**1.8663**	**1.0100e-003**	**1.7290**	**1.7300**		**5,803.9231**	**5,803.9231**	**1.6875**		**5,839.3605**

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	0.2039	3.0013	2.2286	8.8500e-003	63.9960	0.0402	64.0361	6.4776	0.0370	6.5145		878.0216	878.0216	5.9900e-003		878.1473
Vendor	0.1076	1.4788	1.0299	4.5800e-003	11.1695	0.0248	11.1943	1.1390	0.0228	1.1618		453.5384	453.5384	3.0700e-003		453.6029
Worker	0.1770	0.3858	3.4048	9.5900e-003	0.8208	5.4700e-003	0.8263	0.2176	5.0400e-003	0.2227		769.9170	769.9170	0.0381		770.7178
Total	**0.4885**	**4.8659**	**6.6632**	**0.0230**	**75.9863**	**0.0705**	**76.0567**	**7.8342**	**0.0648**	**7.8990**		**2,101.4769**	**2,101.4769**	**0.0472**		**2,102.4680**

3.4 Direct Bury Pole Installation - 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					3.9800e-003	0.0000	3.9800e-003	4.6000e-004	0.0000	4.6000e-004			0.0000			0.0000
Off-Road	1.3863	27.6243	32.1910	0.0571		1.2203	1.2203		1.2203	1.2203	0.0000	5,803.9231	5,803.9231	1.6875		5,839.3605
Total	**1.3863**	**27.6243**	**32.1910**	**0.0571**	**3.9800e-003**	**1.2203**	**1.2243**	**4.6000e-004**	**1.2203**	**1.2208**	**0.0000**	**5,803.9231**	**5,803.9231**	**1.6875**		**5,839.3605**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2039	3.0013	2.2286	8.8500e-003	21.1442	0.0402	21.1844	2.1924	0.0370	2.2293		878.0216	878.0216	5.9900e-003		878.1473
Vendor	0.1076	1.4788	1.0299	4.5800e-003	3.7092	0.0248	3.7340	0.3929	0.0228	0.4158		453.5384	453.5384	3.0700e-003		453.6029
Worker	0.1770	0.3858	3.4048	9.5900e-003	0.8208	5.4700e-003	0.8263	0.2176	5.0400e-003	0.2227		769.9170	769.9170	0.0381		770.7178
Total	**0.4885**	**4.8659**	**6.6632**	**0.0230**	**25.6743**	**0.0705**	**25.7447**	**2.8030**	**0.0648**	**2.8678**		**2,101.4769**	**2,101.4769**	**0.0472**		**2,102.4680**

3.5 Micro-pile Foundation Construction - 2016

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					5.5000e-003	0.0000	5.5000e-003	6.0000e-004	0.0000	6.0000e-004			0.0000			0.0000
Off-Road	2.7245	28.6864	14.8954	0.0364		1.3713	1.3713		1.3115	1.3115		3,680.6265	3,680.6265	0.8957		3,699.4355
Total	**2.7245**	**28.6864**	**14.8954**	**0.0364**	**5.5000e-003**	**1.3713**	**1.3768**	**6.0000e-004**	**1.3115**	**1.3121**		**3,680.6265**	**3,680.6265**	**0.8957**		**3,699.4355**

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	9.5500e-003	0.1479	0.1020	3.9000e-004	0.7815	2.0000e-003	0.7835	0.0795	1.8400e-003	0.0814		39.1877	39.1877	2.8000e-004		39.1935
Vendor	0.1173	1.6727	1.1012	4.5800e-003	11.1695	0.0286	11.1980	1.1390	0.0263	1.1653		461.3473	461.3473	3.2800e-003		461.4162
Worker	0.2106	0.4477	4.0011	0.0101	0.8665	5.9800e-003	0.8724	0.2297	5.4900e-003	0.2352		845.3832	845.3832	0.0434		846.2952
Total	**0.3374**	**2.2683**	**5.2043**	**0.0151**	**12.8174**	**0.0366**	**12.8540**	**1.4482**	**0.0336**	**1.4818**		**1,345.9182**	**1,345.9182**	**0.0470**		**1,346.9049**

3.5 Micro-pile Foundation Construction - 2016

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					2.4700e-003	0.0000	2.4700e-003	2.7000e-004	0.0000	2.7000e-004			0.0000			0.0000
Off-Road	0.8470	17.2252	20.5770	0.0364		0.8315	0.8315		0.8315	0.8315	0.0000	3,680.6265	3,680.6265	0.8957		3,699.4355
Total	**0.8470**	**17.2252**	**20.5770**	**0.0364**	**2.4700e-003**	**0.8315**	**0.8340**	**2.7000e-004**	**0.8315**	**0.8318**	**0.0000**	**3,680.6265**	**3,680.6265**	**0.8957**		**3,699.4355**

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	9.5500e-003	0.1479	0.1020	3.9000e-004	0.2593	2.0000e-003	0.2613	0.0273	1.8400e-003	0.0291		39.1877	39.1877	2.8000e-004		39.1935
Vendor	0.1173	1.6727	1.1012	4.5800e-003	3.7092	0.0286	3.7378	0.3929	0.0263	0.4192		461.3473	461.3473	3.2800e-003		461.4162
Worker	0.2106	0.4477	4.0011	0.0101	0.8665	5.9800e-003	0.8724	0.2297	5.4900e-003	0.2352		845.3832	845.3832	0.0434		846.2952
Total	**0.3374**	**2.2683**	**5.2043**	**0.0151**	**4.8349**	**0.0366**	**4.8715**	**0.6500**	**0.0336**	**0.6836**		**1,345.9182**	**1,345.9182**	**0.0470**		**1,346.9049**

3.6 Trench Undrgound Cables - 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	0.4268	3.7964	3.0525	4.3700e-003		0.2790	0.2790		0.2629	0.2629		434.2405	434.2405	0.0988		436.3144
Total	**0.4268**	**3.7964**	**3.0525**	**4.3700e-003**		**0.2790**	**0.2790**		**0.2629**	**0.2629**		**434.2405**	**434.2405**	**0.0988**		**436.3144**

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	0.0170	0.2508	0.1862	7.4000e-004	1.4886	3.3600e-003	1.4919	0.1515	3.0900e-003	0.1546		73.3723	73.3723	5.0000e-004		73.3828
Vendor	0.1076	1.4788	1.0299	4.5800e-003	11.1695	0.0248	11.1943	1.1390	0.0228	1.1618		453.5384	453.5384	3.0700e-003		453.6029
Worker	0.1770	0.3858	3.4048	9.5900e-003	0.8208	5.4700e-003	0.8263	0.2176	5.0400e-003	0.2227		769.9170	769.9170	0.0381		770.7178
Total	**0.3016**	**2.1154**	**4.6209**	**0.0149**	**13.4789**	**0.0337**	**13.5125**	**1.5081**	**0.0310**	**1.5390**		**1,296.8276**	**1,296.8276**	**0.0417**		**1,297.7034**

3.6 Trench Undrgound Cables - 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	0.0994	2.2686	3.0634	4.3700e-003		0.1590	0.1590		0.1590	0.1590	0.0000	434.2405	434.2405	0.0988		436.3144
Total	**0.0994**	**2.2686**	**3.0634**	**4.3700e-003**		**0.1590**	**0.1590**		**0.1590**	**0.1590**	**0.0000**	**434.2405**	**434.2405**	**0.0988**		**436.3144**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0170	0.2508	0.1862	7.4000e-004	0.4938	3.3600e-003	0.4972	0.0520	3.0900e-003	0.0551		73.3723	73.3723	5.0000e-004		73.3828
Vendor	0.1076	1.4788	1.0299	4.5800e-003	3.7092	0.0248	3.7340	0.3929	0.0228	0.4158		453.5384	453.5384	3.0700e-003		453.6029
Worker	0.1770	0.3858	3.4048	9.5900e-003	0.8208	5.4700e-003	0.8263	0.2176	5.0400e-003	0.2227		769.9170	769.9170	0.0381		770.7178
Total	**0.3016**	**2.1154**	**4.6209**	**0.0149**	**5.0239**	**0.0337**	**5.0575**	**0.6626**	**0.0310**	**0.6935**		**1,296.8276**	**1,296.8276**	**0.0417**		**1,297.7034**

3.7 Stringing Activities - 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	3.3458	38.3310	18.7879	0.0397		1.7040	1.7040		1.5738	1.5738		4,045.1472	4,045.1472	1.2071		4,070.4955
Total	**3.3458**	**38.3310**	**18.7879**	**0.0397**		**1.7040**	**1.7040**		**1.5738**	**1.5738**		**4,045.1472**	**4,045.1472**	**1.2071**		**4,070.4955**

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	0.1252	1.8434	1.3688	5.4300e-003	10.9408	0.0247	10.9655	1.1132	0.0227	1.1359		539.2862	539.2862	3.6800e-003		539.3635
Vendor	0.1076	1.4788	1.0299	4.5800e-003	11.1695	0.0248	11.1943	1.1390	0.0228	1.1618		453.5384	453.5384	3.0700e-003		453.6029
Worker	0.1868	0.4072	3.5940	0.0101	0.8665	5.7700e-003	0.8722	0.2297	5.3200e-003	0.2351		812.6902	812.6902	0.0403		813.5354
Total	**0.4197**	**3.7294**	**5.9926**	**0.0201**	**22.9767**	**0.0553**	**23.0320**	**2.4819**	**0.0509**	**2.5328**		**1,805.5148**	**1,805.5148**	**0.0470**		**1,806.5018**

3.7 Stringing Activities - 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	0.9665	19.3869	22.7770	0.0397		0.8824	0.8824		0.8824	0.8824	0.0000	4,045.1472	4,045.1472	1.2071		4,070.4955
Total	**0.9665**	**19.3869**	**22.7770**	**0.0397**		**0.8824**	**0.8824**		**0.8824**	**0.8824**	**0.0000**	**4,045.1472**	**4,045.1472**	**1.2071**		**4,070.4955**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1252	1.8434	1.3688	5.4300e-003	3.6298	0.0247	3.6544	0.3821	0.0227	0.4048		539.2862	539.2862	3.6800e-003		539.3635
Vendor	0.1076	1.4788	1.0299	4.5800e-003	3.7092	0.0248	3.7340	0.3929	0.0228	0.4158		453.5384	453.5384	3.0700e-003		453.6029
Worker	0.1868	0.4072	3.5940	0.0101	0.8665	5.7700e-003	0.8722	0.2297	5.3200e-003	0.2351		812.6902	812.6902	0.0403		813.5354
Total	**0.4197**	**3.7294**	**5.9926**	**0.0201**	**8.2054**	**0.0553**	**8.2607**	**1.0048**	**0.0509**	**1.0557**		**1,805.5148**	**1,805.5148**	**0.0470**		**1,806.5018**

3.8 Demobilization/Road Refresh - 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					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.9726	20.9580	10.9942	0.0222		1.0172	1.0172		0.9358	0.9358		2,268.9781	2,268.9781	0.6952		2,283.5775
Total	**1.9726**	**20.9580**	**10.9942**	**0.0222**	**0.5303**	**1.0172**	**1.5474**	**0.0573**	**0.9358**	**0.9931**		**2,268.9781**	**2,268.9781**	**0.6952**		**2,283.5775**

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	0.1534	2.2572	1.6761	6.6500e-003	13.3969	0.0302	13.4271	1.3632	0.0278	1.3909		660.3505	660.3505	4.5000e-003		660.4451
Vendor	0.1076	1.4788	1.0299	4.5800e-003	11.1695	0.0248	11.1943	1.1390	0.0228	1.1618		453.5384	453.5384	3.0700e-003		453.6029
Worker	0.1868	0.4072	3.5940	0.0101	0.8665	5.7700e-003	0.8722	0.2297	5.3200e-003	0.2351		812.6902	812.6902	0.0403		813.5354
Total	**0.4478**	**4.1432**	**6.2999**	**0.0214**	**25.4328**	**0.0608**	**25.4936**	**2.7318**	**0.0560**	**2.7878**		**1,926.5790**	**1,926.5790**	**0.0478**		**1,927.5834**

3.8 Demobilization/Road Refresh - 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					0.2386	0.0000	0.2386	0.0258	0.0000	0.0258			0.0000			0.0000
Off-Road	0.5416	10.7039	13.3823	0.0222		0.4774	0.4774		0.4774	0.4774	0.0000	2,268.9781	2,268.9781	0.6952		2,283.5775
Total	**0.5416**	**10.7039**	**13.3823**	**0.0222**	**0.2386**	**0.4774**	**0.7160**	**0.0258**	**0.4774**	**0.5032**	**0.0000**	**2,268.9781**	**2,268.9781**	**0.6952**		**2,283.5775**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1534	2.2572	1.6761	6.6500e-003	4.4446	0.0302	4.4748	0.4679	0.0278	0.4957		660.3505	660.3505	4.5000e-003		660.4451
Vendor	0.1076	1.4788	1.0299	4.5800e-003	3.7092	0.0248	3.7340	0.3929	0.0228	0.4158		453.5384	453.5384	3.0700e-003		453.6029
Worker	0.1868	0.4072	3.5940	0.0101	0.8665	5.7700e-003	0.8722	0.2297	5.3200e-003	0.2351		812.6902	812.6902	0.0403		813.5354
Total	**0.4478**	**4.1432**	**6.2999**	**0.0214**	**9.0203**	**0.0608**	**9.0811**	**1.0906**	**0.0560**	**1.1465**		**1,926.5790**	**1,926.5790**	**0.0478**		**1,927.5834**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	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

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511818	0.073499	0.191840	0.131575	0.036332	0.005186	0.012677	0.022513	0.001864	0.002072	0.006564	0.000601	0.003458

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**			**0.0000**

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					
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**			**0.0000**			**0.0000**

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

10.0 Vegetation