

**A.13-03-003 SDG&E 05/21/13 Partial Response  
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**ADMINISTRATIVE SECTION**

**Question 1**

*Please provide the list of public agencies and other interested parties as well as the parcel and mailing information for properties within 300 feet of the proposed project electronically in Excel format (Application Appendix C and PEA Appendix 1-B).*

**SDG&E Response to Q1:**

Attached are the electronic/editable versions of Appendix C and Appendix B-1 of the PEA.

**Question 2:**

*In addition to the public support information provided in PEA Section 1.6 and Appendix 1-A, please indicate if additional outreach has occurred. If yes, please provide information regarding any agency and public involvement contacts and correspondence to date. Please include names, addresses, phone numbers, and e-mail addresses.*

**SDG&E Response to Q2:**

SDG&E is not aware of any additional outreach that occurred for the Proposed Project.

**GIS SECTION**

*Please provide the following digitally formatted GIS data in the CA State Plane Zone VI NAD83 Feet coordinates/projection:*

- *Proposed Tie-Line (TL) 637 alignment*
- *Existing TL 637 alignment*
- *Mile markers*
- *Proposed pole locations (micropile foundation pole, direct bury pole, pole top work, temporary pole, guard structure, proposed anchor, proposed sled and block*
- *Staging areas*
- *Stringing sites*
- *Helicopter landing zone*
- *Turn around area*
- *Permanent and temporary right-of-way*
- *Underground / trenching*
- *Creelman and Santa Ysabel Substation fence and property line boundaries*

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- *Mt. Gower and Simon Preserve area boundaries*
- *Project access roads*
- *Key observation point (KOP) locations*
- *Visual simulation locations*
- *Vegetation communities*
- *Special-status plant and wildlife species*
- *Permanent and temporary impact data*
- *Potential jurisdictional streams*
- *National Wetlands Inventory (NWI) wetlands*
- *Sensitive receptor locations*
- *Roadways listed in Tables 4.14-1 and 4.14-2*
- *Cumulative project points within vicinity of project and 1-mile buffer*
- *Environmental Data Resources (EDR) search boundary*
- *California Natural Diversity Database (CNDDDB) locations*
- *U.S. Fish and Wildlife Service (USFWS) occurrence data*
- *Watersheds/sub-areas*

**SDG&E Response to GIS Question:**

All Geographic Information System (GIS) data has been provided as an attachment except for the following information:

[GIS data not included on website]

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- *Permanent and temporary right-of-way*-The GIS data for the permanent rights-of-way for TL 637 are herein provided. The data is used by SDG&E for general mapping and reference purposes only and is not used for design. The data is compiled from various sources and input into the GIS application for visual reference, the result is not survey grade data and cannot be relied upon to make decisions that require survey accuracy. There are no temporary rights-of-way required for this TL 637 project.
- *Mile markers*-Mile markers were not utilized for this project, so there is no applicable GIS data.
- *Sensitive receptor locations*-The noise sensitive locations were not itemized so no GIS data is provided.
- *EDR search boundary*-An EDR search was not conducted so there is no GIS search boundary data.
- *Permanent and temporary impact data*-Permanent and temporary impact areas were not digitized for this project therefore there is no GIS data.

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**SECTION 3 PROJECT DESCRIPTION**

**Question 3-1**

*Section 3.2 states that a portion of TL 637 is shared with TL 626 near the Santa Ysabel substation and that 12 poles are double circuit supporting both TL 637 and TL 626. Please provide the pole numbers that are double circuit and that support both TL 637 and TL 626.*

**SDG&E Response to 3-1:**

The twelve poles that support both TL 637 and TL 626 are P151, P152, P153, P154, P155, P156, P157, P158, P159, P160, P161, P162. Please refer to Appendix 3-B, Sheets 47-50, in the PEA for their locations.

**Question 3-2:**

*Section 3.3.2 describes minor changes that would occur at the Creelman and Santa Ysabel substations. Please confirm the proposed modifications will not change the bulk and scale of either substation.*

**SDG&E Response to 3-2:**

Confirmed. The Proposed Project is a fire prevention reliability project that is targeting the replacement of wood poles. The proposed substation work at either substation is not defined as substation upgrade. All necessary work at either substation will not require an increase in substation land area beyond the existing utility-owned property and will not result in an increase in the voltage rating.

**Question 3-3:**

*Section 3.4.9.1 discusses work areas. Please describe the current condition of the Warnock Staging Yard, Creelman Staging Yard, Santa Ysabel Staging Yard, and the Littlepage Road Helicopter Landing Zone. Please describe site preparation activities and methods as well as if vegetation clearing will be required at these sites.*

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**SDG&E Response to 3-3:**

The Warnock Staging Yard is approximately 217,800 sq. ft. (5 acres). The site is located at the corner of Keyser Road and Warnock Road in the unincorporated community of Ramona and can be accessed via either road. The vegetation community consists of agricultural vegetation.

The Creelman Staging Yard is 43,560 sq. ft. (1 acre). This site is located on SDG&E-owned land at the corner of Creelman Lane and Ashley Road in the unincorporated community of Ramona and can be accessed via Ashley Road. The vegetation community consists of bare ground and non-native grasses.

The Woodlot Staging Yard is 27,000 sq. ft. (0.62 acres). This site is located in a cleared storage lot off an access road. It can be accessed by either of two existing private roads from California State Route Highway (Hwy) 78 in the unincorporated community of Santa Ysabel. The vegetation community consists of bare ground and non-native annual grasses.

The Santa Ysabel Staging Yard is divided into two areas by an unpaved private road. The total area is 283,140 sq. ft. (6.5 acres). The largest area is located east of the private unpaved road leading off Grutly Street and is 226,512 sq. ft. (5.2 acres). The smaller area is west of the private unpaved road and is 56,628 sq. ft. (1.3 acres). The site is located on Grutly Street in the unincorporated community of Santa Ysabel and can be accessed via Washington Street from Hwy 78. The vegetation community consists of bare ground and non-native annual grasslands and buckwheat scrub.

The Littlepage Road HLZ is 200 feet by 200 feet, or 40,000 sq. ft. (0.92 acres). This site is located northeast of pole Z416642 and is accessible from the existing access road. Vegetation communities consist of buckwheat scrub, fire-recovering coastal sage scrub, and non-native grassland which dominates this site.

The staging yards are chosen in an attempt to limit grading and site preparation activities. No grading is expected to occur at the Staging Yards. The site preparation could include mowing at several of the staging yards.

**Question 3-4:**

*Section 3.4.9.5 indicates construction is anticipated to occur both within and outside of the existing right-of-way (ROW). Please clarify why no temporary construction easement is required if construction occurs outside of the existing ROW.*

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**SDG&E Response to 3-4:**

There will be no new construction outside of San Diego Gas & Electric Company's existing ROW. SDG&E easement language contains provisions for SDG&E to "...erect, construct, reconstruct, replace, repair, maintain..." the facilities that are ultimately placed within the defined easement area. Along with the right to have the facilities within an easement area, SDG&E has the right to access those facilities and perform the rights as granted in the easement. In many cases the terrain does not allow for all access and work space to be contained within the granted easement area itself.

When SDG&E places a staging yard on someone's property, SDG&E will enter into a temporary agreement for that specific use on their property with the owner.

**Question 3-5:**

*Section 3.11 Required Approvals discusses an on-site meeting with BLM and the County regarding the Mt. Grower Preserve and Simon Preserve. Please provide the names and contact information for BLM and County representatives who attended.*

**SDG&E Response to 3-5:**

Joyce Schlachter, Wildlife Biologist, BLM, [Jschlach@blm.gov](mailto:Jschlach@blm.gov)  
Jennifer Price, Resource Manager, County of San Diego, [Jennifer.price@sdcounty.ca.gov](mailto:Jennifer.price@sdcounty.ca.gov)  
Walt Schmidtke, Supervising Park Ranger, County of San Diego,  
[walt.schmidtke@sdcounty.ca.gov](mailto:walt.schmidtke@sdcounty.ca.gov)

**Question 3-6:**

*Section 3.11.1 Cleveland National Forest states that this segment poles P115 and P 116 have already been replaced. Please provide a photograph showing the newly replaced poles.*

**SDG&E Response to 3-6:**

Photographs of the replaced poles at locations P115 and P116 are attached.

**Question 3-7:**

*Please provide the approximate distance from the ground to the lowest conductor.*

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**SDG&E Response to 3-7:**

The minimum height of the new 69kV conductor will be approximately 41 feet above ground level.

**Question 3-8:**

*If known, please provide the locations of which poles would be removed and or installed using a helicopter.*

**SDG&E Response to 3-8:**

At this time, the locations of which poles would be removed or installed using helicopter is unknown.

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**Question 3-9:**

*Please provide a summary table of total temporary impacts by project component (e.g., poles, substation, work areas).*

**SDG&E Response to 3-9:**

**Table 1: Anticipated Temporary Sensitive Habitat Impact Summary Table**

| Anticipated Temporary Impacts  | Area Impacted*<br>(square feet) |
|--|---------------------------------|
| Total Anticipated Temporary Impacts to Sensitive Habitat                         | 23,313                          |
| Total Anticipated Temporary Pole Location Impacts to Sensitive Habitat           | 22,533                          |
| Total Anticipated Temporary Stringing Site Impacts to Sensitive Habitat          | 500                             |
| Total Anticipated Temporary Guard Structure Impacts to Sensitive Habitat         | 0                               |
| Total Anticipated Temporary Helicopter Landing Site Impacts to Sensitive Habitat | 0                               |
| Total Anticipated Temporary Staging Yard Impacts to Sensitive Habitat            | 0                               |
| Total Anticipated Temporary Underground Trenching Impacts to Sensitive Habitat   | 0                               |
| Total Anticipated Temporary Footpath Impacts to Sensitive Habitat                | 280                             |

\*Anticipated impact areas are approximations and may vary due to actual construction field conditions. All actual project-related impacts will be assessed in the biological post-construction report.

**Question 3-10:**

*Please provide the right-of-way corridor width and confirm there will be no changes to SDG&E's existing right-of-way for this pole replacement project.*



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**SDG&E Response to 3-10:**

No changes to the existing SDG&E ROW are anticipated for the Proposed Project. The existing ROW corridor varies from franchise position to 30 feet wide. SDG&E does have one ROW grant from the U.S. Bureau of Land Management (BLM) that does not specify a width however, based on the acreage and length the width would nominally be 50 feet. In some instances SDG&E has an anchorage easement and those easements are predominantly 4 feet wide.

**Question 3-11:**

*The PEA states that no net increase in permanent impacts will occur. The PEA pages 3-11 and 3-12 described permanent impacts associated with new poles (micropile construction would require permanent impacts of approximately 39 square feet per pole and directly embedded steel poles would require approximately 5 to 10 square feet per pole. PEA Tables 4.4-2 and 4.4-5 provide estimated impact for both temporary and permanent impacts. Please clarify permanent impact associated with the project – also see request under 4.4 Biological Resources, item 4.*

**SDG&E Response to 3-11:**

The Proposed Project is a reconstruction project whereby existing structures are replaced with new structures. The Proposed Project design is such that there will be a net reduction in the number of structures. The new structures will utilize the existing support infrastructure (e.g. access roads) and permanent physical impact areas for new structures will essentially be offset by the permanent footprint of the old structures, which are being removed. Impact areas for removed poles will not be maintained, and would therefore cease to be considered areas of permanent impact. All new structures have permanent footprints, just as the existing structures do now. Therefore, the total permanent TL 637 footprint following construction of the Proposed Project will be equal to or less than the current total TL 637 footprint, thereby resulting in no net increase in permanent impacts.

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**SECTION 4 ENVIRONMENTAL IMPACT ASSESSMENT**

**4.1 Aesthetics**

**Question 4.1-1:**

*Please provide jpegs (1 MB or better quality) of Photographs 1-18 that were used in the PEA to establish the existing visual setting of the Proposed Project. In addition, please provide jpegs of visual simulations of the Proposed Project presented in Figures 4.1-4 through 4.1-8.*

**SDG&E Response to 4.1-1:**

The high resolutions jpegs are provided in attachments TL637-photos\_5-16-13 and TL637-Sims\_5-16-13.

**Question 4.1-2:**

*Please provide GIS data (shapefiles) for BLM Visual Resource Management designations along the Proposed Project alignment. Also, please identify the applicable Resource Management Plan (RMP) or other plan for BLM lands traverses by the Proposed Project.*

**SDG&E Response to 4.1-2:**

The Proponent's Environmental Assessment (PEA) Aesthetics Chapter states that "The Proposed Project passes through Mt. Gower Preserve, a BLM-owned and county managed park with a Class III management designation (BLM, 1994, p. 21)."

The 1994 South Coast Resource Management Plan includes the following information:

*14. Management actions will conform to Visual Resource Management (VRM) Class 2 objectives within Areas of Critical Environmental Concern (ACEC) and VRM Class 3 objectives in other areas. (BLM, 1994, p. 21).*

Although it has not yet been adopted, the 2011 revision of the Plan reiterates this directive. (BLM, 2011, p. 3-85).

The Proposed Project is not located within an ACEC; therefore the Class III designation is applicable. The BLM guidelines for this designation allow for moderate change to landscape

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character. Because the Proposed Project involves changes within an existing power line ROW that will not substantially affect existing visual resources in the Preserve, it is consistent with VRM Class III objectives.

In telephone communication with Environmental Vision, BLM representative Greg Hill confirmed the following information. There is not GIS data showing VRM designations in the Proposed Project area or along its alignment. Additionally, Mt. Gower Preserve, the BLM area through which the Proposed Project passes, is managed by San Diego County. (Greg Hill, 2013).

References:

U.S. Dept of Interior, BLM. 2011. *South Coast Management Plan Revision*.

Greg Hill, Planning and Environmental Coordinator, BLM South Coast Field Office. Telephone communication with C. Cornwall, Environmental Vision April 30, 2013.

**Question 4.1-3:**

*Section 4.1.3.5 (Local) states that in addition to the Ramona Community Plan area, the Proposed Project alignment would also traverse lands within the Central Mountain and North Mountain Subregional Planning areas yet a discussion pertaining policies established in these plans is not provided. Please identify the relevant and applicable policies from these plans or confirm that the plans were reviewed and no policies were determined to be applicable.*

**SDG&E Response to 4.1-3:**

The Ramona, North Mountain, and Central Mountain Community Plans were reviewed; as outlined below, the Proposed Project does not conflict with policies pertinent to visual quality in the area.

*The Ramona Community Plan defers to County of San Diego General Plan Goals and Policies regarding infrastructure and utilities. It also reiterates the General Plan policy that the scenic integrity of county scenic roadways should be preserved. The PEA Aesthetics Chapter includes discussion of pertinent County of San Diego General Plan policies and finds that the Proposed Project is consistent with these policies. In addition, the Proposed Project is not visible from scenic roadways in the Ramona Community Plan area.*

*The North Mountain Community Plan contains references to light pollution as well as a dark sky goal that apply to the Palomar Mountain Resource Conservation Area (RCA); however, the*

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Proposed Project lies approximately 20 miles south of this area and does not pass through this RCA. Policies regarding commercial and industrial areas prohibit activities that generate excessive light pollution. Because the Proposed Project does not include new lighting, policies regarding lighting are not applicable.

*The Central Mountain Community Plan* contains some reference to light pollution as well as a dark sky goal that applies to the Mount Laguna Observatory. The Proposed Project is located approximately 20 miles away and as indicated above, policies regarding lighting are not applicable.

In addition, *Central Mountain Community Plan* reiterates Scenic Highway goals from the Conservation and Open Space Element of the *County of San Diego General Plan* and includes additional policies regarding scenic highways. The Proposed Project does not cross nor is it visible from scenic roadways in the Central Mountain area. The crossing of scenic highway State Route-79 occurs within the North Mountain *Community Plan*; however, this plan does not contain policies regarding scenic highways.

From the *Central Mountain Community Plan*:

2. All development in scenic corridors shall be subject to the following policies and recommendations:
  - e. All utilities shall be undergrounded whenever feasible unless undergrounding would significantly impact environmental resources. [Department of Public Works] (p. 90)

The Proposed Project involves changes within an existing power line ROW and does not involve siting new transmission or power line facilities; therefore this policy does not apply.

References:

San Diego County. 2011. *County of San Diego General Plan*: Chapter 5 Conservation and Open Space Element. Adopted August 3, 2011.

San Diego County. 2011. *County of San Diego General Plan*: Central Mountain Subregional Plan. Adopted August 3, 2011.

San Diego County. 2010. *County of San Diego General Plan Update*: North Mountain Subregional Plan. Updated October 2010.

San Diego County. 2011. *County of San Diego General Plan Update*: Ramona Community Plan. Adopted August 3, 2011.

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**Question 4.1-4:**

*The Project Description mentions that entire power line would be reconducted. Would reconducting entail any noticeable visual effects associated with glare?*

**SDG&E Response to 4.1-4:**

Potential glare from overhead conductors would be similar to what currently exists within the Proposed Project area under baseline conditions. Therefore, there are no impacts.

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**Question 4.1-5:**

*In Section 4.1.4.5 (Operations and Maintenance), the text provides ranges of heights when comparing existing and proposed transmission structures. Please clarify the heights of existing and proposed structures depicted in Figures 4.1-4 through 4.1-8.*

**SDG&E Response to 4.1-5:**

Please see the table below for clarification of the range of heights.

| <b>Pole ID</b>      | <b>Existing Height (feet)</b> | <b>Proposed Height (feet)</b> |
|---------------------|-------------------------------|-------------------------------|
| <b>Figure 4.1-4</b> |                               |                               |
| P166                | 69                            | 100                           |
| D8                  | new                           | 52                            |
| D7                  | 49                            | removed                       |
| <b>Figure 4.1-5</b> |                               |                               |
| D28                 | 59                            | 75                            |
| P29                 | 68                            | 90                            |
| P30                 | 67                            | 95                            |
| <b>Figure 4.1-6</b> |                               |                               |
| R66                 | 61                            | removed                       |
| P64                 | 65                            | 75                            |
| P65                 | 67                            | 100                           |
| <b>Figure 4.1-7</b> |                               |                               |
| P146                | 67                            | 85                            |
| P147                | 67                            | 70                            |
| P148                | 68                            | 70                            |
| P149                | 68                            | 70                            |
| P150                | 62                            | 66                            |
| <b>Figure 4.1-8</b> |                               |                               |
| P160                | 67                            | 75                            |
| P161                | 66                            | 85                            |
| P162                | 67                            | 80                            |

**Question 4.1-6:**

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*Please clarify and provide additional information regarding construction activities along the alignment. How long would construction activities generally take at each pole location? How long would construction activities occur within each Land Use Unit?*

**SDG&E Response to 4.1-6:**

As described in Section 3.5 of the PEA, the Proposed Project will take a total of approximately nine months to complete, depending upon when outages can be scheduled. In addition to the schedule breakdown summarized in Table 3-3 of the PEA, the proposed construction activities generally take the following durations per pole location (please note that these timeframes are approximations and may vary due to actual field conditions):

Micropile foundation drilling and grouting – 5 to 8 days

- Cap and testing – 1 to 2 days
- Directly-embedded pole – hole excavation – 1 to 2 days
- Temporary pole installation – 1 to 2 days
- Power line construction (poles) – 1 to 2 days
- Pulling and tensioning – 1 to 2 days
- Sag work – 1 to 2 days

Landscape unit approximations will vary as construction duration for specific locations will not be known until the Proposed Project starts construction.

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**4.3 Air Quality and Greenhouse Gases**

**Question 4.3-1:**

*Table 4.3-9 in Section 4.3 should include sulfur oxide (SOx) emissions.*

**SDG&E Response to 4.3-1:**

SOx emissions have been added to Table 4.3-9.

**Table 4.3-9: TL 637 Maximum Daily Construction Air Emissions**

| Emissions Source  | Pollutant (pounds/day) <sup>1</sup> |        |        |      |                  |                   |
|---|-------------------------------------|--------|--------|------|------------------|-------------------|
|   | ROG                                 | CO     | NOx    | SOx  | PM <sub>10</sub> | PM <sub>2.5</sub> |
| <b>2014</b>   |                                     |        |        |      |                  |                   |
| Emissions   | 31.38                               | 230.39 | 199.55 | 0.35 | 39.38            | 22.17             |
| SDAPCD Thresholds   | 75                                  | 550    | 250    | 250  | 100              | 55                |
| Is Threshold Exceeded After Mitigation?   | No                                  | No     | No     | No   | No               | No                |
| ROG = reactive organic gases; NO <sub>x</sub> = nitrogen oxides; CO = carbon monoxide; SO <sub>x</sub> = sulfur oxides; PM <sub>10</sub> = particulate matter; up to 10 microns |                                     |        |        |      |                  |                   |
| Notes:  |                                     |        |        |      |                  |                   |
| 1. Refer to Appendix 4.3-A, Emissions Spreadsheets, for assumptions used in this analysis, including quantified emissions reduction by mitigation measures.                     |                                     |        |        |      |                  |                   |

**Question 4.3-2:**

*Please provide a citation for the greenhouse gas thresholds proposed (or adopted) by the County of San Diego and South Coast Air Quality Management District so that the thresholds can be reviewed and evaluated as to their applicability to the proposed project.*

**SDG&E Response to 4.3-2:**

References for the GHG significance threshold of 10,000 metric tons for industrial projects for both the County of San Diego and the SCAQMD have been added to the references, and citations have been added in Section 4.3.



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SCAQMD. 2011. SCAQMD Air Quality Significance Thresholds. March. Online.  
<http://www.aqmd.gov/ceqa/handbook/signthres.pdf>.

San Diego County. 2012. County of San Diego Guidelines for Determining Significance, Climate Change. June 20.

**Question 4.3-3:**

*In light of the County of San Diego's adoption of a Climate Action Plan (CAP) in June 2012, Section 4.3.4.10 should include a brief discussion of the CAP as well as the proposed project's potential conflicts or consistency with the CAP.*

**SDG&E Response to 4.3-3:**

The County of San Diego has adopted a CAP (County of San Diego, 2012) to address growth and climate change issues within the County. As part of the CAP, the County adopted a GHG reduction goal of 15 percent from 2005 levels. The County's CAP includes community measures and actions designed to reduce greenhouse gas emissions. Also as part of the CAP, the County adopted significance thresholds for GHG emissions that apply to projects under CEQA.

Section 4.3.4.10 uses the County's significance thresholds, which are part of the CAP, to evaluate the Proposed Project's emissions. Section 4.3.4.10 explains that the Proposed Project does not exceed the County's significance thresholds. The Proposed Project is therefore consistent with the CAP.

**Question 4.3-4:**

*Appendix 4.3-A:*

- a. Table 4.3-A(1), Worker Trip Emission Calculations, does not show the running and paved road emission factors for PM<sub>10</sub> and PM<sub>2.5</sub>, emission factors carbon dioxide (CO<sub>2</sub>), and the running exhaust emission factor for methane (CH<sub>4</sub>). Please provide a revised spreadsheet showing a complete set of emission factors*
- b. Table 4.3-A (2), Construction Truck Emission Calculations – Crux, uses an outdated calculation for paved road dust. The current methodology is found in Chapter 13.2.1 (Paved Road Dust) of the U.S. Environmental Protection Agency's Compilation of Air Pollutant Emission Factors (AP-42), which was published in January 2011. Furthermore, this method advises that the paved road dust calculations should not be performed for individual vehicle weight classes. Rather, the average weight of vehicles*

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*traveling on the roadways should be used. We recommend using 2.4 tons per vehicle as indicated in the CalEEMod User’s Guide, Appendix D, Table 4.1. Also, the paved road PM<sub>2.5</sub> emission factors and units for PM<sub>10</sub> and PM<sub>2.5</sub> (pounds per mile) should be shown in the spreadsheet.*

- c. *Table 4.3-A (3), Construction Truck Emission Calculations – H&M: See comments on Table 4.3-A (2).*
- d. *The following spreadsheets include vehicles that may be on-road trucks. These spreadsheets calculate the emissions from these vehicles as if they were heavy off-road diesel equipment. This approach would result in an overestimate of their emissions. The emission calculations for on-road trucks should be based on emission factors for on-road vehicles similar to what was done for the “crux” and “H&M components.”*

| <b>Table Number</b>  | <b>Probable On-Road Vehicles</b>                        |
|--|---|
| Table 4.3-A(4), Construction Heavy Equipment Emissions – Drilling                  | transport unit and flatbed truck                        |
| Table 4.3-A(6), Construction Heavy Equipment Emissions – Cap and Test              | Transport unit, tractor-trailer unit, and flatbed truck |
| Table 4.3-A(8), Construction Heavy Equipment Emissions – Construction of Shoe-Fly  | Bucket truck  |
| Table 4.3-A(9), Construction Heavy Equipment Emissions – Mobilization              | Tractor-trailer unit                                    |
| Table 4.3-A(10), Construction Heavy Equipment Emissions – Power Line Installation  | Bucket truck and line truck                             |
| Table 4.3-A(13), Construction Heavy Equipment Emissions – Underground Construction | Line truck, crew truck, and splice van                  |
| Table 4.3-A(14) – Demobilization   | Tractor-trailer rig and crew truck                      |
| Table 4.3-A(15) – Cleanup  | Crew truck  |

- e. *Table 4.3-10 shows that helicopter greenhouse gas emissions as 99 metric tons CO<sub>2</sub>e, while Table 4.3-A (16), Helicopter Emissions, shows them as 55.28 metric tons CO<sub>2</sub>e. Please review the apparent discrepancy and provide the correct value.*

**SDG&E Response to 4.3-4:**

See attached revised tables.

- a. Emission factors have been included in the tables and assumptions have been shown in the tables as revised.
- b. The emission calculations for paved road dust have been revised based on the recommendations in the comment. Equations are included in each spreadsheet (worker travel, Construction trucks Crux, and Construction trucks H&M).
- c. See the response above.

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- d. While we agree that many of the trucks in use during construction would meet on-road standards, we wanted to account for the use of the trucks at the construction site itself. Many of these trucks will be used for support of construction of TL 637, and will therefore be operating on site. We have accounted for travel in the construction trucks calculation. To account for the use of these vehicles at the site, we have revised the calculations in the offroad equipment spreadsheet to use the EMFAC2011 emission factors for idling rather than offroad truck emission factors. While this approach may still be conservative, we believe it best accounts for on-site operations during construction.
- e. The correct value for CO<sub>2</sub>e is 55.28 metric tons of CO<sub>2</sub>e. Table 4.3-10 has been corrected. We have also corrected the worker trip CO<sub>2</sub>e calculations, and have adjusted the overall CO<sub>2</sub>e emissions based on changes to the assumptions for on-site truck operation as indicated above.

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#### **4.4 Biological Resources**

##### **Question 4.4-1:**

*If blasting occurs, please describe if there will there be timing restrictions to avoid impacts to Migratory Bird Treaty Act species.*

##### **SDG&E Response to 4.4-1:**

The Migratory Bird Treaty Act has not been interpreted to apply to construction activities. Nonetheless, SDG&E ordinarily takes all reasonable and prudent steps to avoid incidental impacts to migratory bird species.

SDG&E notes that blasting activities currently are not anticipated for the proposed project, however if blasting is determined to be required a blasting plan will be created and followed. If utilized, blasting would substantially reduce construction time at any one location as extensive digging in hard rock would not be required. Blasting would therefore have the effect of reducing overall potential noise impacts. Rock blasting, if used, is typically performed only once per day and would not exceed the County's impulsive noise standards. In the event blasting is determined to be required, SDG&E will follow the Blasting ordinary construction restriction (PEA page 3-31), which states that in the event that rock blasting is used during construction, a noise and vibration calculation will be prepared and submitted to SDG&E Environmental Programs and Transmission Engineering and Design for review before blasting at any particular site. This plan would be reviewed internally by SDG&E Environmental, and would include a site specific nesting bird survey to be conducted by the independent biological consultant retained for biological monitoring on the project. The results of this survey would be communicated to SDG&E Environmental. If the biological consultant observes an active nest (for species covered by the MBTA) that may be impacted by blasting activities, SDG&E would postpone any activity that may impact the success of the nest until the nest has fledged.

##### **Question 4.4-2:**

*Section 3.4.9.6 states that maintenance and vegetation removal may occur but is covered under SDG&E's NCCP and no mitigation is required. Please elaborate on what the maximum road widths would include, how maintenance will be tracked to ensure that excess vegetation is not removed, and what will happen if excess vegetation is removed.*

##### **SDG&E Response to 4.4-2:**

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Maintenance of existing SDG&E access roads is addressed under the SDG&E Natural Communities Conservation Plan (NCCP) in multiple places. Section 7.1.5 (Operational Protocols, Maintenance of existing access roads) addresses grading of existing access roads through Operational Protocols 41, 42, 43, 44, and 45 (see below).

- 41. Repair of erosion by grading, addition of fill, and compacting. In each case of repair, the total area of the 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 the source of the 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'-wide on straight portions (radius turns may be slightly wider).
- 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.
- 45. Material for filling in road ruts should never be obtained from the sides of the road which contain habitat without approval from the Environmental Surveyor.

As outlined in the above protocols, SDG&E access roads will not exceed 12'-wide on straight portions (from the inside of windrow to inside of opposite windrow, the total width from outside of windrow to the outside of the opposite windrow is approximately 14' wide) and turns may be slightly wider. Mitigation for impacts to sensitive habitat located within Preserve areas incurred during the maintenance of existing SDG&E access roads, within the widths delineated above, are not required as these impacts are addressed under the NCCP (Table 7.4(b)). Impacts to sensitive habitat located within Preserve areas that occur *outside* of existing access road widths will be accounted for during construction by the biological monitor, and have been addressed appropriately per Section 7.4 of the SDG&E NCCP. Any impacts from road maintenance, either

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within or outside of SDG&E road width standards, will be surveyed by the biological monitor prior to work occurring.

**Question 4.4-3:**

*Please confirm that no new access roads will be cleared or graded.*

**SDG&E Response to 4.4-3:**

The Proposed Project does not propose to grade any new access roads, but as stated in Section 3.4.9.6 within the PEA, smoothing of the access roads and/or vegetation clearing will be necessary to improve some existing access roads and to re-establish unmaintained access roads pursuant to SDG&E's Subregional NCCP.

**Question 4.4-4:**

*Please confirm that Tables 4.4-2 through 4.4-5 include all temporary and permanent impacts associated with the proposed project, including, but not exclusive of micropile construction, steel pole construction, pole removal, guard pole installation, conductor stringing, dewatering, blasting, undergrounding, storage and staging areas, helicopter landing areas, stringing sites, pole and guard sites, and substation work.*

**SDG&E Response to 4.4-4:**

Tables 4.4-2 through 4.4-4 include all anticipated temporary and permanent impacts including, but not exclusive of micropile construction, steel pole construction, pole removal, guard pole installation, conductor stringing, dewatering, blasting, undergrounding, storage and staging areas, helicopter landing areas, stringing sites, pole and guard sites, and substation work.

**Question 4.4-5:**

*Please confirm that no trees will be removed as part of the construction of this project. Also, please identify where trees will require trimming.*

**SDG&E Response to 4.4-5:**

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No live trees are proposed for removal during construction activities of the proposed Project. Dead trees adjacent to facilities or underneath conductor may be removed for fire control purposes. All efforts are made to ensure minimal impacts to native trees located within Project work areas. SDG&E's standard operating protocol on Wood to Steel jobs is to have a certified arborist on site to direct any trimming of native trees with the intention of limiting trimming to no more than 30% of the canopy of any individual tree. Prior to any trimming taking place, the SDG&E Environmental team will work with Project contractors to avoid any impacts to native trees. If impacts cannot be avoided, the certified arborist is called to determine the most appropriate way to trim the tree that will result in the least impact to the tree.

Native trees that occur within or adjacent to Project work areas include Engelmann oak, black oak, coast live oak, scrub oak and sycamore trees. Project work areas that may require tree trimming are listed below:

- D40: oak trimming may be required.
  - P74: oak tree trimming required on access road
  - P75: oak tree trimming may be required 416645: oak tree trimming may be required
  - P102: oak tree trimming may be required
  - P106: oak tree trimming required
  - 107: oak tree trimming required
  - P22: pole within canopy
  - P116: two Engelmann oak trees within 15 feet from existing wood pole, oak tree trimming may be required (2 oaks).
  - P128: overland travel to pole from access road. Tree trimming required
  - P132: oak tree trimming required
  - P133: oak tree trimming may be required
  - P134: oak tree trimming may be required
  - P139: oak tree trimming required
  - P140: oak tree trimming required
  - P141: oak tree trimming required
  - P152: oak tree trimming required
  - P153: overland travel to pole from access road. Tree trimming required
  - P155: oak tree trimming may be required
  - P156: overland travel from 213753. Engelmann oaks on access road to pole. Tree trimming required.
  - P157: overland travel to pole from access road. Engelmann oaks on access road will require tree trimming
  - P158: oak tree trimming may be required
  - P160: oak tree trimming may be required
  - P162: oak tree trimming may be required
  - P163: oak tree trimming may be required
- SS 13: avoid oak trees, near P100  
SS 13b: avoid oak trees, near P100  
SS 15: avoid oak trees, between P122 and P123

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SS 16: avoid oak trees, near P145 and P146

SS 17: avoid oak trees, near P146

SS 18: avoid oak trees, near P151

**Question 4.4-6:**

*Please confirm if all species sensitivity status' and references were current as of the December 2012 Biological Technical Report (BTR) publish date.*

**SDG&E Response to 4.4-6:**

Correct. The status and references are current as of the December 2012 Biological Technical Report publish date.

**Question 4.4-7:**

*Vegetation mapping for the project appears to have only been mapped at a gross scale and there appear to be several errors - these errors may have affected the focused survey efforts (Non-inclusive examples include Figure 4.2 of 15 - areas mapped as urban and developed/ornamental appear to include CSS and grasslands, or at least pastures (ag) - does not match report descriptions; sheet 3 of 15 - See County Parks maps for Simon ([http://www.sdcountry.ca.gov/reusable\\_components/images/parks/doc/Simon\\_RMP\\_Final\\_Clean.pdf](http://www.sdcountry.ca.gov/reusable_components/images/parks/doc/Simon_RMP_Final_Clean.pdf)) - areas east of slope should be mapped as CSS, grassland, and chaparral; sheet 4 of 15 - area adjacent to Gower should include inclusions of CSS/mixed chaparral; Sheet 5 of 15 - How is grassland differentiated from Pasture (ag) and Disturbed? It is difficult to determine from text. It appears that much of this area should be mapped as grassland or Ag. instead of Disturbed - there are also inclusions of CSS or chaparral within areas mapped as Disturbed; Sheet 6 of 15 - areas mapped as Disturbed should be mapped as CSS or chaparral and grassland/Ag., is the area mapped as southern riparian forest really oak riparian forest?, at SS12, there appears to be a fringe of scrub or chaparral between the disturbed area and the adjacent road, are there inclusions of scrub habitat within the southern mixed chaparral mapping?; sheet 8 of 15 - It appears that some areas mapped as Disturbed should be switched to Ag., some areas mapped as grasslands should be scrub and oak savanna; sheet 9 of 15 - some grasslands should be mapped as oak savanna and meadows; sheet 11 of 15 - some grassland areas should be mapped as scrub, chaparral, and oak savanna, some oak savanna areas should be mapped as oak woodland and scrub/chaparral; other issues related to mapping throughout. Suggest remapping the alignment.*



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**SDG&E Response to 4.4-7:**

During survey efforts for the Project, vegetation communities were determined by percentage and/or density of vegetative cover, and were mapped on a gross scale for areas outside of the proposed work areas. Impacts to areas within proposed work areas were determined through the PSR survey and analysis on a fine scale mapping effort.

Differences in vegetation communities identified during the TL 637 surveys are based on the scale of mapping and recent fires. In recent years two fires crossed the TL 637 ROW which may have contributed to the discrepancies in vegetation community types mapped in County and other sources maps and the more recent maps developed for the TL 637 Project. The fires have altered the vegetation composition within the pre-fire vegetation communities. These changes have been documented by our biologists. A revised vegetation map (surveyed May 2013) will be included with the DR submittal. [See Attachment Q4.4-7 Figure 4]

*Figure 4.2 of 15 - areas mapped as urban and developed/ornamental appear to include CSS and grasslands, or at least pastures (ag.)*

- A vegetation mapping effort was conducted in May 2013. Vegetation communities for Figure 4 (2 of 15) will include Agriculture/pasture within the areas originally designated as urban/developed. Disturbed CSS will be mapped on this page. Disturbed designations (i.e. A community such as CSS with more than 20% non-native vegetation) will be mapped as Disturbed CSS). Currently, grassland exists within the eastern area of this map page. Fires may have contributed to the change in vegetation type at this location. An updated vegetation map will be submitted with the DR.

*Sheet 3 of 15 - - areas east of slope should be mapped as CSS, grassland, and chaparral;*

- This area consists of very disturbed vegetation communities with non-native vegetation composition of greater than 80 percent in areas within the ROW. We have incorporated areas with low density native vegetation into disturbed classifications (i.e. A community such as CSS with more than 20% non-native vegetation will be mapped as Disturbed CSS). Based on these changes in nomenclature, Disturbed CSS/Chaparral mix, and Disturbed CSS will replace the grassland designations, where appropriate. An updated vegetation map will be submitted with the DR.

*Sheet 4 of 15 - area adjacent to Gower should include inclusions of CSS/mixed chaparral;*

- Corrected. We have refined our maps and have included DCSS and CSS/Chaparral mix vegetation communities.

*Sheet 5 of 15 - How is grassland differentiated from Pasture (ag) and Disturbed? It is difficult to determine from text. It appears that much of this area should be mapped as grassland or Ag. instead of Disturbed - there are also inclusions of CSS or chaparral within areas mapped as Disturbed;*

- Disturbed communities will be broken down into urban/developed and agriculture/pastureland.

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- Pastures will be included in the vegetation mapping as Agriculture/pasture. This type of community is best characterized as Dryland Field Crops, as described in Gray and Bramlet (1992), consisting of planted, annual grasses and forbs harvested for livestock feed. These species include barley (*Hordeum* spp.), wild oat, and clover or alfalfa (*Trifolium* spp., *Medicago sativa*) species. Soils are similar to native grasslands, made up of fine-textured, often clay soils that can be very moist in the winter and very dry in the summer.
- Grasslands consists of a dense to sparse cover of annual grasses such as oats (*Avena* sp.), bromes (*Bromus* sp.), and ryegrass (*Lolium* sp.) with flowering culms up to 3 feet in height. This community is often associated with numerous species of showy-flowered, native annual forbs, “wildflowers,” such as California poppy (*Eschscholzia californica*), lupines (*Lupinus* sp.), and goldfields (*Lasthenia* sp.), especially in years of favorable rainfall (Holland 1986).
- We have also included SMC/CSS within the central portion of the vegetation map. An updated vegetation map will be submitted with the DR.

*Sheet 6 of 15 - areas mapped as Disturbed should be mapped as CSS or chaparral and grassland/Ag.,*

- Disturbed designations will be further broken down to the community (i.e. A community such as CSS with more than 20% non-native vegetation will be mapped as Disturbed CSS). An updated vegetation map will be submitted with the DR.

*Is the area mapped as southern riparian forest really oak riparian forest?*

Correct, the riparian area within the ROW is oak riparian forest dominated by broad-leaved trees such as sycamores and cottonwoods.

*At SS12, there appears to be a fringe of scrub or chaparral between the disturbed area and the adjacent road, are there inclusions of scrub habitat within the southern mixed chaparral mapping?*

- SS 12 was not mapped at a gross scale. Vegetation communities were identified during the PSR effort on a square foot basis.

*Sheet 8 of 15 - It appears that some areas mapped as Disturbed should be switched to Ag., some areas mapped as grasslands should be scrub and oak savanna;*

- This area consists of very disturbed vegetation communities with high non-native vegetation composition (in some areas over 80%). We have incorporated areas with low density native vegetation into disturbed classifications (i.e. A community such as CSS with more than 20% non-native vegetation will be mapped as Disturbed CSS) and have included areas such as Ag/Pasture where appropriate. Based on these changes in nomenclature, Disturbed CSS/Chaparral mix, and Disturbed CSS will replace portions of the grassland designation and SMC designations, where appropriate. An updated vegetation map will be submitted with the DR.

*Sheet 9 of 15 - some grasslands should be mapped as oak savanna and meadows; sheet 11 of 15 - some grassland areas should be mapped as scrub, chaparral, and oak savanna, some oak savanna areas*

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*should be mapped as oak woodland and scrub/chaparral; other issues related to mapping throughout. Suggest remapping the alignment.*

Fires may have contributed to overall species composition and discrepancies in vegetation community designations. Based on the May 2013 vegetation mapping survey effort, we have refined our vegetation communities to include disturbed CSS and areas of open oak woodland (where non-native grasses with few and widely scattered oak trees are present), where appropriate. An updated vegetation map will be submitted with the DR.

Habitat evaluations for specific protocol level surveys were conducted by USFWS permitted biologists. USFWS permitted biologists surveyed the entire line by helicopter (approved by the USFWS) to assess the potential areas for sensitive species to occur. The biologists then surveyed the line on foot to verify the helicopter habitat assessment, and to determine the final locations of the protocol-level surveys. Sensitive species surveys were then conducted by permitted biologists in areas identified during the habitat assessment efforts. These determinations were made prior to the development of a vegetation map for the BTR report. Therefore, the vegetation map did not have an effect on locations where sensitive specie surveys were conducted.

**Question 4.4-8:**

*Please provide the minimum mapping unit for mapping vegetation communities.*

**SDG&E Response to 4.4-8:**

The vegetation communities were determined by percentage and/or density of vegetative cover, and were mapped on a gross scale for areas outside of the proposed work areas, and vegetation communities found within the proposed work areas were determined on a fine scale mapping effort during the PSR efforts. The vegetation mapping effort was based primarily on Holland. Holland descriptions follow more along the lines of dominant and characteristic species, some defined by location, or by structure – and there is overlap in distinguishing between coarse as well as fine scales of vegetation communities. This allowed for smaller mapping units, approximately to 5 acres, with the exception of riparian scrub areas limited to jurisdictional water areas and areas of urban/developed and agriculture.

**Question 4.4-9:**

*Please provide a table of survey condition, personnel, dates, and times.*

**SDG&E Response to 4.4-9:**

**Initial habitat assessments for listed species:**

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Kris Alberts - TE039640-2.1 (SWFL/LBV/ARTO/QCB/Hermes)  
Michael Klein - TE-837760-6 (Hermes/QCB)  
Ruben Ramirez – (ARTO)  
Paul Morrissey – TE182550-1 (ARTO/LBV/SWFL/QCB)  
Steve Montgomery – TE45541-10 (SKR)

**Arroyo Toad**  
**Habitat Assessment**

Frank Wegscheider, Paul Morrissey, Kris Alberts

| Date     | Location | Daytime/<br>Nighttime | Survey<br>Time | Temp  | Wind | Veg<br>community | upland veg | stream<br>habitat |
|----------|----------|-----------------------|----------------|-------|------|------------------|------------|-------------------|
| 5/6/2010 | 15       | daytime               | 1610-<br>1723  | 74/71 | 0    | SCLORF/RS        | CHAMISAL   | run/dry           |
| 5/6/2010 | 17       | daytime/<br>nighttime | 1853--<br>2034 | 64/59 | 2.9  | None             | NNG        | N/A               |
| 5/7/2010 | 19       | daytime               | 1654-<br>1745  | 77/76 | 3.1  | None             | CHAMISAL   | N/A               |
| 5/7/2010 | 22       | daytime/<br>nighttime | 1908-<br>2058  | 69/67 | 0    | FS               | OEW/NNG    | Stagnant          |

**Coastal California Gnatcatcher Protocol Surveys**

Shannan Shaffer - TE039640-1

| Date      | Location | Time        | Temp<br>(F)<br>start/end | Cloud<br>Cover<br>% | Wind<br>(mph) | Precipitation | Surveyor           |
|-----------|----------|-------------|--------------------------|---------------------|---------------|---------------|--------------------|
| 5/12/2010 | Ramona   | 0645 - 1220 | 57/77                    | 0                   | 0-2           | 0             | Shannan<br>Shaffer |
| 5/19/2010 | Ramona   | 0620-1220   | 57/74                    | 30                  | 0-1           | 0             | Shannan<br>Shaffer |
| 5/26/2010 | Ramona   | 0650-1215   | 59/80                    | 100                 | 0-1           | 0             | Shannan<br>Shaffer |
| 6/2/2010  | Ramona   | 0625-1215   | 57/76                    | 0                   | 0-1           | 0             | Shannan<br>Shaffer |
| 6/9/2010  | Ramona   | 0630-1220   | 57/76                    | 80                  | 0-1           | 0             | Shannan<br>Shaffer |
| 6/16/2010 | Ramona   | 0630-1220   | 57/76                    | 0                   | 0-1           | 0             | Shannan<br>Shaffer |

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**Quino Checkerspot Butterfly Protocol Surveys**

**Surveyors:**

Michael Klein - TE-837760-6 – habitat assessment

Kris Alberts - TE039640-2.1 - habitat assessment

Greg Chatman - TE-075112-1

| <b>Date</b> | <b>Biologist</b> | <b>Time</b> | <b>Weather Conditions</b> | <b>Survey Location</b> |
|-------------|------------------|-------------|---------------------------|------------------------|
| 15-May-10   | Greg Chatman     | 1030-1630   | Temp: 70-82 °F            | Maps 019, 020          |
|             |                  |             | Wind: 3-8 mph             |                        |
|             |                  |             | Cloud Cover: 0%           |                        |
| 14-May-10   | Greg Chatman     | 1000-1600   | Temp: 68-78 °F            | Maps 015, 016          |
|             |                  |             | Wind: 1-7 mph             |                        |
|             |                  |             | Cloud Cover: 0%           |                        |
| 13-May-10   | Greg Chatman     | 1200-1500   | Temp: 75-78 °F            | Maps 021, 022          |
|             |                  |             | Wind: 1-4 mph             |                        |
|             |                  |             | Cloud Cover: 0%           |                        |
| 12-May-10   | Greg Chatman     | 1000-1600   | Temp: 70-76 °F            | Maps 017, 018          |
|             |                  |             | Wind: 2-6 mph             |                        |
|             |                  |             | Cloud Cover: 0%           |                        |
| 8-May-10    | Greg Chatman     | 0930-1530   | Temp: 74-82 °F            | Maps 016, 017          |
|             |                  |             | Wind: 1-4 mph             |                        |
|             |                  |             | Cloud Cover: 0%           |                        |
| 7-May-10    | Greg Chatman     | 1000-1600   | Temp: 79-88 °F            | Maps 017, 018          |
|             |                  |             | Wind: 2-6 mph             |                        |
|             |                  |             | Cloud Cover: 0%           |                        |
| 5-May-10    | Greg Chatman     | 1100-1700   | Temp: 77-83 °F            | Maps 015, 016          |
|             |                  |             | Wind: 2-6 mph             |                        |
|             |                  |             | Cloud Cover: 0%           |                        |
| 4-May-10    | Greg Chatman     | 1000-1600   | Temp: 75-85 °F            | Maps 019, 020          |
|             |                  |             | Wind: 2-9 mph             |                        |
|             |                  |             | Cloud Cover: 0%           |                        |
| 2-May-10    | Greg Chatman     | 1000-1600   | Temp: 64-75 °F            | Maps 017, 018          |
|             |                  |             | Wind: 2-6 mph             |                        |

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|           |              |           |                    |                    |
|-----------|--------------|-----------|--------------------|--------------------|
|           |              |           | Cloud Cover: 5-10% |                    |
| 1-May-10  | Greg Chatman | 1000-1600 | Temp: 60-70 °F     | Maps 016, 017      |
|           |              |           | Wind: 4-9 mph      |                    |
|           |              |           | Cloud Cover: 0%    |                    |
| 30-Apr-10 | Greg Chatman | 1100-1700 | Temp: 65-74 °F     | Maps 013, 014, 015 |
|           |              |           | Wind: 2-7 mph      |                    |
|           |              |           | Cloud Cover: 0%    |                    |
| 27-Apr-10 | Greg Chatman | 1000-1600 | Temp: 70-73 °F     | Maps 015, 016      |
|           |              |           | Wind: 0-3 mph      |                    |
|           |              |           | Cloud Cover: 5-30% |                    |
| 26-Apr-10 | Greg Chatman | 1200-1500 | Temp: 72-77 °F     | Maps 021, 022      |
|           |              |           | Wind: 2-6 mph      |                    |
|           |              |           | Cloud Cover: 5%    |                    |
| 25-Apr-10 | Greg Chatman | 1000-1600 | Temp: 70-77 °F     | Maps 019, 020      |
|           |              |           | Wind: 1-9 mph      |                    |
|           |              |           | Cloud Cover: 0%    |                    |
| 24-Apr-10 | Greg Chatman | 1000-1600 | Temp: 66-74 °F     | Maps 017, 018      |
|           |              |           | Wind: 0-4 mph      |                    |
|           |              |           | Cloud Cover: 0%    |                    |
| 23-Apr-10 | Greg Chatman | 0930-1530 | Temp: 60-67 °F     | Maps 015, 016      |
|           |              |           | Wind: 0-8 mph      |                    |
|           |              |           | Cloud Cover: 0-20% |                    |
| 19-Apr-10 | Greg Chatman | 1000-1600 | Temp: 67-75 °F     | Maps 013, 014      |
|           |              |           | Wind: 0-7 mph      |                    |
|           |              |           | Cloud Cover: 0%    |                    |
| 17-Apr-10 | Greg Chatman | 1200-1500 | Temp: 73-78 °F     | Maps 021, 022      |
|           |              |           | Wind: 2-7 mph      |                    |
|           |              |           | Cloud Cover: 0%    |                    |
| 16-Apr-10 | Greg Chatman | 1000-1600 | Temp: 67-76 °F     | Maps 015, 016      |
|           |              |           | Wind: 2-8 mph      |                    |
|           |              |           | Cloud Cover: 0%    |                    |
| 15-Apr-   | Greg         | 1000-1600 | Temp: 62-76 °F     | Maps 019, 020      |

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|           |              |           |   |                    |
|-----------|--------------|-----------|---|--------------------|
| 10        | Chatman      |           | Wind: 0-4 mph<br>Cloud Cover: 0%                      |                    |
| 14-Apr-10 | Greg Chatman | 1000-1600 | Temp: 63-72 °F<br>Wind: 0-7 mph<br>Cloud Cover: 0-10% | Maps 017, 018      |
| 13-Apr-10 | Greg Chatman | 1000-1600 | Temp: 61-70 °F<br>Wind: 0-8 mph<br>Cloud Cover: 20%   | Maps 016, 017      |
| 10-Apr-10 | Greg Chatman | 1000-1600 | Temp: 69-81 °F<br>Wind: 2-8 mph<br>Cloud Cover: 0%    | Maps 013, 014      |
| 9-Apr-10  | Greg Chatman | 1300-1600 | Temp: 77-82 °F<br>Wind: 2-8 mph<br>Cloud Cover: 0%    | Maps 021, 022      |
| 8-Apr-10  | Greg Chatman | 1000-1600 | Temp: 68-83 °F<br>Wind: 1-6 mph<br>Cloud Cover: 0%    | Maps 015, 016      |
| 6-Apr-10  | Greg Chatman | 1000-1600 | Temp: 60-73 °F<br>Wind: 0-7 mph<br>Cloud Cover: 0%    | Maps 019, 020      |
| 4-Apr-10  | Greg Chatman | 0930-1530 | Temp: 62-71 °F<br>Wind: 1-7 mph<br>Cloud Cover: 0-15% | Maps 017, 018      |
| 3-Apr-10  | Greg Chatman | 0930-1530 | Temp: 60-67 °F<br>Wind: 0-10 mph<br>Cloud Cover: 0%   | Maps 016, 017      |
| 2-Apr-10  | Greg Chatman | 0900-1500 | Temp: 62-73 °F<br>Wind: 0-5 mph<br>Cloud Cover: 0%    | Maps 013, 014, 015 |
| 30-Mar-10 | Greg Chatman | 1200-1500 | Temp: 72-74 °F<br>Wind: 2-6 mph<br>Cloud Cover: 0%    | Maps 021, 022      |
| 29-Mar-   | Greg         | 0930-1530 | Temp: 69-86 °F  | Maps 015, 016      |

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|           |              |           |                 |               |
|-----------|--------------|-----------|-----------------|---------------|
| 10        | Chatman      |           | Wind: 0-5 mph   |               |
|           |              |           | Cloud Cover: 0% |               |
| 28-Mar-10 | Greg Chatman | 1000-1600 | Temp: 67-70 °F  | Maps 019, 020 |
|           |              |           | Wind: 3-12 mph  |               |
|           |              |           | Cloud Cover: 0% |               |
| 26-Mar-10 | Greg Chatman | 0930-1530 | Temp: 61-71 °F  | Maps 017, 018 |
|           |              |           | Wind: 0-8 mph   |               |
|           |              |           | Cloud Cover: 0% |               |
| 25-Mar-10 | Greg Chatman | 0900-1500 | Temp: 63-70 °F  | Maps 015, 016 |
|           |              |           | Wind: 1-9 mph   |               |
|           |              |           | Cloud Cover: 0% |               |
| 24-Mar-10 | Greg Chatman | 0900-1500 | Temp: 66-80 °F  | Maps 013, 014 |
|           |              |           | Wind: 0-8 mph   |               |
|           |              |           | Cloud Cover: 0% |               |

### **Hermes Copper Butterfly**

Surveyor: Greg Chatman

Hermes copper butterfly habitat assessments were conducted by helicopter (approved by the USFWS) on March 12, 2010 by Michael Klein and Kris Alberts. Additional habitat assessments in areas that had the potential for this species to occur were conducted on foot by Greg Chatman during the QCB survey effort along TL 637. No mature spiny redberry (*Rhamnus crocea*) was identified along the alignment. Therefore, surveys for Hermes were not conducted.

### **Stephen's Kangaroo Rat**

Surveyor: Steve Montgomery, TE45541-10

Habitat evaluations for Stephens kangaroo rat (SKR) were conducted by USFWS permitted biologist Steve Montgomery. Mr. Montgomery conducted a habitat assessment of the entire line by helicopter (approved by the USFWS) to assess the potential areas for SKR to occur. However, SKR was not surveyed for along TL 637 during the 2010 survey efforts due to access constraints on private properties near the eastern portion of the alignment, west of Santa Ysabel. However, the grassland habitats to the west of Santa Ysabel and the Project area were assessed (and appropriate grassland locations trapped) during field surveys for the Sunrise Powerlink Proposed Northern Alignment. Only the non-endangered Dulzura kangaroo rat (DKR) was captured during trapping surveys in grassland habitats in this section west of the current Project Area (see Montgomery 2007). In addition, all habitat assessments and



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associated trapping surveys in the region near the Project Area have yielded the non-endangered DKR and no SKR. The rugged nature of the terrain between known populations of SKR (north of the Project Area immediately east of Lake Henshaw), including the Lake Henshaw area, the Ramona grasslands, and the area of Fallbrook and the San Luis Rey River, may have prevented the colonization of the larger grasslands near the TL 637 ROW. Thus, it is unlikely that SKR occupy this portion of the Project Area, even though field surveys were not conducted in that area during the current field effort.

**Least Bell's Vireo and Southwestern Willow Flycatcher**

Surveyors: Kris Alberts and Paul Morrissey

Kris Alberts and Paul Morrissey conducted a habitat assessment of the TL 637 ROW on March 12 and 13, 2010 by helicopter (approved by the USFWS) to identify areas such as cottonwood-willow woodlands, mule fat scrub and willow dominated areas of early successional habitat that supports dense shrub cover for nesting and a diverse canopy for foraging near water. LBVI and SWFL habitat suitability was assessed during this helicopter flyover. All drainages, washes, creeks, and rivers, both permanent and temporary that intersect the TL 637 ROW were reviewed for the presence of suitable vegetation structure (early successional riparian habitat including dense shrubs with diverse canopy necessary for breeding) that would support SWFL and LBVI. Handheld GPS units and aerial maps were used to outline portions of the ROW that would be surveyed during the 2010 SWFL/LBVI focused surveys. In addition to areas identified by Chambers' biologists, modeled data supplied by the CNF (identified as LVBI "suitable" habitat within CNF models) was also reviewed. The biologists then surveyed the line on foot to verify the helicopter habitat assessment, and to determine the final locations of the protocol-level surveys. No suitable vegetation structure that would support breeding SWFL/LBVI was identified along the TL 637 ROW.

**California Spotted Owl Assessments**

Surveyors: Linette Lina and Damien Edwards

Kris Alberts and Paul Morrissey conducted a habitat assessment along the TL 637 ROW on March 12 and 13, 2010 by helicopter (approved by the USFWS) to identify areas of potential habitat for the California spotted owl. In addition, CNF models for "suitable habitat" were analyzed. No dense stands of riparian oak woodland were identified along the ROW that would support the California spotted owl.

**Rare Plant Surveys**

Focused rare plant surveys were conducted during three separate survey periods (spring, summer, and fall of 2010) within the Project ROW to capture the blooming periods for each of the targeted species. The spring survey took place between April 20 and June 4, 2010. The summer survey occurred between June 7 and June 30, 2010. The fall survey took place between August 2 and September 15, 2010.

Surveyors:

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| Surveyor Name  |                    |                   |
|--|--------------------|-------------------|
| Kris Alberts   | Aaron Hawkins      | Andrew Pigniole * |
| Rebecca Alvidrez †   | Ana Hernandez      | Brant Primrose *  |
| Chase Barnes   | Jerilyn Hirshberg* | Brent Reimers     |
| Michael Bliss  | Fern Hoffman       | Jim Rocks *       |
| Gerhard Bombe  | Thomas Juhasz      | Jeremy Smith †    |
| Nichole Cervin *†  | John Kanlund †     | Sean St. Marie    |
| Heather Clayton *†   | Kun Liu            | Tracy Valentovich |
| Cindy Daverin *  | Maya Mazon         | Ivy Watson †      |
| Brittany Dearing   | John Messina *     | Carina Weber      |
| John Dicus   | Marija Minic       | Mark Wise         |
| Melanie Dicus *  | Margie Mulligan *  | --                |
| Dylan Edwards  | Steven Olivera     | --                |
| <b>Note:</b> * Denotes technical lead.<br>† Denotes team lead. |                    |                   |

**Weather Conditions**

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**Weather Conditions of San Diego County (April-September 2010)**

| Month     | Total Precipitation | Weather Conditions & Storm Events  |
|-----------|---------------------|--|
| April     | 1.74 inches         | Rainfall   |
|           | 11.00 inches        | Snowfall occurred in eastern San Diego County at elevations above 2,500 feet |
| May       | none                | No storm events. Below average temperatures.                                 |
| June      | none                | No storm events. Below average temperatures.                                 |
| August    | none                | No storm events. Above average temperatures.                                 |
| September | none                | No storm events. Average temperatures.                                       |

**Question 4.4-10:**

*Please explain the process for determining which species would be surveyed or analyzed.*

**SDG&E Response to 4.4-10:**

Species specific survey efforts were determined based on the ownership of the land on which the project work location is located. For example, for project work locations located within the CNF, the USFS Forester Sensitive Species List and USFS sensitive species habitat models were used to determine which species would be surveyed for and analyzed. For project work locations located on BLM land, BLM designated sensitive species were surveyed for and analyzed. For project work locations located on private lands, all Threatened and Endangered species with the potential to occur as well as all NCCP covered species were surveyed for and analyzed.

**Question 4.4-11:**

*Please explain what buffer area was surveyed for wildlife species (e.g., quino checkerspot, CAGN).*

**SDG&E Response to 4.4-11:**

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The initial areas surveyed (Survey Area) consisted of a 150-foot buffer around the pole centerline, which was extended to a 250-foot radius around each pole where the overhead line makes an angle greater than 2 degrees. The additional buffer was surveyed to include potential additional work space that is typically required during operation and maintenance work at angle points within the overhead lines. Focused Surveys for federal and state listed species surveys were performed in these areas, where suitable habitat was identified by permitted biologists. Detailed information can be found in the focused survey reports.

**Question 4.4-12:**

*Please provide all focused survey reports (e.g., special-status plants, CAGN, QCB) and habitat assessment reports (e.g., Hermes copper, vernal pool species, ARTO, LBVI, WIFL, etc.)*

**SDG&E Response to 4.4-12:**

Please refer to the attached focused survey reports. The reports include: (A) California Gnatcatcher, (B) Quino Checkerspot, (C) Arroyo Toad, (D) Rare Plant, (E) Spotted Owl, (F) Least Bell's Vireo, (G) Hermes Copper butterfly, (H) Southwestern Flycatcher, (I) Stephen's Kangaroo Rat. [\[See Q4.4-12 Attachments\]](#)

**Question 4.4-13:**

*It appears that suitable habitat for CAGN exists in the project area that was not identified in the vegetation mapping. Please review and provide updated mapping and information on CAGN.*

**SDG&E Response to 4.4-13:**

Suitable habitat for CAGN along TL 637 was identified and surveyed by USFWS permitted biologists, as described below.

Initial habitat evaluations for CAGN were conducted by USFWS permitted biologists by helicopter (approved by the USFWS) to assess the potential for CAGN to occur along the TL 637 ROW. The biologists then verified the helicopter habitat assessments on foot to determine the exact locations of the protocol-level CAGN surveys. Protocol CAGN surveys were then conducted in areas identified by the permitted biologists during the previous habitat assessment efforts. These determinations were made prior to the development of a vegetation map for the BTR report. Therefore, the vegetation map did not have an effect on locations where sensitive species surveys were conducted.

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Discrepancies in vegetation communities identified during the TL 637 surveys may exist due to scale, naming conventions, and fires that crossed TL 637 (altering species composition), and habitat fragmentation. These changes have been documented by our biologists. An updated vegetation map will be submitted with the DR.

**Question 4.4-14:**

*Please describe if there were any survey limitations.*

**SDG&E Response to 4.4-14:**

Two survey limitations occurred during the 2010 survey efforts: SKR and the rare plant surveys.

No trapping efforts for SKR occurred along TL 637 during the 2010 survey efforts due to access constraints on private properties (Tulloch) near the eastern portion of the alignment, west of Santa Ysabel. Please see the **SDG&E Response to 4.4-9**, Stephen's kangaroo rat for details on the habitat assessment and analysis for this species.

Surveys for sensitive plants were not conducted in one area located within private properties along the TL 637 ROW, between poles P142 to P147. These properties include Dorothy L Souttere, Jeff Wood, and the Cumming Family Trust properties. This was primarily due to the sensitivity of the land owners to the Sunrise Powerlink Project in the area, and they did not give permission for the focused rare plant surveys. However, habitat assessments were flown by helicopter (approved by the USFWS) for sensitive wildlife species. In addition, pre-activity surveys were conducted in this area once surveys were approved by the land owners.

Per the *SDG&E Subregional NCCP*, verification surveys are required if surface disturbance has not commenced within 30 days of the submittal of the PSR to the USFWS and the CDFW. If any additional sensitive species are found, compliance with the *SDG&E Subregional NCCP* would be followed.

**Question 4.4-15:**

*San Diego fairy shrimp has the potential to occur within road ruts and are known to occur within a number of such areas within the Ramona area. The BTR stated that road rut areas were located outside the project area and will be avoided. Please explain if the associated watersheds would be avoided as well.*

**SDG&E Response to 4.4-15:**

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During Pre-Activity surveys conducted in 2012 for TL 637, low quality vernal pools were identified outside the fenced Creelman Staging Yard and near the Warnock Staging Yard. These vernal pools and associated connectivity (water entering area during rain events) will be flagged for avoidance during the proposed construction activities. However, low quality vernal pools located in road ruts were mapped along public access roads (Keyser Rd and Creelman Ln). This will prevent exclusive avoidance of the associated watersheds of these low quality vernal pools. However, no work will occur during rain events, and construction travel along these public access roads where the road ruts have been identified will be minimized. No vernal pools or claypan areas that would hold water for long durations after a rain event were identified within the TL 637 Survey Area.

To minimize impacts to aquatic resources, the project has been designed to relocate poles and work areas outside of jurisdictional areas whenever possible. Furthermore, project activities in jurisdictional feature areas will be carried out under non-notifying Nationwide Permit #12 issued by USACE, and a 401 Certification from RWQCB (Certification 11C-114; Categorical Exemption).

**Question 4.4-16:**

*Exclusive use of database queries should not be the sole measure of potential to occur, as species may not yet have been recorded in the databases queried. For example:*

- a. ringtail is known to occur within the riparian band on BTR Figure 4 sheet 6 of 15. Please provide analysis for that species.*
- b. white-tailed kite is expected to have a moderate potential to nest within the various oaks and the riparian band throughout the site - particularly at the lower elevations. Please provide analysis for that species.*
- c. various rock outcrops and trees within the right-of-way would have potential to support roosting bats. Please provide information regarding bats that acknowledges this potential.*

**SDG&E Response to 4.4-16:**

**Ringtail (*Bassariscus astutus*) FPS**

The ringtail is a state fully protected species and is not covered under the NCCP. The ringtail is widely distributed permanent resident in California with exception of the agricultural portion of the Central Valley. The ringtail is a nocturnal slender procyonid and is found in a variety of riparian and in forest and shrub habitats at low to middle elevation areas. ringtails are usually not found more than 0.6 miles (1km) from permanent water. The ringtail is not much larger than a gray squirrel and is generally tan in color with black-tipped guard hairs on the dorsal, and yellowish white below. This species is known to eat

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rodents, rabbits, birds, reptiles, invertebrates, fruits and nuts. Ringtails nest in rock recesses, cavities in logs, and abandoned burrows (CDFW 2005).

The CNDDDB does not provide records of this species. However, suitable habitat for this species exists within the riparian community that crosses the TL 637 ROW, therefore the ringtail has a MODERATE potential to occur within this segment of the TL 637 ROW. No work is proposed in this area of suitable habitat, however; therefore, no impact to this species habitat is anticipated.

California Department of Fish and Wildlife and the California Interagency Wildlife Task Group (CDFW and CITG)  
2005 Life History Account for Ringtails. February 2005.

**White-Tailed Kite (*Elanus leucurus*) FPS, BLM Sensitive**

The white-tailed kite (nesting) is a California Fully Protected Species, BLM Sensitive, and is not covered under the NCCP. In the United States, its range extends along the Pacific coast from southwest Washington through California and also includes south-central Arizona, south Texas, and south Florida. It also occurs in Mexico and Central America. In California, it is a resident and localized migrant of the Central Valley and Pacific coast. Evidence in recent years suggests that the range of this species is increasing, although erratic shifts in the distribution of this species are not uncommon. It inhabits low- to moderate-elevation grasslands, savannas, agricultural areas, wetlands, oak woodlands, marshes, and riparian woodlands and usually breeds in open areas with scattered trees, often near water. The white-tailed kite is a medium-sized hawk with a white head; grey back; long, white tail; and large, black scapulars. It forages often by “kiting,” or hovering in one area while scanning the ground for potential prey. Its diet includes primarily small mammals, but it will also take large insects, amphibians, and lizards. Degradation or loss of grassland habitat to development or ranching is a significant threat to populations (Dunk 1995). Historical population declines may be attributed to chemical poisoning.

The white-tailed kite can be considered PRESENT on the TL 637 ROW for foraging purposes and has a LOW potential to nest on the ROW. CNDDDB lists one record of occurrence within 1 mile of the ROW, and this species was observed on the ROW near pole P158. In addition, the ROW contains suitable foraging habitat. No large stick nests that would support this species were observed within the ROW during surveys including the pre-activity surveys. Therefore, this species has a LOW potential to nest on the ROW. However, it should be noted that this species has a moderate potential to nest in adjacent oak woodland areas adjacent to the ROW.

**Roosting Bat Species:**

The TL 637 ROW contains low quality roosting habitat for bat species. Although various rock outcrops and trees within the ROW and adjacent to the ROW would have a low potential to support roosting bats, no bat hibernaculum will be removed during construction activities. The TL 637 ROW does provide suitable foraging habitat. Although foraging areas may be temporarily impacted during construction,

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work is proposed during the day when bats would not be actively foraging. Therefore, impacts to bat species are not anticipated.

**Question 4.4-17:**

*Regarding the special-status species analyzed – please explain the level of sensitivity that was analyzed for potential to occur (CNPS, CDFW, FWS, BLM, USFS, County lists, etc.).*

**SDG&E Response to 4.4-17:**

The species analyzed for their potential to occur were based on U.S. Forest Service (USFS) suitable habitat models, California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) and Critical Habitat database, the California Native Plant Society's Electronic Inventory (CNPSEI), the San Diego Natural Conservation Community Plan data, U.S. Fish and Wildlife Service (USFWS) National Wetland Index database, U.S. Geological Service (USGS) Soil Survey Map database, and field surveys performed by qualified and permitted biologists.

**Question 4.4-18:**

*Please provide a copy of the wetland delineation including supporting data sheets and other documentation.*

**SDG&E Response to 4.4-18:**

A Wetland Memo and supporting documentation are provided in an attachment. [See Attachment Q4.4-18].



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**4.5 Cultural Resources**

**Question 4.5-1:**

*Please provide an electronic copy of the project cultural resources report. Please include copies of all site records, reports, and maps. Please also provide copies of all letters and documentation of Native American consultation.*

**SDG&E Response to 4.5-1:**

TRC Solutions, Inc. (TRC) uploaded the cultural resources report and appendices to the California Public Utility Commission (CPUC) site on April 22, 2013. The cultural resources report was emailed to Ms. Rica Nitka at Dudek on May 7, 2013. The appendices including Native American correspondence was uploaded to the Dudek FTP site on May 8, 2013. A follow up email confirmation was received from Ms. Rica Nitka on May 8, 2013.

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**4.6 Geology, Soils, and Mineral Resources**

**Question 4.6-1:**

*Please provide the geotechnical investigation completed by VO Engineering (2011).*

**SDG&E Response to 4.6-1:**

The geotechnical investigation completed by VO Engineering (2011) for the Proposed Project is attached.

[Question 4.6 information provided is confidential pursuant to Public Utilities Code Section 583 and General Order 66-C and therefore not provided herein.]

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**4.7 Hazards and Hazardous Materials**

**Question 4.7-1:**

*PEA Section 1.7.4 indicates the SDG&E notified the Federal Aviation Administration (FAA) regarding two pole locations in accordance with CR part 77.9. Please indicate the airport(s) and the two poles for which the aeronautical study was completed.*

**SDG&E Response to 4.7-1:**

As described in Sections 4.7.3.7, and 4.7.4.6 through 4.7.4.7 in the PEA the closest public airport is the Ramona Airport and the closest private airports are the Flying J Private Airport and the Hoffman Private Airport. The FAA aeronautical study completed for Pole Nos. P5 and P166 only took into account the Ramona Airport. Consistent with FAA guidelines, the aeronautical study did not take into account private airports Flying J and Hoffman. The FAA only protects private airports for which instrument approach procedures have been developed and approved. Neither of these private airports has such procedures at this time.

**Question 4.7-2:**

*Section 4.14.3.6 Airports describes the closest airport to the project is the Ramona Airport located approximately 3.2 miles west of the western terminus of the project and Section 4.7.3.7 Airports describes that the closest airport to the project is approximately 1.8 miles to the northwest of TL 637. Please clarify. Also, please provide a complete list of airports (private and municipal) within the project vicinity and distance from project and confirm that no other project components require FAA noticing.*

**SDG&E Response to 4.7-2:**

Section 4.14.3.6 of the PEA describes the Ramona Airport as being “3.2 miles from the western terminus of the Proposed Project), but does not make the statement that it is the closest airport.

Section 4.7.3.7 of the PEA also describes the Ramona Airport, stating that it is the closest Public Airport to the Proposed Project, located approximately 3.4 miles from the Creelman Substation. Section 4.7.3.7 of the PEA continues to state that the closest private airports are the Flying J Private Airport located approximately 1.8 miles northwest of the TL 637 alignment and the Hoffman Private Airport is located approximately 4.9 miles northwest of the Santa Ysabel Substation.

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Section 4.7.4.7 of the PEA states:

“While the Proposed Project does include the installation of vertical structures (power line poles), new poles would not be located in areas that do not already have similar structures. SDG&E determined that two poles required notifying the FAA. The FAA conducted an aeronautical study under the provisions of 49 USC, Section 44718 and Title 14 of the CFR, Part 77; and has determined there is no hazard to air navigation and aerial marking lights/balls are not required. As such, the Proposed Project would not result in a safety hazard for people residing or working in the project area. Therefore, no impacts are anticipated.”

**Question 4.7-3:**

*Please provide the source for Table 4.7-1 Hazardous Material Sites Adjacent to the Proposed Project.*

**SDG&E Response to 4.7-3:**

The technical reference sources for Table 4.7-1 of the PEA are as follows:

Department of Toxic Substances Control. ENVIROSTOR Database. Online:  
<http://www.envirostor.dtsc.ca.gov/public/>. Accessed February and November, 2012.

Mountain Proflame Contamination Site Profile [http://geotracker.waterboards.ca.gov/profile\\_report.asp?global\\_id=T0608150736](http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0608150736).

Santa Ysabel (formerly chevron) Contamination Site Profile [http://geotracker.waterboards.ca.gov/profile\\_report.asp?global\\_id=T0607302306](http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607302306).

Santa Ysabel Old Barn Contamination Site Profile [http://geotracker.waterboards.ca.gov/profile\\_report.asp?global\\_id=T0608129822](http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0608129822).

State Water Resources Control Board. 2012. Geotracker online database. Online at:  
<http://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=ramona%2Cca>  
Site Visited February and November 2012.

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**4.8 Hydrology and Water Quality**

**Question 4.8-1:**

*For all surface water bodies (rivers, creeks, and other water bodies) crossed by the project, please provide in table format the pole number, name of water body –if unnamed state so, feature type and flow characteristics.*

**SDG&E Response to 4.8-1:**

The surface water bodies that are crossed by the Proposed Project are outlined in Table 4.8-1.

**Table 4.8-1: Surface Waters Crossed by Project**

| Pole Number | Water Body Name | Feature Type       | Flow Characteristics   |
|-------------|-----------------|--------------------|--|
| P5          | Unnamed         | Ephemeral drainage | Water flows south to north across road through a corrugated metal pipe to blue line drainage |
| R11         | Unnamed         | Blue line drainage | Water flows east to west along the road.   |
| R11         | Unnamed         | Road rut drainage  | Water flows east to west along the road and possibly connects with blue line.                |
| R13         | Unnamed         | Blue line drainage | Water flows east to west.  |
| R17         | Unnamed         | Road rut drainage  | Water flows from east to west along road and connects with blue line.                        |
| R174        | Unnamed         | Road rut drainage  | Water flows from east to west then crosses road to connect to blue line.                     |

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|     |         |                    |  |
|-----|---------|--------------------|--|
| P23 | Unnamed | Ephemeral drainage | Water flows from east to west then connects to blue line.  |
| D31 | Unnamed | Ephemeral drainage | Water flows northwest to southeast then connects to an unnamed stream leading to San Vincente Creek. |
| D33 | Unnamed | Ephemeral drainage | Water flows northwest to southeast then connects to an unnamed stream leading to San Vincente Creek. |
| D33 | Unnamed | Ephemeral drainage | Water flows northwest to southeast then connects to an unnamed stream leading to San Vincente Creek. |
| P35 | Unnamed | Ephemeral drainage | Water flows northwest to southeast then connects to an unnamed stream leading to San Vincente Creek. |
| P35 | Unnamed | Ephemeral drainage | Water flows northwest to southeast then connects to an unnamed stream leading to San Vincente Creek. |
| P35 | Unnamed | Ephemeral drainage | Water flows northwest to southeast then connects to an unnamed stream leading to San Vincente Creek. |
| P36 | Unnamed | Ephemeral drainage | Water flows northwest to southeast then connects to an unnamed stream leading to San Vincente Creek. |
| P37 | Unnamed | Ephemeral drainage | Water flows northwest to southeast then connects to an unnamed stream leading to                     |

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|     |         |                            |  |
|-----|---------|----------------------------|--|
|     |         |                            | San Vincente Creek.  |
| P37 | Unnamed | Ephemeral drainage         | Water flows northwest to southeast then connects to an unnamed stream leading to San Vincente Creek.                 |
| P38 | Unnamed | Ephemeral drainage         | Water flows northwest to southeast then connects to an unnamed stream leading to San Vincente Creek.                 |
| P39 | Unnamed | Intermittent drainage      | Water flows northwest to southeast then connects to an unnamed stream leading to San Vincente Creek.                 |
| D40 | Unnamed | Ephemeral blue line stream | Water flows northwest to southeast then connects to an unnamed stream leading to San Vincente Creek.                 |
| P45 | Unnamed | Ephemeral drainage         | Flow diverted east to west (via concrete channel and pipe) to an unnamed stream then San Vincente Creek.             |
| P49 | Unnamed | Ephemeral drainage         | Water flows southeast to northwest. Historically would connect to an unnamed stream. Currently obstructed by houses. |
| P51 | Unnamed | Ephemeral drainage         | Water flows east to west and is piped across the street to an unnamed stream connecting to San Vincente Creek.       |
| P51 | Unnamed | Ephemeral drainage         | Water flows east to west and is piped across the street to an unnamed stream connecting to San Vincente Creek.       |

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|     |         |  |  |
|-----|---------|--|--|
| P54 | Unnamed | Ephemeral drainage                           | Water flows north to south, connectivity is blocked by an earthen dam to protect housing track from flooding.                            |
| P62 | Unnamed | Blue line drainage                           | Water flows north to south through a corrugated metal pipe to the opposite side of the road.   |
| P63 | Unnamed | Ephemeral drainage                           | Water flows north to south to connect to blue line drainage.   |
| P63 | Unnamed | Ephemeral drainage                           | Water flows north to south and would historically connect to a blue line drainage; however, this is obstructed by a housing development. |
| P64 | Unnamed | Ephemeral drainage                           | Water flows north to south connecting to blue line drainage.   |
| P65 | Unnamed | Ephemeral drainage                           | Water flows north to south connecting to blue line drainage.   |
| R66 | Unnamed | Ephemeral drainage                           | Water flows north to south connecting to blue line drainage.   |
| P68 | Unnamed | Ephemeral drainage                           | Water flows north to south connecting to blue line drainage.   |
| P76 | Unnamed | Road rut drainage leading to erosion feature | Water flow is east to west and is the result of a road rut. Water flows into an erosion drainage that leads to a blue line drainage.     |



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|      |         |  |  |
|------|---------|--|--|
| P77  | Unnamed | Road rut drainage leading to erosion feature | Water flows northeast to southwest and is the result of a road rut. Water flows into an erosion drainage that leads to a blue line drainage. |
| P79  | Unnamed | Ephemeral drainage                           | Start of a drainage feature leading to a blue line.  |
| P80  | Unnamed | Ephemeral drainage                           | Water flows southeast to northwest into a blue line.   |
| P81  | Unnamed | Ephemeral drainage                           | Water flows east to west into a blue line.   |
| P85  | Unnamed | Ephemeral drainage                           | Water flows north to south, and is an erosion feature that connects with a blue line.  |
| P87  | Unnamed | Ephemeral drainage                           | Water flows south to north into a blue line.   |
| P98  | Unnamed | Ephemeral drainage                           | Water flows from northwest to southeast to connect to San Vincente Creek.  |
| P99  | Unnamed | Ephemeral drainage                           | Water flows north to southwest to connect with San Vincente Creek.   |
| P101 | Unnamed | Ephemeral drainage                           | Water flows from northwest to southeast to connect with San Vincente Creek.  |
| P104 | Unnamed | Ephemeral drainage                           | Water flows from northwest to southeast to connect with San Vincente Creek.  |

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|      |         |                    |   |
|------|---------|--------------------|---|
| P111 | Unnamed | Ephemeral drainage | Water flows south to north to connect to Dye Creek.                               |
| P115 | Unnamed | Ephemeral drainage | Water flows north to southwest connecting to Dye Creek.                           |
| P115 | Unnamed | Ephemeral drainage | Water flows north to southwest connecting to Dye Creek.                           |
| P117 | Unnamed | Ephemeral drainage | Water flows north to south into another drainage leading to Dye Creek.            |
| P118 | Unnamed | Ephemeral drainage | Water flows north to south into another drainage leading to Dye Creek.            |
| P121 | Unnamed | Ephemeral drainage | Water flows north to south into another drainage leading to Dye Creek.            |
| P142 | Unnamed | Ephemeral drainage | Water flows east to west into another drainage leading to the San Diego River.    |
| P143 | Unnamed | Ephemeral drainage | Water flows east to west into another drainage leading to the San Diego River.    |
| P143 | Unnamed | Man-made drainage  | Water flows east to west into another drainage leading to the San Diego River.    |
| P144 | Unnamed | Ephemeral drainage | Water flows east to west into another drainage leading to the San Diego River.    |
| P149 | Unnamed | Man-made drainage  | Water flows east to west. Diverts water parallel to road, then is piped under the |

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|                  |         |                    |  |
|------------------|---------|--------------------|--|
|                  |         |                    | road to connect to blue line drainage.   |
| P152             | Unnamed | Ephemeral drainage | Water flows east to west, crosses overland travel route then under the AR to connect to blue line drainage.                        |
| P158             | Unnamed | Ephemeral drainage | Water flows east to west, to an apparent seep outside of the project area.   |
| P160             | Unnamed | Ephemeral drainage | Water flows east to west. Historically flowed into drainage, currently obstructed by housing development.                          |
| P161             | Unnamed | Ephemeral drainage | Water flows east to west into water diversion.   |
| Santa Ysabel HLZ | Unnamed | Ephemeral drainage | Water flows southeast to northwest, is diverted parallel to Highway 79, and is piped across the street to join Santa Ysabel Creek. |

**Question 4.8-2:**

*Please provide permanent as well as temporary impacts to all surface water bodies.*

**SDG&E Response to 4.8-2:**

Sixty-seven drainages or features within the Proposed Project area are potentially subject to jurisdiction by the U.S. Army Corps of Engineers (USACE), San Diego Regional Water Quality Control Board (RWQCB), and California Department of Fish and Game (CDFW). Eleven poles (P148, P149, P150, P103, P104, P105, P106, P107, P114, P152, and P129) are located within wet meadows that USACE and RWQCB have been determined to be jurisdictional. Six poles (R10, R169, R171, D167, R11, and R13) are located within an unvegetated streambed/water of the United States that USACE, RWQCB, and CDFW have determined to be jurisdictional.

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Steel plates will be used to temporarily span over two jurisdictional areas to provide temporary access during construction. Project activity associated with all 17 poles and the temporary steel plates will be carried out under non-notifying Nationwide Permit #12 issued by the USACE and a Clean Water Act Section 401 Certification from the RWQCB. The impacts associated with the six poles within CDFW jurisdiction will not substantially adversely affect an existing fish or wildlife resource. Therefore, a Streambed Alteration Agreement notification was not submitted. Impacts are less than significant.

**Permanent Impacts**

Replacement of existing poles P148, P149, P150 and P103 with new steel poles will occur within disturbed wetland areas (wet meadow). Access to the poles will occur off adjacent dirt roads. A total of 98 sq. ft. (0.002 acre) of permanent impacts to disturbed wetlands is anticipated for these poles.

**Temporary Impacts**

Temporary impacts to USACE jurisdictional wetlands are 0.13 acre, and temporary impacts to streambeds are 0.04 acre. Temporary impacts associated with pole removal and replacement activities include access to the poles and work space around the poles. The replacement of poles and removal of pole butts will occur within the same workspace. As mentioned, temporary impacts associated with pole butt removals are anticipated. However, as stated in the avoidance and minimization measures in the application to RWQCB for a Clean Water Act Section 401 Water Quality Certification, if it is determined in the field that pole butt removal activities will cause a significant impact to a drainage feature, the poles will be cut at ground level and left in place. Steel plates and a temporary bridge are anticipated to be used to span over three jurisdictional areas to provide access during construction.

In addition, appropriate Best Management Practices (BMPs) will be implemented to prevent erosion and offsite sedimentation into the 19 potentially jurisdictional areas. With implementation of BMPs and minimization measures, the Proposed Project would not substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion or siltation onsite or offsite. Erosion and siltation would be controlled and minimized, as discussed above, through the implementation of SDG&E standard operating procedures and protocol and BMPs, to be documented in the SWPPP. Therefore, impacts would be less than significant.

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**4.9 Land Use and Planning**

**Question 4.9-1:**

*Table 4.9-1 presents designated and existing land uses in the proposed project area by Land Use Unit. Please either provide land use information by milepost or provide the lengths of TL 637 through each land use unit. For example, from milepost x to x, TL 637 traverses Land Use Unit 1. In addition, please provide a map that delineates the reference Land Use Units and the GIS information (shapefiles) used to create the map.*

**SDG&E Response to 4.9-1:**

See the table below for the lengths of TL 637 for each land use unit.

**Table 4.9-1: Designated and Existing Land Uses in the Proposed Project Area**

| <b>Pole(s) and other Components</b> | <b>Community</b> | <b>General Plan Land Use Designation</b>                                  | <b>Zoning Designation</b> | <b>Existing Land Use</b>  | <b>Length of Land Use Unit</b> |
|-------------------------------------|------------------|---|---------------------------|---|--------------------------------|
| Land Use Unit 1                     | Ramona           | Public/Semi-Public Facilities & Semi-Rural Residential (SR-2, SR-4, SR10) | Agriculture               | Existing electric distribution and power lines, existing substation, rural residences | 0.9 miles                      |
| Land Use Unit 2                     | Ramona           | Open Space – Conservation   | Specific Plan             | Existing electric distribution and power lines, Simon Park Preserve                   | 0.9 miles                      |
| Land Use Unit 3                     | Ramona           | Specific Plan, Open Space – Conservation, Village Residential (VR-2)      | Rural Residential         | Existing electric distribution and power lines, residences                            | 1.9 miles                      |

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|  |                        |   |   |   |           |
|--|------------------------|---|---|---|-----------|
| Land Use Unit 4  | Ramona to Santa Ysabel | Public Agency Lands, Rural Lands (RL-40, RL-80)   | Agriculture   | Existing electric distribution and power lines, private residences, grazing land                              | 9.6 miles |
| Land Use Unit 5  | Santa Ysabel           | Public Agency Lands, Open Space – Conservation, Rural Lands (RL-80), Village Residential (VR-2.9) | Agriculture, Rural Residential, and Commercial & Office | Existing electric distribution and power lines, grazing lands, private residents, small commercial facilities | 0.2 miles |
| <b>Staging Yards/HLZs</b>                                      |                        |   |   |   |           |
| Creelman Staging Yard  | Ramona                 | Public/Semi-Public Facilities   | Agriculture   | Existing Creelman Substation  |           |
| Warnock Staging Yard   | Ramona                 | Semi-Rural Residential (SR-2)   | Agriculture   | Empty lot   |           |
| Wood Lot Staging Yard  | Santa Ysabel           | Open Space – Conservation   | Agriculture   | Storage lot   |           |
| Santa Ysabel Staging Yard                                      | Santa Ysabel           | Rural Lands (RL-80)   | Agriculture   | Empty lot   |           |
| Mt. Gower HLZ  | Ramona                 | Open Space-Conservation   | Specific Plan   | Unpaved parking lot   |           |
| Littlepage Road HLZ  | Ramona/Santa Ysabel    | Rural Lands (RL-80)   | Agriculture   | Open grazing land   |           |
| <i>County of San Diego GIS Zoning and Property Tool (2012)</i> |                        |   |   |   |           |

See attached Figure 4.9-2, Existing Land Uses in Proposed Project Vicinity delineates land use units.

**Question 4.9-2:**

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*Portions of TL 637 within Land Use Unit 4 would traverse BLM lands. Please provide the relevant BLM land use designations and the applicable Resource Management Plan (RMP) for these lands. If no RMP exists for BLM lands traversed by the Proposed Project, please clarify.*

**SDG&E Response to 4.9-2:**

BLM RMP information added provided below, under BLM, South Coast Resource Management Plan, and under *Mt. Gower Open Space Preserve Rules and Regulations*.

South Coast Resource Management Plan

The Mt. Gower Preserve is located southeast of the community of Ramona and contains approximately eight miles of multi-use trails. The BLM *South Coast Resource Management Plan (1994)* is a document that guides the activities on BLM-owned lands for San Diego, Riverside, San Bernardino, Orange, and Los Angeles Counties. The BLM is in the process of revising this Plan (*South Coast Draft Resource Management Plan (2011)*). This area covers nearly nine million acres, with approximately 300,820 acres of that land being BLM-administered public land. The Mt Gower Preserve, a designated open space preserve, is located within this BLM planning area, and is thus subject to the *South Coast Resource Management Plan*. This plan outlines measures that will maintain the recreational opportunities within the area, ensure compliance with habitat conservation plans, and continue the conservation and stewardship of these lands through collaboration with federal, state, and local agencies.

*Mt. Gower Open Space Preserve Rules and Regulations*

The BLM-administered public lands within the Mt. Gower Preserve are under a lease to the San Diego County Parks and Recreation Department. The San Diego County Parks and Recreation Department provides Rules and Regulations for public use of the Preserve in *Mt. Gower Open Space Preserve Rules and Regulations for Open Space Preserves (2000)*.

**Question 4.9-3:**

*Within the General Plan Land Use Designation column of Table 4.9-1, Rural Lands is identified several times as the applicable land use designations for various components of the Proposed Project. Please provide the applicable density for each designation (i.e., RL-80, RL-40, etc.).*

**SDG&E Response to 4.9-3:**

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Table 4.9-1 updated with applicable density designations-see the table above in Response 4.9-1.

**Question 4.9-4:**

*Please clarify and provide additional information regarding construction activities along the alignment. Where would the temporary restriction of two-way travel on local roadways be required? How long would construction activities generally take at each pole location? How long would construction activities occur within each Land Use Unit?*

**SDG&E Response to 4.9-4:**

Table 4.14-2 of the PEA describes the potential roadways that may be impacted by pole work activities. The roadways are Creelman Lane, Arena Way, Littlepage Road, SR-78, and SR-79. Please refer to the response to question 4.1-6 for the construction duration per pole location and Landscape units.

**Question 4.9-5:**

*Section 4.9.4.3 acknowledges that local plans and policies do not apply to the Proposed Project and states that the Proposed Project is consistent with the policies and goals of the applicable plans of County lands traversed by TL 637. PEA, Section 4.9.4.3 does not acknowledge the policies of local plans identified in Section 4.9.3.1 and does not provide an analysis that would substantiate the consistency claim. While such projects are exempt from local land use and zoning regulations, consultation with local agencies regarding land use matters potentially affected by the project is required. In order to substantiate the consistency claim made in the PEA, please provide a consistency analysis with local plans and polices.*

**SDG&E Response to 4.9-5:**

Local land use plans, policies and regulations do not apply to the Proposed Project as a matter of law. As such, the underlying general plans and zoning ordinances are not “applicable”, however the Proposed Project does not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Proposed Project. The Proposed Project is consistent with the applicable plans, policies, and goals of the *Ramona Community Plan* and the *San Diego County General Plan*, as well as the zoning designations.



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The Ramona Community Plan (2010) provides guidance for the community of Ramona and the surrounding area. As noted in the Community Plan, electricity service is provided by a private company, regulated by the State Public Utilities Commission. Policy LU 5.1.7 of the Community Plan encourages local service district and utility companies to conform to the adopted Community Plan. Policies and Goals that relate to the proposed project include Policy COS 1.1.10 and Goal S1.1. Policy COS 1.1.10 encourages brush management programs in conjunction with other public agencies to reduce wildfire hazards. Goal S 1.1 is for the maximum protection to residents of the planning area from natural hazards such as earthquakes, flood, and fire, and provide adequate police protection and other emergency services. The proposed project is part of SDG&E's long-term plan is to improve reliability and reduce fire risks in fire-prone areas through system strengthening or other enhancements. As such, the proposed project will increase protection of residents through reduction of fire risks and associated demands on emergency systems and will support emergency services through improved communication reliability. Therefore, the proposed project will be in compliance with the Ramona Community Plan and in fact advances policies related to fire safety.

In addition, the County of San Diego General Plan provides guidance for the entire County, including unincorporated County areas. Policy LU 4.6 encourages the planning of energy infrastructure such that the utilities are consistent with General Plan and Community Plan goals and policies. Policy LU 12.4 encourages public utilities to be compatible with community character, and for environmental and visual impacts to be minimized. The proposed project will include the removal and replacement of poles within an existing SDG&E ROW and will not result in a change to community character. Environmental and visual impacts were analyzed in the PEA, and various avoidance measures were incorporated into the Proposed Project to ensure that impacts remain less than significant. The proposed project will be consistent with the General Plan and Community Plan goals and policies.

The BLM South Coast Resource Management Plan, the North County MSCP, the East County MSCP, the Simon Preserve Resource Management Plan and the SDG&E NCCP all pertain to the protection of native species, as well as the conservation of open space, natural habitat, and recreational opportunities, in specific areas within San Diego County. The Proposed Project falls within the area in which SDG&E's utility operations are governed by *SDG&E's Subregional NCCP*. As a part of the *SDG&E Subregional NCCP*, SDG&E has been issued incidental take permits (Permit PRT-809637) by the USFWS and the CDFG for 100 Covered Species. Even with the *SDG&E Subregional NCCP*, SDG&E's goal is to avoid "take" of Covered Species whenever possible and to implement measures to minimize and avoid any "take" to the maximum extent possible. The *SDG&E Subregional NCCP* includes measures and operational protocols designed to avoid potential impacts and to address impacts where such impacts are not avoidable, to ensure the protection and conservation of federal and state listed species and

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Covered Species. In addition, the proposed project will not conflict with any of the additional MSCPs or Resource Management Plans, as the project will include the removal and replacement of existing poles within the SDG&E ROW. No open space or recreational land will be converted to other uses as a result of the proposed project, and no changes in land use or zoning would occur.

Proposed Project activities along the Proposed Project alignment would be limited to the removal and replacement of poles and would primarily occur within SDG&E ROW. The Creelman Staging Yard is located on land zoned as Agricultural at the intersection of Creelman Lane and Ashley Road, surrounded by land zoned as Agricultural. Surrounding land uses include semi-rural residential development with grazing and horse pastures. The Warnock Staging Yard is located on land zoned as Agricultural, and is surrounded by land zoned as Agricultural. Surrounding land uses include semi-rural residential and grazing land. The Woodlot Staging Yard is located off a private access road and is zoned and surrounded by land zoned as Agricultural. Surrounding land uses are ranchland. The Santa Ysabel Staging Yard is located on land zoned as Agricultural, surrounded by land zoned for Agriculture and Rural Residential. Surrounding land uses include ranchland and a small mix of commercial and residences in the rural community of Santa Ysabel. The proposed project does not involve any change in land uses and will not require a change in the General Plan land use designation or the zoning designations of the existing SDG&E ROW and/or easement area. In addition, electric lines are designated as permitted uses in all of the zoning designations that the Proposed Project alignment crosses.

Temporary staging areas and stringing sites located outside SDG&E ROW and/or easements are needed to support the Proposed Project. SDG&E communicates with local agencies (i.e., the County of San Diego) about the use of these temporary staging areas to avoid and minimize any temporary land use impacts. The use of these staging areas and stringing sites would be temporary and compatible with existing land uses or designation.

Substitute or additional staging yards may be considered if necessary during construction. Any potential necessary staging yards would be located within previously disturbed areas, or paved areas, and would go through environmental review prior to use.

Even assuming that the local land use plans, policies and regulations applied to the Proposed Project, due to the temporary nature of construction activities; the Proposed Project's compliance and consistency with existing land use plans, policies and regulations; and the existing electrical infrastructure located within and adjacent to the Proposed Project area; there would be no significant impacts to existing land use plans, policies, or regulations as a result of construction of the Proposed Project.

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Therefore, Proposed Project activities would not conflict with any applicable land use plan, policy, or regulation; and no impacts would occur.

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**4.10 Noise**

**Question 4.10-1:**

*Noise Setting: Please identify existing noise sensitive receptors, and ambient noise levels along the project alignment.*

**SDG&E Response to 4.10-1:**

A discussion of noise sensitive receptors along the alignment is provided in Section 4.10.3.2 of the PEA. The majority of the power line passes through rural residential and undeveloped areas, with some residences in close proximity to the Proposed Project on the western portion of the Proposed Project. Noise sensitive areas (NSAs) are considered to be any areas where there are dwelling units, or sites where frequent human uses occur. This includes residences, schools, libraries, hospitals, and public parks.

None of the standards applicable to the Proposed Project limit noise impacts relative to the existing ambient. As such, the Proposed Project can show compliance with all noise standards without determining ambient noise levels along the Proposed Project alignment.

**Question 4.10-2:**

*Construction impacts assessment: Please include a description of the noise methodology (i.e., Roadway Construction Noise Model, FTA methodology, or?) and equipment consist assumptions (type and number of pieces of equipment).*

*Also, please note that the County's construction noise thresholds apply at the boundary line of the property where the noise source is located or any occupied property where the noise is being received. Therefore, please discuss/determine noise impacts relative to these locations and provide a table or figure that identifies the properties subject to noise levels in excess of the County's noise ordinance criteria.*

*Additionally, it is noted that Table 4.10-6 excludes helicopter noise. Please quantify noise expected from helicopter use both during construction and operation/inspections and compare to the San Diego County Noise Ordinance*

**SDG&E Response to 4.10-2:**

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Construction impacts were determined by utilizing spreadsheet calculations similar to the Roadway Construction Noise Model. The precise number of equipment to be utilized during construction is unknown at this time. Therefore, an analysis was provided for each individual type of equipment. A summary is provided in Section 4.10.4.2 of the PEA.

Table 4.10-6 of the PEA shows the expected construction noise levels, adjusted for an 8-hour day. The nearest residential property lines are approximately 50 feet from construction activities. A review of Table 4.10-6 shows that some construction activities may exceed the 75 dBA noise ordinance criteria. However, SDG&E will implement the Construction Noise ordinary construction restriction (PEA page 3-31) to ensure that potential impacts from construction located near NSAs remain less than significant. SDG&E will meet and confer with the County to discuss temporarily deviating from the requirements of the Noise Code, as described in the construction noise variance process (Code Section 36.423) where construction noise is anticipated to exceed 75dBA at adjacent properties with NSAs located within 50 feet of construction activities. If requested by the County, SDG&E will evaluate the potential relocation of residents and/or the use of portable noise barriers.

Helicopter use within the staging areas has been summarized in Section 4.10.4.2 of the PEA. Associated noise levels at the staging areas are provided in Table 4.10-8 of the PEA, and are shown to be well below the San Diego County Noise Ordinance. Helicopter use along the Proposed Project alignment will be of limited duration. No single receptor will be exposed to significant noise levels for an extended period, as construction activities move along the corridor.

**Question 4.10-3:**

*Please quantify the noise and vibration impacts associated with potential blasting activities and disclose noise/vibration levels at the nearest sensitive receptors. These should be compared to all applicable County thresholds (including impulsive noise) prior to introducing mitigation.*

**SDG&E Response to 4.10-3:**

Blasting noise and vibration is very site specific, depending on the soil and rock conditions of each site. Currently, there is no plan for blasting activities. As such, detailed calculations cannot be performed. However, rock blasting, if utilized, would substantially reduce construction time at any one location as extensive digging in hard rock would not be required. Blasting would therefore have the effect of reducing potential noise impacts. Noise associated with these activities would occur intermittently, over short periods of time. Rock blasting, if used, is typically performed only once per day and would therefore not exceed the County's impulsive noise standards.

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In addition, should blasting be determined to be required, SDG&E will follow the Blasting ordinary construction restriction (PEA page 3-31) to ensure that impacts would remain less than significant. The Blasting ordinary construction restriction states that in the unlikely event that rock blasting is used during construction, a noise and vibration calculation will be prepared and submitted to SDG&E Environmental Programs and Transmission Engineering and Design for review before blasting for each site. The construction contractor shall ensure compliance with all applicable local, state, and federal regulations relating to blasting activities.

**Question 4.10-4:**

*Please include a discussion of the noise and vibration impacts associated with the undergrounding (jack-and-bore or trenching construction).*

**SDG&E Response to 4.10-4:**

Trenching activities will include the use of a backhoe to move earth. Trenching construction is currently proposed at two locations along the Proposed Project alignment, one of which is approximately 50 feet from the nearest NSA. A typical sound level for a backhoe at 50 feet is 80 dBA.

It is important to note that the equipment will not be operating continuously. A typical usage factor for this type of construction activity (Roadway Construction Noise Model) was applied in order to arrive at the average sound level that may occur during a typical 8-hour workday. The sound level that can be expected at 50 feet would be 74 dBA, below the County of San Diego noise code.

Vibration during trenching activities would be similar to those found during the general construction, which has been summarized in Section 4.10.4.3 of the PEA. Referring to the data in Table 4.10-9 of the PEA, vibration levels would be below the barely perceptible response level. Because the closest residences are 50 feet or more away from where any construction would occur, no impacts are anticipated.

**Question 4.10-5:**

*Please either identify where helicopters could operate between 6:30 a.m. and 7 a.m., or state a minimum setback distance helicopters would operate from all occupied properties between 6:30 a.m. and 7:00 a.m. and what the noise level would be with the setback distance.*

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**SDG&E Response to 4.10-5:**

As detailed in Section 4.10.4.2 of the PEA, any helicopter usage for Proposed Project construction will be limited to those hours deemed acceptable for construction activities by the County of San Diego Noise Code (7a.m. to 7 p.m.) so therefore will not fall between the times of 6:30 am and 7:00 am.

**Question 4.10-6:**

*Please identify which residents, if any, are anticipated to exceed the applicable noise thresholds.*

**SDG&E Response to 4.10-6:**

SDG&E does not anticipate exceeding the applicable noise thresholds, with the implementation of the Construction Noise ordinary construction restrictions. The restrictions ensure that potential impacts from construction located near NSAs will remain less than significant. SDG&E will meet and confer with the County to discuss temporarily deviating from the requirements of the Noise Code, as described in the construction noise variance process (Code Section 36.423) where construction noise is anticipated to exceed 75dBA at adjacent properties with NSAs located within 50 feet of construction activities. If requested by the County, SDG&E will evaluate the potential re-location of residents and/or the use of portable noise barriers.

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**4.13 Recreation**

**Question 4.13-1:**

*Regarding construction activities within the Simon Preserve and Mt Gower Preserve, please describe where any temporary trail use restrictions occur and how long would trail use restrictions occur?*

**SDG&E Response to 4.13-1:**

Temporary trail use restrictions within the Simon Preserve would potentially occur along the alignment between locations P24 through P39 as depicted on Sheets 4-7 of Appendix 3-B in the PEA. Within the Mt. Gower Preserve the temporary restrictions would potentially occur between locations R66 through P69 as shown on Sheets 14-15, and Sheet 2 of the Staging Yard and Helicopter Landing Zones in Appendix 3-B. The temporary restrictions are described in Sections 3.8 and 4.13.4.2 of the PEA. Please refer to the response to question 4.1-6 which outlines the general durations of construction activities per pole location.



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**4.14 Transportation**

**Question 4.14-1:**

*Section 4.14.3.6 Airports describes the closets airport to the project is the Ramona Airport located approximately 3.2 miles west of the western terminus of the project. Section 4.7.3.7 Airports describes that the closest airport to the project is approximately 1.8 miles to the northwest of TL 637. The project proposes to increase the TL 637 pole height on average by 12 feet with a maximum increase of 40 feet. Do any of the proposed poles require noticing to the FAA under CR part 77.9 or would any of the new poles create a safety hazard to nearby airport operations?*

**SDG&E Response to 4.14-1:**

Section 4.14.3.6 of the PEA describes the Ramona Airport as being “3.2 miles from the western terminus of the Proposed Project), but does not make the statement that it is the closest airport.

Section 4.7.3.7 of the PEA also describes the Ramona Airport, stating that it is the closest Public Airport to the Proposed Project, located approximately 3.4 miles from the Creelman Substation. Section 4.7.3.7 of the PEA continues to state that the closest private airports are the Flying J Private Airport located approximately 1.8 miles northwest of the TL 637 alignment and the Hoffman Private Airport is located approximately 4.9 miles northwest of the Santa Ysabel Substation.

Section 4.7.4.7 of the PEA states:

“While the Proposed Project does include the installation of vertical structures (power line poles), new poles would not located in areas that do not already have similar structures. SDG&E determined that two poles required noticing to the FAA. The FAA conducted an aeronautical study under the provisions of 49 USC, Section 44718 and Title 14 of the CFR, Part 77; and has determined there is no hazard to air navigation and aerial marking lights/balls are not required. As such, the Proposed Project would not result in a safety hazard for people residing or working in the project area. Therefore, no impacts are anticipated.”

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**4.15 Utilities and Service Systems**

**Question 4.15-1:**

*Please provide commitment letter(s) or other correspondence from municipal water agencies confirming that the 2.25 million gallons of water needed for construction is available.*

**SDG&E Response to 4.15-1:**

SDG&E is currently working with the Ramona Municipal Water District in order to secure commitment letters for the approximate 2.25 million gallons of water needed for construction. Once secured, SDG&E will supply letters to the ED as requested.

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**APPENDICES**

**Question Appendix 1-C:**

*Appendix 1-C: The existing power line map shows two insets relating to the Creelman and Santa Ysabel substations. Please describe what these insets are illustrating. Also, please add the portion of TL637 that is shared with TL626.*

**SDG&E Response to Appendix 1-C:**

The insets were provided to show an enlarged view of the existing power lines within 300 feet of the Proposed Project to clearly show the relationship of the existing 69kV power lines to TL 637. The map has been revised to clearly show the portion of TL637 that is shared with TL626. The revised map is attached.

**Question Appendix 3-C:**

*Appendix 3-C: Typical structure diagrams provide a photo of a typical wood transmission pole with distribution underbuilt. Is this photo taken along TL 637 and if so where? Also, if available please provide a photo of a typical wood to steel conversion with distribution underbuilt.*

**SDG&E Response to Appendix 3-C:**

The photo is taken along TL 637 looking west along Creelman Lane located at the west end of the project near the Sixes Court intersection. The pole in the foreground is P5. Attached is a photo of a typical wood to steel conversion with distribution underbuilt.

**PUBLIC NOTICE LIST – TL637**  
**LIST OF PUBLIC AGENCIES AND OTHER INTERESTED PARTIES**

The following is a list of parties required to be noticed under G.O. 131-D, Section XI. Land owners and other interested parties required to be noticed pursuant to G.O. 131-D, Section XI, A.

State of California  
Attorney General's Office  
P.O. Box 944255  
Sacramento, CA 94244-2550

State of California  
Director Dept of General Services  
PO Box 989052  
West Sacramento, CA95798-9052

United States Government  
General Services Administration  
300 N. Los Angeles  
Los Angeles, CA 90012

City of San Diego  
Attn. Mayor Filner  
202 C Street, 11<sup>th</sup> Floor  
San Diego, CA 92101

California Public Utilities Commission  
Lon Payne  
505 Van Ness Ave.  
San Francisco, CA 94102

Julian Chamber of Commerce  
P.O. Box 1866  
2129 Main Street  
Julian, CA 92036

County of San Diego  
Attn. County Clerk  
P.O. Box 121750  
San Diego, CA 92101

City of San Diego  
Attn. City Attorney  
1200 Third Ave.  
Suite 1620  
San Diego, CA 92101

County of San Diego  
Attn. County Counsel  
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San Diego, CA 92101

City of San Diego  
Attn. City Clerk  
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San Diego, CA 92101

Mark Wardlaw, Director  
County of San Diego Planning &  
Development Services  
5510 Overland Avenue,  
San Diego, CA 92123

Julian Community Planning Group  
Jack Shelver, Chair  
Po Box 249  
Julian CA 92036-0249

County of San Diego Air Pollution  
Control District, Attention Robert Kard  
10124 Old Grove Road  
San Diego, CA 92131

California Department of Fish and Wildlife,  
Stephanie Rihl, SDG&E NCCP Coordinator  
3883 Ruffin Road  
San Diego, CA 92123

California Public Utilities Commission  
Docket Office  
505 Van Ness Avenue  
San Francisco, CA 94102

CA State Water Resources Board  
Thomas Howard  
1001 "I" Street  
Sacramento, CA 95814

CA Department of Transportation  
Ms. Laurie Berman  
4050 Taylor St.  
San Diego, CA 92110

Federal Aviation Administration  
William Withycombe  
Western Pacific Division  
P.O. Box 92007 WPC  
Los Angeles, CA 90009

CA Air Resources Board  
Mary D. Nichols  
1001 "I" Street  
Sacramento, CA 95814

CA Regional Water Quality Board  
David Gibson  
9174 Sky Park Court, Suite 100  
San Diego, CA 92123-4340

US Army Corp of Engineers  
San Diego Field Office  
6010 Hidden Valley Rd., Suite 105  
Carlsbad, CA 92011

California Energy Commission  
Robert Oglesby  
1516 Ninth Street, Mail Stop 39  
Sacramento, CA 95814

Ramona Community Planning Group  
Kristi Mansolf, Secretary  
15873 Highway 67  
Ramona CA 92065-7200

Native American Heritage Commission  
95 Capitol Mall, Rm. 364  
Sacramento, CA 95814

County of San Diego  
County Supervisor Diane Jacobs  
1600 Pacific Hwy – 3<sup>rd</sup> Floor  
San Diego, CA 92101

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Lands and Special Uses Program Mgr.  
Cleveland National Forest  
10845 Rancho Bernardo Rd., Ste. 200  
San Diego, CA 92127

John R. Kalish, Field Manager  
Bureau of Land Management  
Palm Springs-South Coast Field Office  
1201 Bird Center Drive  
Palm Springs, CA 92262-8001

Tulloch Family Partners, LP  
28223 Highway 78  
Ramona, CA 92065

Mike McFedries, Manager  
San Diego County Parks & Recreation  
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San Diego, CA 92123

Patrick Gower, NCCP Coordinator  
US Fish & Wildlife Service  
6010 Hidden Valley  
Carlsbad, CA 92011

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San Diego Country Estates Association  
24157 San Vicente Road  
Ramona, CA 92065

Ms. Barbara Worden  
Ramona Chamber of Commerce  
960 Main Street  
Ramona, CA 92065

California Public Utilities Commission  
Nicholas Sher  
505 Van Ness Avenue  
San Francisco, CA 94102

**PARCEL AND MAILING INFORMATION FOR PROPERTIES  
WITHIN 300 FEET OF THE PROPOSED PROJECT**

FERWALT DARREN W & MARY K  
PO BOX 1883  
SISTERS OR 977591883

WITMAN HENRY W III & BETTY A  
FAMILY TRUST 11-06-90  
PO BOX 1959  
ESCONDIDO CA 920331959

SCHULTZ PETER E & ERIN D  
PO BOX 2269  
RAMONA CA 920650939

ELSTON JOHN W JR & TERESA M  
PO BOX 2528  
RAMONA CA 920650943

HUMISTON FRED G  
PO BOX 25959  
LOS ANGELES CA 90025

VEDOVA JAMES C  
PO BOX 266  
SANTA YSABEL CA 920700266

BACK COUNTRY PROPERTIES  
PO BOX 307  
SANTA YSABEL CA 920700307

COUNTY OF SAN DIEGO  
SCARBERRY RD  
RAMONA CA 92065

COUNTY OF SAN DIEGO  
VISTA RAMONA RD  
RAMONA CA 92065

PELTIER PHYLIP J & KAREN D  
100 CHAPARRAL DR  
PARADISE CA 959696104

HENNING PETER & THALIA  
11327 LUXEMBOURG WAY  
SAN DIEGO CA 921312939

MCFADDEN ROGER J &  
HEIDI-ROSE  
12435 SNAFFLE BIT RD  
PEYTON CO 808317986

KENNY FRANCIS W 07-11-00  
13170 CAROLEEAVE  
SAN DIEGO CA 92129

FINCH JANE E  
1444 BUENA VISTA WAY  
CARLSBAD CA 920081537

SOUTTERE DOROTHY L  
SEPARATE PROPERTY TRUST  
1468 TARBOX ST  
SAN DIEGO CA 921142635

SAN DIEGO COUNTRY ESTATES  
15910 AVENEL LN  
RAMONA CA 920654904

COUNTY OF SAN DIEGO  
1600 PACIFIC HWY  
SAN DIEGO CA 921012429

MARTINO DORIS  
16124 RAGLES CREST RD  
RAMONA CA 92065

CHAVEZ OSWALDO & VALERIE A  
16305 OPEN VIEW RD  
RAMONA CA 920655934

DELEONARDO MICHAEL S &  
JANETTE 2006 TRUST 11-22-06  
16310 OPEN VIEW RD  
RAMONA CA 920655933

BERLINER JEFFREY S &  
PAULA M  
16323 OPEN VIEW RD  
RAMONA CA 920655934

WILSON DENNIS W & JONNIE A  
16332 OPEN VIEW RD  
RAMONA CA 920655933

WEBER FAMILY TRUST 06-06-07  
16341 OPEN VIEW RD  
RAMONA CA 920655934

THIEM GREGORY T & KAAREN  
16350 OPEN VIEW RD  
RAMONA CA 920655933

HENSON ALDA L  
16359 OPEN VIEW RD  
RAMONA CA 920655934

BENNETT MOSES  
16377 OPEN VIEW RD  
RAMONA CA 920655934

DAILY DAVID S & TARA L  
16378 OPEN VIEW RD  
RAMONA CA 920655933

LITTLEFIELD LAURENCE D &  
CAROLE J FAMILY TRUST  
16395 OPEN VIEW RD  
RAMONA CA 920655934

WHITE DWAYNE R  
16934 IVY PASS CIR  
RAMONA CA 920655929

RASH PAUL K & MOON  
16953 ARENA WAY  
RAMONA CA 920655926

ALFARO JUAN & ADRIANA  
16989 ARENA WAY  
RAMONA CA 920655926

ROMERO MARGARET L TRUST  
17009 ARENA WAY  
RAMONA CA 920655936

MCCLURE KELLY J & AMY M  
17012 ARENA WAY  
RAMONA CA 920655935

SEXTON RICHARD D &  
LEE ANITA L  
17021 ARENA WAY  
RAMONA CA 920655936

RUSHWORTH W HARRY & TILLIE  
17024 ARENA WAY  
RAMONA CA 920655935

EBRO LYNN M  
17025 HARVEST POINT WAY  
RAMONA CA 920655930

ANGELOW DONALD F JR &  
MARGARET  
17026 HARVEST POINT WAY  
RAMONA CA 920655930

PECORARO JOHN W &  
KATHERINE G  
17030 ARENA WAY  
RAMONA CA 920655935

LOPRESTI KENNETH C &  
COLLENA A  
17033 ARENA WAY  
RAMONA CA 920655936

MCEWAN JOHN G & DORIE L  
17043 HARVEST POINT WAY  
RAMONA CA 920655930

CAVAZOS JONATHAN & DESIREE  
17044 HARVEST POINT WAY  
RAMONA CA 920655930

ZAZAS AUNDREA M  
17045 ARENA WAY  
RAMONA CA 920655936

GEHLER FAMILY TRUST 08-01-08  
17046 ARENA WAY  
RAMONA CA 920655935

CARRILLO FREDRICK A & VICKI L  
17057 ARENA WAY  
RAMONA CA 920655936

HALLMARK STEVE & MICHELLE  
17061 HARVEST POINT WAY  
RAMONA CA 920655930

HAERR JOHN & RENEE  
17062 HARVEST POINT WAY  
RAMONA CA 920655930

SUTHERLAND TED  
17080 HARVEST POINT WAY  
RAMONA CA 920655930

BORCHERS VINCENT & CAMILLA  
17217 PRAIRIE MILE RD  
RAMONA CA 920656412

GROGAN MICHAEL J  
17252 ACANTO DR  
RAMONA CA 920654004

YORK JOHN FAMILY TRUST  
17287 OAK HOLLOW RD  
RAMONA CA 920656757

TUCKER LIVING TRUST  
17339 ABRIGO WAY  
RAMONA CA 920654002

LULL WILLIAM G & GERALDINE  
17351 ABRIGO WAY  
RAMONA CA 920654002

O'BRIEN DOUGLAS S & MARY J E  
17352 ABRIGO WAY  
RAMONA CA 920654002

PAGE MICHAEL A & LISA A  
17449 OAK HOLLOW RD  
RAMONA CA 920656758

ELSTON FAMILY TRUST 08-08-01  
17655 OAK HOLLOW RD  
RAMONA CA 920656505

STANTON FAMILY TRUST  
1804 BIG SKY RD  
RAMONA CA 920653565

ARTIS FAMILY TRUST  
1844 BIG SKY RD  
RAMONA CA 920653565

MADISON TRUST 02-06-92  
1865 KEYES RD  
RAMONA CA 920653520

WALES BOLEN E & LISA C  
1880 KEYES RD  
RAMONA CA 920653521

ROTH FAMILY RESIDUAL TRUST  
1985 SIXES CT  
RAMONA CA 920653720

KIDD SCOTT & MARY 2009  
TRUST 209 BRATTLE RD  
SYRACUSE NY 132031320

CROCKETT THOMAS M  
RICHARDSON TERESA L  
21109 SHELL VALLEY RD  
EDMONDS WA 980266949

PAXTON DORIS E TRUST  
23608 GYMKHANA RD  
RAMONA CA 920655927

CROWELL CORWIN  
23616 GYMKHANA RD  
RAMONA CA 920655927

SCHIFERL CLARK M & SONYA  
23624 GYMKHANA RD  
RAMONA CA 920655927

FRIESENHAHN DAVID J &  
DEBORA A  
23631 GYMKHANA RD  
RAMONA CA 920655928

SHAW STEVEN & MICHELLE  
FAMILY TRUST 06-13-05  
23632 GYMKHANA RD  
RAMONA CA 920655927

WATKINS BRIAN J & MICHELLE L  
23640 GYMKHANA RD  
RAMONA CA 920655927

NECOCHEA RAYMOND & LINDA  
23643 GYMKHANA RD  
RAMONA CA 920655928

WORDEN DAVID E & BARBARA A  
23648 GYMKHANA RD  
RAMONA CA 920655927

CHAVARIN PHILLIP JR &  
DEANNA L  
23664 GYMKHANA RD  
RAMONA CA 920655927

ACCARDI BRANDON M &  
ROBYN B  
23672 GYMKHANA RD  
RAMONA CA 920655927

WOOD ROSS W  
23676 CALLE OVIEDA  
RAMONA CA 920656411

FISER CHRISTOPHER L & KRISTA  
23689 CALLE OVIEDA  
RAMONA CA 920656411

GESAMAN TROY L  
23690 CALLE OVIEDA  
RAMONA CA 920656411

ANDERSON WALTER H FAMILY  
TRUST  
23713 VISTA RAMONA RD  
RAMONA CA 920654041

STEWART WILLIAM W &  
KATHLEEN R  
23718 VISTA RAMONA RD  
RAMONA CA 920654042

MCCAULEY TERENCE G &  
ISABEL H  
23719 VISTA RAMONA RD  
RAMONA CA 920654041

KISSINGER DALE K  
23725 VISTA RAMONA RD  
RAMONA CA 920654041

LAKE MARTIN & VALERIE  
FAMILY TRUST OF 2006  
23726 VISTA RAMONA RD  
RAMONA CA 920654042

RING GARY A  
23731 VISTA RAMONA RD  
RAMONA CA 920654041

THEILER MARTIN &  
THOMPSON PRISKA M  
23734 VISTA RAMONA RD  
RAMONA CA 920654042

MULL JESSE M JR & DONNA L  
23739 VISTA RAMONA RD  
RAMONA CA 920654041

SHABO HANI M & JOKA BAN Y  
23742 VISTA RAMONA RD  
RAMONA CA 920654042

BALDRIDGE FAMILY TRUST  
23750 VISTA RAMONA RD  
RAMONA CA 920654097

HOUSGARD ROGER J & LENA E  
23751 VISTA RAMONA RD  
RAMONA CA 920654098

TAMBURRINO ANTHONY &  
SEPTEMBER  
23758 VISTA RAMONA RD  
RAMONA CA 920654097



LEE THOMAS W & DIANA R  
23766 VISTA RAMONA RD  
RAMONA CA 920654097

MARTIN STEPHEN M &  
DEBORA K  
24110 RUTHERFORD RD  
RAMONA CA 920654057

KISS ETHEL M TRUST 02-08-00  
24118 RUTHERFORD RD  
RAMONA CA 920654057

MEITZLER BRIAN K  
24134 RUTHERFORD RD  
RAMONA CA 920654057

HENDERSON SARAH A  
24142 RUTHERFORD RD  
RAMONA CA 920654057

TILESTON HENRY Y & HOPE L  
24158 RUTHERFORD RD  
RAMONA CA 920654057

AUERBACH LISA D  
2416 WILSHIRE BLVD  
SANTA MONICA CA 904035806

E A RANCHES L L C  
2416 WILSHIRE BLVD  
SANTA MONICA CA 904035806

BORENSTEIN MARTIN I &  
MARILYN K 03-31-98  
24216 RUTHERFORD RD  
RAMONA CA 920654024

WHALEN SUSAN I  
24224 RUTHERFORD RD  
RAMONA CA 920654024

FERNANDEZ G C & D V  
2006 TRUST  
24225 RUTHERFORD RD  
RAMONA CA 920654023

BURFEINDT FAMILY TRUST  
24233 RUTHERFORD RD  
RAMONA CA 920654023

RUBINO JOSEPH T & RHONDA K  
24248 RUTHERFORD RD  
RAMONA CA 920654024

MOORE MARY K  
24306 RUTHERFORD RD  
RAMONA CA 920654085

JAMES DENIS L & SHARRI D  
24314 RUTHERFORD RD  
RAMONA CA 920654085

ENGEL ROCK D TRUST 09-26-07  
24315 RUTHERFORD RD  
RAMONA CA 920654086

SWEET DONALD & GERALDINE  
TRUST 07-04-92  
24329 RUTHERFORD RD  
RAMONA CA 920654086

DONNA C 09-29-00  
24343 RUTHERFORD RD  
RAMONA CA 920654086

EVERETT DAVID J  
24351 RUTHERFORD RD  
RAMONA CA 920654025

TIPPS BRYAN & DEBORAH  
24354 RUTHERFORD RD  
RAMONA CA 920654026

SAVAGE RONALD T & DONNA J  
24359 RUTHERFORD RD  
RAMONA CA 920654025

MAVROUDIS JOHN A & KAREN R  
24360 RUTHERFORD RD  
RAMONA CA 920654026

PEERY JOHN R  
24368 RUTHERFORD RD  
RAMONA CA 920654026

BAZINET CAROL J TRUST  
24369 RUTHERFORD RD  
RAMONA CA 920654025

WHITEHILL MICHAEL J &  
KIMBERLY A  
24376 RUTHERFORD RD  
RAMONA CA 920654026

MEANDRO MIKE  
24381 RUTHERFORD RD  
RAMONA CA 920654025

GYDE SHANNON J  
24384 RUTHERFORD RD  
RAMONA CA 920654026

SMITH JIMMIE & DORIS  
24389 RUTHERFORD RD  
RAMONA CA 920654025

PADILLA ERIKA & NICHOLAS  
24404 RUTHERFORD RD  
RAMONA CA 920654028

MURPHY RILEY & JENNIFER  
24412 RUTHERFORD RD  
RAMONA CA 920654028

BRYE TONYA E  
24420 RUTHERFORD RD  
RAMONA CA 920654028

MCCANN TROY H & ERIN E  
24426 CORNELL PARK LN  
KATY TX 774944288

SWEITZER FAMILY TRUST  
24428 RUTHERFORD RD  
RAMONA CA 920654028

WHALEN RUSSELL T &  
PAMELA R  
24444 RUTHERFORD RD  
RAMONA CA 920654087

MCLEOD AARON J & AIMEE E  
24452 RUTHERFORD RD  
RAMONA CA 920654087

GREER RODNEY & MARIA  
24468 RUTHERFORD RD  
RAMONA CA 920654087

KELLOUGH DYANNE DP  
24510 RUTHERFORD RD  
RAMONA CA 920654030

MARKER J L & K M LIVING TRUST  
24518 RUTHERFORD RD  
RAMONA CA 920654030

RAYMER CHRISTOPHER C &  
JERRIE H  
24526 RUTHERFORD RD  
RAMONA CA 920654030

MIDDLETON SCOTT A & TRACI N  
24534 RUTHERFORD RD  
RAMONA CA 920654030

STATEHAM BRET S & LORI A  
24542 RUTHERFORD RD  
RAMONA CA 920654030

JOHNSTON MICHAEL W  
24546 DEL AMO RD  
RAMONA CA 920654081

NOBLES THOMAS &  
BURKE-NOBLES IRENE  
24550 RUTHERFORD RD  
RAMONA CA 920654089

OTTALAGANO DENNIS P &  
NOREEN E  
24552 DEL AMO RD  
RAMONA CA 920654081

TEIXEIRA MARC D & JANICE M  
24556 RUTHERFORD RD  
RAMONA CA 920654089

OCONNOR KATIE M  
24557 DEL AMO RD  
RAMONA CA 920654082

SLOAN JOCELYN R  
24558 DEL AMO RD  
RAMONA CA 920654081

MEYERS JASON E & KELLEY J  
24562 DEL AMO RD  
RAMONA CA 920654081

JOHNSON BROOKE A & TERESA  
L  
24562 RUTHERFORD RD  
RAMONA CA 920654089

MICHELETTI FAMILY TRUST 08-  
13-97  
24563 DEL AMO RD  
RAMONA CA 920654082

ELLERY MICHAEL  
24566 DEL AMO RD  
RAMONA CA 920654081

MUREN G TIMOTHY & TAMARA M  
24568 RUTHERFORD RD  
RAMONA CA 920654089

SCHIRER HARRY R & ANGELA L  
24570 DEL AMO RD  
RAMONA CA 920654081

BULL RICHARD E &  
CONSTANCE J  
24572 RUTHERFORD RD  
RAMONA CA 920654089

DOYLE ROB M & SUZANNE M  
24574 DEL AMO RD  
RAMONA CA 920654081

RITLAND JON E  
2529 23RD RD  
ARLINGTON VA 222074901

BROUWER FAMILY TRUST  
25971 KAYWOOD WAY  
ESCONDIDO CA 920268428

CUMMING FAMILY TRUST  
TRUST D 06-17-83  
28223 HIGHWAY 78  
RAMONA CA 920656712

TULLOCH FAMILY PARTNERS L P  
28223 HIGHWAY 78  
RAMONA CA 920656712

DEWALT RICHARD D  
310 CREELMAN LN  
RAMONA CA 920653555

US BANK NA SERIES 2005-AR16  
3476 STATEVIEW BLVD  
FORT MILL SC 297157203

YOUNG MONE L  
3630 VIA SILVA  
OCEANSIDE CA 920567260

MCWHORTER 08-03-87  
368 CREELMAN LN  
RAMONA CA 920653555

JOHNSON JOE A JR & CHAROTT  
385 CREELMAN LN  
RAMONA CA 920653554

1996 DAVIS FAMILY TRUST  
3913 VIEJAS CREEK LN  
ALPINE CA 919012348

PATE CHARLES M & NANCY R  
410 CREELMAN LN  
RAMONA CA 920653543

TRAPHAGEN OF MCKENNEY  
TRUST  
460 CREELMAN LN  
RAMONA CA 920653543

MACARTHUR RON & MARCIA C  
488 CREELMAN LN  
RAMONA CA 920653543

KLINGNER FAMILY TRUST  
514 CREELMAN LN  
RAMONA CA 920653542

PISACRETA KATHLEEN  
532 CREELMAN LN  
RAMONA CA 920653542

RANCHO SAN VICENTE ASSN  
5740 FLEET ST  
CARLSBAD CA 920084704

KUNUGI JIMMIE H  
6309 CHARING ST  
SAN DIEGO CA 921175116

TORPIN GEOFFREY & SHARON  
638 CREELMAN LN  
RAMONA CA 920653420

AYERS FAMILY TRUST  
664 CREELMAN LN  
RAMONA CA 920653420

MORAN MANUEL N & NORA P  
720 CREELMAN LN  
RAMONA CA 920653422

LEHMAN CISSY R  
741 CREELMAN LN  
RAMONA CA 920653421

ROSE BEN 03-27-08  
827 SUMMIT LOOP  
GRANTS PASS OR 975278990

HERITAGE OPERATING L P  
8801 YALE AVE  
TULSA OK 741373536

TULLOCH LUCY  
935 HILLTOP NORTH DR  
BAYFIELD CO 811229360

HARRIS ROBERT C JR TRUST  
9528 MIRAMAR RD  
SAN DIEGO CA 921264533

WOOD JEFF J  
9727 CASTAIC CT  
SANTEE CA 920712623

WOOD JAMES O REVOCABLE  
TRUST 01-23-01  
PO BOX 60  
SANTA YSABEL CA 92070

## **PUBLIC REVIEW LOCATIONS**

A copy of the application and any amendments may be inspected at the SDG&E business offices as listed below:

436 H Street  
Chula Vista, CA 91910

440 Beech Street  
San Diego, CA 92101

104 N Johnson Ave.  
El Cajon, CA 92020

2405 Plaza Blvd.  
National City, CA 91950

336 Euclid Ave. Ste. 502  
San Diego, CA 92114

2604-B S El Camino Real  
Carlsbad, CA 92008

644 W. Mission Ave.  
Escondido, CA 92025

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TO STAY

State Highway 11  
Washburn Retirement Center



































**Table A-1. Worker Trip Emissions Calculations**

| Construction Phase                                     | Vehicle Class              | No. of Daily Workers<br>Per Construction Phase | Speed<br>(mph) | VMT<br>(mi/vehicle-day) | CO                     |                          | NO <sub>x</sub>        |                          | ROG                    |                          |                          |                              |                        | SO <sub>x</sub>          |                                     | PM10                   |                          |                        |                          | PM2.5            |                   |                        |                          | CO <sub>2</sub>  |                   | CH <sub>4</sub>        |                          | N <sub>2</sub> O       |                          |                        |
|--|----------------------------|--|----------------|-------------------------|------------------------|--------------------------|------------------------|--------------------------|------------------------|--------------------------|--------------------------|------------------------------|------------------------|--------------------------|-------------------------------------|------------------------|--------------------------|------------------------|--------------------------|------------------|-------------------|------------------------|--------------------------|------------------|-------------------|------------------------|--------------------------|------------------------|--------------------------|------------------------|
|  |                            |  |                |                         | Running Exhaust (g/mi) | Start-Up (g/vehicle-day) | Running Exhaust (g/mi) | Start-Up (g/vehicle-day) | Running Exhaust (g/mi) | Start-Up (g/vehicle-day) | Hot-Soak (g/vehicle-day) | Resting Loss (g/vehicle-day) | Running Exhaust (g/mi) | Start-Up (g/vehicle-day) | Diurnal Evaporative (g/vehicle-day) | Running Exhaust (g/mi) | Start-Up (g/vehicle-day) | Running Exhaust (g/mi) | Start-Up (g/vehicle-day) | Tire Wear (g/mi) | Brake Wear (g/mi) | Running Exhaust (g/mi) | Start-Up (g/vehicle-day) | Tire Wear (g/mi) | Brake Wear (g/mi) | Running Exhaust (g/mi) | Start-Up (g/vehicle-day) | Running Exhaust (g/mi) | Start-Up (g/vehicle-day) | Running Exhaust (g/mi) |
| Clear and Grade for Staging Areas, Access Roads, Poles | Light-Duty Truck, catalyst | 5  | 35             | 80                      | 3.0975                 | 38.14685                 | 0.301284               | 2.236171                 | 0.094167               | 3.031413                 | 1.876347                 | 0.796436                     | 0.20051                | 1.078687                 | 0.004048                            | 0.005841               | 0.004371                 | 0.03404                | 0.008                    | 0.03675          | 0.004             | 0.031111               | 0.002                    | 0.01575          | 372.0084          | 488.7328               | 0.0177                   | 0.02407547             | 0.03                     | 0.01059328             |
| Construction Crews                                     | Light-Duty Truck, catalyst | 100  | 35             | 80                      | 3.0975                 | 38.14685                 | 0.301284               | 2.236171                 | 0.094167               | 3.031413                 | 1.876347                 | 0.796436                     | 0.20051                | 1.078687                 | 0.004048                            | 0.005841               | 0.004371                 | 0.03404                | 0.008                    | 0.03675          | 0.004             | 0.031111               | 0.002                    | 0.01575          | 372.0084          | 488.7328               | 0.0177                   | 0.02407547             | 0.03                     | 0.01059328             |
| SWPPP  | Light-Duty Truck, catalyst | 10   | 35             | 80                      | 3.0975                 | 38.14685                 | 0.301284               | 2.236171                 | 0.094167               | 3.031413                 | 1.876347                 | 0.796436                     | 0.20051                | 1.078687                 | 0.004048                            | 0.005841               | 0.004371                 | 0.03404                | 0.008                    | 0.03675          | 0.004             | 0.031111               | 0.002                    | 0.01575          | 372.0084          | 488.7328               | 0.0177                   | 0.02407547             | 0.03                     | 0.01059328             |
| Monitors   | Light-Duty Truck, catalyst | 20   | 35             | 80                      | 3.0975                 | 38.14685                 | 0.301284               | 2.236171                 | 0.094167               | 3.031413                 | 1.876347                 | 0.796436                     | 0.20051                | 1.078687                 | 0.004048                            | 0.005841               | 0.004371                 | 0.03404                | 0.008                    | 0.03675          | 0.004             | 0.031111               | 0.002                    | 0.01575          | 372.0084          | 488.7328               | 0.0177                   | 0.02407547             | 0.03                     | 0.01059328             |
| Testing and Inspection Crews                           | Light-Duty Truck, catalyst | 5  | 35             | 80                      | 3.0975                 | 38.14685                 | 0.301284               | 2.236171                 | 0.094167               | 3.031413                 | 1.876347                 | 0.796436                     | 0.20051                | 1.078687                 | 0.004048                            | 0.005841               | 0.004371                 | 0.03404                | 0.008                    | 0.03675          | 0.004             | 0.031111               | 0.002                    | 0.01575          | 372.0084          | 488.7328               | 0.0177                   | 0.02407547             | 0.03                     | 0.01059328             |
| SDG&E Personnel  | Light-Duty Truck, catalyst | 5  | 35             | 80                      | 3.0975                 | 38.14685                 | 0.301284               | 2.236171                 | 0.094167               | 3.031413                 | 1.876347                 | 0.796436                     | 0.20051                | 1.078687                 | 0.004048                            | 0.005841               | 0.004371                 | 0.03404                | 0.008                    | 0.03675          | 0.004             | 0.031111               | 0.002                    | 0.01575          | 372.0084          | 488.7328               | 0.0177                   | 0.02407547             | 0.03                     | 0.01059328             |

EMFAC2011 emission factors for 2013 - 2017  
 Assume startup after 8 hours  
 Assume 45 minutes run time total

| Construction Phase           | Vehicle Class              | No. of Daily Workers<br>Per Construction Phase | Speed<br>(mph) | VMT<br>(mi/vehicle-day) | Emissions, lbs/day |                 |             |                 |             |             |                               |                                |                 |                 |                  |                   | Total Emissions, tons |                 |             |                 |             |             |                               |                                |                 |                 |                  |                  |
|------------------------------|----------------------------|--|----------------|-------------------------|--------------------|-----------------|-------------|-----------------|-------------|-------------|-------------------------------|--------------------------------|-----------------|-----------------|------------------|-------------------|-----------------------|-----------------|-------------|-----------------|-------------|-------------|-------------------------------|--------------------------------|-----------------|-----------------|------------------|------------------|
|                              |                            |  |                |                         | CO                 | NO <sub>x</sub> | VOCs        | SO <sub>x</sub> | PM10        | PM2.5       | Paved Road Fugitive Dust PM10 | Paved Road Fugitive Dust PM2.5 | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> O | Construction Days | CO                    | NO <sub>x</sub> | VOCs        | SO <sub>x</sub> | PM10        | PM2.5       | Paved Road Fugitive Dust PM10 | Paved Road Fugitive Dust PM2.5 | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> O | CO <sub>2e</sub> |
| Crux and H&M Crews           | Light-Duty Truck, catalyst | 100  | 35             | 80                      | 63.04              | 5.81            | 3.20        | 0.07            | 0.87        | 0.39        | 1.01                          | 0.01                           | 6668.89         | 0.32            | 0.58             | 88                | 1.39                  | 0.13            | 0.07041     | 1.60E-03        | 0.01922     | 0.00859     | 0.02225                       | 0.00020                        | 147             | 0.00698         | 0.01270          | 150.79939        |
| SWPPP                        | Light-Duty Truck, catalyst | 10   | 35             | 80                      | 6.30               | 0.58            | 0.32        | 0.01            | 0.09        | 0.04        | 0.10                          | 0.01                           | 666.89          | 0.03            | 0.06             | 88                | 0.14                  | 0.01            | 0.00704     | 1.60E-04        | 0.00192     | 0.00086     | 0.00223                       | 0.00020                        | 15              | 0.00070         | 0.00127          | 15.079939        |
| Monitors                     | Light-Duty Truck, catalyst | 20   | 35             | 80                      | 12.61              | 1.16            | 0.64        | 0.01            | 0.17        | 0.08        | 0.20                          | 0.01                           | 1333.78         | 0.06            | 0.12             | 88                | 0.28                  | 0.03            | 0.01408     | 3.20E-04        | 0.00384     | 0.00172     | 0.00445                       | 0.00020                        | 29              | 0.00140         | 0.00254          | 30.159878        |
| Testing and Inspection Crews | Light-Duty Truck, catalyst | 5  | 35             | 80                      | 3.15               | 0.29            | 0.16        | 0.00            | 0.04        | 0.02        | 0.05                          | 0.01                           | 333.44          | 0.02            | 0.03             | 88                | 0.07                  | 0.01            | 0.00352     | 7.99E-05        | 0.00096     | 0.00043     | 0.00111                       | 0.00020                        | 7               | 0.00035         | 0.00064          | 7.53996949       |
| SDG&E Personnel              | Light-Duty Truck, catalyst | 5  | 35             | 80                      | 3.15               | 0.29            | 0.16        | 0.00            | 0.04        | 0.02        | 0.05                          | 0.01                           | 333.44          | 0.02            | 0.03             | 88                | 0.07                  | 0.01            | 0.00352     | 7.99E-05        | 0.00096     | 0.00043     | 0.00111                       | 0.00020                        | 7               | 0.00035         | 0.00064          | 7.53996949       |
| <b>TOTAL</b>                 |                            |  |                |                         | <b>88.26</b>       | <b>8.13</b>     | <b>4.48</b> | <b>0.10</b>     | <b>1.22</b> | <b>0.55</b> | <b>1.42</b>                   | <b>0.05</b>                    | <b>9336.44</b>  | <b>0.44</b>     | <b>0.81</b>      |                   | <b>1.94</b>           | <b>0.18</b>     | <b>0.10</b> | <b>0.00</b>     | <b>0.03</b> | <b>0.01</b> | <b>0.03</b>                   | <b>0.00</b>                    | <b>205.40</b>   | <b>0.01</b>     | <b>0.02</b>      | <b>211.12</b>    |

Paved Road Fugitive Dust  
 EPA's AP-42, Section 13.2.1, January 2011  
 $E = k(s/L)^2 \times 0.91 \times (W)^{1.02}$   
 For average vehicle weight, assume 2.4 tons  
 Assume silt loading for 10,000 ADT roadways = 0.03 g/m<sup>3</sup>  
 Assume k = 0.0022 lbs/VMT PM10, 0.00054 lbs/VMT PM2.5  
 Assume 6 miles in addition for track-out for PM10  
 Emission Factors  
 PM10, lbs/mile 0.00011762  
 PM2.5, lbs/mile 2.88704E-05

Unpaved Road Fugitive Dust  
 EPA's AP-42, Section 13.2.2  
 Industrial Roads  
 $E = k (s/12)^a \times (W/3)^b$   
 Assume 61% control efficiency for watering 3 x daily  
 For light-duty trucks assume 2 tons/vehicle  
 k = 1.5 for PM10, 0.15 for PM2.5  
 s = 8.5, a = 0.9, b = 0.45  
 Emission Factors  
 PM10, lbs/mile 0.357378738  
 PM2.5, lbs/mile 0.035737874



Table A-3. Construction Truck Emission Calculations - H&M

| Vehicle                                 | Vehicle Class              | Peak No. of Trucks per day | Speed (mph) | VMT (mi/vehicle day) | CO                     | NO <sub>x</sub>        | ROG                    | SO <sub>x</sub>        | PM10                   |                  | PM2.5             |                        | CO <sub>2</sub>  | CH <sub>4</sub>   | N <sub>2</sub> O       | Emissions, lbs/day |                   |                        |             |                 |             |                 |             |             |                               |                                |                                 |                                  |                 |                 |                  |                   |          |
|---|----------------------------|----------------------------|-------------|----------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------|-------------------|------------------------|------------------|-------------------|------------------------|--------------------|-------------------|------------------------|-------------|-----------------|-------------|-----------------|-------------|-------------|-------------------------------|--------------------------------|---------------------------------|----------------------------------|-----------------|-----------------|------------------|-------------------|----------|
|   |                            |                            |             |                      | Running Exhaust (g/mi) | Running Exhaust (g/mi) | Running Exhaust (g/mi) | Running Exhaust (g/mi) | Running Exhaust (g/mi) | Tire Wear (g/mi) | Brake Wear (g/mi) | Running Exhaust (g/mi) | Tire Wear (g/mi) | Brake Wear (g/mi) | Running Exhaust (g/mi) | Tire Wear (g/mi)   | Brake Wear (g/mi) | Running Exhaust (g/mi) | CO          | NO <sub>x</sub> | VOCs        | SO <sub>x</sub> | PM10        | PM2.5       | Paved Road Fugitive Dust PM10 | Paved Road Fugitive Dust PM2.5 | Unpaved Road Fugitive Dust PM10 | Unpaved Road Fugitive Dust PM2.5 | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> O | CO <sub>2</sub> e |          |
| <b>H&amp;M - Digging</b>                |                            |                            |             |                      |                        |                        |                        |                        |                        |                  |                   |                        |                  |                   |                        |                    |                   |                        |             |                 |             |                 |             |             |                               |                                |                                 |                                  |                 |                 |                  |                   |          |
| 1 Ton Truck, Pick-Up                    | Light Duty Truck 1, Diesel | 2                          | 35          | 60                   | 0.379406935            | 0.64372                | 0.09263769             | 0.003186               | 0.077891               | 0.00799996       | 0.03674982        | 0.071659               | 0.002            | 0.0157499         | 293.2085               | 0.01675482         | 0.01              | 0.10                   | 0.17        | 0.02            | 0.00        | 0.03            | 0.02        | 0.01        | 0.00                          |                                |                                 |                                  |                 | 77.57           | 0.00             | 0.00              | 78.27917 |
| Crew Trucks                             | Light Duty Truck 1, Diesel | 2                          | 35          | 60                   | 0.379406935            | 0.64372                | 0.09263769             | 0.003186               | 0.077891               | 0.00799996       | 0.03674982        | 0.071659               | 0.002            | 0.0157499         | 293.2085               | 0.01675482         | 0.01              | 0.10                   | 0.17        | 0.02            | 0.00        | 0.03            | 0.02        | 0.01        | 0.00                          |                                |                                 |                                  |                 | 77.57           | 0.00             | 0.00              | 78.27917 |
| <b>Subtotal</b>                         |                            |                            |             |                      |                        |                        |                        |                        |                        |                  |                   |                        |                  |                   |                        |                    | <b>0.20</b>       | <b>0.34</b>            | <b>0.05</b> | <b>0.00</b>     | <b>0.06</b> | <b>0.05</b>     | <b>0.03</b> | <b>0.01</b> | <b>0.00</b>                   | <b>0.00</b>                    | <b>155.14</b>                   | <b>0.01</b>                      | <b>0.00</b>     | <b>156.56</b>   |                  |                   |          |
| <b>H&amp;M - Shoo-Fly</b>               |                            |                            |             |                      |                        |                        |                        |                        |                        |                  |                   |                        |                  |                   |                        |                    |                   |                        |             |                 |             |                 |             |             |                               |                                |                                 |                                  |                 |                 |                  |                   |          |
| Bucket Truck                            | Heavy Duty Truck, Diesel   | 2                          | 15          | 0.25                 | 4.358099782            | 15.34266               | 1.75152037             | 0.010712               | 0.349447               | 0.01199994       | 0.13033932        | 0.321492               | 0.003            | 0.0558597         | 2702.306               | 0.15441789         | 0.07              | 0.00                   | 0.02        | 0.00            | 0.00        | 0.00            | 0.00        | 0.00        | 0.00                          | 1.29                           | 0.13                            | 2.98                             | 0.00            | 0.00            | 3.006027         |                   |          |
| 1 Ton Truck, Pick-Up                    | Light Duty Truck 1, Diesel | 2                          | 35          | 60                   | 0.379406935            | 0.64372                | 0.09263769             | 0.003186               | 0.077891               | 0.00799996       | 0.03674982        | 0.071659               | 0.002            | 0.0157499         | 293.2085               | 0.01675482         | 0.01              | 0.10                   | 0.17        | 0.02            | 0.00        | 0.03            | 0.02        | 0.01        | 0.00                          |                                |                                 |                                  |                 | 77.57           | 0.00             | 0.00              | 78.27917 |
| Crew Trucks                             | Light Duty Truck 1, Diesel | 2                          | 35          | 60                   | 0.379406935            | 0.64372                | 0.09263769             | 0.003186               | 0.077891               | 0.00799996       | 0.03674982        | 0.071659               | 0.002            | 0.0157499         | 293.2085               | 0.01675482         | 0.01              | 0.10                   | 0.17        | 0.02            | 0.00        | 0.03            | 0.02        | 0.01        | 0.00                          |                                |                                 |                                  |                 | 77.57           | 0.00             | 0.00              | 78.27917 |
| <b>Subtotal</b>                         |                            |                            |             |                      |                        |                        |                        |                        |                        |                  |                   |                        |                  |                   |                        |                    | <b>0.21</b>       | <b>0.36</b>            | <b>0.05</b> | <b>0.00</b>     | <b>0.07</b> | <b>0.05</b>     | <b>0.03</b> | <b>0.01</b> | <b>0.00</b>                   | <b>1.29</b>                    | <b>0.13</b>                     | <b>158.12</b>                    | <b>0.01</b>     | <b>0.00</b>     | <b>159.56</b>    |                   |          |
| <b>H&amp;M - Mobilization</b>           |                            |                            |             |                      |                        |                        |                        |                        |                        |                  |                   |                        |                  |                   |                        |                    |                   |                        |             |                 |             |                 |             |             |                               |                                |                                 |                                  |                 |                 |                  |                   |          |
| Tractor Trucks                          | Heavy Duty Truck, Diesel   | 2                          | 15          | 0.25                 | 4.358099782            | 15.34266               | 1.75152037             | 0.010712               | 0.349447               | 0.01199994       | 0.13033932        | 0.321492               | 0.003            | 0.0558597         | 2702.306               | 0.15441789         | 0.07              | 0.00                   | 0.02        | 0.00            | 0.00        | 0.00            | 0.00        | 0.00        | 0.00                          | 1.29                           | 0.13                            | 2.98                             | 0.00            | 0.00            | 3.006027         |                   |          |
| <b>Subtotal</b>                         |                            |                            |             |                      |                        |                        |                        |                        |                        |                  |                   |                        |                  |                   |                        |                    | <b>0.00</b>       | <b>0.02</b>            | <b>0.00</b> | <b>0.00</b>     | <b>0.00</b> | <b>0.00</b>     | <b>0.00</b> | <b>0.00</b> | <b>0.00</b>                   | <b>1.29</b>                    | <b>0.13</b>                     | <b>2.98</b>                      | <b>0.00</b>     | <b>0.00</b>     | <b>3.01</b>      |                   |          |
| <b>H&amp;M - Transmission Line Work</b> |                            |                            |             |                      |                        |                        |                        |                        |                        |                  |                   |                        |                  |                   |                        |                    |                   |                        |             |                 |             |                 |             |             |                               |                                |                                 |                                  |                 |                 |                  |                   |          |
| Bucket Truck                            | Heavy Duty Truck, Diesel   | 2                          | 15          | 0.25                 | 4.358099782            | 15.34266               | 1.75152037             | 0.010712               | 0.349447               | 0.01199994       | 0.13033932        | 0.321492               | 0.003            | 0.0558597         | 2702.306               | 0.15441789         | 0.07              | 0.00                   | 0.02        | 0.00            | 0.00        | 0.00            | 0.00        | 0.00        | 0.00                          | 1.29                           | 0.13                            | 2.98                             | 0.00            | 0.00            | 3.006027         |                   |          |
| 1 Ton Truck, Pick-Up                    | Light Duty Truck 1, Diesel | 2                          | 35          | 60                   | 0.379406935            | 0.64372                | 0.09263769             | 0.003186               | 0.077891               | 0.00799996       | 0.03674982        | 0.071659               | 0.002            | 0.0157499         | 293.2085               | 0.01675482         | 0.01              | 0.10                   | 0.17        | 0.02            | 0.00        | 0.03            | 0.02        | 0.01        | 0.00                          |                                |                                 |                                  |                 | 77.57           | 0.00             | 0.00              | 78.27917 |
| Line Truck                              | Light Duty Truck 1, Diesel | 2                          | 35          | 0.25                 | 0.379406935            | 0.64372                | 0.09263769             | 0.003186               | 0.077891               | 0.00799996       | 0.03674982        | 0.071659               | 0.002            | 0.0157499         | 293.2085               | 0.01675482         | 0.01              | 0.00                   | 0.00        | 0.00            | 0.00        | 0.00            | 0.00        | 0.00        | 0.00                          | 0.46                           | 0.05                            | 0.32                             | 0.00            | 0.00            | 0.326163         |                   |          |
| <b>Subtotal</b>                         |                            |                            |             |                      |                        |                        |                        |                        |                        |                  |                   |                        |                  |                   |                        |                    | <b>0.11</b>       | <b>0.19</b>            | <b>0.03</b> | <b>0.00</b>     | <b>0.03</b> | <b>0.02</b>     | <b>0.01</b> | <b>0.00</b> | <b>1.75</b>                   | <b>0.17</b>                    | <b>80.87</b>                    | <b>0.00</b>                      | <b>0.00</b>     | <b>81.61</b>    |                  |                   |          |
| <b>H&amp;M - Distribution UG</b>        |                            |                            |             |                      |                        |                        |                        |                        |                        |                  |                   |                        |                  |                   |                        |                    |                   |                        |             |                 |             |                 |             |             |                               |                                |                                 |                                  |                 |                 |                  |                   |          |
| Splice Van                              | Light Duty Truck 1, Diesel | 1                          | 35          | 0.25                 | 0.379406935            | 0.64372                | 0.09263769             | 0.003186               | 0.077891               | 0.00799996       | 0.03674982        | 0.071659               | 0.002            | 0.0157499         | 293.2085               | 0.01675482         | 0.01              | 0.00                   | 0.00        | 0.00            | 0.00        | 0.00            | 0.00        | 0.00        | 0.00                          | 0.23                           | 0.02                            | 0.16                             | 0.00            | 0.00            | 0.163082         |                   |          |
| Line Truck                              | Light Duty Truck 1, Diesel | 3                          | 35          | 0.25                 | 0.379406935            | 0.64372                | 0.09263769             | 0.003186               | 0.077891               | 0.00799996       | 0.03674982        | 0.071659               | 0.002            | 0.0157499         | 293.2085               | 0.01675482         | 0.01              | 0.00                   | 0.00        | 0.00            | 0.00        | 0.00            | 0.00        | 0.00        | 0.00                          | 0.69                           | 0.07                            | 0.48                             | 0.00            | 0.00            | 0.489245         |                   |          |
| Crew Trucks                             | Light Duty Truck 1, Diesel | 3                          | 35          | 60                   | 0.379406935            | 0.64372                | 0.09263769             | 0.003186               | 0.077891               | 0.00799996       | 0.03674982        | 0.071659               | 0.002            | 0.0157499         | 293.2085               | 0.01675482         | 0.01              | 0.15                   | 0.26        | 0.04            | 0.00        | 0.05            | 0.04        | 0.02        | 0.01                          |                                |                                 |                                  |                 | 116.36          | 0.01             | 0.00              | 117.4188 |
| <b>Subtotal</b>                         |                            |                            |             |                      |                        |                        |                        |                        |                        |                  |                   |                        |                  |                   |                        |                    | <b>0.15</b>       | <b>0.26</b>            | <b>0.04</b> | <b>0.00</b>     | <b>0.05</b> | <b>0.04</b>     | <b>0.02</b> | <b>0.01</b> | <b>0.92</b>                   | <b>0.09</b>                    | <b>117.00</b>                   | <b>0.01</b>                      | <b>0.00</b>     | <b>118.07</b>   |                  |                   |          |
| <b>H&amp;M - Demobilization</b>         |                            |                            |             |                      |                        |                        |                        |                        |                        |                  |                   |                        |                  |                   |                        |                    |                   |                        |             |                 |             |                 |             |             |                               |                                |                                 |                                  |                 |                 |                  |                   |          |
| Tractor Trucks                          | Heavy Duty Truck, Diesel   | 2                          | 15          | 0.25                 | 4.358099782            | 15.34266               | 1.75152037             | 0.010712               | 0.349447               | 0.01199994       | 0.13033932        | 0.321492               | 0.003            | 0.0558597         | 2702.306               | 0.15441789         | 0.07              | 0.00                   | 0.02        | 0.00            | 0.00        | 0.00            | 0.00        | 0.00        | 0.00                          | 1.29                           | 0.13                            | 2.98                             | 0.00            | 0.00            | 3.006027         |                   |          |
| 1 Ton Truck, Pick-Up                    | Light Duty Truck 1, Diesel | 2                          | 35          | 60                   | 0.379406935            | 0.64372                | 0.09263769             | 0.003186               | 0.077891               | 0.00799996       | 0.03674982        | 0.071659               | 0.002            | 0.0157499         | 293.2085               | 0.01675482         | 0.01              | 0.10                   | 0.17        | 0.02            | 0.00        | 0.03            | 0.02        | 0.01        | 0.00                          |                                |                                 |                                  |                 | 77.57           | 0.00             | 0.00              | 78.27917 |
| <b>Subtotal</b>                         |                            |                            |             |                      |                        |                        |                        |                        |                        |                  |                   |                        |                  |                   |                        |                    | <b>0.11</b>       | <b>0.19</b>            | <b>0.03</b> | <b>0.00</b>     | <b>0.03</b> | <b>0.02</b>     | <b>0.01</b> | <b>0.00</b> | <b>1.29</b>                   | <b>0.13</b>                    | <b>80.55</b>                    | <b>0.00</b>                      | <b>0.00</b>     | <b>81.29</b>    |                  |                   |          |
| <b>H&amp;M - Cleanup</b>                |                            |                            |             |                      |                        |                        |                        |                        |                        |                  |                   |                        |                  |                   |                        |                    |                   |                        |             |                 |             |                 |             |             |                               |                                |                                 |                                  |                 |                 |                  |                   |          |
| Water Truck                             | Light Duty Truck 1, Diesel | 2                          | 35          | 0.25                 | 0.379406935            | 0.64372                | 0.09263769             | 0.003186               | 0.077891               | 0.00799996       | 0.03674982        | 0.071659               | 0.002            | 0.0157499         | 293.2085               | 0.01675482         | 0.01              | 0.00                   | 0.00        | 0.00            | 0.00        | 0.00            | 0.00        | 0.00        | 0.00                          | 1.29                           | 0.13                            | 0.32                             | 0.00            | 0.00            | 0.326163         |                   |          |
| Crew Trucks                             | Light Duty Truck 1, Diesel | 5                          | 35          | 60                   | 0.379406935            | 0.64372                | 0.09263769             | 0.003186               | 0.077891               | 0.00799996       | 0.03674982        | 0.071659               | 0.002            | 0.0157499         | 293.2085               | 0.01675482         | 0.01              | 0.25                   | 0.43        | 0.06            | 0.00        | 0.08            | 0.06        | 0.04        | 0.01                          |                                |                                 |                                  |                 | 193.93          | 0.01             | 0.00              | 195.6979 |
| <b>Subtotal</b>                         |                            |                            |             |                      |                        |                        |                        |                        |                        |                  |                   |                        |                  |                   |                        |                    | <b>0.25</b>       | <b>0.43</b>            | <b>0.06</b> | <b>0.00</b>     | <b>0.08</b> | <b>0.06</b>     | <b>0.04</b> | <b>0.01</b> | <b>1.29</b>                   | <b>0.13</b>                    | <b>194.25</b>                   | <b>0.01</b>                      | <b>0.00</b>     | <b>196.02</b>   |                  |                   |          |

2014 Emission Factors from EMFAC2011  
average temp 60F

Paved Road Fugitive Dust  
EPA's AP-42, Section 13.2.1, January 2011  
E = k(s/L)<sup>0.91</sup> x (W)<sup>1.02</sup>  
For average vehicle weight, assume 2.4 tons  
Assume silt loading for 10,000 ADT roadways = 0.03 g/m<sup>3</sup>  
Assume k = 0.0022 lbs/VMT PM10, 0.00054 lbs/VMT PM2.5  
Assume 6 miles in addition for track-out for PM10  
Emission Factors  
PM10, lbs/mile 0.00011762  
PM2.5, lbs/mile 2.88704E-05

Unpaved Road Fugitive Dust  
EPA's AP-42, Section 13.2.1, November 2006  
E = k(s/12)<sup>a</sup> x (W/3)<sup>b</sup>  
For LDT assume 2 tons/vehicle, MDT assume 13 tons/vehicle, HDT assume 20 tons/vehicle  
Assume silt = 8.5%  
Assume k = 1.5 for PM10, 0.15 for PM2.5  
a = 0.9, b = 0.45  
Emission Factors  
PM10, LDT, lbs/mile 0.916355739 0.09163557  
PM10, MDT, lbs/mile 2.127527168 0.21275272  
PM10, HDT, lbs/mile 2.582641374 0.25826414

Table A-4. Construction Heavy Equipment Emissions - Drilling

## TL-673 Off Road Emissions

### Crux Equipment - Drilling

| Equipment Activity   |     |             |          |               |          |             | Criteria Emission Factors (g/bhp-hr) |               |                 |                 |                  |                   | Criteria Emissions (lbs/d) |       |                 |                 |                  |                   | GHG Emission Factors (g/bhp-hr) |                  | GHG Emissions (lbs/day) |                  |                   |
|----------------------|-----|-------------|----------|---------------|----------|-------------|--------------------------------------|---------------|-----------------|-----------------|------------------|-------------------|----------------------------|-------|-----------------|-----------------|------------------|-------------------|---------------------------------|------------------|-------------------------|------------------|-------------------|
| Type                 | BHP | Load Factor | Quantity | Length (days) | hrs/ day | total hours | ROG                                  | CO            | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | ROG                        | CO    | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>                 | CH <sub>4</sub>  | CO <sub>2</sub>         | CH <sub>4</sub>  | CO <sub>2</sub> e |
| Drilling Rig         | 66  | 0.75        | 8        | 150           | 7        | 8,400       | 0.301                                | 3.451         | 3.134           | 0.006           | 0.150            | 0.150             | 1.84                       | 21.09 | 19.15           | 0.04            | 0.92             | 0.92              | 568.299                         | 0.027            | 3,473.00                | 0.17             | 3,476.46          |
| Air Compressor       | 173 | 0.48        | 8        | 150           | 7        | 8,400       | 0.901                                | 3.880         | 5.608           | 0.006           | 0.495            | 0.495             | 9.24                       | 39.78 | 57.49           | 0.06            | 5.07             | 5.07              | 568.299                         | 0.081            | 5,826.22                | 0.83             | 5,843.65          |
| Crane                | 66  | 0.43        | 2        | 150           | 5        | 1,500       | 0.527                                | 1.493         | 5.040           | 0.006           | 0.177            | 0.177             | 0.33                       | 0.93  | 3.15            | 0.00            | 0.11             | 0.11              | 568.299                         | 0.047            | 355.57                  | 0.03             | 356.19            |
| Transport Unit       | 225 | 0.57        | 4        | 150           | 4        | 2,400       | 6.274                                | 33.111        | 71.837          | 0.067           | 0.363            | 0.334             | 0.22                       | 1.17  | 2.53            | 0.00            | 0.01             | 0.01              | 6920.694                        | 0.291            | 244.12                  | 0.01             | 244.34            |
| Tractor Trailer Unit | 450 | 0.57        | 2        | 150           | 3        | 900         | 6.274                                | 33.111        | 71.837          | 0.067           | 0.363            | 0.334             | 0.08                       | 0.44  | 0.95            | 0.00            | 0.00             | 0.00              | 6920.694                        | 0.291            | 91.55                   | 0.00             | 91.63             |
| Forklift             | 150 | 0.60        | 9        | 150           | 6        | 8,100       | 0.798                                | 3.905         | 5.107           | 0.006           | 0.431            | 0.431             | 8.55                       | 41.84 | 54.72           | 0.06            | 4.62             | 4.62              | 568.299                         | 0.072            | 6,089.02                | 0.77             | 6,105.22          |
| Flatbed Truck        | 250 | 0.57        | 5        | 150           | 2        | 1,500       | 6.274                                | 33.111        | 71.837          | 0.067           | 0.363            | 0.334             | 0.14                       | 0.73  | 1.58            | 0.00            | 0.01             | 0.01              | 6920.694                        | 0.291            | 152.58                  | 0.01             | 152.71            |
| Water Truck          | 300 | 0.57        | 2        | 150           | 3        | 900         | 0.452                                | 1.283         | 3.770           | 0.005           | 0.125            | 0.125             | 1.02                       | 2.90  | 8.53            | 0.01            | 0.28             | 0.28              | 568.299                         | 0.040            | 1,285.46                | 0.09             | 1,287.36          |
| Generator Set        | 10  | 0.74        | 12       | 150           | 6        | 10,800      | 0.792                                | 3.567         | 5.478           | 0.006           | 0.424            | 0.424             | 0.93                       | 4.19  | 6.43            | 0.01            | 0.50             | 0.50              | 568.299                         | 0.047            | 667.54                  | 0.06             | 668.70            |
| <b>Totals</b>        |     |             |          |               |          |             | <b>22.35</b>                         | <b>113.07</b> | <b>154.55</b>   | <b>0.19</b>     | <b>11.53</b>     | <b>11.52</b>      |                            |       |                 |                 |                  | <b>Totals</b>     |                                 | <b>18,185.04</b> | <b>1.963</b>            | <b>18,226.25</b> |                   |

Table A-5. Construction Heavy Equipment Emissions - Grouting

## TL-673 Off Road Emissions

### Crux Equipment

| Equipment Activity |     |             |          |               |          |             | Criteria Emission Factors (g/bhp-hr) |       |                 |                 |                  |                   | Criteria Emissions (lbs/d) |      |                 |                 |                  |                   | GHG Emission Factors (g/bhp-hr) |                 | GHG Emissions (lbs/day) |                 |                   |
|--------------------|-----|-------------|----------|---------------|----------|-------------|--------------------------------------|-------|-----------------|-----------------|------------------|-------------------|----------------------------|------|-----------------|-----------------|------------------|-------------------|---------------------------------|-----------------|-------------------------|-----------------|-------------------|
| Type               | BHP | Load Factor | Quantity | Length (days) | hrs/ day | total hours | ROG                                  | CO    | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | ROG                        | CO   | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>                 | CH <sub>4</sub> | CO <sub>2</sub>         | CH <sub>4</sub> | CO <sub>2</sub> e |
| Grout Plant        | 34  | 0.74        | 2        | 150           | 4        | 1,200       | 0.792                                | 3,567 | 5,478           | 0.006           | 0.424            | 0.424             | 0.35                       | 1.58 | 2.43            | 0.00            | 0.19             | 0.19              | 568.299                         | 0.047           | 252.18                  | 0.02            | 252.62            |

Table A-6. Construction Heavy Equipment Emissions - Cap and Test

## TL-673 Off Road Emissions

### Crux Equipment

| Equipment Activity   |     |             |          |               |          |             | Criteria Emission Factors (g/bhp-hr) |              |                 |                 |                  |                   | Criteria Emissions (lbs/d) |       |                 |                 |                  |                   | GHG Emission Factors (g/bhp-hr) |                 | GHG Emissions (lbs/day) |                 |                   |                 |
|----------------------|-----|-------------|----------|---------------|----------|-------------|--------------------------------------|--------------|-----------------|-----------------|------------------|-------------------|----------------------------|-------|-----------------|-----------------|------------------|-------------------|---------------------------------|-----------------|-------------------------|-----------------|-------------------|-----------------|
| Type                 | BHP | Load Factor | Quantity | Length (days) | hrs/ day | total hours | ROG                                  | CO           | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | ROG                        | CO    | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>                 | CH <sub>4</sub> | CO <sub>2</sub>         | CH <sub>4</sub> | CO <sub>2</sub> e |                 |
| Air Compressor       | 173 | 0.48        | 8        | 150           | 0        | 0           | 0.901                                | 3.880        | 5.608           | 0.006           | 0.495            | 0.495             | 0.00                       | 0.00  | 0.00            | 0.00            | 0.00             | 0.00              | 568.299                         | 0.081           | 0.00                    | 0.00            | 0.00              |                 |
| Crane                | 66  | 0.43        | 2        | 150           | 5        | 1,500       | 0.527                                | 1.493        | 5.040           | 0.006           | 0.177            | 0.177             | 0.33                       | 0.93  | 3.15            | 0.00            | 0.11             | 0.11              | 568.299                         | 0.047           | 355.57                  | 0.03            | 356.19            |                 |
| Transport Unit       | 225 | 0.57        | 4        | 150           | 6        | 3,600       | 6.274                                | 33.111       | 71.837          | 0.067           | 0.363            | 0.334             | 0.33                       | 1.75  | 3.80            | 0.00            | 0.02             | 0.02              | 6920.694                        | 0.291           | 366.18                  | 0.02            | 366.50            |                 |
| Tractor Trailer Unit | 450 | 0.57        | 2        | 150           | 3        | 900         | 6.274                                | 33.111       | 71.837          | 0.067           | 0.363            | 0.334             | 0.08                       | 0.44  | 0.95            | 0.00            | 0.00             | 0.00              | 6920.694                        | 0.291           | 91.55                   | 0.00            | 91.63             |                 |
| Forklift             | 150 | 0.60        | 9        | 150           | 6        | 8,100       | 0.798                                | 3.905        | 5.107           | 0.006           | 0.431            | 0.431             | 8.55                       | 41.84 | 54.72           | 0.06            | 4.62             | 4.62              | 568.299                         | 0.072           | 6,089.02                | 0.77            | 6,105.22          |                 |
| Flatbed Truck        | 250 | 0.57        | 5        | 150           | 5        | 3,750       | 6.274                                | 33.111       | 71.837          | 0.067           | 0.363            | 0.334             | 0.35                       | 1.82  | 3.96            | 0.00            | 0.02             | 0.02              | 6920.694                        | 0.291           | 381.44                  | 0.02            | 381.78            |                 |
| Generator Set        | 10  | 0.74        | 12       | 150           | 7        | 12,600      | 0.792                                | 3.567        | 5.478           | 0.006           | 0.424            | 0.424             | 1.09                       | 4.89  | 7.51            | 0.01            | 0.58             | 0.58              | 568.299                         | 0.047           | 778.79                  | 0.06            | 780.15            |                 |
| <b>Totals</b>        |     |             |          |               |          |             | <b>10.73</b>                         | <b>51.68</b> | <b>74.09</b>    | <b>0.08</b>     | <b>5.35</b>      | <b>5.35</b>       |                            |       |                 |                 |                  |                   |                                 |                 | <b>Totals</b>           | <b>8,062.55</b> | <b>0.901</b>      | <b>8,081.46</b> |

Table A-7. Construction Heavy Equipment Emissions - Digging

## TL-673 Off Road Emissions

### H&M Equipment

| Equipment Activity |     |             |          |               |          |             | Criteria Emission Factors (g/bhp-hr) |       |                 |                 |                  |                   | Criteria Emissions (lbs/d) |              |                 |                 |                  |                   | GHG Emission Factors (g/bhp-hr) |                 | GHG Emissions (lbs/day) |                 |                   |                 |
|--------------------|-----|-------------|----------|---------------|----------|-------------|--------------------------------------|-------|-----------------|-----------------|------------------|-------------------|----------------------------|--------------|-----------------|-----------------|------------------|-------------------|---------------------------------|-----------------|-------------------------|-----------------|-------------------|-----------------|
| Type               | BHP | Load Factor | Quantity | Length (days) | hrs/ day | total hours | ROG                                  | CO    | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | ROG                        | CO           | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>                 | CH <sub>4</sub> | CO <sub>2</sub>         | CH <sub>4</sub> | CO <sub>2</sub> e |                 |
| Pressure Digger    | 82  | 0.75        | 4        | 150           | 8        | 4,800       | 0.301                                | 3.451 | 3.134           | 0.006           | 0.150            | 0.150             | 1.31                       | 14.97        | 13.60           | 0.03            | 0.65             | 0.65              | 568.299                         | 0.027           | 2,465.68                | 0.12            | 2,468.14          |                 |
| Air Compressor     | 78  | 0.48        | 2        | 150           | 8        | 2,400       | 0.901                                | 3.880 | 5.608           | 0.006           | 0.495            | 0.495             | 1.19                       | 5.12         | 7.41            | 0.01            | 0.65             | 0.65              | 568.299                         | 0.081           | 750.53                  | 0.11            | 752.77            |                 |
| <b>Totals</b>      |     |             |          |               |          |             |                                      |       |                 |                 |                  |                   | <b>2.50</b>                | <b>20.10</b> | <b>21.00</b>    | <b>0.03</b>     | <b>1.30</b>      | <b>1.30</b>       |                                 |                 | <b>Totals</b>           | <b>3,216.21</b> | <b>0.224</b>      | <b>3,220.91</b> |

Table A-8. Construction Heavy Equipment Emissions - Construction of Shoe-Fly

## TL-673 Off Road Emissions

### H&M Equipment

| Equipment Activity |     |             |          |               |          |             | Criteria Emission Factors (g/bhp-hr) |        |                 |                 |                  |                   | Criteria Emissions (lbs/d) |             |                 |                 |                  |                   | GHG Emission Factors (g/bhp-hr) |                 | GHG Emissions (lbs/day) |                 |                   |
|--------------------|-----|-------------|----------|---------------|----------|-------------|--------------------------------------|--------|-----------------|-----------------|------------------|-------------------|----------------------------|-------------|-----------------|-----------------|------------------|-------------------|---------------------------------|-----------------|-------------------------|-----------------|-------------------|
| Type               | BHP | Load Factor | Quantity | Length (days) | hrs/ day | total hours | ROG                                  | CO     | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | ROG                        | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>                 | CH <sub>4</sub> | CO <sub>2</sub>         | CH <sub>4</sub> | CO <sub>2</sub> e |
| Bucket Truck       | 250 | 0.57        | 2        | 150           | 2        | 600         | 6.274                                | 33.111 | 71.837          | 0.067           | 0.363            | 0.334             | 0.06                       | 0.29        | 0.63            | 0.00            | 0.00             | 0.00              | 6920.694                        | 0.291           | 61.03                   | 0.00            | 61.08             |
| <b>Totals</b>      |     |             |          |               |          |             |                                      |        |                 |                 |                  | <b>0.06</b>       | <b>0.29</b>                | <b>0.63</b> | <b>0.00</b>     | <b>0.00</b>     | <b>0.00</b>      | <b>Totals</b>     |                                 | <b>61.03</b>    | <b>0.003</b>            | <b>61.08</b>    |                   |



Table A-9. Construction Heavy Equipment Emissions - Mobilization

## TL-673 Off Road Emissions

### H&M Equipment

| Equipment Activity   |     |             |          |               |          |             | Criteria Emission Factors (g/bhp-hr) |        |                 |                 |                  |                   | Criteria Emissions (lbs/d) |             |                 |                 |                  |                   | GHG Emission Factors (g/bhp-hr) |                 | GHG Emissions (lbs/day) |                 |                   |
|----------------------|-----|-------------|----------|---------------|----------|-------------|--------------------------------------|--------|-----------------|-----------------|------------------|-------------------|----------------------------|-------------|-----------------|-----------------|------------------|-------------------|---------------------------------|-----------------|-------------------------|-----------------|-------------------|
| Type                 | BHP | Load Factor | Quantity | Length (days) | hrs/ day | total hours | ROG                                  | CO     | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | ROG                        | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>                 | CH <sub>4</sub> | CO <sub>2</sub>         | CH <sub>4</sub> | CO <sub>2</sub> e |
| Tractor Trailer Unit | 250 | 0.57        | 2        | 150           | 4        | 1,200       | 6.274                                | 33.111 | 71.837          | 0.067           | 0.363            | 0.334             | 0.11                       | 0.58        | 1.27            | 0.00            | 0.01             | 0.01              | 6920.694                        | 0.291           | 122.06                  | 0.01            | 122.17            |
| <b>Totals</b>        |     |             |          |               |          |             |                                      |        |                 |                 |                  | <b>0.11</b>       | <b>0.58</b>                | <b>1.27</b> | <b>0.00</b>     | <b>0.01</b>     | <b>0.01</b>      | <b>Totals</b>     |                                 | <b>122.06</b>   | <b>0.005</b>            | <b>122.17</b>   |                   |

Table A-9. Construction Heavy Equipment Emissions - Transmission Line Installation

## TL-673 Off Road Emissions

### H&M Equipment

| Equipment Activity |     |             |          |               |          |             | Criteria Emission Factors (g/bhp-hr) |        |                 |                 |                  |                   | Criteria Emissions (lbs/d) |             |                 |                 |                  |                   | GHG Emission Factors (g/bhp-hr) |                 | GHG Emissions (lbs/day) |                 |                   |                 |
|--------------------|-----|-------------|----------|---------------|----------|-------------|--------------------------------------|--------|-----------------|-----------------|------------------|-------------------|----------------------------|-------------|-----------------|-----------------|------------------|-------------------|---------------------------------|-----------------|-------------------------|-----------------|-------------------|-----------------|
| Type               | BHP | Load Factor | Quantity | Length (days) | hrs/ day | total hours | ROG                                  | CO     | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | ROG                        | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>                 | CH <sub>4</sub> | CO <sub>2</sub>         | CH <sub>4</sub> | CO <sub>2</sub> e |                 |
| Bucket Truck       | 250 | 0.57        | 8        | 150           | 2        | 2,400       | 6.274                                | 33.111 | 71.837          | 0.067           | 0.363            | 0.334             | 0.22                       | 1.17        | 2.53            | 0.00            | 0.01             | 0.01              | 6920.694                        | 0.291           | 244.12                  | 0.01            | 244.34            |                 |
| Line Truck         | 250 | 0.57        | 8        | 150           | 2        | 2,400       | 6.274                                | 33.111 | 71.837          | 0.067           | 0.363            | 0.334             | 0.22                       | 1.17        | 2.53            | 0.00            | 0.01             | 0.01              | 6920.694                        | 0.291           | 244.12                  | 0.01            | 244.34            |                 |
| Crane              | 208 | 0.43        | 8        | 150           | 1        | 1,200       | 0.527                                | 1.493  | 5.040           | 0.006           | 0.177            | 0.177             | 0.83                       | 2.36        | 7.95            | 0.01            | 0.28             | 0.28              | 568.299                         | 0.047           | 896.46                  | 0.07            | 898.02            |                 |
| <b>Totals</b>      |     |             |          |               |          |             |                                      |        |                 |                 |                  |                   | <b>1.27</b>                | <b>4.69</b> | <b>13.02</b>    | <b>0.01</b>     | <b>0.30</b>      | <b>0.30</b>       |                                 |                 | <b>Totals</b>           | <b>1,384.70</b> | <b>0.095</b>      | <b>1,386.69</b> |

Table A-10. Construction Heavy Equipment Emissions - Transmission Line Cable Pulling

## TL-673 Off Road Emissions

### H&M Equipment

| Equipment Activity |     |             |          |               |          |             | Criteria Emission Factors (g/bhp-hr) |       |                 |                 |                  |                   | Criteria Emissions (lbs/d) |             |                 |                 |                  |                   | GHG Emission Factors (g/bhp-hr) |                 | GHG Emissions (lbs/day) |                 |                   |                 |
|--------------------|-----|-------------|----------|---------------|----------|-------------|--------------------------------------|-------|-----------------|-----------------|------------------|-------------------|----------------------------|-------------|-----------------|-----------------|------------------|-------------------|---------------------------------|-----------------|-------------------------|-----------------|-------------------|-----------------|
| Type               | BHP | Load Factor | Quantity | Length (days) | hrs/ day | total hours | ROG                                  | CO    | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | ROG                        | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>                 | CH <sub>4</sub> | CO <sub>2</sub>         | CH <sub>4</sub> | CO <sub>2</sub> e |                 |
| OH Puller          | 300 | 0.62        | 1        | 150           | 4        | 600         | 0.324                                | 1.170 | 3.394           | 0.005           | 0.109            | 0.109             | 0.53                       | 1.92        | 5.57            | 0.01            | 0.18             | 0.18              | 568.299                         | 0.029           | 932.15                  | 0.05            | 933.15            |                 |
| OH Tensioner       | 300 | 0.62        | 1        | 150           | 4        | 600         | 0.324                                | 1.170 | 3.394           | 0.005           | 0.109            | 0.109             | 0.53                       | 1.92        | 5.57            | 0.01            | 0.18             | 0.18              | 568.299                         | 0.029           | 932.15                  | 0.05            | 933.15            |                 |
| <b>Totals</b>      |     |             |          |               |          |             |                                      |       |                 |                 |                  |                   | <b>1.06</b>                | <b>3.84</b> | <b>11.13</b>    | <b>0.02</b>     | <b>0.36</b>      | <b>0.36</b>       |                                 |                 | <b>Totals</b>           | <b>1,864.29</b> | <b>0.095</b>      | <b>1,866.29</b> |

Table A-11. Construction Heavy Equipment Emissions - Sag Work

## TL-673 Off Road Emissions

### H&M Equipment

| Equipment Activity |     |             |          |               |          |             | Criteria Emission Factors (g/bhp-hr) |       |                 |                 |                  |                   | Criteria Emissions (lbs/d) |             |                 |                 |                  |                   | GHG Emission Factors (g/bhp-hr) |                 | GHG Emissions (lbs/day) |                 |                   |
|--------------------|-----|-------------|----------|---------------|----------|-------------|--------------------------------------|-------|-----------------|-----------------|------------------|-------------------|----------------------------|-------------|-----------------|-----------------|------------------|-------------------|---------------------------------|-----------------|-------------------------|-----------------|-------------------|
| Type               | BHP | Load Factor | Quantity | Length (days) | hrs/ day | total hours | ROG                                  | CO    | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | ROG                        | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>                 | CH <sub>4</sub> | CO <sub>2</sub>         | CH <sub>4</sub> | CO <sub>2</sub> e |
| Crawler Tractor    | 82  | 0.64        | 1        | 150           | 4        | 600         | 1.116                                | 4.194 | 6.637           | 0.006           | 0.584            | 0.584             | 0.52                       | 1.94        | 3.07            | 0.00            | 0.27             | 0.27              | 568.299                         | 0.100           | 263.01                  | 0.05            | 263.98            |
| <b>Totals</b>      |     |             |          |               |          |             |                                      |       |                 |                 |                  |                   | <b>0.52</b>                | <b>1.94</b> | <b>3.07</b>     | <b>0.00</b>     | <b>0.27</b>      | <b>0.27</b>       | <b>Totals</b>                   |                 | <b>263.01</b>           | <b>0.046</b>    | <b>263.98</b>     |

Table A-12. Construction Heavy Equipment Emissions - Underground Distribution

## TL-673 Off Road Emissions

### H&M Equipment

| Type               | Equipment Activity |             |          |               |          |             | Criteria Emission Factors (g/bhp-hr) |        |                 |                 |                  |                   | Criteria Emissions (lbs/d) |              |                 |                 |                  |                   | GHG Emission Factors (g/bhp-hr) |                 | GHG Emissions (lbs/day) |                 |                   |
|--------------------|--------------------|-------------|----------|---------------|----------|-------------|--------------------------------------|--------|-----------------|-----------------|------------------|-------------------|----------------------------|--------------|-----------------|-----------------|------------------|-------------------|---------------------------------|-----------------|-------------------------|-----------------|-------------------|
|                    | BHP                | Load Factor | Quantity | Length (days) | hrs/ day | total hours | ROG                                  | CO     | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | ROG                        | CO           | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>                 | CH <sub>4</sub> | CO <sub>2</sub>         | CH <sub>4</sub> | CO <sub>2</sub> e |
| Line Truck         | 250                | 0.57        | 3        | 150           | 2        | 900         | 6.274                                | 33.111 | 71.837          | 0.067           | 0.363            | 0.334             | 0.08                       | 0.44         | 0.95            | 0.00            | 0.00             | 0.00              | 6920.694                        | 0.291           | 91.55                   | 0.00            | 91.63             |
| Crew Truck         | 250                | 0.57        | 3        | 150           | 2        | 900         | 2.435                                | 24.067 | 84.514          | 0.071           | 0.538            | 0.495             | 0.03                       | 0.32         | 1.12            | 0.00            | 0.01             | 0.01              | 7280.594                        | 0.113           | 96.31                   | 0.00            | 96.34             |
| Splice Van         | 250                | 0.57        | 1        | 150           | 4        | 600         | 2.435                                | 24.067 | 84.514          | 0.071           | 0.538            | 0.538             | 0.02                       | 0.21         | 0.75            | 0.00            | 0.00             | 0.00              | 7280.594                        | 0.113           | 64.20                   | 0.00            | 64.22             |
| Underground Puller | 300                | 0.62        | 2        | 150           | 4        | 1,200       | 0.324                                | 1.170  | 3.394           | 0.005           | 0.109            | 0.109             | 1.06                       | 3.84         | 11.13           | 0.02            | 0.36             | 0.36              | 568.299                         | 0.029           | 1,864.29                | 0.10            | 1,866.29          |
| <b>Totals</b>      |                    |             |          |               |          |             |                                      |        |                 |                 |                  | <b>1.20</b>       | <b>4.81</b>                | <b>13.95</b> | <b>0.02</b>     | <b>0.37</b>     | <b>0.37</b>      | <b>Totals</b>     |                                 | <b>2,116.35</b> | <b>0.101</b>            | <b>2,118.48</b> |                   |

Table A-13. Construction Heavy Equipment Emissions - Demobilization

## TL-673 Off Road Emissions

### H&M Equipment

| Equipment Activity   |     |             |          |               |          |             | Criteria Emission Factors (g/bhp-hr) |        |                 |                 |                  |                   | Criteria Emissions (lbs/d) |             |                 |                 |                  |                   | GHG Emission Factors (g/bhp-hr) |                 | GHG Emissions (lbs/day) |                 |                   |  |               |              |               |
|----------------------|-----|-------------|----------|---------------|----------|-------------|--------------------------------------|--------|-----------------|-----------------|------------------|-------------------|----------------------------|-------------|-----------------|-----------------|------------------|-------------------|---------------------------------|-----------------|-------------------------|-----------------|-------------------|--|---------------|--------------|---------------|
| Type                 | BHP | Load Factor | Quantity | Length (days) | hrs/ day | total hours | ROG                                  | CO     | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | ROG                        | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>                 | CH <sub>4</sub> | CO <sub>2</sub>         | CH <sub>4</sub> | CO <sub>2</sub> e |  |               |              |               |
| Tractor Trailer Unit | 250 | 0.57        | 1        | 150           | 2        | 300         | 6.274                                | 33.111 | 71.837          | 0.067           | 0.363            | 0.334             | 0.03                       | 0.15        | 0.32            | 0.00            | 0.00             | 0.00              | 6920.694                        | 0.291           | 30.52                   | 0.00            | 30.54             |  |               |              |               |
| Crew Truck           | 250 | 0.57        | 4        | 150           | 2        | 1,200       | 2.435                                | 24.067 | 84.514          | 0.071           | 0.538            | 0.538             | 0.04                       | 0.42        | 1.49            | 0.00            | 0.01             | 0.01              | 7280.594                        | 0.113           | 128.41                  | 0.00            | 128.45            |  |               |              |               |
| <b>Totals</b>        |     |             |          |               |          |             |                                      |        |                 |                 |                  | <b>0.07</b>       | <b>0.57</b>                | <b>1.81</b> | <b>0.00</b>     | <b>0.01</b>     | <b>0.01</b>      |                   |                                 |                 |                         |                 | <b>Totals</b>     |  | <b>158.92</b> | <b>0.003</b> | <b>158.99</b> |

Table A-14. Construction Heavy Equipment Emissions - Cleanup

## TL-673 Off Road Emissions

### H&M Equipment

| Equipment Activity |     |             |          |               |          |             | Criteria Emission Factors (g/bhp-hr) |        |                 |                 |                  |                   | Criteria Emissions (lbs/d) |             |                 |                 |                  |                   | GHG Emission Factors (g/bhp-hr) |                 | GHG Emissions (lbs/day) |                 |                   |                 |
|--------------------|-----|-------------|----------|---------------|----------|-------------|--------------------------------------|--------|-----------------|-----------------|------------------|-------------------|----------------------------|-------------|-----------------|-----------------|------------------|-------------------|---------------------------------|-----------------|-------------------------|-----------------|-------------------|-----------------|
| Type               | BHP | Load Factor | Quantity | Length (days) | hrs/ day | total hours | ROG                                  | CO     | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | ROG                        | CO          | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub>                 | CH <sub>4</sub> | CO <sub>2</sub>         | CH <sub>4</sub> | CO <sub>2</sub> e |                 |
| Skip Loader        | 37  | 0.55        | 1        | 150           | 7        | 1,050       | 0.986                                | 4.891  | 4.812           | 0.007           | 0.299            | 0.299             | 0.31                       | 1.54        | 1.51            | 0.00            | 0.09             | 0.09              | 568.299                         | 0.089           | 178.47                  | 0.03            | 179.06            |                 |
| Crew Truck         | 250 | 0.57        | 5        | 150           | 2        | 1,500       | 2.435                                | 24.067 | 84.514          | 0.071           | 0.538            | 0.495             | 0.05                       | 0.53        | 1.86            | 0.00            | 0.01             | 0.01              | 7280.594                        | 0.113           | 160.51                  | 0.00            | 160.56            |                 |
| Water Truck        | 250 | 0.57        | 2        | 150           | 2        | 600         | 0.452                                | 1.283  | 3.770           | 0.005           | 0.125            | 0.125             | 0.57                       | 1.61        | 4.74            | 0.01            | 0.16             | 0.16              | 568.299                         | 0.040           | 714.14                  | 0.05            | 715.20            |                 |
| <b>Totals</b>      |     |             |          |               |          |             |                                      |        |                 |                 |                  |                   | <b>0.93</b>                | <b>3.68</b> | <b>8.11</b>     | <b>0.01</b>     | <b>0.26</b>      | <b>0.26</b>       |                                 |                 | <b>Totals</b>           | <b>1,053.13</b> | <b>0.081</b>      | <b>1,054.82</b> |

Table A-15. Helicopter Emissions

TL673 - Wood-to-Steel Project

| Helicopter Mode      | Engine           | Assumed Engine | Operating Mode | Fuel Flow, kg/s | Time in Mode, min | Emission Incides, g/kg fuel |           |          |     | Emissions, lbs/mode |                    |                    | Cruise Mode Emission factor, lbs/hour |             |             |
|----------------------|------------------|----------------|----------------|-----------------|-------------------|-----------------------------|-----------|----------|-----|---------------------|--------------------|--------------------|---------------------------------------|-------------|-------------|
|                      |                  |                |                |                 |                   | CO                          | VOC       | NOx      | PM  | CO                  | VOC                | NOx                | CO                                    | VOC         | NOx         |
|                      | Allison 250-C20B | 250B17B        | Taxi Out       | 0.008154        | 19                | 2.199837                    | 23.004097 | 2.199837 | N/A | 0.045081939         | 0.471430067        | 0.045081939        |                                       |             |             |
|                      |                  |                | Takeoff        | 0.031642        | 10.4              | 6.599994                    | 0.402675  | 6.599994 | N/A | 0.287295342         | 0.017528297        | 0.287295342        |                                       |             |             |
|                      |                  |                | Climbout       | 0.028926        | 0.09              | 5.981142                    | 0.408337  | 5.981142 | N/A | 0.002059694         | 0.000140617        | 0.002059694        | 1.373129585                           | 0.093744575 | 1.373129585 |
|                      |                  |                | Approach       | 0.010516        | 10.05             | 2.200637                    | 5.988767  | 2.200637 | N/A | 0.03076471          | 0.083722432        | 0.03076471         |                                       |             |             |
|                      |                  |                | Taxi in        | 0.008154        | 7                 | 2.199837                    | 23.004097 | 2.199837 | N/A | 0.016609136         | 0.173684761        | 0.016609136        |                                       |             |             |
| <b>Total per LTO</b> |                  |                |                |                 |                   |                             |           |          |     | <b>0.381810822</b>  | <b>0.746506173</b> | <b>0.381810822</b> |                                       |             |             |

| Mode                 | Factors (lbs/min) |        |                 | Minutes per LTO | Emissions (lb/LTO) |              |                 |
|----------------------|-------------------|--------|-----------------|-----------------|--------------------|--------------|-----------------|
|                      | CO                | HC     | NO <sub>x</sub> |                 | CO                 | HC           | NO <sub>x</sub> |
| Approach             | 0.0687            | 0.0076 | 0.0032          | 8.50            | 0.584              | 0.064        | 0.027           |
| Climb                | 0.0369            | 0.0016 | 0.0244          | 4.33            | 0.160              | 0.007        | 0.105           |
| Take-off             | 0.0345            | 0.0013 | 0.0292          | 2.17            | 0.075              | 0.003        | 0.063           |
| Idle                 | 0.1014            | 0.0209 | 0.0010          | 7.00            | 0.710              | 0.146        | 0.007           |
| <b>Total per LTO</b> |                   |        |                 | <b>22.0</b>     | <b>1.528</b>       | <b>0.221</b> | <b>0.203</b>    |

\* EF's from Federal Aviation Administration, Emission and Dispersion Modeling System (EDMS)  
 \* Time in mode based on default times in EDMS

Therefore

Assuming 1 LTO and 3 hours operation per day of pole installation & 1 installation per day

| Component                     | Emissions (lb/day) |              |                 |
|-------------------------------|--------------------|--------------|-----------------|
|                               | CO                 | HC           | NO <sub>x</sub> |
| LTO                           | 0.382              | 0.747        | 0.382           |
| Installation - assume 3 hours | 4.119              | 0.281        | 4.119           |
| <b>Total per Day</b>          |                    |              |                 |
|                               | <b>4.501</b>       | <b>1.028</b> | <b>4.501</b>    |

\* Installation is assumed to be 3 hours (180 minutes) per installation at climb mode factors

Helicopter GHG Emission Estimates  
 TL673 - Wood-to-Steel Project

Table of Factors and Constants

| Value | Units                      | Description   |
|-------|----------------------------|---|
| 6.84  | lb/gallon                  | Jet Fuel Density (at 15 degrees C) -- equivalent to 820 kg/m <sup>3</sup> |
| 142   | lb/hr                      | Jet Fuel Usage at Idle  |
| 20.8  | gallon/hr                  | Calculated Usage at Idle  |
| 679   | lb/hr                      | Jet Fuel Usage at Climbout/Approach                                       |
| 99.3  | gallon/hr                  | Calculated Usage at Climbout/Approach                                     |
| 8.32  | kg CO <sub>2</sub> /gallon | CO <sub>2</sub> emission factor for Jet fuel                              |
| 0.31  | g N <sub>2</sub> O/gallon  | N <sub>2</sub> O emission factor for Jet fuel                             |
| 0.27  | g CH <sub>4</sub> /gallon  | CH <sub>4</sub> emission factor for Jet fuel                              |

\* Fuel usage rates from EPA AP-42, Table II-1-8, Modal Emission Rates - Military Aircraft Engines  
 \* Fuel density from air BP Handbook of Products - © Air BP Ltd. 2000  
 \* Emission factors from California Climate Action Registry's General Reporting Protocol 3.1

GHG Emissions

| Component                     | Time in mode (hrs) | Emissions (tonnes/day) |                  |                 |                   | Days of Operation | Emissions (total tonnes) |                 |                   |
|-------------------------------|--------------------|------------------------|------------------|-----------------|-------------------|-------------------|--------------------------|-----------------|-------------------|
|                               |                    | CO <sub>2</sub>        | N <sub>2</sub> O | CH <sub>4</sub> | CO <sub>2</sub> e |                   | CO <sub>2</sub>          | CH <sub>4</sub> | CO <sub>2</sub> e |
| LTO - Idle                    | 0.117              | 0.020                  | 0.000004         | 0.000003        | 0.021             | 90                | 1.814                    | 0.0001          | 1.916             |
| LTO - Other                   | 0.250              | 0.043                  | 0.000008         | 0.000007        | 0.046             |                   | 3.886                    | 0.0002          | 4.105             |
| Installation                  | 3.000              | 0.518                  | 0.000092         | 0.000080        | 0.548             |                   | 46.636                   | 0.0024          | 49.262            |
| <b>Total per Installation</b> |                    | <b>3.367</b>           | <b>0.582</b>     | <b>0.000104</b> | <b>0.000090</b>   |                   | <b>52.336</b>            | <b>0.0027</b>   | <b>55.283</b>     |

\* Jet Fuel usage was based on fuel usage time spent in approach, idle, and takeoff for each LTO and 3 hours for installation

Note: SOx emissions assumed to be negligible because low sulfur fuel is used.



**Table A-16. Fugitive Dust Emissions**

**1) Earthmoving/Grading**

Emission Types

- A) Dozing
- B) Grading
- C) Trenching

A) Dozing (AP-42 Section 11.9 for overburden)

$E = k \times (s)^{1.5} / (M)^{1.4}$  For PM10 and  $k \times 5.7 \times (s)^{1.2} / (M)^{1.3}$  for PM2.5  
 E = lb/hr  
 k = Scaling Constant (0.75 for PM10 and 0.105 for PM2.5)  
 s = Silt Content (assumed to be 16% - SCAQMD Handbook for Farm Roads)  
 M = Moisture Content = 10% (assumes watering when necessary for mitigation)

PM10 Emission Factor  
 1.910914419 lb/hr

PM2.5 Emission Factor  
 0.835618668 lb/hr

Maximum Daily Dozer Use

|  |         |
|--|---------|
|  | Hrs/day |
|  | 8       |

Dozer Emissions

|           |       |       |
|-----------|-------|-------|
| Lbs/Day   | PM10  | PM2.5 |
|           | 15.29 | 6.68  |
| Tons/Year | PM10  | PM2.5 |
|           | 0.34  | 0.15  |

B) Grading

**Grading**

Disturbance - 6.5 acres staging areas, 69 SW poles x 314 sf, 87 micropile poles x 39 sf = 7.07 acres

|                                       |             |            |
|---------------------------------------|-------------|------------|
| Amount total disturbed                | 7.07 acres  |            |
| Amount per day                        | 0.707 Acres |            |
| Control - watering 3 x daily          | 0.61        |            |
|                                       | PM10        | PM2.5      |
| Maximum Emission Factor, lbs/acre-day | 20          | 4.2        |
| Emissions, lbs/day                    | 5.5146      | 1.158066   |
| Average Emission Factor, lbs/acre-day | 20          | 4.2        |
| Emissions, tons/year                  | 0.027573    | 0.00579033 |
|                                       | PM10        | PM2.5      |
| Total lbs/day                         | 20.80       | 7.84       |
| tons/year                             | 0.37        | 0.16       |

C) Trenching - Dozing (AP-42 Section 11.9 for overburden)

$E = k \times (s)^{1.5} / (M)^{1.4}$  For PM10 and  $k \times 5.7 \times (s)^{1.2} / (M)^{1.3}$  for PM2.5  
 E = lb/hr  
 k = Scaling Constant (0.75 for PM10 and 0.105 for PM2.5)  
 s = Silt Content (assumed to be 16% - SCAQMD Handbook for Farm Roads)  
 M = Moisture Content = 10% (assumes watering when necessary for mitigation)

PM10 Emission Factor  
 1.910914419 lb/hr

PM2.5 Emission Factor  
 0.835618668 lb/hr

Maximum Daily Trencher Use

|  |         |
|--|---------|
|  | Hrs/day |
|  | 8       |

Trencher Emissions

|           |       |       |
|-----------|-------|-------|
| Lbs/Day   | PM10  | PM2.5 |
|           | 15.29 | 6.68  |
| Tons/Year | PM10  | PM2.5 |
|           | 0.34  | 0.15  |

Table A-17. Offroad Emission Factors

2014 Offroad Emission Factors (g/hp/hr)

| Veh Type             | BHP | Load Factor | Emission Factor (g/bhp-hr) |        |                 |                 |                  |                   |                 |                 |
|----------------------|-----|-------------|----------------------------|--------|-----------------|-----------------|------------------|-------------------|-----------------|-----------------|
|                      |     |             | ROG                        | CO     | NO <sub>x</sub> | SO <sub>x</sub> | PM <sub>10</sub> | PM <sub>2.5</sub> | CO <sub>2</sub> | CH <sub>4</sub> |
| Air Compressor       | 78  | 0.48        | 0.901                      | 3.880  | 5.608           | 0.006           | 0.495            | 0.495             | 568.299         | 0.081           |
| Boom Truck/Auger     | 250 | 0.57        | 0.452                      | 1.283  | 3.770           | 0.005           | 0.125            | 0.125             | 568.299         | 0.040           |
| Bucket Truck         | 250 | 0.57        | 6.274                      | 33.111 | 71.837          | 0.067           | 0.363            | 0.334             | 6920.694        | 0.291           |
| Crane                | 208 | 0.43        | 0.527                      | 1.493  | 5.040           | 0.006           | 0.177            | 0.177             | 568.299         | 0.047           |
| Crawler Tractor      | 82  | 0.64        | 1.116                      | 4.194  | 6.637           | 0.006           | 0.584            | 0.584             | 568.299         | 0.100           |
| Crew Truck           | 250 | 0.57        | 2.435                      | 24.067 | 84.514          | 0.071           | 0.538            | 0.495             | 7280.594        | 0.113           |
| Dozer                | 358 | 0.59        | 0.658                      | 2.854  | 5.490           | 0.005           | 0.227            | 0.227             | 568.299         | 0.059           |
| Drilling Rig         | 82  | 0.75        | 0.301                      | 3.451  | 3.134           | 0.006           | 0.150            | 0.150             | 568.299         | 0.027           |
| Flatbed Truck        | 250 | 0.57        | 6.274                      | 33.111 | 71.837          | 0.067           | 0.363            | 0.334             | 6920.694        | 0.291           |
| Forklift             | 83  | 0.60        | 0.798                      | 3.905  | 5.107           | 0.006           | 0.431            | 0.431             | 568.299         | 0.072           |
| Fuel Truck           | 250 | 0.57        | 0.452                      | 1.283  | 3.770           | 0.005           | 0.125            | 0.125             | 568.299         | 0.040           |
| Generator Set        | 84  | 0.74        | 0.792                      | 3.567  | 5.478           | 0.006           | 0.424            | 0.424             | 568.299         | 0.047           |
| Grout Plant          | 84  | 0.74        | 0.792                      | 3.567  | 5.478           | 0.006           | 0.424            | 0.424             | 568.299         | 0.047           |
| Line Truck           | 250 | 0.57        | 6.274                      | 33.111 | 71.837          | 0.067           | 0.363            | 0.334             | 6920.694        | 0.291           |
| Mower                | 74  | 0.43        | 1.051                      | 4.156  | 6.287           | 0.006           | 0.541            | 0.541             | 568.299         | 0.094           |
| OH Puller            | 300 | 0.62        | 0.324                      | 1.170  | 3.394           | 0.005           | 0.109            | 0.109             | 568.299         | 0.029           |
| OH Tensioner         | 300 | 0.62        | 0.324                      | 1.170  | 3.394           | 0.005           | 0.109            | 0.109             | 568.299         | 0.029           |
| Pressure Digger      | 82  | 0.75        | 0.301                      | 3.451  | 3.134           | 0.006           | 0.150            | 0.150             | 568.299         | 0.027           |
| Pulling Rig          | 82  | 0.75        | 0.301                      | 3.451  | 3.134           | 0.006           | 0.150            | 0.150             | 568.299         | 0.027           |
| Skip Loader          | 37  | 0.55        | 0.986                      | 4.891  | 4.812           | 0.007           | 0.299            | 0.299             | 568.299         | 0.089           |
| Splice Van           | 250 | 0.57        | 2.435                      | 24.067 | 84.514          | 0.071           | 0.538            | 0.495             | 7280.594        | 0.113           |
| Testing Jack         | 84  | 0.74        | 0.792                      | 3.567  | 5.478           | 0.006           | 0.424            | 0.424             | 568.299         | 0.047           |
| Tractor Trailer Unit | 250 | 0.57        | 6.274                      | 33.111 | 71.837          | 0.067           | 0.363            | 0.334             | 6920.694        | 0.291           |
| Transport Unit       | 250 | 0.57        | 6.274                      | 33.111 | 71.837          | 0.067           | 0.363            | 0.334             | 6920.694        | 0.291           |
| Trencher             | 69  | 0.75        | 1.061                      | 4.063  | 6.558           | 0.006           | 0.550            | 0.550             | 568.299         | 0.095           |
| Underground Puller   | 300 | 0.62        | 0.324                      | 1.170  | 3.394           | 0.005           | 0.109            | 0.109             | 568.299         | 0.029           |
| Water Truck          | 250 | 0.57        | 0.452                      | 1.283  | 3.770           | 0.005           | 0.125            | 0.125             | 568.299         | 0.040           |
| Wire Truck           | 82  | 0.75        | 6.274                      | 33.111 | 71.837          | 0.067           | 0.363            | 0.334             | 6920.694        | 0.291           |

From: CalEEMod™ Users Guide Appendix D plus OFFROAD 2007

Truck emission factors from EMFAC2011 for idling. These factors are provided in units of grams/idle-hour. All trucks are modeled as heavy-duty diesel trucks except crew trucks and splice van, which are modeled as medium-duty trucks

**Table A-18. Summary of Criteria Pollutant Emission Estimates**

**TL673 - Wood-to-Steel Project**

**Maximum Daily Emissions - lbs/day**

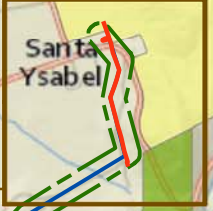
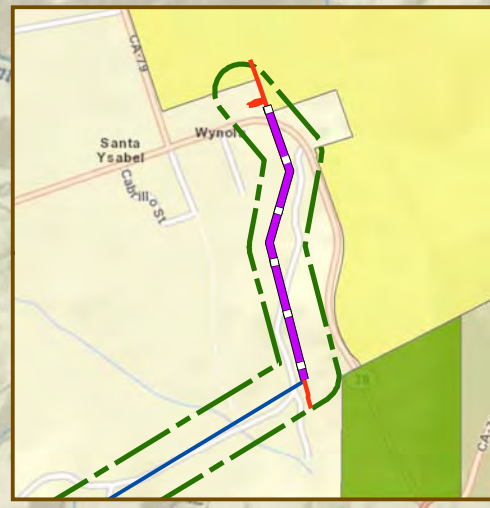
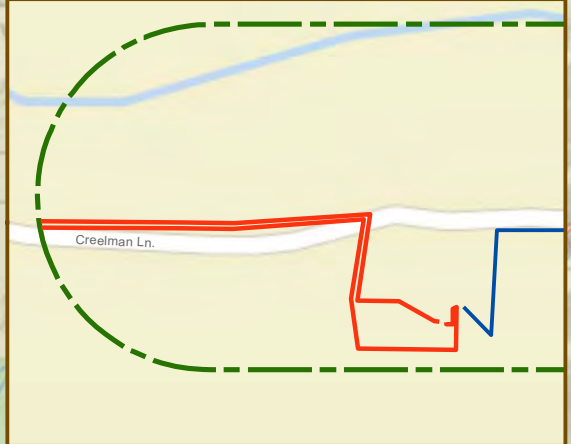
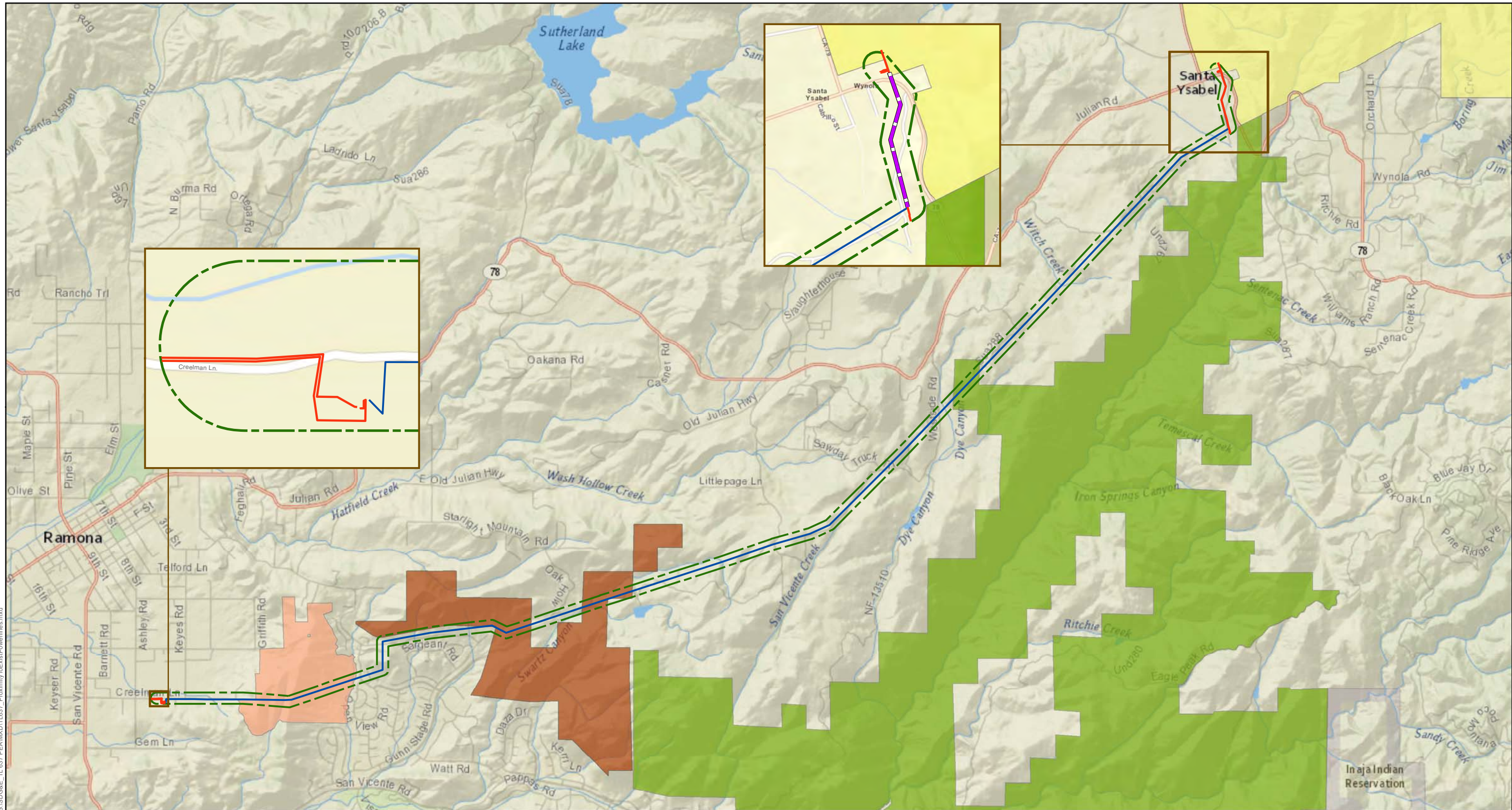
| <b>Year</b> | <b>VOCs</b> | <b>CO</b> | <b>NOx</b> | <b>SOx</b> | <b>PM10</b> | <b>PM2.5</b> |
|-------------|-------------|-----------|------------|------------|-------------|--------------|
| 2014        | 31.38       | 230.39    | 199.55     | 0.35       | 39.38       | 22.17        |

Maximum Daily Emissions occur during the following simultaneous activities:  
Drilling, Grouting, Digging, and Shoe-Fly Construction  
These activities assume simultaneous use of heavy construction equipment,  
truck trips, worker trips, and helicopter use.

Table A-19. Summary of GHG Emissions

**TL-673 GHG Emissions Summary**

| Activity            | Emissions (tonnes) |
|---------------------|--------------------|
|                     | CO <sub>2</sub> e  |
| Off-Road Equipment  | 767.8              |
| Worker Trips        | 211.1              |
| Construction Trucks | 75.1               |
| Helicopter Usage    | 55.3               |
| <b>Totals</b>       | <b>1,109</b>       |



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Created For:  
Brad Carter  
Created By:  
**TRC**  
Date: 5/16/2013

SDG&E is providing this map with the understanding that the map is not survey grade.

- Existing 69kV Power Line
- Tie-Line 637 Alignment
- Double Circuit Structures Supporting Two 69kV Power Lines
- 300-foot Buffer

- Santa Ysabel Valley WA, Edwards Ranch West
- Cleveland National Forest
- Mt. Gower Preserve
- Simon Preserve

### Tie-Line 637 Wood-To-Steel Project

Existing Power Line Map

### Appendix 1-C



Source: SDG&E 2012; California Protected Areas Database, July 2012; TRC 2012; National Geographic, Esri, DeLorme, et. al.



