SDG&E April 3, 2014 Response
A. 12-10-009 Cleveland National Forest Power Line Replacement Projects PTC
ED Data Request 6 Dated March 21, 2014
ED-SDGE-006:

TL626 REMOVAL ALTERNATIVE Q1:

1a. Based on SDG&E's March 7, 2014 comments on the Draft EIR/EIS for the Master Special Use Permit/Permit to Construct Power Line Replacement Projects, additional information is requested regarding the alternative to "Remove TL626 from Service".

Please provide a detailed description (including if any one of a, b, or c below can be implemented on its own or what combination of those options are needed to meet customer needs) and map (including GIS data) and system schematic diagram of how this alternative would be implemented, including:

a. Upgrade to the existing 69kV TL6931, to supply the customer load pocket from the Boulevard Substation, and / or

b. Loop-in the modified TL625 between Loveland-Barrett into the Suncrest Substation, install a 230/69kV Class 70 transformer bank and install a 69 kV substation rack, establishing a new 69 kV source

c. Develop an alternative source for the customer at Boulder Creek substation

i. Convert the ST-BC section of TL626 from 69kV to 12 kV distribution, or

ii. Install an off-grid solution, such as solar panel/battery storage combination capable of serving the approximately 35 kW load at Boulder Creek.

Regarding C.ii above: Please describe any ongoing operational and maintenance issues that would be associated with this option.

1b. Please provide baseline environmental resource information for this alternative.

San Diego Gas & Electric Company (SDG&E) Response to Q1: [See Attachment 1 for Figures 1-9]
In its March 7, 2014 comments on the Draft EIR/EIS for the Master Special Use Permit/Permit to Construct Power Line Replacement Projects, SDG&E noted that the United States Forest Service (USFS) has issued a proposed Record of Decision in the Land Management Plan (LMP) Amendment process that would expand the areas designated "Recommended Wilderness" to include TL626 and associated facilities. Please note that SDG&E has filed a formal objection to the proposed Record of Decision for the LMP Amendment, and that this data request response and any views expressed herein are provided for informational purposes only and should not be construed in any way as an endorsement or inducement by SDG&E to select or construct the alternative. Rather, this response is provided to assist the California Public Utilities Commission (CPUC) and the USFS in evaluating the reasonableness and feasibility of a "Remove TL626 from Service" Alternative.

In response to this data request, SDG&E conducted a preliminary engineering design to evaluate the potential for removing TL626 from service and constructing other changes needed within the electrical system to accommodate removing this power line from service. The options described

in the following sections are based on this preliminary engineering design, and take into consideration the known existing conditions of the areas in which these options would be constructed. These options are also based on the assumption that rights-of-way could be obtained, where needed, and all access required for construction, operation, and maintenance of the options would be granted as part of the Proposed Project. If the removal of TL626 alternative is selected, additional engineering design and environmental resource fieldwork would be required, and may affect the final design and location of the alternative and option(s) selected.

In addition to the removal of existing 69 kilovolt (kV) power line TL626 and associated access roads, and as analyzed in response to this data request, the TL626 removal alternative would require either of the following options:

Upgrade TL6931 (Option A): In order to accommodate electric system load changes associated with the removal of TL626, wood-to-steel replacement of approximately 63 existing poles (approximately 12 poles on Campo Indian Reservation and approximately 51 poles outside and to the east of Campo Indian Reservation) along TL6931 and reconductoring of this power line between Crestwood Substation and Boulevard Substation for approximately six miles would be required. TL6931 would be constructed within the existing alignment and existing rights-of-way (ROW); no additional ROW is anticipated to be required. Construction, operation, and maintenance would be conducted using a combination of helicopter and boom truck access, depending on the existing access methods used for the power line. Staging areas, as well as temporary pole work areas at each pole location, would be required. Option A is shown in Figure 1: Upgrades to TL6931.

Loop-In between TL625B and Suncrest Substation (Option B): Construction of approximately three miles of new double-circuit 69 kV power lines between TL625B and Suncrest Substation would be required. As shown in Figure 2: Loop-In to Suncrest Substation, these loop-ins between TL625B and Suncrest Substation would generally follow the existing Sunrise Powerlink alignment in this area, but would require a minimum 100-foot buffer between the 69 kV power lines and the existing Sunrise Powerlink alignment for safety. Helicopter access pads would be required to facilitate construction, as well as operation and maintenance of the loop-in power lines. Depending on the final location designed for the 69 kV power lines, temporary helicopter landing areas previously identified for operation and maintenance of the Sunrise Powerlink would need to be relocated outside of the loop-in alignment for safety. Staging areas would also be required. Due to the nature of terrain in this area, no new access roads would be constructed; all construction, operation, and maintenance activities would be conducted via helicopter. New transformers and other necessary equipment to accommodate the new 69 kV power lines within Suncrest Substation would be installed and may also include undergrounding a portion of the power lines near the substation to connect with the new transformer bank.

In addition, the TL626 removal alternative would include one of the following options to provide service to the existing customer in the vicinity of Boulder Creek Substation:

Convert Existing Facilities to 12 kV(Option C-1): This option would include the conversion of approximately 6.5 miles of existing 69 kV power line facilities from Santa Ysabel Substation to

the Boulder Creek Substation area to 12 kV only. All 69 kV conductors and Boulder Creek Substation would be removed, and the existing wood poles would be replaced with steel poles and carry 12 kV distribution lines only from Santa Ysabel Substation to the existing customer currently served by Boulder Creek Substation. Access roads associated with these poles would remain and be maintained in accordance with the Cleveland National Forest (CNF) Power Line Replacement Projects' (Proposed Projects') Operation and Maintenance Plan. Staging areas and pole work areas previously identified for the Proposed Project would be utilized for this option. The location and components of this option are shown in Figure 3: Convert Existing Facilities to 12 kV.

Off-Grid Supply (Option C-2): This option would include the construction of an approximately five-kilowatt photovoltaic (PV) array and accompanying battery bank, as well as a diesel- or liquid propane-powered backup generator, in close proximity to the existing customer near Boulder Creek Substation. The existing 69 kV power line and Boulder Creek Substation would remain active and in place for one year following construction and operation of the off-grid solution to ensure continued service to the customer during the off-grid solution's trial period. Staging areas and pole work areas previously identified for the Proposed Projects would be required, as would an additional permanent impact area where the PV array, battery bank, and backup generator would be located. Inspection and maintenance of the off-grid solution would be conducted monthly or quarterly, as needed. The location and components of this option are shown in Figure 4: Off-Grid Supply.

TL626 Removal and Options C-1 and C-2 Environmental Baseline

Existing environmental conditions in the vicinity of the TL626 removal alternative vary according to the individual locations of the different options included in the alternative. As a result, environmental baseline information is provided according to the options described previously. Under all options, Boulder Creek Substation and TL626 would be removed; the existing environmental conditions associated with this work would be the same as those described in the Revised Plan of Development (POD). Similarly, Options C-1 and C-2 would occur in the vicinity of the existing TL626 alignment; therefore, existing environmental conditions associated with these options would be the same as those described for TL626 in the Revised POD.

Option A Environmental Baseline

As stated previously, Option A would include the fire hardening and reconductoring of the portion of TL6931 between Crestwood and Boulevard substations to accommodate load changes resulting from the removal of TL626. SDG&E previously prepared and submitted a Proponent's Environmental Assessment and Permit to Construct application for other work associated with a segment of TL6931 that was later recalled from consideration; due to the timing of this data request, SDG&E was not able to conduct field surveys for existing environmental conditions in this area, but has instead provided environmental baseline information that was collected and included as part of the previous TL6931 analysis and permit application. Because field surveys were not conducted for the previous TL6931 project on the Campo Indian Reservation since it was not a part of the project, the information provided does not include the existing

environmental conditions for the approximately 12 existing wood poles on Campo Indian Reservation.

Environmental baseline information for Option A can be found in the following documents provided as attachments to this data request:

Proponent's Environmental Assessment for the TL6931 Fire Hardening/Wind Interconnect Project (December 2012) [filename: TL6931_PEA(December2012).pdf] – Section 4 Environmental Impact Assessment

San Diego Gas & Electric Company (SDG&E) TL6931 Fire Hardening/Wind Interconnect Project Biological Resources Technical Report (March 2013) [filename: TL693_Final BTR(March 2013).pdf] – Section 4.0 Environmental Setting

30-Day Summary Report of 2010 Focused Surveys for the Arroyo Toad for the Manzanita Energy Project (July 2010) [filename: Manzanita_Energy_ARTO_30_dayReport(July2010).pdf] – Discussion pertaining to Part B: Crestwood to Boulevard Transmission Line System Improvement Project only

45-Day Summary Report of Focused Surveys for the Quino Checkerspot Butterfly for the Manzanita Energy Project (July 2010) [filename: Manzanita_Energy_2010QCB.pdf] – Discussion pertaining to Part B: Crestwood to Boulevard Transmission Line System Improvement Project only

2011 Survey Results – Quino Checkerspot Butterfly – Manzanita Wind Energy Project, San Diego County, California (August 2011) [filename: Manzanita_Energy_2011QCB.pdf] – Survey information pertaining to power lines located south of Interstate (I-) 8 only

Option B Environmental Baseline

Existing environmental conditions for Option B are based on the assumption that the loop-in will generally follow the existing Sunrise Powerlink alignment in the area between Japatul Road and Suncrest Substation. SDG&E has designed two preliminary corridors into which the loop-in may be placed, and each approximately 200-foot-wide corridor is located approximately 100 feet from either side of the existing Sunrise Powerlink alignment. However, the final location of the loop-in alignment may vary depending on the final design and engineering requirements. Except as noted in the following subsections, the existing environmental conditions for the vicinity of Option B are the same as those described in the Revised POD.

Air Quality

Option B is located within the San Diego County Air Pollution Control District's jurisdiction, and construction, operation, and maintenance of this portion of the alternative would be consistent with the construction equipment and methods provided in the Revised POD. As a result, the baseline environmental condition information pertaining to Air Quality provided in the Revised POD would also apply to this area.

Biological Resources

Because SDG&E was not able to conduct field surveys for biological resources in response to this data request, only desktop-level research was completed. Specifically, a preliminary biological resources information query for the vicinity of Option B was conducted of the California Department of Fish and Wildlife's California Natural Diversity Database (CNDDB), United States Fish and Wildlife Service (USFWS) species lists, California Native Plant Society database, the CNF Sensitive Species List and CNF species data (i.e., habitat with verified records for that species ["Occupied"] and suitable habitat models), and the National Oceanic and Atmospheric Administration database. As shown in Figure 5: CNDDB Occurrences within 5 Miles of Option B, there are a total of 55 special-status plant and animal species that have known occurrences within 5 miles of Option B. Also included are all species that have known occurrences within the U.S. Geographical Survey 7.5-minute quadrangle—Viejas Mountain—in which Option B would be located, as well as the eight adjacent quadrangles. A list of all special-status species, their listing status or rank, habitat requirements, and potential to occur within the Option B alignment is shown in Table 1: Special-Status Species with Potential to Occur within the Option B Alignment. Species' potential to occur was based on a preliminary assessment of the alignment using aerial photography only; if this alternative is selected as part of the Proposed Projects, additional field surveys would be required to verify and update special-status species information.

The environmental setting of Option B, as it pertains to biological resources, would be similar to that described in the Revised POD in terms of climate and precipitation. Habitat types in the vicinity of Option B would also be similar to those described in the Revised POD. Option B would not traverse any designated critical habitat for federally listed species. However, Option B would be located within five miles of critical habitat designated by the USFWS for arroyo toad (*Anaxyrus californicus*) and San Diego thornmint (*Acanthomintha ilicifolia*). Critical habitat for these species is shown in Figure 6: USFWS Critical Habitat within 5 Miles of Option B.

Based on the proximity of known species occurrences and the results of other desktop-level research conducted in response to this data request, 30 special-status plant species and 25 special-status wildlife species were determined to have a moderate to high potential to occur based on the specific habitat types and elevations found within the vicinity of Option B. These species, their respective listing statuses, and their inclusion under SDG&E's Natural Community Conservation Plan and the Low-Effect Habitat Conservation Plan for the Quino Checkerspot Butterfly are shown in Table 1: Special-Status Species with Potential to Occur within the Option B Alignment.

Table 1: Special-Status Species with Potential to Occur within the Option B Alignment

Species Name	Listing Status[1]	Covered by NCCP/ HCP[2]	Habitat Requirements	Potential to Occur
Plants				
San Diego thorn-mint *Acanthomintha ilicifolia*	FT CE 1B.1	✓	Found in vertisol clay soils in openings of chaparral, coastal scrub, valley and foothill grassland, and vernal pools, below 3,000 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There are seven known occurrences of this species within five miles. All seven records are presumed extant. **Moderate Potential**
Jacumba milk-vetch *Astragalus douglasii* var. *perstrictus*	1B.2		Found in chaparral, cismontane woodland, riparian scrub, pinyon and juniper woodland, valley and foothill grassland, and rocky areas, between 2,950 and 4,500 feet in elevation.	Suitable habitat exists in the vicinity of Option B; however, the known elevation range of this species is approximately 600 feet above the peak elevation of Option B. There is one known occurrence of this species within five miles, and the record is presumed extant. **Low Potential**
San Diego milk-vetch *Astragalus oocarpus*	1B.2 USFSS BLMS		Found in chaparral openings and cismontane woodland, between 1,000 and 5,000 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There are three known occurrences of this species within five miles. All three records are presumed extant. **Moderate Potential**
Orcutt's brodiaea*Brodiaea orcuttii*	1B.1 USFSS BLMS		Found in mesic, clay, and sometimes serpentinite in closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools, below 5,700 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There are two known occurrences of this species within one mile. Of those two records, one occurs within 0.25 mile. Both records are presumed extant. **High Potential**
Dunn's mariposa-lily *Calochortus dunnii*	CR 1B.2	✓	Found in closed-cone coniferous forest and chaparral on gabbroic or metavolic soils, between 1,200 and 5,900 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There is one known occurrence of this species within five miles. The record is presumed extant. **Moderate Potential**

[1] Explanation of state and federal listing codes

Federal listing codes:

FE: Federally listed as Endangered
FT: Federally Threatend
BLMS: Bureau of Land Management (BLM) Sensitive Species
USFSS: USFS Sensitive Species

California listing codes:

CE: State-listed as Endangered
CT: State-listed as Threatened
CR: State-listed as Rare
CFP: State-listed as Fully Protected
CSC: State Species of Special Concern

California Native Plant Society lists:

1B.1: Rare, threatened, or endangered in California or elsewhere; seriously threatened in California
1B.2: Rare, threatened, or endangered in California or elsewhere; fairly threatened in California
1B.3: Rare, threatened, or endangered in California or elsewhere; not very threatened in California
2.1: Rare, threatened, or endangered in California only; seriously threatened in California
2.2: Rare, threatened, or endangered in California only; fairly threatened in California
2.3: Rare, threatened, or endangered in California only; not very threatened in California

[2] San Diego Gas & Electric Company's Natural Community Conservation Plan and Habitat Conservation Plan

Species Name	Listing Status[1]	Covered by NCCP/ HCP[2]	Habitat Requirements	Potential to Occur
Lakeside ceanothus *Ceanothus cyaneus*	1B.2		Found in closed-cone coniferous forest and chaparral, between 750 and 2,500 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There is one known occurrence of this species within five miles. The record is presumed extant. **Moderate Potential**
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	1B.2		Found in chaparral, coastal scrub, meadows, seeps, valley and foothill grassland, and vernal pools, often in clay soils, below 5,000 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There are two known occurrences of this species within five miles. Both records are presumed extant. **Moderate Potential**
Delicate clarkia *Clarkia delicata*	1B.2		Found in Mojave Desert scrub in rocky, gravelly, and sandy soils, between 2,300 and 3,300 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There are six known occurrences of this species within five miles. Of those six records, one occurs within one mile. All six records are presumed extant. **High Potential**
Vanishing wild buckwheat *Eriogonum evanidum*	1B.1 USFSS		Found in sandy or gravelly soils in chaparral, cismontane woodland, lower montane coniferous forest, and pinyon and juniper woodland, between 3,600 and 7,300 feet in elevation range.	Suitable habitat exists in the vicinity of Option B; however, the known elevation range of this species is approximately 1,300 feet above the peak elevation of Option B. There is one known occurrence of this species within five miles. The record is presumed extant. **Low Potential**
San Diego barrel cactus *Ferocactus viridescens*	2B.1		Found in chaparral, coastal scrub, valley and foothill grassland, and vernal pools, below 1,500 feet in elevation.	Option B is outside of the known elevation range for the species. **No Potential**
Chaparral ash *Fraxinus parryi*	2B.2		Found in chaparral between 700 and 2,000 feet in elevation.	Suitable habitat exists in the vicinity of Option B; however, there are no known occurrences of this species within five miles. **Low Potential**
Mexican flannelbush *Fremontodendron mexicanum*	FE CR 1B.1		Found in chaparral, cismontane woodland, and closed-cone coniferous forest, often in gabbroic, metavolcanic, or serpentinite soils, below 2,500 feet in elevation.	Option B is outside of the known range for the species. **No Potential**
Sticky geraea *Geraea viscida*	2B.3		Found in chaparral and disturbed areas, between 1,450 and 5,600 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There is one known occurrence of this species within one mile. The record is presumed extant. **Moderate Potential**
San Diego gumplant *Grindelia hallii*	1B.2		Found in meadows, valley and foothill grassland, chaparral, and lower montane coniferous forest, between 550 and 5,000 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There is one known occurrence of this species within five miles. The record is presumed extant. **Moderate Potential**
Tecate cypress *Hesperocyparis forbesii*	1B.1	✓	Found in clay, gabbroic, or metavolcanic soils in closed-cone coniferous forest and chaparral, between 200 and 5,000 feet in elevation.	Suitable habitat exists in the vicinity of Option B; however, there are no known occurrences of this species within five miles. **Low Potential**
Cuyamaca cypress *Hesperocyparis stephensonii*	1B.1		Found in gabbroic soils in closed-cone coniferous forest, chaparral, cismontane woodland, and riparian forest, between 3,300 and 5,600 feet in elevation.	Suitable habitat exists in the vicinity of Option B; however, the known elevation range of this species is approximately 1,000 feet above the peak elevation of Option B. There are no known occurrences of this species within five miles. **Low Potential**

Species Name	Listing Status[1]	Covered by NCCP/ HCP[2]	Habitat Requirements	Potential to Occur
Laguna Mountains alumroot *Heuchera brevistaminea*	1B.3		Found in broadleaved upland forest, chaparral, montane woodland, and riparian scrub, between 4,400 and 6,500 feet in elevation.	Option B is outside of the known elevation range for the species. **No Potential**
Ramona horkelia *Horkelia truncata*	1B.3		Found in clay or gabbroic soils in chaparral and cismontane woodland, between 1,300 and 4,300 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There are five known occurrences of this species within five miles. Of those five records, one occurs within 0.25 mile. All five records are presumed extant. **High Potential**
San Diego sunflower *Hulsea californica*	1B.3		Found in chaparral, lower montane coniferous forest, upper montane coniferous forest openings, and burned areas, between 3,000 and 9,600 feet in elevation.	Suitable habitat exists in the vicinity of Option B; however, the known elevation range of this species is approximately 700 feet above the peak elevation of Option B. There is one known occurrence of this species within five miles. The record is presumed extant. **Low Potential**
Decumbent goldenbush *Isocoma menziesii* var. *decumbens*	1B.2		Found in chaparral, and sandy, often disturbed areas in coastal scrub, below 450 feet in elevation.	Option B is outside of the known elevation range for the species. **No Potential**
San Diego marsh-elder *Iva hayesiana*	2B.2		Found in marshes, swamps, and playa, below 1,700 feet in elevation.	No suitable habitat exists in the vicinity of Option B. There are no known occurrences of this species within five miles. **No Potential**
Felt-leaved monardella *Monardella hypoleuca* ssp. *lanata*	1B.2	✓	Found in chaparral and cismontane woodland, between 1,000 and 5,300 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There are 10 known occurrences of this species within five miles. Of those 10 records, one occurs within one mile. All 10 records are presumed extant. **High Potential**
Chaparral nolina *Nolina cismontana*	1B.2		Found in sandstone or gabbroic soils in chaparral and coastal scrub, between 400 and 4,300 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There are three known occurrences of this species within five miles. All three records are presumed extant. **Moderate Potential**
Gander's ragwort *Packera ganderi*	CR 1B.2	✓	Found in burns and gabbroic outcrops in chaparral, between 1,300 and 4,000 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There are two known occurrences of this species within five miles. Both records are presumed extant. **Moderate Potential**
Moreno currant *Ribes canthariforme*	1B.3		Found in chaparral and riparian scrub, between 1,100 and 4,000 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There are five known occurrences of this species within five miles. Of those five records, one occurs within 0.25 mile. All five records are presumed extant. **High Potential**
Desert spike moss *Selaginella eremophila*	2B.2		Found in Sonoran desert scrub in gravelly and rocky soils, between 650 and 2,950 feet in elevation.	Suitable habitat exists in the vicinity of Option B; however, there are no known occurrences of this species within five miles. **Moderate Potential**

Species Name	Listing Status[1]	Covered by NCCP/ HCP[2]	Habitat Requirements	Potential to Occur
Southern mountains skullcap *Scutellaria bolanderi* ssp. *austromontana*	1B.2		Found in chaparral, cismontane woodland, lower montane coniferous forest, and mesic areas, between 1,900 and 6,600 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There are two known occurrences of this species within five miles. Of those two records, one occurs within one mile. Both records are presumed extant. **Moderate Potential**
Cove's cassia *Senna covesii*	2B.2		Found in sandy soils in Sonoran desert scrub, between 900 and 3,500 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There is one known occurrence of this species within five miles. The record is presumed extant. **Moderate Potential**
Hammitt's clay-cress *Sibaropsis hammittii*	1B.2		Found in clay soils in chaparral openings and valley and foothill grassland, between 2,300 and 3,500 feet in elevation.	Suitable habitat exists in the vicinity of Option B; however, the known elevation range of this species begins at the peak elevation of Option B. There are four known occurrences of this species within five miles. All four records are presumed extant. **Moderate Potential**
Parry's tetracoccus *Tetracoccus dioicus*	1B.2		Found in chaparral and coastal scrub, between 550 and 3,300 feet in elevation.	Suitable habitat exists in the vicinity of Option B. There are two known occurrences of this species within five miles. Both records are presumed extant. **Moderate Potential**
Invertebrates				
Quino checkerspot butterfly *Euphydryas editha quino*	FE	✓	Found in sunny openings within chaparral and coastal sage shrublands. Host plants include *Plantago erecta*, *Plantago insularis*, and *Orthocarpus purpurescens*.	Suitable habitat exists in the vicinity of Option B. There is one known occurrence of this species within five miles. The record is presumed extant. **Moderate Potential**
Amphibians				
Arroyo toad *Anaxyrus californicus*	FE CSC	✓	Inhabits sandy riverbanks, washes, and arroyos, especially in riparian areas with flora such as mulefat, willows, cottonwoods, sycamores, and/or coast live oak.	Suitable habitat exists in the vicinity of Option B. There are five known occurrences of this species within five miles. All five records are presumed extant. **Moderate Potential**
Large-blotched salamander *Ensatina klauberi*	CSC USFSS		Found beneath logs, rocks, and especially peeled-off tree bark within moist shaded evergreen and deciduous forests and oak woodlands.	Marginally suitable habitat exists in the vicinity of Option B; however, no known occurrences of this species are located within five miles of Option B. **Low Potential**
California red-legged frog *Rana draytonii*	FT CSC	✓	Occurs in lowlands and foothills in deeper pools and streams, usually with emergent wetland vegetation. Requires 11 to 20 weeks of permanent water for larval development. May aestivate in small mammal burrows and moist leaf litter, and may travel up to one mile between aquatic features.	Potentially suitable breeding and upland aestivation habitat may exist in the vicinity of Option B; however, no known occurrences of this species occur within five miles of Option B. A habitat suitability survey would be required to determine the potential to occur. **Low Potential**
Reptiles				
Belding's orange-throated whiptail *Aspidoscelis hyperythra beldingi*	CSC	✓	Inhabits semi-arid brushy areas with loose soil and rocks, including rocky hillsides, ridges and valleys, open chaparral, streamsides, and washes.	Suitable habitat exists in the vicinity of Option B. There are three known occurrences of this species within five miles. Of those three records, one occurs within 0.25 mile. All three records are presumed extant. **High Potential**

Species Name	Listing Status[1]	Covered by NCCP/ HCP[2]	Habitat Requirements	Potential to Occur
Southwestern Pond Turtle *Clemmys marmorata pallida*	SSC USFSS	✓	Inhabits a wide variety of aquatic habitats, including ponds, lakes, rivers, streams, marshes, sloughs, and wetlands. Digs nests and occupies upland habitats in woodlands and grasslands, usually close to water.	Marginally suitable upland habitat exists in the vicinity of Option B. There are nine known occurrences of this species within five miles. Of those nine records, eight are presumed extant and one is possibly extirpated. **Low Potential**
Northern red-diamond rattlesnake *Crotalus ruber ruber*	CSC	✓	Occurs in chaparral, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains.	Suitable habitat exists in the vicinity of Option B. There are three known occurrences of this species within five miles. Of those three records, one occurs within 0.25 mile. All three records are presumed extant. **High Potential**
Coast horned lizard *Phrynosoma blainvillii*	CSC	✓	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate. Prefers friable, rocky, or shallow sandy soils.	Suitable habitat exists in the vicinity of Option B. There are 14 known occurrences of this species within five miles. All 14 records are presumed extant. **Moderate Potential**
Coronado Island Skink *Plestiodon* (*Eumeces*) *skiltonianus interparietalis*	CSC	✓	Inhabits grassland, woodlands, pine forests, and chaparral, especially in open sunny areas such as clearings and the edges of creeks and rivers.	Suitable habitat exists in the vicinity of Option B. There is one known occurrence of this species within five miles. The record is presumed extant. **Moderate Potential**
Coast patched-nosed snake *Salvadora hexalepis virgultea*	CSC	✓	Inhabits brushy or shrubby vegetation in coastal Southern California. Requires small mammal burrows for refuge and overwintering sites.	Suitable habitat exists in the vicinity of Option B. There is one known occurrence of this species within five miles. The record is presumed extant. **Moderate Potential**
Two-striped garter snake *Thamnophis hammondii*	SSC	✓	Inhabits rocky areas, oak woodland, chaparral, brushland, and coniferous forest, often near pools, creeks, cattle tanks, and other water sources.	Suitable habitat exists in the vicinity of Option B. There is one known occurrence of this species within five miles. The record is presumed extant. **Moderate Potential**
Birds				
Cooper's hawk *Accipiter cooperii*	CSC	✓	Inhabits open, interrupted, or marginal type woodland habitats. Nests in riparian growths of deciduous trees and coast live oaks.	Suitable foraging habitat and limited nesting sites are located within the vicinity of Option B. There is one known occurrence of this species within five miles. The record is presumed extant. **Moderate Potential**
Tri-colored blackbird *Agelaius tricolor*	CSC BLMS	✓	Highly colonial species that requires open water, protected nesting substrate, and foraging areas with an insect base within a few miles of the colony.	Marginally suitable foraging habitat exists in the vicinity of Option B. There is one known occurrence of this species within five miles. The record is presumed extant. **Low Potential**
Southwestern willow flycatcher *Empidonax traillii extimus*	FE	✓	Found in moist, shrubby areas, often with standing or running water. Winters in shrubby clearings and early successional growth.	No suitable habitat exists in the vicinity of Option B. No known occurrences of this species occur within five miles of Option B. **No Potential**
Prairie falcon *Falco mexicanus*	CSC		Inhabits dry, open, hilly, or level terrain. Nests on cliffs.	Suitable foraging habitat is located in the vicinity of Option B. There are three known occurrences of this species within five miles. All three records are presumed extant. **Moderate Potential**
Coastal California gnatcatcher *Polioptila californica californica*	FT CSC	✓	Permanent resident of coastal sage scrub vegetation. Makes limited use of adjacent habitats outside of the breeding season.	Suitable habitat exists in the vicinity of Option B. There are two known occurrences of this species within five miles. Both of the records are presumed extant. **Moderate Potential**

Species Name	Listing Status[1]	Covered by NCCP/ HCP[2]	Habitat Requirements	Potential to Occur
California spotted owl *Strix occidentalis occidentalis*	CSC USFSS BLMS		Inhabits humid, mixed coniferous forests, wooded ravines, and canyons. Requires multiple canopy layers and large old trees for nesting.	No suitable habitat exists in the vicinity of Option B. There are no known occurrences of this species within five miles. **No Potential**
Least Bell's Vireo *Vireo bellii pusillus*	FE CE	✓	Inhabits riverine and floodplain habitats and adjacent coastal sage scrub, chaparral, or other upland plant communities. Nests primarily in willows, but also uses a variety of shrubs, trees, and vines. Forages in riparian and adjacent chaparral habitats.	Suitable foraging habitat is located in the vicinity of Option B. There are six known occurrences of this species within five miles. All six records are presumed extant. **Moderate Potential**
Mammals				
Pallid bat *Antrozous pallidus*	CSC USFSS BLMS		Inhabits a wide range of habitats, including arid desert regions, oak savannah, shrub-steppe, and pine-oak woodlands. Roosts in caves, rock crevices, mines, hollow trees, buildings, and bridges.	Suitable habitat exists in the vicinity of Option B. There are two known occurrences of this species within five miles. Both of the records are presumed extant. **Moderate Potential**
Dulzura pocket mouse *Chaetodipus californicus femoralis*	CSC	✓	Inhabits a variety of habitats, including coastal scrub, chaparral, and grasslands in San Diego County.	Suitable habitat exists in the vicinity of Option B. There is one known occurrence of this species within five miles. The record is presumed extant. **Moderate Potential**
Townsend's big-eared bat *Corynorhinus townsendii*	CSC BLMS		Found throughout California in a wide variety of habitats, but is most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Extremely sensitive to human disturbance.	Marginally suitable habitat exists in the vicinity of Option B. There is one known occurrence of this species within five miles. The record is presumed extant. **Low Potential**
Western mastiff bat *Eumops perotis californicus*	CSC BLMS		Inhabits many open, semi-arid to arid habitats, including conifer woodlands, coastal scrub, grasslands, and chaparral.	Suitable foraging habitat exists in the vicinity of Option B. There are five known occurrences of this species within five miles. All five records are presumed extant. **Moderate Potential**
Small footed myotis *Myotis ciliolabrum*	BLMS		Inhabits a wide range of arid, wooded, and brushy uplands near water. Seeks cover in caves, buildings, mines, and crevices.	Marginally suitable foraging habitat exists in the vicinity of Option B. There are six known occurrences of this species within five miles. All six records are presumed extant. **Low Potential**
Long-eared myotis *Myotis evotis*	BLMS		Inhabits predominately coniferous forest, and is typical only at higher elevations between 7,000 and 8,500 feet in elevation.	Option B is outside of the known elevation range for the species. **No Potential**
Pocketed free-tailed bat *Nyctinomops femorosaccus*	CSC		Inhabits a variety of arid areas in Southern California, including pine-juniper woodlands, desert scrub, palm oasis, desert wash, and desert riparian.	Suitable habitat exists in the vicinity of Option B. There are four known occurrences of this species within five miles. All four records are presumed extant. **Moderate Potential**

Cultural Resources

The area surrounding Option B was systematically surveyed by ASM Affiliates, Inc., in 2009 and 2010 as part of the Sunrise Powerlink Project's final chosen route and a parallel proposed alternative route. Three resources were identified during the survey and literature review in the vicinity of Option B at that time, including SDI-19793, an identified prehistoric bedrock milling site. The other two resources—SDI-19847 (SPAP-S-8) and SPAP-S-9—were both determined to not be cultural. All three resources occur south of Suncrest Substation. The majority of the terrain over which the two Option B corridors are located consists of high mountain ridges with steep drainages that have a low potential for buried cultural deposits. Five other resources are within 0.5-mile of the proposed alignment, with two being evaluated and removed by construction of Suncrest Substation and the remaining three recorded northwest of the existing substation.

Fire Hazards

The California Department of Forestry and Fire Protection Fire and Resource Assessment Program (FRAP) classifies the Option B area as having a moderate to very high fire hazard severity. FRAP data for the Option B area are depicted in Figure 7: Fire Hazard Severity. The FRAP defines fire threat as the likelihood that an area will burn, combined with the severity of burn behavior characteristics (e.g., intensity, speed, and embers produced). According to these data, 100 percent of Option B would be located in an area of very high fire severity classification. Ten wildfires have occurred over the past 10 years in the Option B area. The most recent wildfires in the Option B area were the Harris, McCoy, Poomacha, and Witch fires in 2007, which burned approximately 393,290 acres.

Hydrology

Option B would be located within the southeastern portion of the San Diego River Basin Region, at elevations ranging between approximately 1,300 and 3,000 feet above mean sea level (asl). As described in the Revised POD, this region is located in the southwestern corner of California and encompasses approximately 3,900 square miles of surface area. It includes a majority of San Diego County, as well as portions of southwestern Orange County and southwestern Riverside County. The region is bordered to the north by a hydrologic divide starting near Laguna Beach and extending inland to the ridge of the Elsinore Mountains and into the CNF. To the east, the region is bordered by the San Bernardino, San Jacinto, and Laguna mountain ranges. The southern boundary of the region is located along the U.S. and Mexico international border, and the western boundary of the region is located along the coastline of the Pacific Ocean.

As shown in Figure 8: Hydrologic Units and Groundwater Basins, Option B would be located within the Sweetwater hydrologic unit (HU) of the San Diego River Basin. The main drainage channel of this HU is the Sweetwater River, which begins in the mountains northeast of the community of Descanso, and ultimately flows to the San Diego Bay (which in turn flows to the Pacific Ocean) approximately 27 miles west of Option B. The Sweetwater HU includes two reservoirs: Sweetwater Reservoir and Loveland Reservoir. It is the seventh-largest watershed in the region. Option B would also be located near one named creek—Taylor Creek. In addition, many unnamed, intermittent creeks and drainages are present throughout the vicinity of Option

B. Option B is also located within or in close proximity to other surface waters, such as riparian areas and erosional features.

Option B would be located within the San Diego Subregion of the South Coast Hydrologic Region of California. Within the San Diego Subregion, there are 27 delineated groundwater basins. Option B is not located within a groundwater basin.

Several waterbodies in the vicinity of Option B are listed as impaired pursuant to Section 303(d) of the Clean Water Act. These waterbodies include the upper portion of the Sweetwater River and Loveland Reservoir. The upper portion of the Sweetwater River is listed as impaired for phosphorus, selenium, sulfates, total nitrogen, and toxicity. The closest portion of Option B would be located approximately one mile south of the upper portion of the Sweetwater River. Loveland Reservoir is listed as impaired for aluminum, manganese, dissolved oxygen, and pH. The closest portion of Option B would be located approximately two miles from the reservoir.

Noise

No additional noise measurements were taken in support of this response in the vicinity of Option B. As described in the Revised POD, however, ambient sound measurements were taken at three locations along TL625B to characterize the existing environment—19605 Japatul Road, a location near Carveacre Road, and 22779 Japatul Valley Road—and may serve as sufficient data for ambient sound levels in the vicinity of Option B. There are no residences within 500 feet of Option B. The closest school to Option B is Descanso Elementary School, which is located approximately 5.4 miles northeast of Suncrest Substation. The only additional sensitive receptor located in close proximity to Option B is the Descanso Branch Library, which is also located approximately 5.4 miles northeast of Suncrest Substation. There are no hospitals located within one mile of Option B.

Transportation and Traffic

Option B would be located in the central portion of San Diego County, in and around the CNF, and would cross two roads that are used to access existing Sunrise Powerlink towers in the vicinity of Option B. Figure 9: Major Transportation Routes depicts major state and county routes within the area of Option B. Roads in San Diego County's maintained system are recorded in an official document, known as the Road Register, which is approved by the San Diego County Board of Supervisors. There are many roads in San Diego County that are maintained by other agencies. Freeways and state highways are maintained by the California Department of Transportation. In addition, there are private roads maintained by adjacent property owners, and public roads (such as those within cities) that are not within the county-maintained system. A description of the existing roadway network, list of major and local roadways that would be used for access during construction, and average daily traffic and peak hour traffic levels for I-8, State Route (SR-) 76, SR-78, SR-79, and SR-94 were provided in the Revised POD.

Option B does not span any railways. The nearest rail station is located approximately 15 miles west of Option B in the City of El Cajon and is operated by the San Diego Metropolitan Transit System. The nearest airport to Option B—On the Rocks Airport—is privately owned and houses

one single-engine aircraft. The runway is approximately 2,340 feet long and is composed of gravel. The airport was activated in 1990 and is owned by Covert Canyon, LLC. On the Rocks Airport is not subject to the requirements of Federal Regulation Title 14 because it does not meet the definition of an airport under Section 77. The nearest public airport to Option B is Gillespie Field, which is located approximately 15 miles west of Option B. Gillespie Field is an approximately 775-acre public airport that houses 964 aircraft. The airport contains three paved runways measuring approximately 5,341 feet, 2,737 feet, and 4,147 feet long.

The Option B area is generally serviced by the San Diego Metropolitan Transit System. Bus service in the area is limited and Option B does not span any bus routes. The closest bus routes to Option B are Routes 864 and 888 along Old Highway 80 and I-8. Route 864 operates on weekdays from 5:36 a.m. to 11:02 p.m. traveling west, and from 4:53 a.m. to 11:24 p.m. traveling east. On Saturdays, Route 864 operates from 5:17 a.m. to 11:10 p.m. traveling west, and from 4:47 a.m. to 10:43 p.m. traveling east. On Sundays, Route 864 operates from 5:55 a.m. to 8:13 p.m. traveling west, and from 6:18 a.m. to 8:36 p.m. traveling east. Route 888 operates on weekdays from 9:40 a.m. to 12:10 p.m. traveling west, and 4:10 p.m. to 6:38 p.m. traveling east.

According to the San Diego Association of Governments, the only bicycle infrastructure included in the area of Option B occurs along highways that have a curb which allows bicycle use. Old Highway 80 falls within the classification of a Class III Bikeway, as it has limited signage and permanent markings and it is shared with pedestrians and motorists. Old Highway 80 is located approximately six miles northeast of Option B. No other designated bicycle facilities exist in the vicinity of Option B.

Visual Resources

Option B would be located on undeveloped land located within and near the CNF, depending on which corridor is selected. The area's diverse natural landscape scenery attracts seasonal recreational visitors, including hikers, off-road vehicle users, and campers. The local population is largely concentrated in small, scattered inland communities, such as Descanso, along with several small tribal reservations, including Viejas Indian Reservation. The presence of the tribal reservations is evidenced by the mixture of agricultural, urban/ornamental, and disturbed landscapes that punctuate a region dominated by the largely natural landscapes of the CNF and adjacent jurisdictions. I-8, a major freeway corridor, serves as the principal connector between San Diego and the urban and agricultural hubs to the east, such as El Centro and Yuma. Several state routes, smaller paved and unpaved roadways, and Old Highway 80—which parallels I-8—serve as the principal connections within the area for the local population, as well as seasonal travelers.

Due to the scattered population and limited development, sources of nighttime lighting are localized and sparse, mainly found along roadways and the few local commercial facilities that exist. Other established landscape features with some degree of visibility include Suncrest Substation, wood utility poles, overhead 69 kV power lines, the steel lattice towers of the Sunrise Powerlink, and telecommunications towers.

A viewshed analysis of Option B would primarily consider the potential effects of Option B components on foreground viewshed conditions, although consideration would also be given to the potential effects on the middle-ground and background views. Option B would be visible from some nearby locations along public roads, just as the existing 69 kV power lines and Sunrise Powerlink towers are visible today. In addition, Option B would be seen from limited residential and public recreation areas, just as the existing 69 kV power lines and Sunrise Powerlink towers are visible today. At many locations, intervening natural landforms would partially or fully screen public views of Option B. In addition, Option B's visibility would be limited in many areas where it blends in with surrounding or backdrop vegetation and landforms, as well as the backdrop of the existing Sunrise Powerlink towers. Option B would not be visible in its entirety from any single viewing location.

Option B would either be wholly or predominantly located on U.S. Forest Service- (USFS-) administered land, depending on which corridor is selected, and away from paved roadways. Elevations along the line would range from approximately 1,300 feet asl to approximately 3,000 feet asl. Nearby mountain peaks include Chiquito Peak at 4,165 feet asl and Gaskill Peak at 3,863 feet asl. Vegetation in the vicinity consists largely of low scrub, grassland, and chaparral; the vegetation is noticeably thinner on the surrounding higher terrain, with larger areas of exposed rock and soil. In general, intervening topography and vegetation would restrict open views toward Option B. In addition, the variable texture of the landscape backdrop would reduce the contrast and general visibility of 69 kV power line structures. Option B would not pass within 100 feet of residences.

Wilderness and Recreation

Approximately 93 percent of Option B (approximately 2.8 miles) would be located within the CNF if the eastern corridor is selected; if the western corridor is selected, SDG&E anticipates that 100 percent of Option B would be located within the CNF. The CNF contains 16 general campgrounds, which collectively contain approximately 600 campsites. The CNF also contains five group campgrounds, which can accommodate 11 to 104 people per campground, and 12 recreational vehicle camping areas, which are often located within general or group campgrounds. The majority of the campgrounds within the CNF are currently classified as light-usage campgrounds. There are no designated campgrounds in the vicinity of Option B.

There are four congressionally designated wilderness areas within the CNF, two of which are located within six miles of Option B. The two wilderness areas are Pine Creek Wilderness Area and Hauser Wilderness Area. Option B would be located approximately three miles west of Pine Creek Wilderness Area and approximately 5.2 miles northwest of Hauser Wilderness Area. Option B would also be located approximately 5.7 miles southeast of Cuyamaca Rancho State Park. There are no recreational resources that would be spanned by or located within the immediate vicinity of Option B.

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Question 2:

Please provide the GIS mapping data for Alternative 1- Undergrounding of TL 626 in Boulder Creek Road and Alternative 2 - Relocate TL 626 along State Route 79 provided in SDG&E's response to Data Request No. 5.

SDG&E Response to Q2:

Attached are GIS files for Option 1 and Option 2 of Alternative 1 (UG along Boulder Creek Road) as well as Alternative 2 (the SR-79 Overhead Route.) All three packages have the following supporting layers included:

- NHD (Hydrological Resource linear data)
- Roads
- Existing TL626 Line
- CNF Boundary
- Inventoried Roadless Areas boundaries
- Cuyamaca State Park boundary

In addition, the Alternative 1 packages (Options 1 & 2) have the following layers:

- Proposed Alternative Route (both underground as well as aboveground to tie in to the existing alignment at the northern end of the underground route)
- Potential curve restrictions
- Hydrological resource crossings
- Potentially steep locations
- Existing poles
- Potential hand hole locations (point data – one point is included at either end of each hand hole segment)
- Hand hole distances (i.e., the distance between each hand hole point location)

The Alternative 2 package has the following layers:

- Proposed Alternative Route
- Estimated pole locations along the alternative route

Question #3:

Please provide a typical magnetic field profile outside the edge of the ROW for both the existing 69 kV lines proposed for replacement and the proposed power line replacement projects with proposed new conductor. Please provide load currents and amperage used in developing the profile for both the existing condition, proposed condition, and maximum load condition that is assumed to be 1,580 amps or 138.394 MVA. Please provide SDG&E proposed measures to reduce magnetic fields consistent with CPUC G.O. 131-D and CPUC Decision 93-11-013 and indicate whether magnetic field profiles provided include recommended design measures to reduce magnetic fields.

SDG&E Response to Q3:
The request for "a typical magnetic field profile outside the edge of the ROW" is inconsistent with CPUC Decision 06-01-042, Finding of Fact 17, which states that "[T]he appropriate location for measuring EMF mitigation is the utility ROW as this is the location at which utilities may maintain access control." SDG&E's practice of evaluating magnetic fields at the edge of the utility ROW is reflected in its 1994 *EMF Design Guidelines for Transmission, Distribution and Substation Facilities*[3] and the subsequent *EMF Design Guidelines for Electrical Facilities* ("Guidelines") published in 2006 by SDG&E[4] and the CPUC,[5] and borne out in Magnetic Field Management Plans ("FMP") prepared by SDG&E for numerous other proposed projects.

Section VIII, *Summary of Calculated Magnetic Field Levels*, of the FMP that SDG&E submitted with the Project Application for the proposed Cleveland National Forest Power Line Replacement Projects provides the edge-of-ROW profiles which include recommended design measures to reduce magnetic fields.

Magnetic field levels depend upon many variables, including load growth, customer electricity consumption, and other factors beyond SDG&E's control. The calculated results in the FMP are provided only for purposes of identifying the relative differences in magnetic field levels among various design alternatives. Calculated values are not intended to predict actual magnetic field levels at any given time or at any specific location, should the Project be constructed.

In evaluating possible magnetic field reduction measures for an FMP, it is SDG&E's practice to compare values calculated for the proposed conditions, with and without a given field-reduction technique, using a load case based on forecast summer peak for the proposed in-service year. It is not SDG&E's practice to calculate and compare field values for proposed conditions with existing conditions, under any load conditions, or to calculate field values for proposed conditions under alternative load cases, such as existing or maximum load conditions. Therefore, SDG&E does not develop load cases for existing conditions or maximum load conditions for use in an FMP.

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[3] *EMF Design Guidelines for Transmission, Distribution and Substation Facilities*, San Diego Gas & Electric, May 1994, p. 36: "For transmission and distribution lines, where the line is located within a defined right-of-way, SDG&E will normally perform magnetic field calculations at the edge of the right-of-way."
[4] *EMF Design Guidelines for Electrical Facilities*, San Diego Gas & Electric, July 2006, p. 4
[5] *EMF Design Guidelines for Electrical Facilities*, California Public Utilities Commission, July 2006, http://www.cpuc.ca.gov/PUC/energy/Environment/ElectroMagnetic+Fields/, p. 4

Additionally, the use of multiple load cases for calculating magnetic field reduction could be misconstrued as an attempt to evaluate or determine numeric values of EMF exposure. The request for "load currents and amperage used in developing the profile for both the existing condition … and maximum load condition" is not only outside the scope of SDG&E's modeling practices, but inconsistent with determinations made by the CPUC in Decision 06-01-042:

> Our review of the modeling methodology provided in the utility design guidelines indicates that it accomplishes its purpose, which is to measure the relative differences between alternative mitigation measures. Thus, the modeling indicates relative differences in magnetic field reductions between different transmission line construction methods, but does not measure actual environmental magnetic fields. In the same way, these relative differences in mitigation measures will be evident regardless of whether a maximum peak or a projected peak is used for the comparisons.[6]
>
> "Utility modeling methodology is intended to compare differences between alternative EMF mitigation measures and not determine actual EMF amounts." (Finding of Fact 14, p. 20)
>
> "Furthermore, we do not request that utilities include nonroutine mitigation measures, or other mitigation measures that are based on numeric values of EMF exposure, in revised design guidelines." (p. 17)

SDG&E has attached a file providing amperages from the load case "2018 heavy summer" identified in the FMP. Since the proposed projects are either single- or double-circuit 69 kV power lines, with consistent pole-top configurations for either type, and amperages in the load case range from 11.5 to 84.3 and average 35.4, a single load value of 70 amperes was used in the models for the FMP.

The FMP submitted for the proposed projects is consistent with CPUC G.O. 131-D and CPUC Decisions 93-11-013 and 06-01-042, and with the 2006 SDG&E and CPUC Guidelines. Copies of SDG&E's Guidelines and the Project FMP are attached.

[6] CPUC Decision 06-01-042, p. 11

ATTACHMENT 1

QUESTION 1 FIGURES

System Schematic Diagram

Figure 1 Upgrades to TL6931

Figure 2 Loop-in to Suncrest Substation

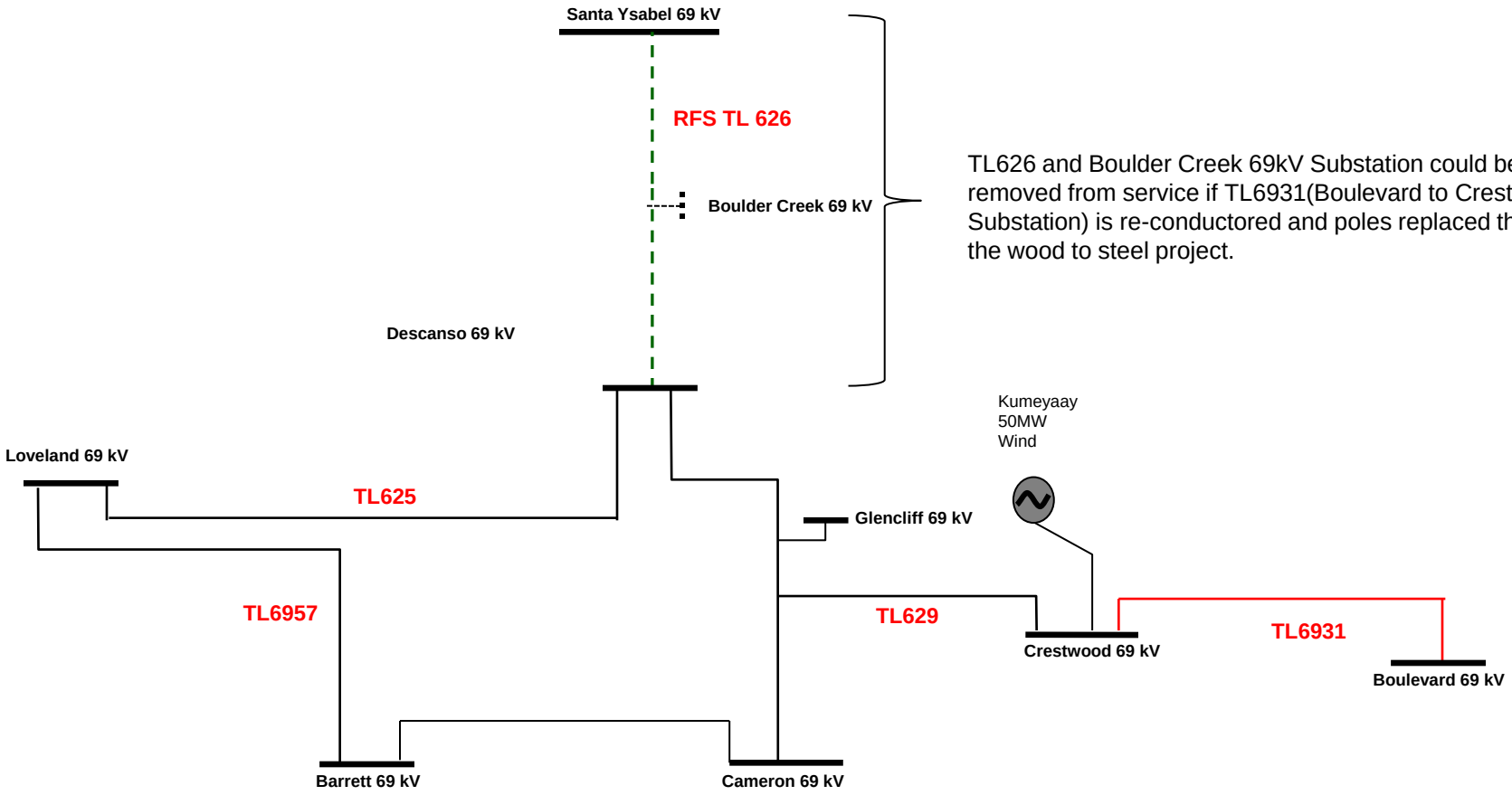
Figure 3 Convert Existing Facilities to 12kV

Figure 4 Off-Grid Supply

Figures 5 – 9 Loop-in to Suncrest Substation Maps

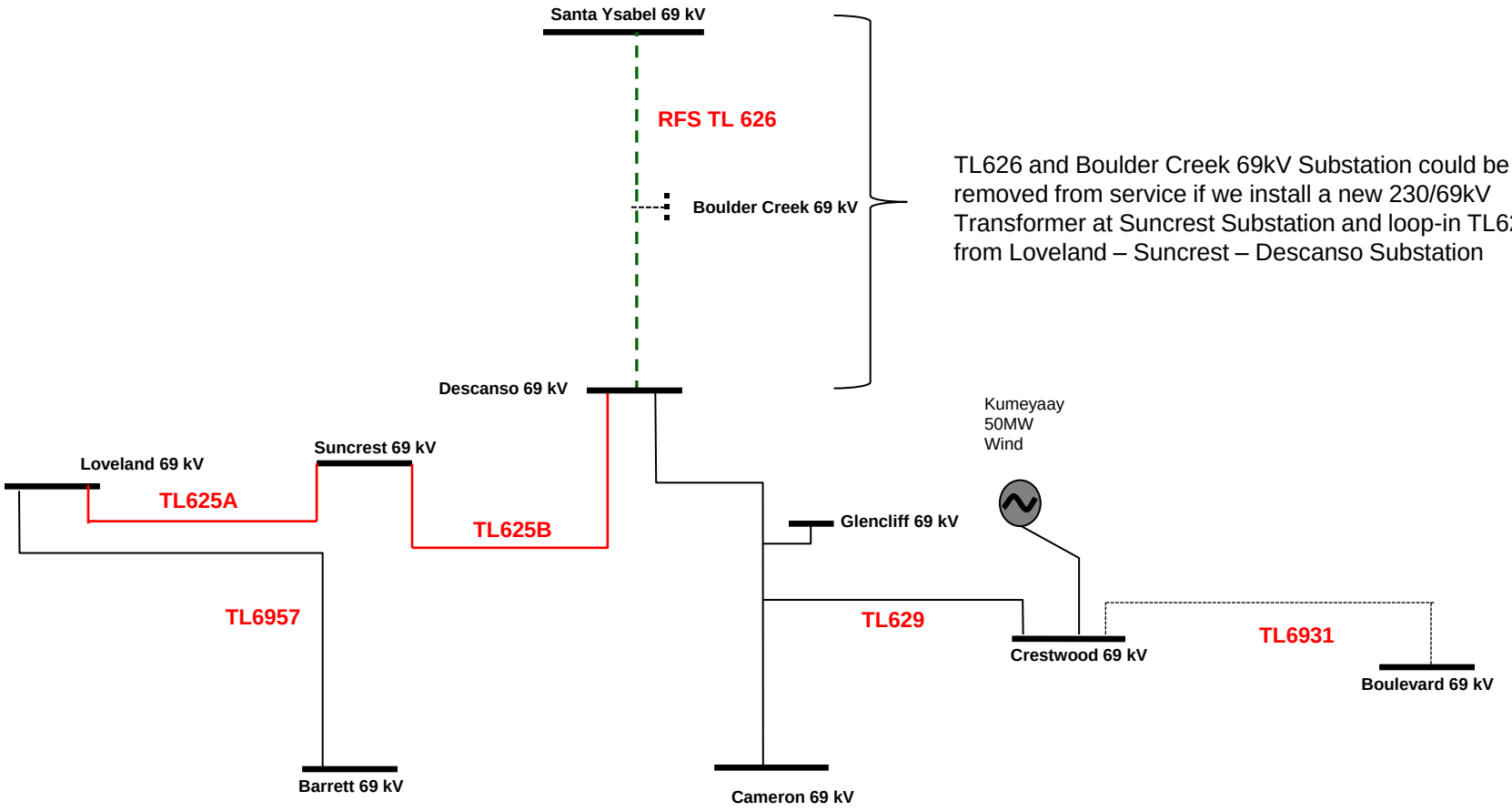
- *Figure 5: CNDDB Occurrences within 5 Miles*
- *Figure 6: USFWS Critical Habitat within 5 Miles*
- *Figure 7: Fire Hazard Severity*
- *Figure 8: Hydrologic Units and Groundwater Basins*
- *Figure 9: Major Transportation Routes*

Option A System Schematic:
Remove from Service TL626 and Fire Hardening of TL6931



TL626 and Boulder Creek 69kV Substation could be removed from service if TL6931(Boulevard to Crestwood Substation) is re-conductored and poles replaced through the wood to steel project.

Option B System Schematic:
TL625 and Suncrest 69KV Substation Configuration



TL626 and Boulder Creek 69kV Substation could be removed from service if we install a new 230/69kV Transformer at Suncrest Substation and loop-in TL625 from Loveland – Suncrest – Descanso Substation

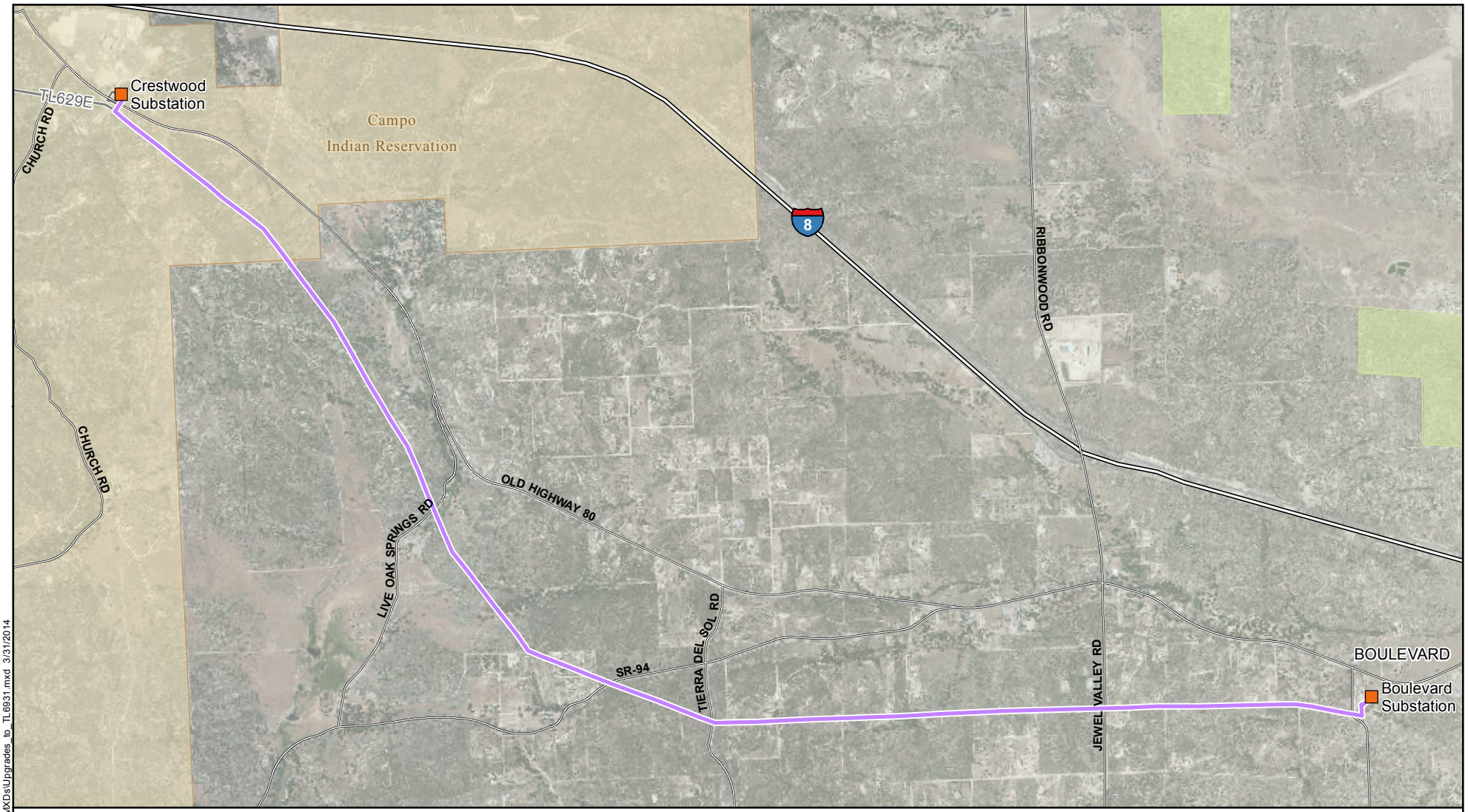


Figure 1: Upgrades to TL6931

CNF Power Line Replacement Projects

Existing TL6931
Existing Power Line
Substation
Bureau of Indian Affairs Land
U.S. Bureau of Land Management
Interstate
Road

1:35,000

0 0.5 1 Miles

N

SDGE A Sempra Energy utility

INSIGNIA ENVIRONMENTAL

Z:\Projects\SDGE_CNF_ESRP\Data_Request\TL6931\MXDs\Upgrades_to_TL6931.mxd 3/31/2014

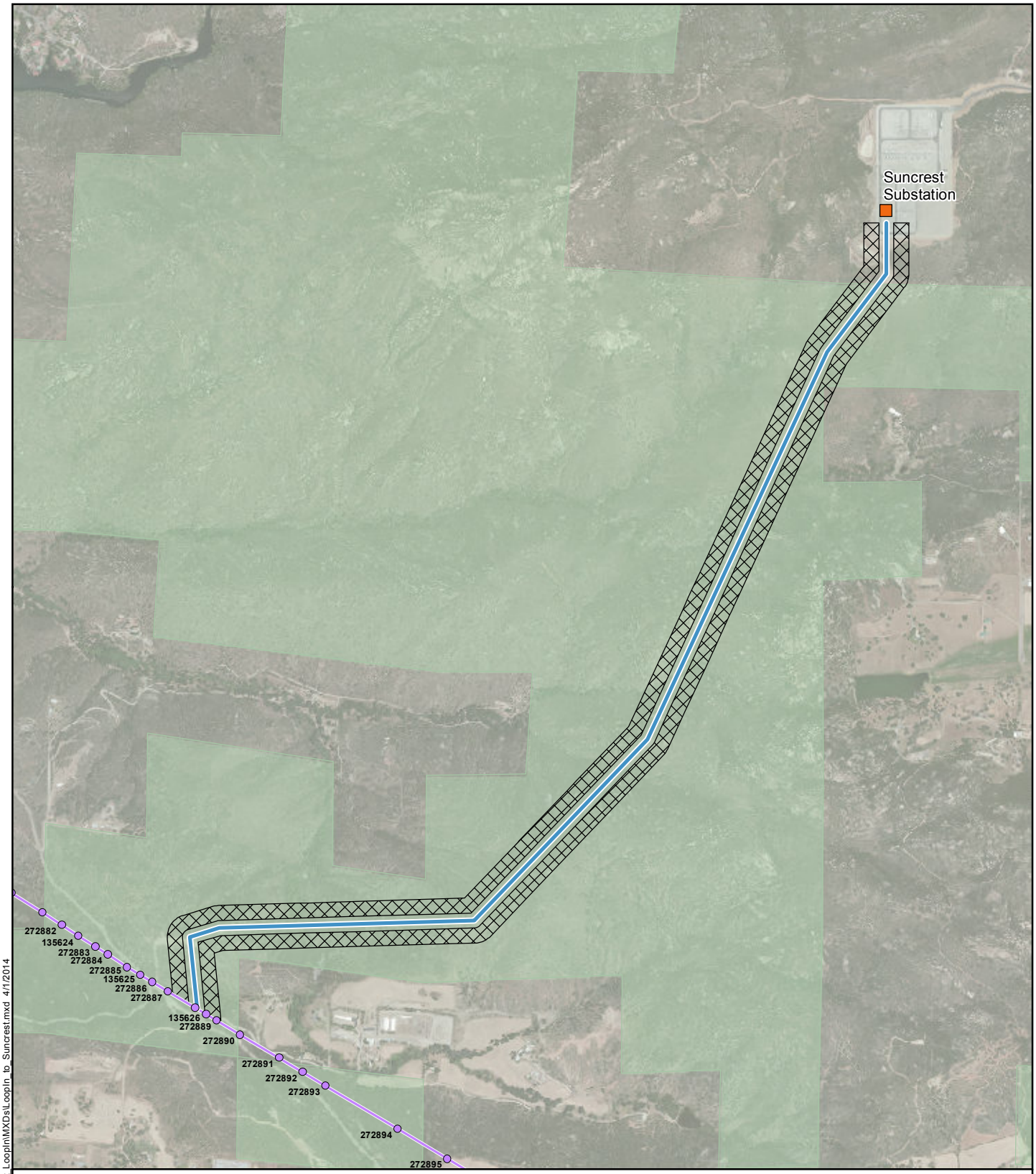


Figure 2: Loop-In to Suncrest Substation **CNF Power Line Replacement Projects**

- Existing TL625B Pole
- Suncrest Substation
- Sunrise Powerlink (TL50003)
- Potential Option B Alignment Locations
- United States Forest Service

1:22,000

0 1,000 2,000 Feet

SDGE A Sempra Energy utility

INSIGNIA ENVIRONMENTAL

Z:\Projects\SDGE_CNF_ESRP\Data_Request\Suncrest_LoopIn\MXDs\LoopIn_to_Suncrest.mxd 4/1/2014

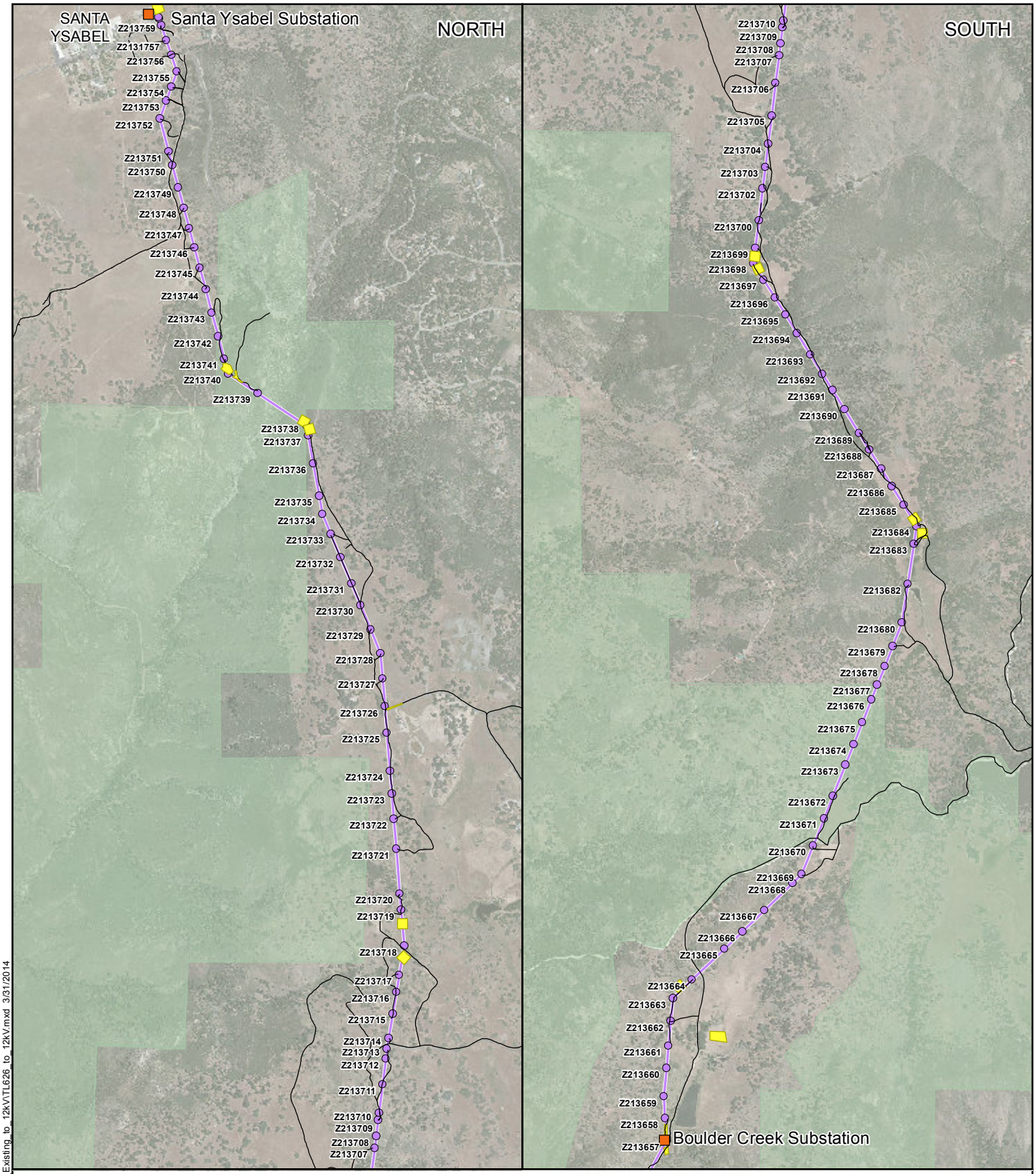


Figure 3: Convert Existing Facilities to 12 kV

CNF Power Line Replacement Projects

- Substation
- Wood-to-Steel Replacement
- Existing Power Line
- SDG&E Access Road
- Temporary Work Area
- United States Forest Service

NORTH

SOUTH

1:25,000

0 1,000 2,000 Feet

SDGE A Sempra Energy utility

INSIGNIA ENVIRONMENTAL

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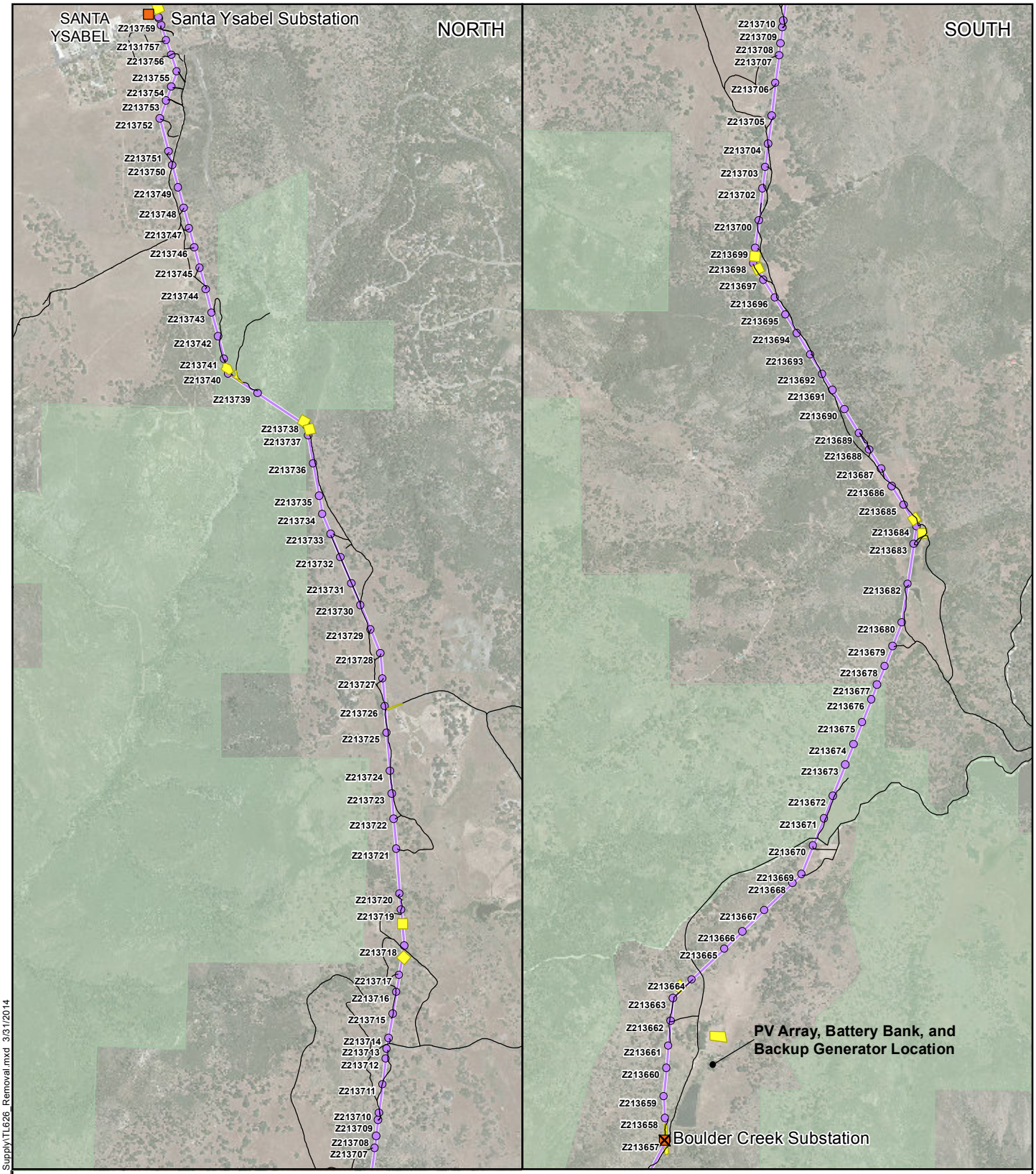

Figure 4: Off-Grid Supply

CNF Power Line Replacement Projects

- Substation
- Substation, to be Removed
- Existing Pole, to be Removed
- Existing Power Line, to be Removed
- SDG&E Access Road
- Temporary Work Area
- United States Forest Service

NORTH
SOUTH

1:25,000
0 1,000 2,000 Feet

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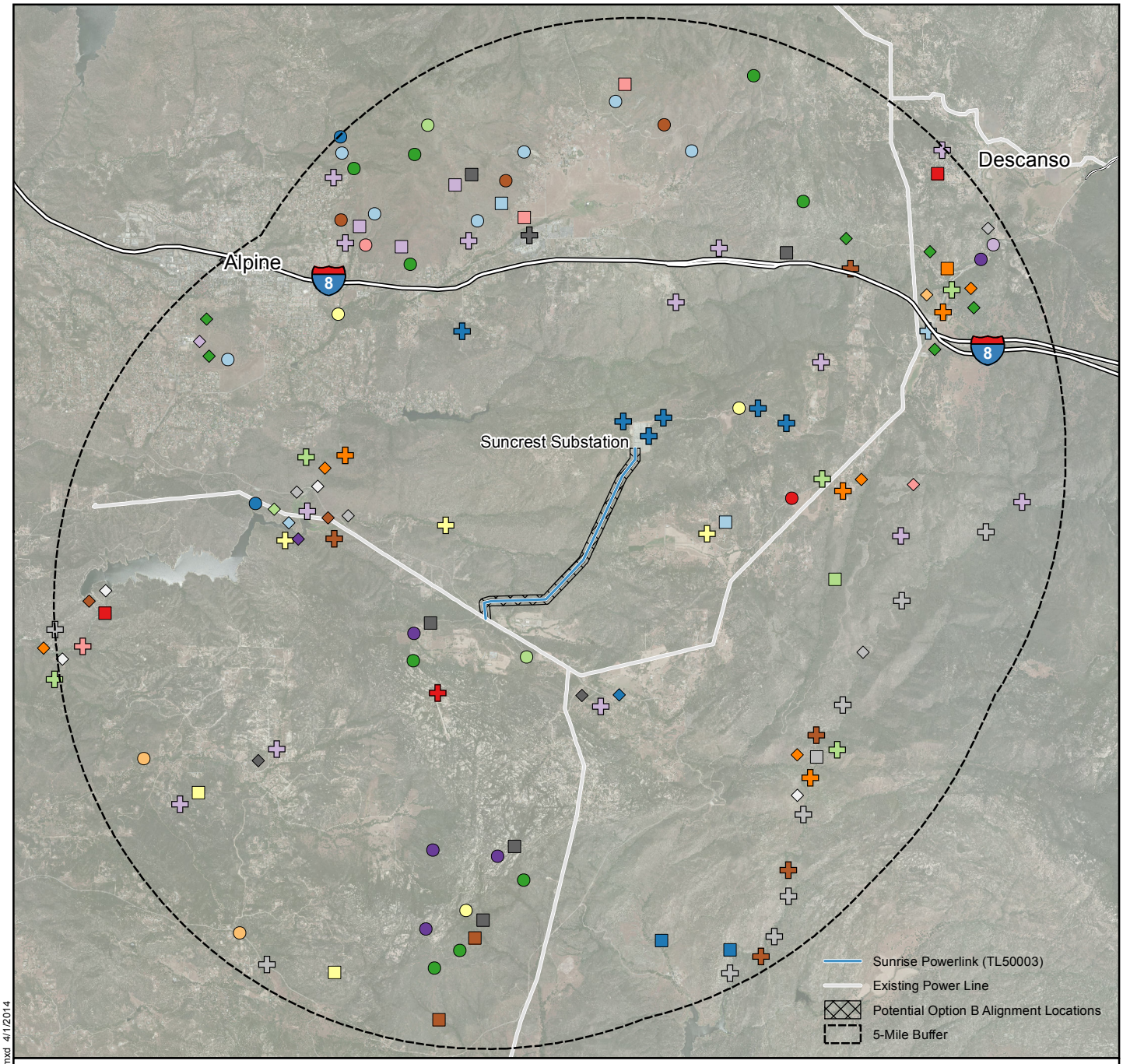

Figure 5: CNDDB Occurrences within 5 Miles of Option B **CNF Power Line Replacement Projects**

Plants

- Robinson's pepper-grass
- San Diego thorn-mint
- southern mountains skullcap
- sticky geraea
- Palmer's grapplinghook
- felt-leaved monardella
- Jacumba milk-vetch
- Parry's tetracoccus
- Hammitt's clay-cress
- delicate clarkia
- Moreno currant
- Orcutt's brodiaea
- Cove's cassia
- Dean's milk-vetch
- long-spined spineflower
- San Diego gumplant
- San Diego milk-vetch
- chaparral nolina
- San Diego sagewort
- Gander's ragwort
- San Diego hulsea
- Ramona horkelia

Animals

- Coronado Island skink
- coast patch-nosed snake
- Hermes copper butterfly
- Cooper's hawk
- hoary bat
- Dulzura pocket mouse
- western small-footed myotis
- western spadefoot
- southern California rufous-crowned sparrow
- coastal California gnatcatcher
- pallid bat
- coastal whiptail
- arroyo toad
- pocketed free-tailed bat
- red-diamond rattlesnake
- two-striped garter snake
- western red bat
- western mastiff bat
- Yuma myotis
- least Bell's vireo
- orangethroat whiptail
- coast horned lizard
- tricolored blackbird
- western pond turtle

1:110,000

0 1 2 Miles

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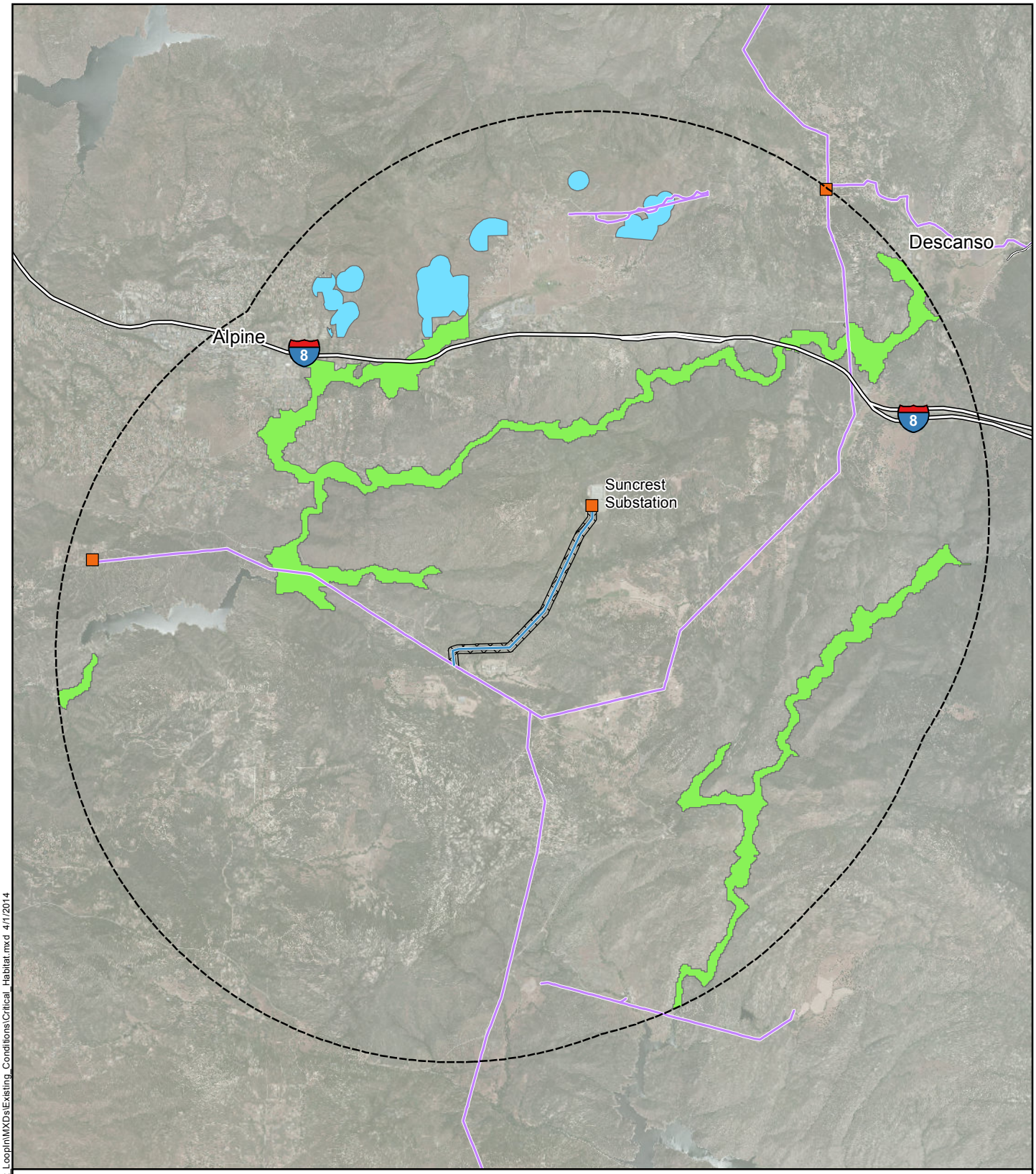

Figure 6: USFWS Critical Habitat within 5 Miles of Option B **CNF Power Line Replacement Projects**

- Substation
- Sunrise Powerlink (TL50003)
- Existing Power Line
- Potential Option B Alignment Locations

Critical Habitat

- Arroyo (arroyo southwestern) toad
- San Diego thornmint

- 5-Mile Buffer

1:110,000

0 1 2 Miles

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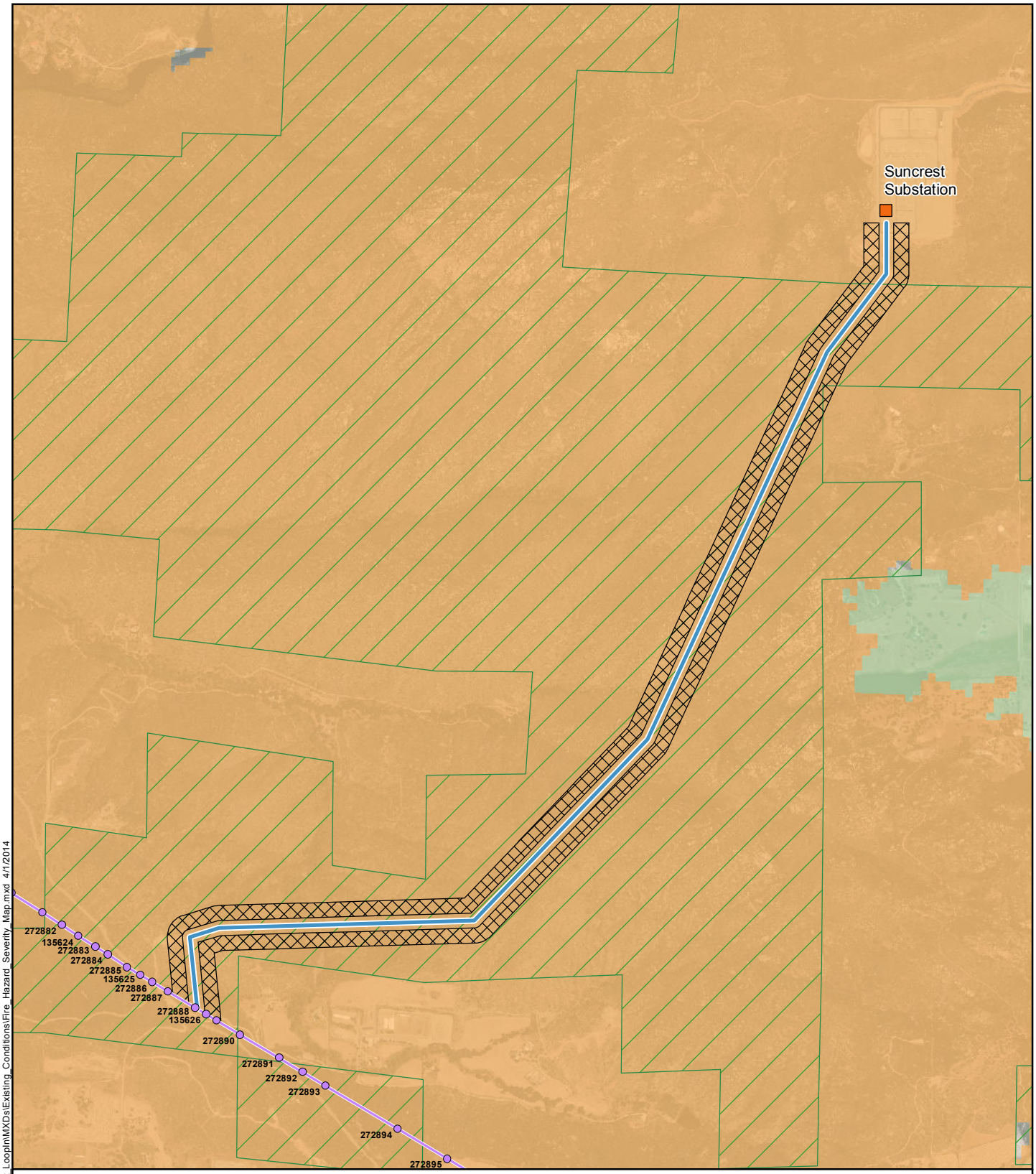

Figure 7: Fire Hazard Severity

CNF Power Line Replacement Projects

Fire Severity Threat

- Very High
- Moderate

- Existing TL625B Pole
- Suncrest Substation
- Sunrise Powerlink (TL50003)
- Potential Option B Alignment Locations
- United States Forest Service

1:22,000

0 1,000 2,000 Feet

N

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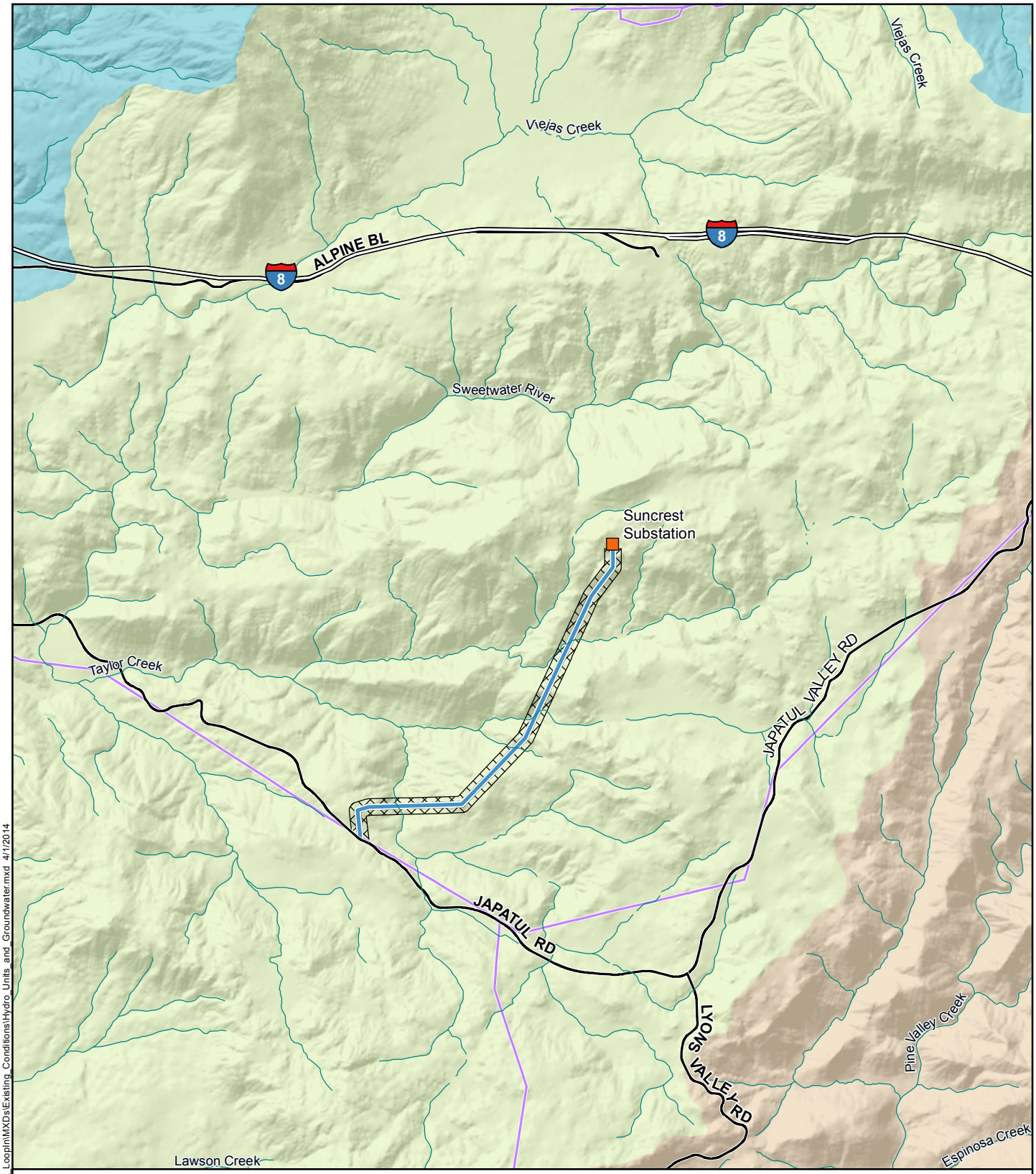

Figure 8: Hydrologic Units and Groundwater Basins **CNF Power Line Replacement Projects**

- Stream/River
- **Hydrologic Unit/Watershed**
  - San Diego
  - Sweetwater
  - Tijuana
- Suncrest Substation
- Sunrise Powerlink (TL50003)
- Existing Power Line
- Potential Option B Alignment Locations
- Interstate
- State Highway/Major Road

1:60,000
0 0.5 1 Miles

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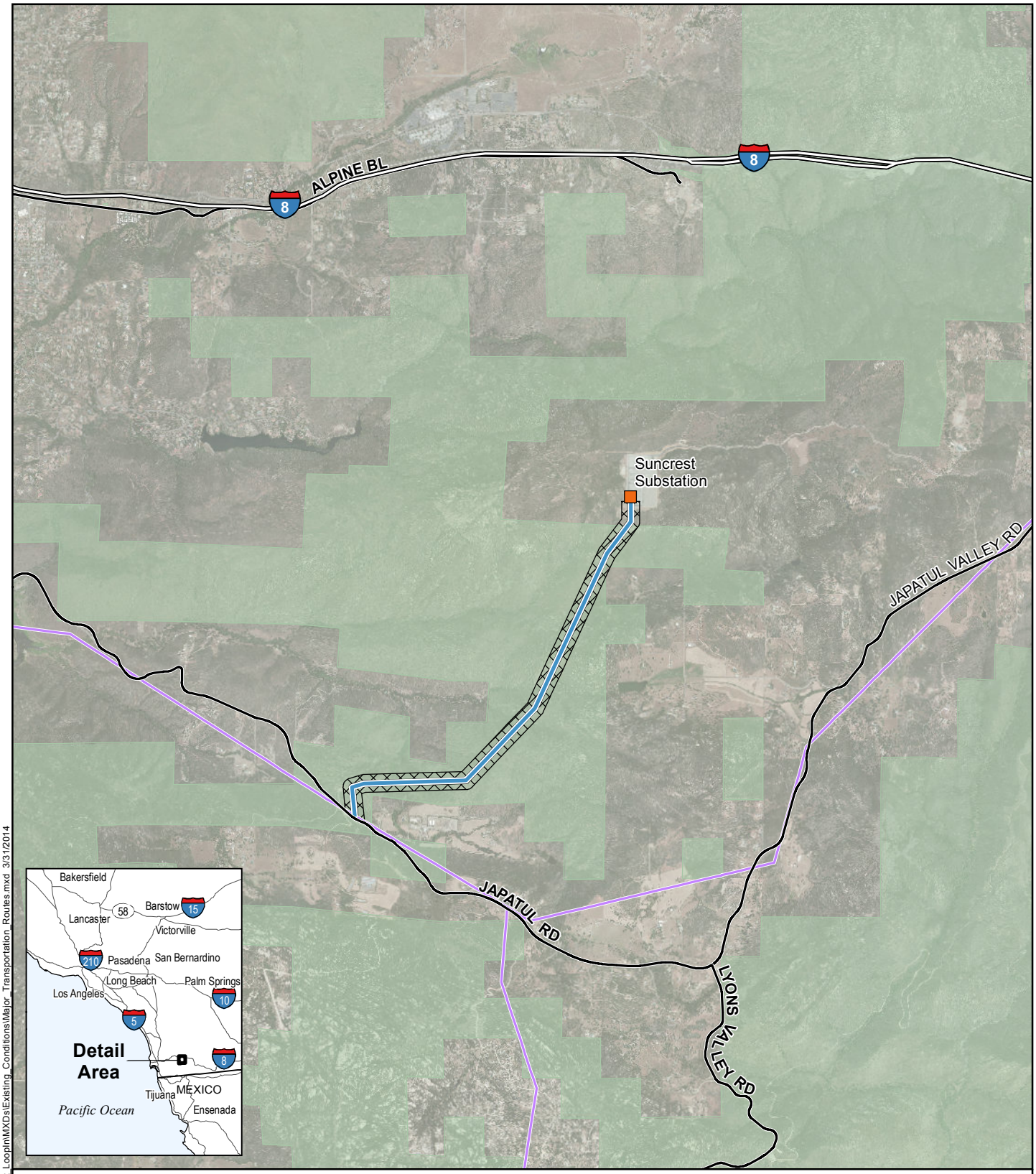

Figure 9: Major Transportation Routes **CNF Power Line Replacement Projects**

- Suncrest Substation
- Sunrise Powerlink (TL50003)
- Existing Power Line
- Potential Option B Alignment Locations
- Interstate
- State Highway/Major Road
- United States Forest Service

1:55,000

0 0.5 1 Miles

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