Sunrise Powerlink Transmission Project

Environmental Monitoring Plan

5/10/2010

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Project Description

San Diego Gas & Electric Company (SDG&E) will be constructing a new electric transmission line between the existing Imperial Valley and Sycamore Canyon Substations. The 230-kV/500-kV transmission line will traverse approximately 120 miles between the El Centro area of Imperial County and southwestern San Diego County, in southern California. The Project right-of-way (ROW) is consistent with the Final Environmentally Superior Southern Route (FESSR or Route), and related facilities, as identified in the FEIR/EIS issued October 2008 by the California Public Utilities Commission (CPUC) as the lead State agency under the California Environmental Quality Act (CEQA), and the U.S. Department of the Interior Bureau of Land Management (BLM) as the lead Federal agency under the National Environmental Policy Act (NEPA). The Route has been assigned mileposts (MP), which range from the Imperial Valley Substation (MP 0) to the Sycamore Canyon Substation (MP 118). The Route has been separated into five different Links, based on the area and type of transmission work.

Field Monitoring

Burns & McDonnell (BMcD) is the Owner's Engineer and Construction Manager for SDG&E on the Sunrise Powerlink project. BMcD is providing other services such as supporting SDG&E staff to comply with the Sunrise Powerlink Transmission Project Mitigation Monitoring, Compliance, and Reporting Program (MMCRP). Burns & McDonnell is taking the lead with managing field monitoring as required by multiple mitigation measures in the MMCRP, namely mitigation measure B-1c for biological monitoring, mitigation measures C-1e and C-3a for archaeological monitoring, mitigation measure C-1e for Native American monitoring, and mitigation measure PAL-1c for paleontological monitoring. This Environmental Monitoring Program is required and will be implemented to comply with mitigation measure P-1a.

Project Communication

Field Monitoring Protocol

- At the start of construction, and with regular updates as needed thereafter, field monitors (includes environmental/biological and archaeological/paleontological monitors) and the construction contractor will be provided with sensitive species location maps overlaid with generic cultural and paleontological sensitivity areas. These areas will be collectively referred to as Environmentally Sensitive Areas (ESA) and will be associated with restrictions.
- Specific areas of high sensitivity will be assigned a specific protocol such as "monitoring during any project related activity" within the established ESA.
- At each tailboard meeting in the morning, ESA locations and their associated restrictions will be discussed for that work day.
- Weekly look-aheads will be discussed during weekly monitoring meetings to identify ESAs crews will be working nearby.
- Requests to move / work at new sites should be communicated through the BMcD Lead Monitoring Coordinator. The on-site monitors and the construction contractor environmental crews can provide Crew Foremen information that will aid them in making decisions on where to move next, but the final clearance should come from the Lead Monitoring Coordinator.
- Environmental/biological, archaeological/paleontological, and Native American monitors will be notified NO LESS THAN 36 HOURS to mobilization of crews within and/or adjacent to established ESAs.
- A single point of contact (typically the BMcD Link Lead) will be established and required for an end-of-work day phone call to discuss construction schedules for the following day. This Person

will contact the construction contractor manager, BMcD construction manager, and individual monitors to determine work status. During the call, a start time(s) and location(s) will be established for monitors to meet the following day, usually at the tailboard meeting location.

- A phone tree of SRPL Project contacts will be used to inform all field monitors of schedule changes occurring within the 36 hour period of advance notification.
- Phone tree participants will be informed of their Area of Responsibility regarding the Communication Protocol.
- The Lead Monitoring Coordinator will participate in weekly monitoring meetings/conference calls with Burns & McDonnell, the construction contractor, and SDG&E to review monitoring efforts and resolve any issues and miscommunication.

Daily Tailboards

BMcD Environmental Monitors will attend the construction contractors' daily tailboard(s) and immediately thereafter will hold their own brief tailboard before dispersing to the various field locations or monitoring sites.

Daily Call-in Procedures

ALL personnel associated with the Project, excluding the construction contractor, must follow the mandatory requirements listed below to ensure safety when working (or visiting) the ROW. Contact the Sunrise Project Trailer by telephone or by using your radio prior to entering the project site.

1. Provide your name, a cellular telephone number where you can be reached, and radio call number if applicable.
2. Provide location where you will be in the project area. If personnel will be moving from site-to-site, include that information.
3. When moving from one site to another site, call or radio the Sunrise Project Trailer to inform them of your move.
4. Contact Sunrise Project Trailer when leaving the project area **for any reason**. If leaving the project area with no plan to return later the same day, contact the Sunrise Project Trailer to inform them that you are off of the project area for the remainder of the day.
5. Contact the Sunrise Project Trailer at the end of the day when leaving the project area.

Contact information for the Alpine Sunrise Project Trailer is as follows:
By Phone: **xxx-xxx-xxxx (Pending)**
By Radio: **Repeater Stations: Sunrise Base**

The Sunrise Project Trailer will monitor all employees' project area activities to ensure everyone is safe and accounted for at the end of the day. A spreadsheet will be provided which lists the radio and cell phone coverage within the project area. Strict adherence to the daily communications procedure is *mandatory*. There will be zero tolerance for non-compliance and violations could result in removal from the Project.

Everyone working on the project should fill out and keep current at all times, the Sunrise Emergency Contact Card, Attachment B. This will be kept on file in Dispatch (Sunrise Field Trailer). Please fill the form out in its entirety and return ASAP to the Sunrise Office.

Project Resources and Tracking

Google Earth

Google Earth One-Touch Project Manager (OneTouchPM)™ will provide the most accurate information on project scheduling and status available on a daily basis. A copy of this web-based application will be made available to all BMcD and SDG&E staff associated with the Project to use as an in-office planning tool for checking the status of individual towers, locating resource sensitivities, and viewing project documentation

such as permits, Notice to Proceeds (NTP), Temporary Extra Work Space (TEWS), and variances applicable to each work site. Field staff (e.g. Link Leads and Lead Monitoring Coordinator) should check OneTouchPM every day to view changes, and to send updates of their own to keep the database as accurate and current as possible.

The monitors will have access to a wide list of environmental resources at their disposal (i.e. MMCRP, FEIS/EIS, BLM Rod, USFS Rod, SWPPP, Weed Control Plan, Bird Nesting Log), and various plans/reports prepared in compliance with the mitigation measures

Databases

Contract Manager – All BMcD staff, and eventually all contract staff, will enter their Daily Reports and Incident Reports directly into this web-based project database. Copies of NTPs, permits, the Construction Plan, and other project documentation will be entered here as well to be viewed or downloaded remotely at any time.

Resource Maps

Resource maps depicting biological resource sensitivities, bird nests, and the general location of areas of cultural and paleontological resource concern will be reviewed and updated on a weekly basis as needed throughout construction. Maps will initially be compiled based upon earlier biological surveys and clearance surveys, then modified as additional observations are made. These maps will reflect the same data that will be presented on OneTouchPM. At the start of construction, colored 11" x 17" map sets illustrating disturbance areas will be distributed to all field monitors, and crew foremen. As changes are made, new maps will be redistributed at tailboard meetings to minimize circulation of inaccurate and outdated copies.

3-Week Look Ahead – Construction Schedule

This schedule will incorporate environmental restrictions and will allow the construction contractor and subcontractors to plan their activities around biological and cultural restrictions. This will also give field monitors a forecast of activities where monitoring and communication will be needed with SDG&E and/or the CPUC.

Monitor Roles and Responsibilities

Definition of Roles

The role of the ***Lead Monitoring Coordinator*** is to:

- Ensure compliance with the Construction Plan and Mitigation Monitoring Plans for all environmental aspects of Project execution.
- Serve as the Environmental Field Representative per mitigation measure P-1a on behalf of SDG&E
- Provide direction, planning, expectations, and general oversight for the field monitoring effort.
- Be available at all times during the construction day to answer questions, and to relay information between the field and management to inform every one of issues and changes in a timely manner.
- Provide a contact point for SDG&E and the CPUC to coordinate work and provide reports should changes or incidents arise.
- Provide immediate assistance to Link Leads and field monitors as needed.
- Keep management informed of project changes, issues, spills, and other incidents as they occur.
- Initiate daily contact calls with construction staff and convey changes to construction protocol or timing to the appropriate SDG&E staff and monitors.
- Participate in weekly and monthly monitoring meetings.

The role of the ***Field Monitoring Link Lead*** is to:

- Ensure compliance with the Construction Plan and Mitigation Monitoring Plans for all environmental aspects of project execution.
- Provide direction, set expectations, and provide oversight for the field monitoring effort on their assigned Link.
- Be available at all times during the construction day to answer questions, and to relay information between the field and the Lead Monitoring Coordinator so that everyone is kept informed of problems and changes in a timely manner.
- Ensure that monitors are properly equipped and have all necessary documentation on hand to understand and perform their jobs.
- Initiate daily contact calls with construction staff and convey changes to construction protocol or timing to the appropriate SDG&E staff and monitors.
- Attend daily tailboards to coordinate monitoring efforts with the field monitors and construction personnel
- Keep construction personnel informed of all ESA's and the timing of if/when they will be released.
- To be present at each daily tailboard session and present any new information or updates that will assist the crews in avoiding impacts to natural resources and to minimize impacts to natural resources in general.
- To coordinate with construction contractor concerning any proposed changes to the project scope or design, ensure those changes are properly documented and approved, and to relay those changes to the appropriate levels of construction, environmental management, and environmental compliance staff.
- To provide a reference point for any questions about environmental compliance.

The role of the ***environmental/biological field monitor(s)*** is to:

- To be present at each daily tailboard session and present any new information or updates that will assist the crews in avoiding impacts to natural resources and to minimize impacts to natural resources in general.
- Ensure BMPs are maintained and in place.
- To provide a reference point for any questions about environmental compliance.
- To monitor compliance with other mitigation measures including hydrology, geology, air quality, etc.
- To report to the Link Lead or Lead Monitoring Coordinator as needed.
- Ensure that work areas are clearly delineated and crews are staying within those areas.
- Continually checking for new sensitive resources within the work areas (e.g. plants, animals, cultural, and artifacts) and the surrounding work area.
- Coordinate with the crew you will be monitoring – find out what they will be doing for the day and that they know the limits of their work area. Inform them of any sensitivities in the area (i.e. ESAs that they need to stay out of). Provide clear, consistent, and constant information to crews about requirements for resource protection.
- If sensitive plant resources are to be removed, make sure to take photos and count the number of plants that are removed.
- Take before and after photographs of areas where disturbance will occur.
- Take detailed notes of all activities for the day (what you saw, what you did, who you talked to, etc.).
- If any new sensitive resources are found, contact your Link Lead. If a "no construction" buffer zone is needed (i.e. an active nest is found), inform the crew of the new work limits or if construction needs to stop in the area until further notice.
- Daily Reports of your monitoring activities are to be completed at the end of each day in Contract Manager. They are due **DAILY** and no later than the next day.

The role of the ***archaeological/paleontological field monitor(s)*** is to:

- Ensure compliance with the Paleontological Resources Management Plan.
- Be present at daily tailboard session, when applicable to work areas designated as sensitive for cultural and/or paleontological resources, and present any new information or updates that will assist the crews in avoiding impacts to said resources.
- Ensure that work areas are clearly delineated and crews are staying within those areas.
- Provide detailed information to the crews regarding protective measures such as Environmentally Sensitive Areas, within or adjacent to construction locations.
- Temporarily suspend work in an area where an unanticipated find is identified. Assess the find and consult with the Link Leads.
- Coordinate monitoring activities with the construction contractor concerning any proposed changes to the project scope or design, ensure those changes are properly documented circulated to other archaeological/paleontological monitors in the field.
- Provide a reference point for any questions about archaeological/paleontological monitoring and compliance.
- Report to the Link Lead or Lead Monitoring Coordinator as needed
- Daily Reports of your monitoring activities are to be completed at the end of each day in Contract Manager. They are due **DAILY** and no later than the next day.

The role of the ***Native American field monitor(s)*** is to:

In general, Native American monitors will be required to be present and observe construction activity that occurs in close proximity to areas with tribal concerns.

Identification of Sensitive Resources
Sensitive resources have been identified for all project proposed work areas. These resources are discussed in survey reports and each identified resource has been mapped. Each Native American Monitor is responsible for reviewing survey reports and maps in order to be familiar with sensitive areas in and around the work area and ensure that these resources are being protected as required by the appropriate mitigation measures and associated treatment and management plans. In addition, each monitor is responsible for identifying previously unidentified cultural resources discovered by any person working on the project.

Training Requirements
The monitor must participate in training classes required by Burns & McDonnell, which includes, but is not limited to, viewing the SWEAP video and participating in safety training classes. Each monitor must also review the MMCRP and be familiar with all mitigation measures for the project.

Monitoring Requirements
During construction, Native American field monitor(s) are required to:

- Be present at each daily tailboard session and present any new information or updates that will assist the crews in avoiding impacts to cultural resources and to minimize impacts to natural resources in general.
- Report to the Link Lead or Lead Monitoring Coordinator as necessary.
- Ensure that work areas are clearly delineated and construction crews remain within designated work areas.
- Remain on the Right-of-Way or in a designated area throughout the day during active construction in areas with tribal concerns.
- Coordinate with the construction crew to determine their planned daily work activities and inform them of any sensitivities in the area (i.e. ESAs that they need to stay out of).
- Provide clear, consistent, and constant information to crews about requirements for resource protection.
- If any new sensitive resources are found or issues arise concerning the protection of resources, contact your Link Lead.

- Take detailed notes of all activities for the day (what you saw, what you did, who you talked to, etc.) and complete Daily Reports of your monitoring activities at the end of each day in Contract Manager. They are due **DAILY** and must be submitted through Contract Manager no later than COB the next day.

Field Monitor Responsibilities

Identification of Sensitive Resources
Sensitive resources will be identified from: 1) previous sensitive resource surveys, 2) recent clearance surveys, and 3) incidental observations. Each identified resource will be mapped with GPS, recorded in a Daily Monitoring Report, and a location provided with GPS coordinates to the SDG&E GIS Department to be included in both the Google Earth database and on natural resources maps.

Sensitive resources (i.e., sensitive plants, Riparian Conservation areas (RCAs), will be prominently flagged for avoidance with yellow flagging. Oaks and/or protected native trees will be isolated with yellow flagging or T-bar posts/stakes with yellow nylon rope/flagging to identify the limits of encroachment.

Clearance Surveys
An initial clearance survey will be performed within ten calendar days prior to ground disturbance of a work site or anytime that an approved change in the project disturbance area is made. Reports on clearance surveys will be submitted prior to ground disturbance to SDG&E and/or directly forwarded to the CPUC. If construction has not begun in the surveyed areas within ten calendar days of the clearance survey, the survey must be repeated and a report of any changes must be submitted prior to ground disturbance to SDG&E and/or directly forwarded to the CPUC.

Daily Site Sweeps
The biological/environmental monitor will sweep each work area and construction yard for evidence of nests and either remove partial or unoccupied nests or flag active nests for avoidance in concurrence with CDFG staff.

Final Site Sweeps
Biological/environmental monitors will perform a final area sweep when construction has been completed at any given site to check for microtrash, leftover construction material, and properly installed BMPs. At that time, the monitor will note the approximate size of the disturbance area, noting both temporary and permanent impacts, and take site photos from the same location as the original photo points if available.

Presence of a Monitor
A biological/environmental monitor should be present under the following circumstances:

- Vegetation clearing and brushing.
- Activities within or near an RCA.
- Activities in the vicinity of an active bird nest.
- Excavation activities (e.g. micropiles, hand digging for footers).
- Spur road grading.
- Soil stockpiling – Monitors will assist in the selection of adequate stockpiling sites, and ensure that topsoil is handled as per the specifications provided in the Construction Plan. A Restoration Ecologist may also be needed during the stockpiling of topsoil. All topsoil will be staked with yellow flagging.
- Activities within 200 feet of roosting bat colonies.
- Site recontouring and restoration to original grade.
- Activities within Mountain Springs Grade.

An archaeological/paleontological monitor must be present under the following circumstances:

- Construction activity in proximity to previously identified cultural resources and/or isolates.
- Construction activities in proximity to previously identified areas of high paleontological sensitivity.

Monitor Training
All monitors are required to go through SWEAP training and receive a SWEAP-compliant hard hat sticker and wallet card

Reporting Procedures

Spills

If you witness a spill (Diesel Fuel, Gasoline, Hydraulic Fluid, Anti-freeze, or Engine Oil), discover a spill that you did not witness, or are informed of a spill that has occurred, contact the Link Lead immediately with:

- The approximate time the spill occurred,
- The source of the spill,
- The quantity of the spill,
- The location where the spill occurred and on what type of substrate.
- The plan to clean up the spill or what actions have already been taken to clean up the spill.

Any amount spilled should be reported. This same procedure applies to any leaking equipment or vehicles. The construction contractor is responsible for cleaning the spill and completing an Incident Report within Contract Manager. An initial report via email must be made by the Environmental Monitor Manager to Tina Carter stating the Incident Report will be forthcoming. The information will be provided within 72 hours after discovery of the spill.

Nests

When any nest is found:

- If you are monitoring a crew, stop work within the species-specific buffer zone and contact the Link Lead ***immediately*** with the following information:
    - The distance of the nest from the construction zone
    - The location of the nest (i.e., in an oak tree, piece of equipment)
    - The type of species
    - The presence of egg(s) or chick(s) (i.e., how far along, if you can tell)
    - What type of construction activity is occurring at the site (grading, steel assembly, etc.)
    - Does it appear that the adult birds are affected by the construction in the area (e.g. Are the adults leaving the eggs unattended? When foraging, do the adults stay away from the nest for long periods of time?)

- Link Lead will contact SDG&E and the wildlife agencies to inquire if/how work may proceed in the area.
- If work is not allowed, set-up the appropriate buffer zone around the nest with flagging and ESA signs.
- See the “Nesting Birds” section for construction buffer guidelines.

Sensitive Species

If a listed species is found dead/sick/injured:

- Contact the Link Lead immediately. Wildlife agencies must be informed within 48 hours.
- Try to discover the reason why the animal was dead/sick/injured (i.e., was it run over by a vehicle?).

Non-Compliance Incidents

Minor Infractions (does not require temporary work stoppage)
If a monitor observes behavior from anyone contrary to what is outlined in the Special Use Permit, Construction Plan, mitigation measures of the MMCRP, or any other relevant environmental document, that person will immediately notify the foreman.

Should the infraction appear to a pattern, the monitor may then elevate the notification to the next highest-ranking manager who will then determine what additional action may be needed.

Major Infractions (requires temporary work stoppage)
If an infraction is sufficiently severe to require a work stoppage to prevent further damage or to avoid a written notice of violation, the biological/environmental and cultural monitors have the authority to request a temporary cessation of activity until the next level of management (Environmental Link Lead) can be notified to make a decision.

All Non-Compliance Incidents Must be Reported by the Environmental Monitor!

Environmental Precautions

Field Monitors must be checking the project for violations to construction site environmental measures. Included in environmental training wallet cards are the following considerations for construction crews and anyone working at construction sites. Any violation to these rules must be brought up to the on-site foreman and depending on severity and frequency of the violation, appropriate action must be taken.

1. 	**DO** dispose litter, including food waste, into an approved trash receptacle.
2. 	**DO NOT** bring pets to any project site.
3 	**DO NOT** bring firearms to any project site.
4. 	**DO NOT** handle, feed, harm, or harass wildlife or disturb nests or burrows.
5. 	**DO NOT** collect plant or wildlife species.
6. 	**DO** observe a maximum speed limit of 15 mph on all dirt access roads.
7. 	**DO** cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife. Ensure all other excavations are sloped on one end to provide an escape route for entrapped wildlife.
8. 	**DO** check for wildlife under vehicles and equipment before movement. If wildlife is observed, contact a monitor; do not attempt to move it yourself.
9. 	**DO** clean up oil and chemical spills immediately.

10. 	**DO** report to the biological/environmental monitor when an animal is killed or injured as a direct result of project activities.
11. ?	**DO** ask questions if you are in doubt about any activity that may affect plants, animals, or natural resources.
12. 	**DO** restrict vehicle movement to marked access roads, spur roads, and cleared work areas.
13. 	**DO** avoid parking or driving underneath oak trees.
14. **SWEAP**	**DO** make sure that you have participated in the proper environmental awareness program *AND* have a hard hat sticker before entering the project area.

Sensitive Animals

Special Status Wildlife Species Overview

A list of special status wildlife species with potential to occur on the project was created based on published literature (CDFG, 1988b and 1990) and literature available on the internet (USFWS, 2007a; CDFG, 2007b), CNDDB records searches, State and federal species lists, and habitat field surveys. Each species, its status, and its habitat requirements are presented in the table below.

Species	**Status**[1]	**Habitat Requirements**
Invertebrates		
Quino checkerspot butterfly *Euphydryas editha quino*	FE	Found in association with but not restricted to vernal pools, sage scrub, chaparral, native and non-native grassland, and open oak and juniper woodland communities. The key component seems to be open-canopied habitats with larval host plants (Plantago erecta and possibly Antirrhinum coulterianum, Collinsia concolor, and Castilleja exserta) and adult nectar resources.
Hermes copper *Lycaena hermes*	SDCS	Areas where the host plant spiny redberry is present.
Laguna Mountains skipper *Pyrgus ruralis lagunae*	FE	Montane meadow habitats with Cleveland's horkelia (Horkelia clevelandii).
Amphibians		
Arroyo toad *Bufo californicus*	FE,SSC	Stream channels for breeding and adjacent stream terraces and uplands for foraging and wintering.
Large-blotched salamander *Ensatina eschscholtzii klauberi*	SSC	Oak woodland, chaparral, coastal sage scrub, coastal dunes, conifer forest.

California red-legged frog *Rana aurora draytonii*	FT, SSC	Dense, shrubby riparian vegetation associated with deep (0.7 m), still or slow-moving waters.
Western spadefoot toad *Spea hammondii*	BLMS	Coastal sage scrub, chaparral, and grasslands habitats, but is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas.
Coast Range newt *Taricha torosa torosa*	SSC	Grassland, woodland, forest, but requires ponds, reservoirs or slow-moving streams for reproduction.
Reptiles		
Silvery legless lizard *Anniella pulchra pulchra*	SSC	Loose soils (sand, loam, humus) in coastal dune, coastal sage scrub, woodlands, and riparian habitats.
Belding's orange-throated whiptail *Aspidoscelis hyperythra beldingi*	SSC	Semi-arid brushy areas typically with loose soil and rocks below 2,000 feet.
Coastal rosy boa *Charina trivirgata roseofusca*	BLMS	Arid scrublands, semi-arid shrublands, rocky shrublands, rocky deserts, canyons, and other rocky areas. Appears to be common in riparian areas but does not require permanent water.
Southwestern pond turtle *Clemmys marmorata pallida*	BLMS,SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter.
Barefoot banded gecko *Coleonyx switaki*	ST	Rocky, boulder-strewn desert foothills, where it spends most of its life deep in rock crevices and subterranean chambers.
Red-diamond rattlesnake *Crotalus exsul*	SSC	Arid scrub, coastal chaparral, oak and pine woodlands, rocky grassland, cultivated areas. On desert slopes of mountains, it ranges into rocky desert flats.
San Diego ringneck snake *Diadophis punctatus similis*	SSC	Moist habitats; woodland, forest, grassland, chaparral; typically found under debris.
Coronado skink *Eumeces skiltonianus interparietalis*	BLMS,SSC	Coastal sage, chaparral, oak woodlands, piñon-juniper, and riparian woodlands to pine forests along the coastal plain and in the Peninsular Range west of the desert.
Desert tortoise *Gopherus agassizii*	FT,ST	Flats and bajadas with soils ranging from sand to sandy gravel with scattered shrubs. Requires sufficient suitable plants for forage and cover and suitable substrates for burrows and nest sites.
San Diego mountain kingsnake *Lampropeltis zonata pulchra*	SSC	Coniferous forest, oak-pine woodlands, riparian woodland, chaparral, Manzanita, and coastal sage scrub. Wooded areas near streams with rock outcrops, talus or rotting logs that are exposed to the sun.

Coast (San Diego) horned lizard *Phrynosoma coronatum blainvillei*	SSC	Coastal sage scrub, annual grassland, chaparral, oak and riparian woodland, coniferous forest.
Flat-tailed horned lizard *Phrynosoma mcallii*	BLMS,SSC	Windblown desert sand deposits within several vegetative associations.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	SSC	Semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains.
Two-striped garter snake *Thamnophis hammondii*	BLMS,SSC	Pools, creeks, cattle tanks, and other water sources, often in rocky areas, in oak woodland, chaparral, brushland, and coniferous forest from sea level to approximately 6,980 feet.
Colorado Desert fringe-toed lizard *Uma notata notata*	BLMS,SSC	Habitats with windblown sand.
Birds		
Sharp-shinned hawk *Accipiter striatus*	SSC	Winters in lowland woodlands and other habitats including desert oases. Nests in coniferous forests, ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine.
Cooper's hawk *Accipiter cooperii*	SSC	Riparian and oak woodlands, urban areas with trees. Occurs year-round throughout San Diego County's coastal slope where stands of trees are present. Also winters in desert oases
Tri-colored blackbird *Agelaius tricolor*	BLMS,SSC	Nests near fresh water, emergent wetland with cattails or tules; forages in grasslands, woodland, agriculture.
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	SSC	Grass-covered hillsides, coastal sage scrub, chaparral with boulders and outcrops.
Grasshopper sparrow *Ammodramus savannarum*	SSC	Grasslands with open ground and grass clumps.
Bell's sage sparrow *Amphispiza belli belli*	SSC	Coastal sage scrub and dry chaparral along coastal lowlands and inland valleys.
Golden eagle *Aquila chrysaetos canadensis*	SSC* BLMS	Open country, especially hilly and mountainous regions; grassland, coastal sage scrub, chaparral, oak savannas, open coniferous forest.
Long-eared owl *Asio otus wilsonianus*	SSC	Riparian, live oak thickets, other dense stands of trees, edges of coniferous forest.

Burrowing owl *Athene cunicularia*	BLMS,SSC	Grassland, lowland scrub, agriculture, coastal dunes and other artificial open areas.
Ferruginous hawk *Buteo regalis*	SSC	Open, dry country; grasslands; open fields; agriculture.
Swainson's hawk *Buteo swainsoni*	ST	Open desert; sparse shrublands; grassland; or cropland containing scattered, large trees or small groves. The Swainson's hawk is currently a rare migrant in San Diego County, but the Borrego Valley is an important staging site in spring. During migration, this species passes through southern California, specifically through the Anza-Borrego Desert. It relies on thermals to save energy so avoids crossing water bodies.
Coastal cactus wren *Campylorhynchus brunneicapillus sandiegensis*	SSC	Maritime succulent scrub and cactus thickets in coastal sage scrub.
Vaux's swift *Chaetura vauxi vauxi*	SSC	Nests in Douglas fir and redwood habitats in northern California; migrant across southern California.
Mountain plover *Charadrius montanus*	SSC	Open plains, plowed fields, bare dirt.
Northern harrier *Circus cyaneus hudsonius*	SSC	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub. Distribution primarily scattered throughout lowlands but can also be observed in foothills, mountains, and desert.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	SE	Large blocks of riparian woodlands including cottonwood, willow, or tamarisk galleries that are well developed. It is extremely rare in the interior West. Its only remaining western "strongholds" are three small populations in California, scattered populations in Arizona (especially on the San Pedro River) and New Mexico (especially the Gila River), and an unknown number of birds in northern Mexico.
Black swift *Cypseloides niger borealis*	SSC	Prefers rocky cliffs for foraging and moist cliffs along sea coasts or near waterfalls for nesting.
Yellow warbler *Dendroica petechia brewsteri*	SSC	Nests in lowland and foothill riparian woodlands.
White-tailed kite *Elanus leucurus*	*	Prefers riparian woodlands and oak or sycamore groves adjacent to grassland.
Southwestern willow flycatcher *Empidonax traillii extimus*	FE,SE	Relatively dense riparian tree and shrub communities associated with, rivers, swamps, and other wetlands, including lakes (e.g., reservoirs). Most of these habitats are classified as forested wetlands or scrub/shrub wetlands. Also known to nest in thickets

		dominated by tamarisk.
California horned lark *Eremophila alpestris actia*	SSC	Open habitats, grassland, rangeland, short grass prairie, montane meadows, coastal plains, fallow, and grainfields.
Merlin *Falco columbarius*	SSC	Most often in grassland but any place where small birds flock.
Prairie falcon *Falco mexicanus*	SSC	Open desert and grassland. Nests on cliffs or bluffs. Some nests surrounded by chaparral, sage scrub, or oak woodland
Peregrine falcon *Falco peregrinus*	SE*	Cliffs or canyons near water for cover and nesting. Can be far from water in winter.
Common loon *Gavia immer*	SSC (nesting)	Usually in estuarine and sub tidal marine habitats, occasionally inhabits deeps lakes of interior California.
Greater sandhill crane *Grus canadensis*	ST*	Winter habitat typically consists of river channels or wetlands for roosting and pastures, marshes, and meadows for foraging.
California condor *Gymnogyps californianus*	FE,SE*	Mountainous country where cliffs with caves or holes are available for nesting sites.
Bald eagle *Haliaeetus leucocephalus*	SE*	Seacoasts, lakes, and rivers.
Yellow-breasted chat *Icteria virens*	SSC	Riparian woodlands and thickets of willows, vine tangles, and dense brush.
Least bittern *xobrychus exilis hesperis*	SSC	Dense emergent wetland vegetation, sometimes interspersed with woody vegetation and open water.
Loggerhead shrike *Lanius ludovicianus*	SSC	Open ground including grassland, coastal sage scrub, broken chaparral, agriculture, riparian, open woodland.
California gull *Larus californicus californicus*	SSC	Nests in alkali and lacustrine freshwater habitats; during winter frequents interior lowlands.

Brown-crested flycatcher *Myiarchus tyrannulus*	SSC	Riparian woodland.
Long-billed curlew *Numenius americanus*	SSC	Emergent mudflats.
American white pelican *Pelecanus erythrorhynchos*	SSC	Open water, coastal bays, and large inland lakes.
Summer tanager *Piranga rubra*	SSC	Nests in riparian woodland; winter habitats include parks and residential areas.
White-faced ibis *Plegadis chihi*	SSC	Nests in marsh; winter foraging in shallow lacustrine waters, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded field sand estuaries.
Coastal California gnatcatcher *Polioptila californica californica*	FT,SSC	Coastal sage scrub, coastal sage scrub-chaparral, coastal sage scrub-grassland ecotone, riparian in late summer.
Purple martin *Progne subis subis*	SSC	Nests in tall sycamores, pines, oak woodlands, coniferous forest; forages over riparian, forest and woodland.
California spotted owl *Strix occidentalis occidentalis*	BLMS,SSC	Heavily forested oak and oak-conifer areas.
Crissal thrasher *Toxostoma crissale coloradense*	SSC	Permanent resident of desert successional scrub.
Le Conte's thrasher *Toxostoma lecontei lecontei*	BLMS,SSC	Open desert scrub, washes, alkali desert scrub, and desert succulent shrub habitats.
Least Bell's vireo *Vireo bellii pusillus*	FE,SE	Riparian habitat of low, dense, shrubby vegetation in valleys, foothills, and deserts.
Gray vireo *Vireo vicinior*	BLMS,SSC	Chaparral habitat primarily between 3,000 and 5,000 feet.
Mammals		
Pallid bat *Antrozous pallidus*	BLMS,SSC	Wide variety of habitats in all but highest elevations. Most common in open, dry habitats with rocky areas for roosting.

Ringtail *Bassariscus astutus octavus*	*	Variety of habitats but prefers chaparral, rocky hillsides, and riparian areas. Nocturnal and rarely seen.
Dulzura pocket mouse *Chaetodipus californicus femoralis*	SSC	Primarily associated with mature chaparral. Has been found in mule fat scrub and is known to occur in coastal sage scrub.
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	SSC	Coastal sage scrub, grassland, sage scrub grassland ecotones, sparse chaparral, rocky substrates, loams and sandy loams.
Pallid San Diego pocket mouse *Chaetodipus fallax pallidus*	SSC	Desert wash, desert scrub, annual grasslands with sandy or gravelly soils.
Mexican long-tongued bat *Choeronycteris mexicana*	SSC	Known only from San Diego County in California. Most records in urban habitat. Rare visitor that likes desert canyons, arid mountain ranges. Roosts by day in caves, mines or buildings.
Townsend's big-eared bat *Corynorhinus townsendii*	BLMS,SSC	All but alpine and subalpine habitats. Roosts in caves or abandoned mines, occasionally in buildings.
Stephens' kangaroo rat *Dipodomys stephensi*	FE,ST	Annual grassland and sparse coastal sage scrub with loose, well-drained soils.
Western mastiff bat Eumops perotis californicus	BLMS,SSC	Open, semi-arid to arid habitats, including coniferous and deciduous woodlands, coastal scrub, grasslands, palm oases, chaparral, desert scrub, and urban areas.
Yellow bat Lasiurus xanthinus	SSC	Wooded areas and desert scrub. Roosts in foliage, particularly in palm trees.
San Diego black-tailed jackrabbit Lepus californicus bennettii	SSC	Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed areas, rangelands.
California leaf-nosed bat Macrotus californicus	BLMS,SSC	Desert scrub areas; roosts by day in caves, abandoned mines, and tunnels. Occurs in small numbers — rarely seen. Doesn't hibernate so is restricted to warmer climates.
Small-footed myotis Myotis ciliolabrum	BLMS	Wide variety of habitats, primarily arid wooded and brushy uplands near water.
Long-eared myotis Myotis evotis evotis	BLMS	Brush, woodland, and forest habitats. Prefers coniferous woodland and forest. Avoids deserts.
Fringed myotis Myotis thysanodes thysanodes	BLMS	Oak and juniper [woodlands], desert scrub. Roosts in caves, abandoned mines, or buildings.

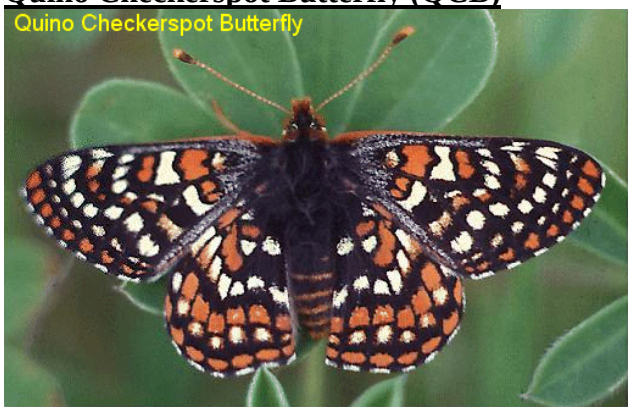
Long-legged myotis *Myotis volans interior*	BLMS,SSC	Most common in woodland and forest habitats above 4,000 feet. Also forages chaparral, coastal scrub, Great Basin shrub habitats, and early successional woodlands/forests.
Yuma myotis *Myotis yumanensis saturatus*	BLMS	Optimal habitat is open forests and woodlands with open water.
Colorado Valley woodrat *Neotoma albigula venusta*		Desert habitat with mesquite, cholla, and prickly pear, and piñon-juniper stands.
San Diego desert woodrat *Neotoma lepida intermedia*	SSC	Coastal sage scrub, chaparral, piñon-juniper woodland with rock outcrops, cactus thickets, and dense undergrowth.
Pocketed free-tailed bat *Nyctinomops femorosaccus*	SSC	Semi-arid desert lands; prefers high cliffs and rock outcrops.
Big free-tailed bat *Nyctinomops macrotis*	SSC	Urban areas of southwestern San Diego County; probably does not breed in California.
Southern grasshopper mouse *Onychomys torridus ramona*	SSC	Grassland, sparse coastal sage scrub, low arid scrub, and semi-scrub vegetation.
Peninsular bighorn sheep *Ovis canadensis cremnobates nelsoni*	FE,ST*	Dry, rocky, low elevation (400 to 4,000 feet) slopes, canyons, and washes from the San Jacinto and Santa Rosa Mountains near Palm Springs, south into Baja California, Mexico.
Palm Springs little pocket mouse *Perognathus longimembris bangsi*	SSC	Loose or sandy soils with sparse to moderate vegetative cover.
Jacumba little pocket mouse *Perognathus longimembris internationalis*	SSC	Arid areas with fine, sandy soils.
American badger *Taxidea taxus*	SSC	Dry, open treeless areas, grasslands, coastal sage scrub.

1 Status: FT=federally threatened, FE=federally endangered; BLMS=BLM sensitive, ST=State threatened, SE=State endangered, SSC=California Species of Special Concern, * =CDFG Fully Protected Species, RSS=Regionally Sensitive Species under SDG&E's NCCP, SDCS=San Diego County sensitive

If Any Special Status Species is Observed, Report it to a Burns & McDonnell Link Lead Immediately!

Sensitive Animal Descriptions

Quino Checkerspot Butterfly (QCB)



Euphydyras editha quino

Federal Endangered Species
Distinguishing Features
The Quino checkerspot is in the Nymphalidae (brush-foot) butterfly family. It is a medium sized butterfly, with a wingspread of about 3 cm. The dorsal surface of the wings is a checkerboard of brown, red and yellow spots. The Quino checkerspot tends to be darker and redder than other subspecies. Note that only Quino checkerspot butterflies have red stripes on their abdomens, a key characteristic for identification.
© Bernice Wuethrich

Habitat
Quino is found in association with but not restricted to vernal pools, sage scrub, chaparral, native and non-native grasslands, and open oak and juniper woodland communities. The key component seems to be open-canopied habitats with larval host plants (*Plantago erecta* and possibly *Antirrhinum coulterianum*, *Collinsia concolor*, and *Castilleja exserta*) as well as adult nectar resources: shallow, open flowers.

Likely Locations
The USFWS QCB protocol survey conducted in 2009 for the Proposed Environmentally Superior Southern Route resulted in observations of forty-seven QCB individuals over approximately 5,280 total acres of QCB suitable habitat. USFWS critical QCB habitat occurs in Link 1 near MP 35 and in Link 2 near MP 62. According to mitigation measure B-7i, "any suitable habitat within 1 km of a current QCB sighting is considered occupied". The forty-seven observations created occupied habitat along the project route near MP 71, 74-75, 79-80, 110 and 116.

Protective Measures
1. Monitoring will be required to ensure that all construction occurs within designated areas and a copy of the monitoring reports will be provided to the CPUC for review on a weekly basis.
2. Implement appropriate avoidance/minimization/compensation strategies.
    - If construction occurs outside of the larval and adult season (June 1 through October 15) and stays at least 10 meters from all host plant locations, then no mitigation is required.
    - If construction occurs between October 16 and May 31 or is within 10 meters of host plant locations or designated critical habitat, then temporary impacts will be mitigated through on-site restoration of temporarily disturbed areas and off-site acquisitions.
    - A USFWS permitted biologist shall be present during all construction activities in potentially occupied habitat to monitor environmental compliance to all mitigation measures.
    - If host plant mapping is not possible during the pre-construction survey, then all suitable habitat shall be considered occupied by the QCB and mitigated under the assumptions that the QCB is present.

3. Conduct Quino checkerspot butterfly surveys
    - Surveys conducted in a year where QCB is readily observed at USFWS QCB-monitored reference sites to determine which areas are occupied by QCB.
    - Any habitat will be considered occupied if it is within 1 Km of a current QCB sighting.

Arroyo Toad

Bufo microscaphus californicus

Federal Endangered (1995)
California Species of Special Concern

Distinguishing Features

The Arroyo Toad is a relatively small (2-3 inches snout-vent length) frog. Its coloration ranges from olive green or gray to light brown. It can be distinguished from other toads by non-paired, symmetrical dorsal blotches, bi-colored parotid glands that are dark posteriorly and light anteriorly as well as a light spot on the sacral humps. A prominent white "v-shaped" stripe crosses the top of the head between the eyes. It lacks a middorsal stripe. The belly is buff-white and often lacks spots. Locomotion is generally in the form of hopping as opposed to walking or taking large jumps.

Likely Locations

In 2009, Habitat assessments and USFWS protocol level surveys were conducted for the Arroyo Toad. A total of 31 sites were evaluated as supporting potentially suitable ARTO habitat, four were classified as "Good," twelve as "Moderate," nine as "Marginal," and six as "Poor/No Habitat." Of the 31 sites evaluated for ARTO potential, 13 sites were appropriate for ARTO surveys. No ARTO (adult, juvenile, larvae, or egg masses) were detected in any of the 13 survey areas within the Project ROW, pull sites, fly yards or staging areas. However, two adult ARTO were incidentally observed on Barrett Lake Road less than 1 km to the north of the ROW and south of Barrett Lake dam. This road is not proposed to be used for the project during construction.

Protective Measures

1. Monitoring will be required to ensure that all construction occurs within designated areas and a copy of the monitoring reports will be provided to the CPUC for review on a weekly basis.
2. Conduct arroyo toad surveys.
    - A pre-construction, USFWS protocol survey shall be conducted for the toad in the construction zone (by a biologist permitted by the USFWS to handle the toad), where absence of the species has not been proven, to conclusively define the impacts to occupied habitat. In the absence of this survey data, the mitigation acreages required below shall stand. Where the pre-construction survey determines the species is absent, the mitigation shall be reduced accordingly.
    - The removal of toad riparian breeding habitat shall occur from October through December to minimize the potential impact to breeding adults and dispersing juveniles.
    - Where the toad is present (or assumed to be present if no pre-construction survey is conducted or 1 km from a current ARTO siting), the construction zone shall be fenced with exclusion fencing to prevent toad access to it. The fencing shall be a silt-screen type barrier comprised

of a minimum 24-inch high fence with the remainder (minimum 12 inches) anchored firmly against the ground. The fence may be buried if necessary to exclude toad access.

- Exclusion fencing shall be monitored daily and maintained in its original condition by construction personnel for the duration of the construction period in toad habitat.
- Pre- and post-exclusion fencing surveys within the construction zone shall be conducted for arroyo toads by a biologist permitted by the USFWS to handle the toad.
- Prior to construction commencement, a minimum of three surveys shall be conducted by this biologist following installation of the fencing and prior to construction activities. One of these clearance surveys must take place no more than 24 hours prior to activity commencement. Specific survey conditions must be met (see mitigation measures). All toads found within the construction area will be moved to appropriate similar habitat outside of the project impact areas.

Flat-tailed Horned Lizard

Phrynosoma mcallii

California Species of Special Concern
BLM Sensitive Species

Distinguishing Features
The flat-tailed horned lizard (FTHL) is about 6.3-8.6 cm in length and can be pale gray, buff, rusty, brown, beige, or whitish above with color that closely matches its background. The tail is long, broad, and very much flattened. It is the only horned lizard with a dark middorsal stripe. On each side of its body there are two rows of fringe scales.

Likely Locations
Locations for the FTHL have been designated and occur along the Proposed Project route. These Management Areas (MAs) are believed to be the core areas for maintaining self-sustaining populations of FTHLs in perpetuity. It is assumed that all of these MAs, as well as potential habitat for the FTHL outside of these MAs (determined by the current distribution of the species) are occupied by the FTHL, so focused surveys for the FTHL were not conducted. FTHL distribution area occurs from approximately MP 36 through approximately MP 68.5 in Links 1 and 2.

Protective Measures

1. Monitoring will be required to ensure that all construction occurs within designated areas and a copy of the monitoring reports will be provided to the CPUC for review on a weekly basis.
2. Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife. If coverage is not an option, then ensure one end of the excavation is sloped to allow entrapped animals to escape.
3. Implement avoidance/mitigation/compensation strategies according to the Flat-Tailed Horned Lizard Rangewide Management Strategy.
    - Use only existing roads.
    - Ensure work areas are clearly delineated.

- SWEAP training must be completed by project personnel before they begin working on the project.

Golden Eagle

Aquila chrysaetos canadensis

State Species of Special Concern

Distinguishing Characteristics
L 30-40" W 80-88"
The golden eagle is brown, with variable yellow to tawny brown wash over the back of the head and neck. Their bill is mostly horn-colored and the tail is faintly banded. Plumage varies over age from juvenile to adult.

Likely Locations
There are likely golden eagle nest areas that would be affected by the Proposed Project. The specific locations of these nest areas are not disclosed in the EIR/EIS, nor are the Proposed Project MPs within 4,000 feet of the nest areas in order to protect the golden eagle. SDG&E will be made aware of the MPs subject to mitigation in an unpublished document.

Protective Measures
Implement appropriate avoidance/minimization strategies for eagle nests**.** No construction or maintenance activities shall occur within 4,000 feet (3/4 mile) of an eagle nest during the eagle breeding season (December through June).

Burrowing Owl

Athene cunicularia

Federal Species of Special Concern
California Species of Special Concern

Distinguishing Features
The Burrowing Owl is a small owl with long legs, a short tail, and no ear tufts. It is barred on its front and spotted on its back. The owl has yellow eyes and bill, with a white throat and eyebrows. Wings and tail feathers are barred brown and white. Unlike most owls in which the female is larger than the male, the sexes of the Burrowing Owl are the same size. Females are generally darker in plumage. Song is a two-note *coo coooo*. It may also give a series of rattles, clucks, and chatters.

Likely Locations
Burrowing owl surveys were conducted for the Proposed Project in potential habitat that occurs from MP 4.8 through MP 69.7 (Links 1 and 2 where ROE was granted) as prescribed by the USFWS. Approximately 2.3 miles (3.5 percent) of potential habitat were not surveyed for the burrowing owl and active owl burrows due to lack of ROE permission. One occupied owl burrow (with two owls) was found just southwest of MP 16 (Link 1). With approximately 96.5 percent of potential habitat surveyed, it is reasonable to assume that the likelihood of other occupied burrows or burrowing owls being found in the areas not surveyed is low. The pre-construction survey required in Mitigation Measure B-7d would determine if any occupied

burrows or burrowing owls occur in the areas not surveyed. The mitigation presently outlined in Mitigation Measure B-7d would need to be revised if occupied burrows or burrowing owls are found.

Protective Measures

1. Monitoring will be required to ensure that all construction occurs within designated areas and a copy of the monitoring reports will be provided to the CPUC for review on a weekly basis.
2. Conduct burrowing owl surveys, and implement appropriate avoidance/minimization/ compensation strategies.
   - A survey shall be conducted within 30 days prior to the initiation of construction (from MP0 through MP 68 in Links 1 and 2, for the Proposed Project) by a qualified biologist to determine the presence or absence of the burrowing owl in the construction zone plus 250 feet beyond.
   - If the burrowing owl is not present, then no mitigation is required.
   - If the burrowing owl is present, no disturbance shall occur within 50 meters (approximately 160 ft) of occupied burrows from September 1 through January 31 or within 75 meters (approximately 250 ft) of occupied burrows from February 1 through August 31.
   - During construction, any pipe or similar construction material that is stored on site for one or more nights shall be inspected for burrowing owls by a qualified biologist before the material is moved, buried, or capped.
   - Passive relocation of owls shall be implemented prior to construction only at the direction of the CDFG and only if the above-described occupied burrow disturbance absolutely cannot be avoided. Relocation of owls shall only be implemented during the non-breeding season (September 1 through January 31).

Southwestern Willow Flycatcher

Empidonax traillii extimus

Federal Endangered
State Endangered

Distinguishing Features
Small in size, the Southwestern willow flycatcher is usually a little less than 6 inches in length including the tail. The wingbars are conspicuously light-colored. They lack the conspicuous pale eye-ring of many similar Empidonax species. Overall, the body is brownish-olive to gray-green above. Throat whitish, breast pale olive, and belly yellowish. The bill is relatively large; lower mandible completely pale. It is best identified by vocalizations. Call is a liquid, sharply whistled “whit!”, or a dry sprrit; song a sneezy witch-pew or fitz-bew. While perched, characteristically flicks tail slightly upward.

Likely Locations
The southwestern willow flycatcher has potential to occur and breed in riparian woodland, southern arroyo willow riparian forest, southern coast live oak riparian forest, southern willow scrub, tamarisk scrub, and arrowweed scrub identified along the Proposed Project route. Focused surveys for the southwestern willow flycatcher were conducted in all potential habitat along the Proposed Project route except (1) in the southwestern willow flycatcher designated critical habitat at the Central East Substation because the habitat at this location (southern coast live oak riparian forest) is not suitable for the flycatcher and (2) along an access road east of MP 101 in Link 5 where the flycatcher is assumed to be present because of survey limitations and potential habitat is present.

Protective Measures

1. Monitoring will be required to ensure that all construction occurs within designated areas and a copy of the monitoring reports will be provided to the CPUC for review on a weekly basis.
2. Conduct Southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.
    - All grading or brushing taking place within riparian habitats of the Southwestern willow flycatcher during construction shall be conducted from September 16 through March 14, which is outside the and southwestern willow flycatcher breeding seasons.
    - When conducting all other construction activities during the breeding season of March 15 through September 15 within 500 feet of habitat in which Southwestern willow flycatcher are known to occur or have potential to occur, a biologist permitted by the USFWS shall survey for Southwestern willow flycatcher within one week (10 calendar days) prior to initiating activities in an area. The results of the survey shall be submitted to the Wildlife Agencies for review and approval prior to initiating any construction activities.
    - If Southwestern willow flycatcher is present, a permitted biologist shall survey for nesting vireos and flycatchers approximately once per week within 500 feet of the construction area, for the duration of the activity in that area during the breeding season.
    - If/when an active nest is located, a 300-foot no-construction buffer shall be established around each nest site; however, there may be a reduction of this buffer zone depending on site-specific conditions or the existing ambient level of activity as approved by the wildlife agencies.
    - If construction must take place within the 300-foot buffer, a qualified acoustician shall monitor noise as construction approaches the edge of the occupied gnatcatcher habitat as directed by the permitted biologist. If the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the activities in general are disturbing the nesting activities, the biologist shall have the authority to halt construction and shall consult with the Wildlife Agencies to devise methods to reduce the noise and/or disturbance in the vicinity.

Coastal California Gnatcatcher

Polioptila californica californica

Federal Threatened
California Species of Special Concern

Distinguishing Features

The coastal California gnatcatcher (CAGN) is a small blue-gray songbird which measures only 4.5 inches (11 cm) and weighs 0.2 ounces (6 grams). It has dark blue-gray feathers on its back and grayish-white feathers on its underside. The wings have a brownish wash to them. Its long tail is mostly black with white outer tail feathers. They have a thin, small bill. The males have a black cap during the summer which is absent during the winter. Both males and females have a white ring around their eyes. It belongs to the old-world warbler and gnatcatcher Sylviidae family.

Likely Locations

Currently, the subspecies occurs on coastal slopes of southern California, ranging from southern Ventura southward through Palos Verdes Peninsula in Los Angeles County through Orange, Riverside, San Bernardino, and San Diego Counties into Baja California to El Rosario, Mexico, at about 30 degrees north latitude. In 1993, the USFWS estimated that approximately 2,562 pairs of gnatcatchers remained in the

U.S. Of these, 30 pairs occurred in Los Angeles County, 757 pairs occurred in Orange County, 261 pairs occurred in Riverside County, and 1,514 pairs occurred in San Diego County.

In 2009, USFWS Protocol level surveys were conducted in five Survey Areas: the Reconductor Portion (Sycamore Substation to Scripps Substation, Sycamore Substation to Elliott Substation, and Sycamore Substation to Pomerado Substation), Link 2, Link 3, Link 4, and Link 5. Link 1, the easternmost portion of the project route, was excluded from surveys because it is well east of historic and currently known ranges for the species, and does not contain suitable habitat. During these surveys, 11CAGN pair territories were found within or adjacent to the 900 acres surveyed along the Project ESSR route. Nine of the pairs were found in the survey areas adjacent to the reconductor portions of the project. One pair was found near MP 114 in Link 5. The other pair was found just south of P67.

Protective Measures

1. Monitoring will be required to ensure that all construction occurs within designated areas and a copy of the monitoring reports will be provided to the CPUC for review on a weekly basis.
2. Conduct coastal California gnatcatcher surveys, and implement appropriate avoidance /minimization/compensation strategies.

    - All brushing or grading taking place within occupied habitat of the coastal California gnatcatcher (defined as within 500 feet of any gnatcatcher sightings) during construction shall be conducted from September 1 through February 14, which is outside the gnatcatcher breeding season.
    - A USFWS permitted biologist shall conduct a survey for Coastal California Gnatcatchers 10 days prior to construction activities occurring in an area. The results of the survey shall be submitted to the Wildlife Agencies for review and approval prior to initiating any construction activities.
    - If coastal California gnatcatchers are present, but not nesting, a USFWS permitted biologist shall survey for nesting coastal California gnatcatchers approximately once per week within 500 feet of the construction area for the duration of the activity in that area during the breeding season.
    - If/when an active nest is located, a 300-foot no-construction buffer shall be established around each nest site; however, there may be a reduction of this buffer zone depending on site-specific conditions or the existing ambient level of activity as approved by the wildlife agencies.
    - If construction must take place within the 300-foot buffer, a qualified acoustician shall monitor noise as construction approaches the edge of the occupied gnatcatcher habitat as directed by the permitted biologist. If the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the activities in general are disturbing the nesting activities, the biologist shall have the authority to halt construction and shall consult with the Wildlife Agencies to devise methods to reduce the noise and/or disturbance in the vicinity.

Least Bell's Vireo

Vireo bellii pusillus

Federal Endangered

State Endangered

Photo courtesy of esasuccess.org

Distinguishing Features

Least Bell's vireos are small birds. They are only 11.5-12.5 centimeters long. (About 4.5 to 5.0 inches) They have short rounded wings and short, straight bills. There is a faint white eye ring. Feathers are mostly gray above and pale below.

This is a common protective marking in birds. Seen from below, the bird blends into the clouds. From above, it blends into the land cover.

Likely Locations
All potential habitat for the least Bell's vireo along the Proposed Project route was surveyed in 2007, except for an access road east of MP 101(Link 5) where the least Bell's vireo is assumed to be present because of survey limitations and potential habitat is present. The Proposed Project would temporarily disturb 1.6 - 2 acres and would permanently impact 2.6 - 3.8 acres of occupied and assumed occupied least Bell's vireo habitat. The pre-construction survey required in Mitigation Measure B-7e would conclusively define all the impacts to the least Bell's vireo where it is assumed to be present from construction. The requirements in Mitigation Measure B-7e may be reduced based on the results of this survey.

Protective Measures

1. Monitoring will be required to ensure that all construction occurs within designated areas and a copy of the monitoring reports will be provided to the CPUC for review on a weekly basis.
2. Conduct least Bell's vireo surveys, and implement appropriate avoidance/minimization/compensation strategies.
    - All grading or brushing taking place within riparian habitats of the least Bell's vireo during construction shall be conducted from September 16 (October 1 in ABDSP) through March 14, which is outside the least Bell's vireo breeding seasons.
    - When conducting all other construction activities during the breeding season of March 15 through September 15 (September 30 in ABDSP) within 500 feet of habitat in which least Bell's vireo are known to occur or have potential to occur, a biologist permitted by the USFWS shall survey for least Bell's vireo within one week (10 calendar days) prior to initiating activities in an area. The results of the survey shall be submitted to the Wildlife Agencies for review and approval prior to initiating any construction activities.
    - If least Bell's vireo is present, a permitted biologist shall survey for nesting vireos and flycatchers approximately once per week within 500 feet of the construction area (USFWS, 2007b), for the duration of the activity in that area during the breeding season.
    - If/when an active nest is located, a 300-foot no-construction buffer (USFWS, 2007b) shall be established around each nest site; however, there may be a reduction of this buffer zone depending on site-specific conditions or the existing ambient level of activity as approved by the wildlife agencies.
    - If construction must take place within the 300-foot buffer, a qualified acoustician shall monitor noise as construction approaches the edge of the occupied least Bell's vireo habitat as directed by the permitted biologist. If the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the activities in general are disturbing the nesting activities, the biologist shall have the authority to halt construction and shall consult with the Wildlife Agencies to devise methods to reduce the noise and/or disturbance in the vicinity.

Peninsular Bighorn Sheep

Ovis canadensis cremnobates nelsoni

Federal Endangered
State Threatened Species

Distinguishing Features
The Peninsular Bighorn Sheep is a medium sized bovid that is a pale tan above with the belly, rump, back of legs, muzzle, and eye patch white. Rams have massive brown horns that curve up and back over the ears, then down, around, and up past the cheeks in a C-shaped

curl. Ewes have short, slender horns that never form more than a half curl.

Likely Locations
The Peninsular bighorn sheep (PBS) is a federal listed endangered and State listed threatened species that lives on open slopes in hot, dry desert regions where the land is rough, rocky, sparsely vegetated, and characterized by steep slopes, canyons, alluvial fans, and washes. The distribution and movements of PBS occur along a narrow band of habitat generally below 3,600 feet in the northern part of its range and below 4,000 to 5,000 feet in the southern part of its range where average annual precipitation is less than four inches and daily high summer temperatures average 104 degrees Fahrenheit. The PBS occupies the eastern escarpment of the Peninsular Ranges from the San Jacinto Mountains in Riverside County, south approximately 100 miles to the United States–Mexico border. Eight known ewe groups, distributed in the following areas, comprise the population of PBS: San Jacinto Mountains, northern Santa Rosa Mountains (north of Highway 74), southern Santa Rosa Mountains (south of Highway 74), Coyote Canyon, northern San Ysidro Mountains (north of S22), southern San Ysidro Mountains (south of S22), Vallecito Mountains (south and north), and Carrizo Canyon. The Proposed Project would affect both the south San Ysidro Mountains and north Vallecito Mountains ewe groups. These two ewe groups are essentially separated by SR78.

Protective Measures
1. Monitoring will be required to ensure that all construction occurs within designated areas and a copy of the monitoring reports will be provided to the CPUC for review on a weekly basis.
2. All construction and maintenance activities will be restricted to outside the lambing season and the period of greatest need, or a minimum ceiling of 1,500 feet for helicopter flights shall be maintained (January 1-September) within PBS critical habitat.

Nesting Birds

The Proposed Project area contains a variety of vegetation communities as well as transmission towers that provide sites for bird nests. Construction activities would disturb vegetation and existing transmission towers that could potentially impact nesting birds. Ground-nesting birds could also be impacted by foot or vehicle/equipment traffic. These impacts, including noise in excess of 60 dB(A) Leq at a nest site during the breeding season, could result in the displacement of breeding birds, abandonment of active nests, or accidental nest destruction. With the exception of a few nonnative bird species, all active bird nests are fully protected pursuant to the federal Migratory Bird Treaty Act (MBTA). It is unlawful to take, possess, or destroy the nest or eggs of any such bird.

Protective Measures
1. Survey for breeding birds within 10 calendar days prior to the initiation of construction that would occur from January 15 through August 15. The surveys shall be conducted by a qualified biologist and extend 100 feet from the construction area. The results of the survey shall be submitted to the Wildlife Agencies for review and approval prior to initiating any construction activities.
2. If project construction, including the use of helicopters, cannot occur completely outside the raptor breeding season, then pre-construction surveys for active raptor nests shall be conducted by a qualified biologist within 500 feet of the construction zone within 10 calendar days prior to the initiation of construction that would occur between January 1 and September 15. The results of the survey shall be submitted to the Wildlife Agencies for review and approval prior to initiating any construction activities.
3. If active nests are found, work may proceed provided that construction activity is:
    a. located at least 500 feet from raptor nests,
    b. located at least 160 to 250 feet from occupied burrowing owl burrows (see Mitigation Measure B-7d),

c. located at least 300 feet from listed bird species nests (see Mitigation Measure B-7e and B-7l),
d. located at least 100 feet from non-listed bird species nests, and
e. noise levels do not exceed 60 dB(A)hourly Leq at the edge of nesting territories as determined by a qualified biologist in coordination with a qualified acoustician.

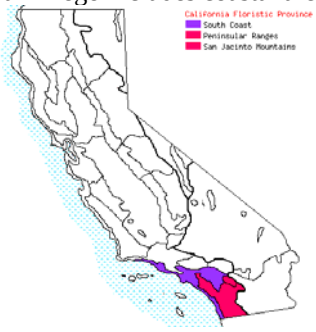
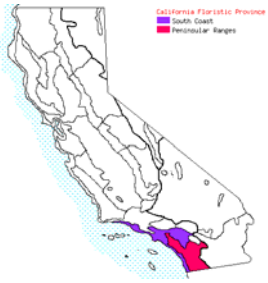
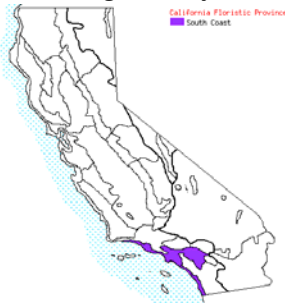
There may be a reduction of these buffer zones depending on site-specific conditions or the existing ambient level of activity. The applicant shall contact Wildlife Agencies to determine the appropriate buffer zone.

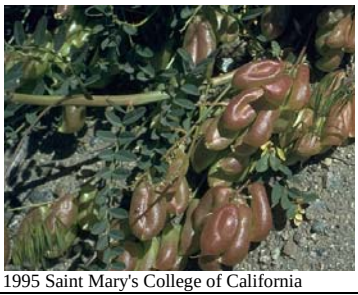
Sensitive Plants

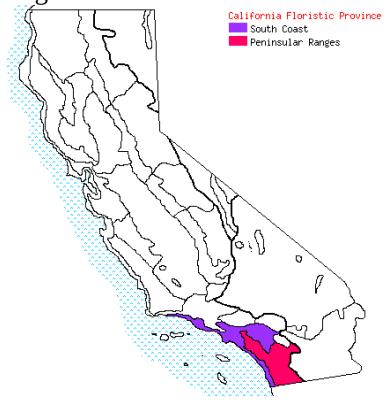
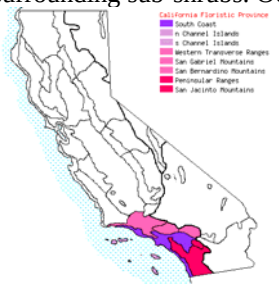
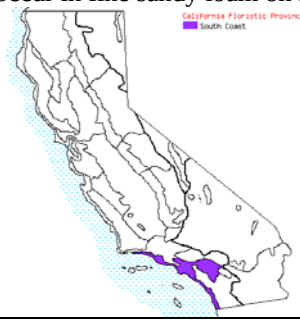
Special Status Plant Species Overview

A list of special status plant species with potential to occur in the Proposed Project was created based on published literature, literature available on the internet, CNDDB records searches, State and federal species lists, and from the 2009 Rare Plant Survey Report (Recon, 2009). Each species, its status, and habitat requirements are presented in the table below. Only federally threatened and endangered, state threatened and endangered, state rare, and CNPS List 1 and List 2 species are included in the list for sensitive species for this project. Many of these species were found within the temporary or permanent impact areas of the project during the 2009 Rare Plant survey.

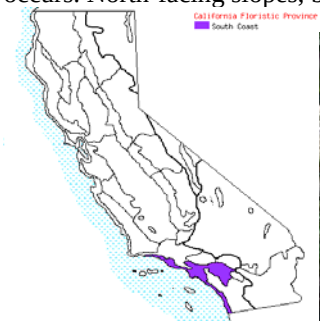
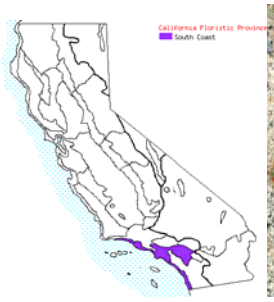
Species	Status[1]	Habitat Requirements
Chaparral sand verbena *Abronia villosa* var. *Aurita*	L1B	Sandy areas within coastal sage scrub and chaparral from 80 to 1600 meters. Occurs in the central and southern south coast, and western Sonoran Desert.  
San Diego thorn-mint *Acanthomintha ilicifolia*	FT SE	Grassy openings in the chaparral or sage scrub. Occurs with spring annuals, bulbous perennials, and a few herbaceous elements. Distribution in San Diego County includes the south coast and southwest Peninsular Ranges.  

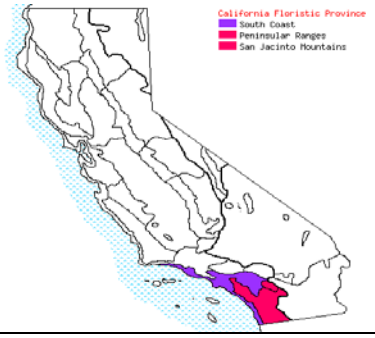
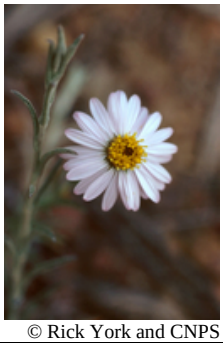
California adolphia *Adolphia californica*	L2	Diegan coastal sage scrub, but occasionally occurs in peripheral chaparral habitats, particularly on hillsides near creeks. Distribution in San Diego includes coastal areas and the Peninsular Ranges.  
San Diego ambrosia *Ambrosia pumila*	FE	Chaparral, coastal scrub, valley and foothill grassland, vernal pools, often in disturbed areas.   © 2003 Jim Rocks
Del Mar manzanita *Arctostaphylos glandulosa* ssp. *crassifolia*	FE	Chaparral with chamise and often wart-stemmed ceanothus (*Ceanothus verrucosus*). Occurs on eroding sandstone, and the chaparral vegetation is relatively low growing. Existing distribution is the south central coast of San Diego County.   © 2007 Charles E. Jones
Dean's Milk-vetch *Astragalus deanei*	L1B	Diegan sage scrub, chaparral, and riparian communities, particularly southern oak woodlands; between about 800 to 1000 foot elevation, generally on dry hillsides or after fires

		  © 2006 Vince Scheidt
Jacumba Milk-vetch *Astragalus douglasii var. perstrictus*	L1B	Stony or sandy places in southern oak woodland, open chaparral, and grasslands from 3000 feet to 4500 feet elevation. May potentially be impacted by construction.   © 1995 Saint Mary's College of California
San Diego milk-vetch *Astragalus oocarpus*	L1B	Cismontane chaparral edges at the periphery of meadows with coarse sandy loam soils. Mild soil disturbance may be a factor in facilitating the spread of populations. Distribution is within central San Diego County (Peninsular Ranges   © 2009 John Marquis
South coast saltscale *Atriplex pacifica*	L1B	Xeric, often mildly disturbed locales. Usually the surrounding vegetation is open Diegan coastal sage scrub. Distribution includes coastal San Diego County.   © 2004 Vince Scheidt
Ayenia *Ayenia compacta*	L2	Rocky canyons and desert arroyos in the Sonoran Desert and desert mountains.

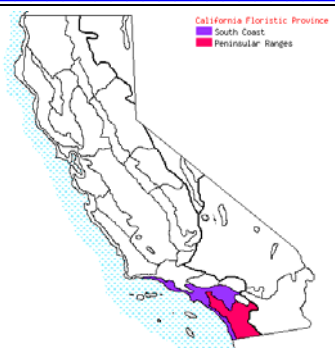
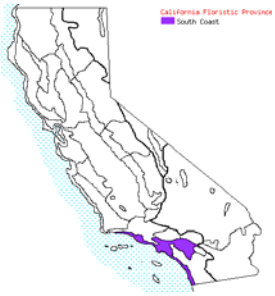
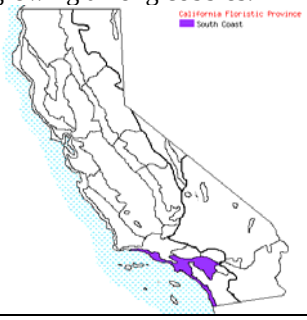
		  © 2004 Aaron Schusteff
Encinitas baccharis *Baccharis vanessae*	FT SE	Mature but relatively low-growing chaparral predominated by chamise, Del Mar Manzanita, mission Manzanita and Mojave yucca with large granite boulders. Occurs in coastal San Diego and northwest Peninsular Ranges.   © 2008 Andrew Borcher
Nevin's barberry *Berberis nevinii*	FE SE	Chaparral communities with strong desert affinities. Shrub cover is relatively low growing and Nevin's barberry may tower above the surrounding sub-shrubs. Occurs in southwestern California.   © 2001 BonTerra Consulting
San Diego golder star Bloomeria clevelandii	L1B	Grasslands and vernal pool habitats and on the edges of coastal sage scrub and chaparral. While typically found in clay soils, it may also occur in fine sandy loam on mounds between vernal pools  

		© 2005 Vince Scheidt
Orcutt's brodiaea *Brodiaea orcuttii*	L1B	Vernally moist grasslands, mima mound topography, and the periphery of vernal pools, and will occasionally occupy streamside embankments. Occurs in the Peninsular Ranges.   © 2004 BonTerra Consulting
Dunn's Mariposa Lily *Calochortus dunnii*	L1B	Rocky openings in chaparral or grassland/chaparral ecotones on metavolcanic or gabbroic soils; between 4,500 and 5,000 feet elevation. May potentially be impacted by construction.   © 1982 Steve Lowens
Crucifixion thorn *Castela emoryi*	L2	Mojavean desert scrub, playas, and gravelly Sonoran desert scrub.   © 2003 Michael Charters
Lakeside ceanothus *Ceanothus cyaneus*	L1B	Inland mixed chaparral and dense, almost impenetrable chaparral with a mix of chamise and other shrubs such as species of Manzanita.   © 2008 Andrew Borcher

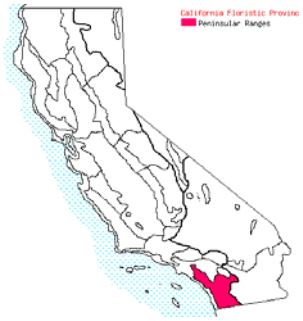
Wart-stemmed ceanothus *Ceanothus verrucosus*	L2	Coastal chaparral intermixed with chamise and mission Manzanita. Typically, a dominant shrub within the vegetation community where it occurs. North-facing slopes, but can accommodate more xeric aspects   © 2009 Michelle Cloud-Hughes
Peirson's pincushion *Chaenactis carphoclinia* var. *peirsonii*	L1B	Open Sonoran desert scrub with very limited competition from perennial shrubs.   © 1995 Saint Mary's College of California
Orcutt's spineflower *Chorizanthe orcuttiana*	FE SE	Coastal chaparral openings in chamise, with a distinctive loose, sandy substrate.   © 2009 Michelle Cloud-Hughes
Long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	L1B	Chaparral – on clay lenses which are largely devoid of shrubs, and occasionally, the periphery of vernal pools and montane meadows near vernal seeps. Occurs in the Peninsular Ranges below 1400 feet.   © 2009 Justin M. Wood

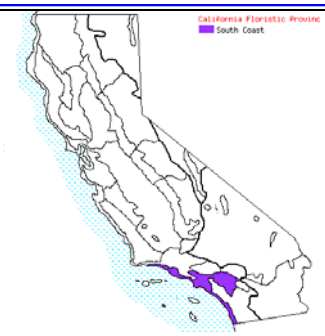
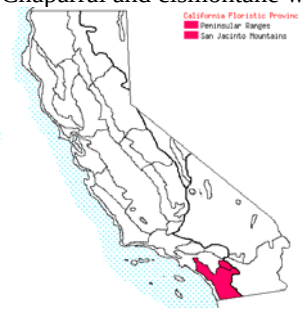
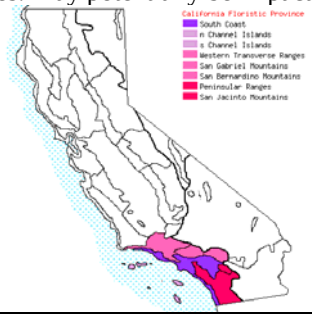
Delicate clarkia *Clarkia delicata*	L1B	Periphery of oak woodlands and cismontane chaparral, partially shaded by tree canopy or large shrubs, and typically where vernally mesic situations with substantial peripheral annual and herbaceous spring growth. May potentially be impacted by construction.   © 2005 Rosanne Humphrey
Summer-holly *Comarostaphylis diversifolia* ssp. *diversifolia*	L1B	Mesic, north-facing slopes in southern mixed chaparral. Rugged steep drainages seem to be a preferred location for isolated shrubs. © 2005 Vince Scheidt  
San Diego sand aster *Corethrogyne filaginifolia* var. *incana*	L1B	Coastal chaparral, primarily in sandy openings between chamise. 
Del Mar Mesa sand aster *Corethrogyne filaginifolia* var. *linifolia*	L1B	Coastal mixed chaparral in sandy, open locales and partially disturbed sandy soils.   © Rick York and CNPS

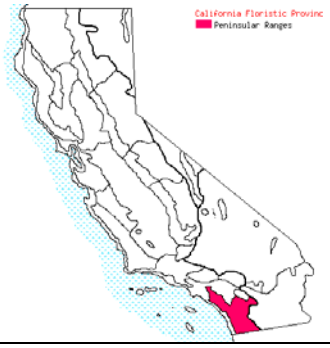
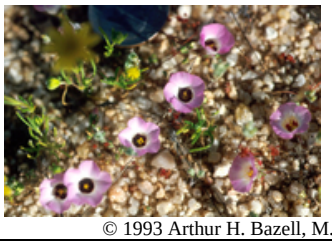
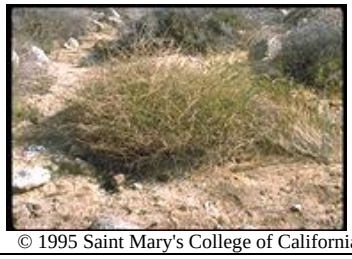
Tecate Tarplant *Deinandra floribunda*	L1B	Coastal sage scrub and chaparral habitats between 1,000 feet and 2,400 feet; dry valleys and foothills, with sandy washes in the high desert its preferred habitat. May potentially be impacted by construction.   © 2009 Anna Bennett
Mount Laguna Aster *Dieteria asteroides var lagunensis*	L2	lower coniferous forest and cismontane woodlands between 2,600 and 8,000 feet; on Mount Laguna it occurs in relatively open Jeffrey pine forest on coarse sandy loam soil 
Short-leaved dudleya *Dudleya brevifolia*	SE	Maritime chaparral and coastal scrub on Torrey sandstone.   © 2006 Kai Palenscar
Variegated dudleya *Dudleya variegata*	L1B	Openings in sage scrub and chaparral; isolated, rocky substrates in open grasslands; and in proximity to vernal pools and mima mound topography.

		  © 2006 Jasmine J. Watts
Palmer's goldenbush *Ericameria palmeri* ssp. *palmeri*	L2	Coastal drainages, in mesic chaparral sites, or rarely in Diegan coastal sage scrub. Occasionally a hillside element (usually at higher elevations inland on north-facing slopes). Seasonally moist locales are strongly preferred.   © 2005 Vince Scheidt
Coast wallflower *Erysimum ammophilum*	L1B	Old eroded dunes now well back of the existing beachline, and sandy locales in chaparral openings in southern coastal San Diego. Very sandy substrate seems to be a prerequisite for this species.   © 1995 Dean Wm. Taylor
San Diego barrel cactus *Ferocactus viridescens*	L2	Diegan coastal sage scrub hillsides; often at the crest of slopes and growing among cobbles.  

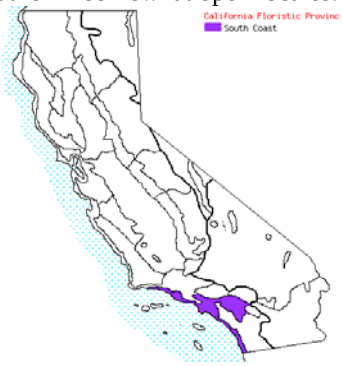
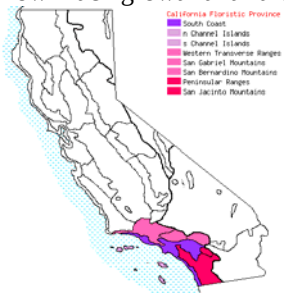
		© 2006 Deborah Leonard
Borrego bedstraw *Galium angustifolium* ssp. *borregoense*	SR	Rocky Sonoran desert scrub upland terrain (acid igneous rock lands) with somewhat protected slope aspects, and more mesic seasonal conditions. 
Sticky Geraea *Geraea viscida*	L2	Dry chaparral slopes between 2,000 to 4,000 feet elevation; most commonly with chamise as the dominant shrub. It often occurs in dry, sandy areas, and is sometimes found in disturbed areas. May potentially be impacted by construction.   © 2006 Vince Scheidt
San Diego gumplant *Grindelia hirsutula* var. *hallii*	L1B	Montane meadows and lower montane coniferous forest, typically with sunny openings, and locales which are quite wet in the early spring, although such places usually dry quickly. Occurs in the Peninsular Ranges and western Sonoran Desert.   © 2003 Vince Scheidt
Ramona horkelia *Horkelia truncata*	L1B	Open chamise chaparral; dry red clay soils. Occurs in the Peninsular Ranges.

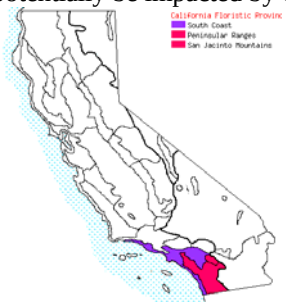
		  © 2008 Andrew Borcher
San Diego sunflower *Hulsea californica*	L1B	Montane coniferous forest and lightly disturbed chaparral and recently burned areas. Occasionally it is found beneath pine (*Pinus* spp.) canopy.   © 2005 Aaron Schusteff
Mexican Hulsea *Hulsea mexicana*	L2	chaparral at about 2,200 to 3,800 feet elevation; often associated with volcanic soils in burned or disturbed areas 
Slender-leaved Ipomopsis *Ipomopsis tenuifolia*	L2	gravelly to rocky slopes and canyons in creosote-bush scrub and pinyon-juniper woodland habitats below 3,500 feet; found in relatively open vegetation and among boulder fields   © 1996 Christopher L. Christie
San Diego marsh-elder *Iva hayesiana*	L2	Creeks or intermittent streambeds or seeps near creeks. Typically, the riparian canopy is open. Sandy alluvial embankments with cobbles.

		  © 2009 Lee Ripma
Coulter's goldfields *Lasthenia glabrata* ssp. *Coulteri*	L1B	Salt marsh areas near the coast at the extreme upper end of tidal inundation, and periphery of vernal pools.   © 2009 Allison Rudalevige
Heart-leaved pitcher sage *Lepechinia cardiophylla*	L1B	Chaparral and cismontane woodland in the Peninsular Ranges.   © 2003 Vince Scheidt
Robinson's pepper-grass *Lepidium virginicum* var. *robinsonii*	L1B	Openings in chaparral and sage scrub at the coastal and foothill elevations in southwestern California. Relatively dry, exposed locales rather than beneath a shrub canopy or along creeks. May be associated with volcanic substrates. May potentially be impacted by construction. 
Warner Springs lessingia	L1B	High desert chaparral or grassland and sandy openings in very xeric chamise chaparral, or possibly the periphery of alluvial drainages. In the

Lessingia glandulifera var. *tomentosa*		Peninsular Ranges. 
Desert Beauty *Linanthus bellus*	L2	Open sandy sites in desert chaparral between 3,000 and 4,500 feet elevation. May potentially be impacted by construction.   © 1993 Arthur H. Bazell, M.D.
Pygmy lotus *Lotus haydonii*	L1B	Open Sonoran desert scrub on dry, rocky slopes.   © 1995 Saint Mary's College of California
Parish's desert-thorn *Lycium parishii*	L2	Sonoran desert scrub with sandy plains and desert washes. 
Brown turbans *Malperia tenuis*	L2	In Sonoran desert scrub on arid slopes with shallow soils, rocky surface rubble with few large boulders, and little competition from shrubs.

		
Spearleaf *Matelea parvifolia*	L2	Sonoran desert scrub on arid plains and near arroyos.   © 2009 Lee Ripma
Hairy stickleaf *Mentzelia hirsutissima*	L2	Sonoran desert scrub growing on rocky hillsides and desert mesas. 
Felt-leaved monardella *Monardella hypoleuca* ssp. *Lanata*	L1B	Chaparral understory, beneath mature stands of chamise in xeric situations. May potentially be impacted by construction.   © 2008 Andrew Borcher
Willowy monardella *Monardella viminea*	FE SE	Riparian scrub, usually at sandy locales in seasonally dry washes with no canopy cover. River cobbles may lie nearby

		 © 2006 Halleh Paymard
San Diego goldenstar *Muilla clevelandii*	L1B	Valley grasslands, particularly near mima mound topography or vernal pools. Does not typically grow in the shade of woody perennials, but rather in somewhat open locales.   © 2005 Larry Sward
California Orcutt grass *Orcuttia californica*	FE SE	Tends to grow in wetter portions of vernal pool basins but does not show much growth until the basins become somewhat desiccated.   © 2005 Russell Huddleston
Gander's ragwort *Packera ganderi*	SR	Chaparral understory, often beneath chamise. May potentially be impacted by construction.
Sandfood *Pholisma sonorae*	L1B	Dunes in creosote bush scrub. Occurs in the Sonoran Desert.

		  © 2008 Michael Charters
Nuttall's scrub oak *Quercus dumosa*	L1B	Coastal chaparral with relatively open canopy cover in flat terrain; on north-facing slopes it may grow in dense, monotypic stands. May potentially be impacted by construction.   © 2007 Ricky Grubb
Moreno current *Ribes canthariforme*	L1B	Chaparral, between 1,100 and 4,000 feet elevation, often on acid igneous rock land, with large, exposed boulders. May potentially be impacted by construction.   © 1995 Saint Mary's College of California
San Miguel savory *Satureja chandleri*	L1B	Open chaparral predominated by chamise and oak woodland. May be restricted to gabbroic or metavolcanic derived soils.   © 2007 Scot Chandler

Southern skullcap *Scutellaria bolanderi* ssp. *Austromontana*	L1B	Moist embankments of montane creeks. 
Desert spikemoss *Selaginella eremophila*	L2	Rocky terrain amid Sonoran desert scrub.   © 2004 Michael Charters
Coves' cassia *Senna covesii*	L2	Sonoran desert scrub on washes and plains with relatively open, low-growing scrub cover; plants receive full-day sun.   © 2005 Gene Wagner, RPh.
Bristly scaleseed *Spermolepis echinata*	L2	Rocky, desert terrain or on sandy flats. 

Purple stemodia *Stemodia durantifolia*	L2	Wet sand along minor creeks and seasonal drainages. 
San Bernardino aster *Symphyotrichum defoliatum*	L1B	Wetter areas in a variety of habitats including chaparral, cismontane woodlands, and grasslands.
Parry's tetracoccus *Tetracoccus dioicus*	L1B	Low-growing chamise chaparral, with moderately dense canopy cover. Usually quite xeric with only limited annual growth. Occurs in southern San Diego County and the western Peninsular Ranges.
Velvety false lupine *Thermopsis californica* var. *semota*	L1B	Lower montane coniferous forest and montane meadows.

1 Status: FT=federally threatened, FE=federally endangered, ST=state threatened, SE=state endangered, SR=state rare, L1B or L2=CNPS List 1B or CNPS List 2

Sensitive Plant Descriptions

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals, or direct loss of habitat. Known locations of individuals are where a species was observed during on-the-ground surveys. Direct loss of known locations of individuals or habitat occurs from temporary or permanent grading or vegetation clearing. Indirect loss of individuals occurs in instances such as sediments transported (e.g., from cleared areas during rain events) that cover adjacent plants or changes in a plant's environment that cause its loss (e.g., adjacent shrubs that provided necessary shade are removed). The following 8 special status plant species were observed along the Environmentally Superior Southern Route during the 2009 Rare Plant Survey (Recon, 2009).

Jacumba Milk-vetch

Astragalus douglasii var. *perstrictus*

CNPS List 1B

Jacumba milk-vetch is a perennial herb in the legume family (Fabaceae) with stout, erect stems that can grow up to 3 feet tall and produces flowers in May and June. It ranges from Imperial and San Diego counties to Baja California. Jacumba milk-vetch has a distinctive erect habit that distinguishes it from the low growing *A. douglasii* var. *parishii*, which occurs at higher elevations.

Jacumba milk-vetch is ubiquitous in many of the dry washes and moderately disturbed areas within McCain Valley (Link 1, Section 9B, and MP 39.8 through MP 49.8). A total of 2,200 plants were observed during the 2009 rare plant survey dispersed within sandy washes, along roadsides, and most areas of mild disturbance within chamise chaparral in the Project area. Jacumba

milk-vetch was found along the ROW both within and outside of proposed impact areas. Individuals of Jacumba milk-vetch will potentially be impacted by project activities.

Delicate clarkia
Clarkia delicata
CNPS List 1B

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Delicate clarkia is an annual in the evening-primrose family (Onagraceae), growing up to 3 feet tall and producing rose-lavender to pale pink flowers in May and June. Delicate clarkia is found only in San Diego County and Baja California, Mexico. Delicate clarkia is inconspicuous when not in flower, but readily recognizable by its spoon-shaped rose petals and bright orange-tipped anthers.

Several populations of delicate clarkia were observed within the project area near the El Capitan reservoir (Section 5, MP 100.2 through MP 101.2) during the 2009 rare plant survey. The small annual colonizes road cuts and moderately disturbed areas within post-burn and intact chamise chaparral. Individuals of delicate clarkia appear to clump into large, discrete populations and not disperse throughout the chaparral. A total of 3,354 individuals were observed within the project area. Delicate clarkia was found along the ROW both within and outside of proposed impact areas. Individuals of delicate clarkia will potentially be impacted by project activities.

Tecate Tarplant
Deinandra floribunda
CNPS List 1B

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Tecate tarplant is an annual herb in the sunflower family (Asteraceae) that ranges from San Diego County into Baja California, and occurs in coastal sage scrub and chaparral habitats between 1,000 feet and 2,400 feet (CNPS gives its range between 230 and 4,002 feet). It is found primarily in dry valleys and foothills, with sandy washes in the high desert; its preferred habitat. This species may be distinguished from other tarplant found in the region by having 13 to 20 ray flowers, which appear in late summer and fall. Tecate tarplant grows to ten decimeters in height and blooms from August to October.

Large populations of Tecate tarplant were observed north of Potrero within the Project alignment (Section 8C, 8D, and 9C, MP 70.8 through MP 74.8) during the 2009 rare plant survey. This distinctive, late blooming annual is found in high densities within washes in post burn chamise chaparral and coastal sage scrub. A total of 2,567 individuals were observed within the Project area ROW, both within and outside of proposed impact areas. Individuals of Tecate tarplant will potentially be impacted by project activities.

Sticky Geraea
Geraea viscida
CNPS List 2

Sticky geraea is a short-lived perennial in the sunflower family (Asteraceae) that produces showy yellow flowers in May and June. Sticky geraea is distributed in southeastern San Diego and southwestern Imperial counties and Baja California.

Populations of sticky geraea were observed frequently throughout the desert transition and mountain portions of the Project (Sections 8A, 8D, 8E, 9A, 9B, and 9C). Sticky geraea is often observed co-occurring with Jacumba milkvetch. This species disperses within sandy washes, along roadsides, and most areas of mild disturbance within chamise chaparral in the Project area. Sticky geraea was found along the ROW both within and outside of proposed impact areas. Individuals of sticky geraea will potentially be impacted by project activities.

Desert Beauty

Linanthus bellus
CNPS List 2

Desert beauty is an annual wildflower in the phlox family (Polemonicaeae) that grows about 4 inches tall and blooms in April and May with lilac to pink flowers, with a yellow throat with purple spots. Desert beauty is found only in southeastern San Diego County and adjacent Baja California (Munz 1974, CNPS 2001). It grows in open sandy sites in desert chaparral between 3,000 and 4,500 feet elevation. This small annual is most readily found when in bloom in the late spring.

A large population of desert beauty was observed south of I-8 within sandy washes and open spaces within sparse chamise chaparral during the 2009 rare plant survey. A total of 431 individuals were observed within the project area (Section 9C). This number is likely an underestimate, as desert beauty is inconspicuous, minute, and appears to occupy much of the available sandy habitat within this local area. Desert beauty was found along the ROW both within and outside of proposed impact areas. Individuals of desert beauty will potentially be impacted by project activities.

Felt-leaved monardella

Monardella hypoleuca ssp. *lanata*
CNPS List 1B

Felt-leaved monardella is an herbaceous perennial in the mint family (Lamiaceae) that grows from a creeping rootstock (rhizome) and grows to a height of about 2 feet, flowering in June and July. This subspecies occurs in San Diego County and Baja California; reports from northern San Diego and Orange counties are considered to be the closely related, but more common *M .h.* ssp. *hypoleuca*, which ranges from Orange to Santa Barbara counties. Felt-leaved monardella is found on dry slopes in chaparral below 4,500 feet, typically growing beneath chamise on undeveloped peaks and mountainous ridges. It is known from soils such as San Miguel-Exchequer rocky silt loam or acid igneous rock lands. Several large, dispersed populations of felt-leaved monardella were observed at the Suncrest Substation (Link 3).

Felt-leaved monardella was observed at the Suncrest Substation site and along access roads growing within and adjacent to sparse Engelmann oak woodland. The Suncrest Substation site is within the current alignment and contains potential impacts. A total of 657 individuals were observed at the Suncrest Substation and will all potentially be impacted by project activities.

Nuttall's scrub oak

Quercus dumosa

CNPS List 1B

This evergreen shrub in the oak family (Fagaceae) grows less than 10 feet tall and blooms from February to April. This species is found near the coast in Santa Barbara, Orange and San Diego counties and in Baja California, Mexico at elevations below 1,300 feet. It grows in chaparral, coastal sage scrub, and closed-cone coniferous forest habitats, preferring coastal chaparral with a relatively open canopy in flat areas, but growing in dense stands on north-facing slopes. In San Diego County it is known to grow as far inland as Camp Elliott and Otay Mesa, being replaced by the similar scrub oak (*Q. berberidifolia*) in higher, drier locations. Nuttall's scrub oak can be distinguished from the scrub oak, with which it may hybridize, by its acorn, which is less than 0.4 inches wide, moderately tuberculed, and with a thin cup, and by its leaves, which tend to be smaller, spinier, and more undulated and have densely matted gray hairs.

Several populations of Nuttall's scrub oak were observed on MCAS Miramar within coastal sage scrub and scrub oak chaparral (Section 4A, MP 116.1) during the 2009 rare plant survey. Nuttall's scrub oak was found growing sympatrically with scrub oak. Hybridization between *Q. dumosa*, Q. *berberidifolia*, and *Q. engelmannii* at this site is likely, as some individuals observed displayed characters of two or more of the species. Plants identified as *Q. dumosa* in this report lacked evidence of hybridization and displayed a combination of strong *Q. dumosa* characters (including color, leaf shape, and prominent stellate trichomes on the undersides of leaves). A total of 74 individuals were observed within the Project area. Nuttall's scrub oak was found along the ROW both within and outside of proposed impact areas. Individuals of Nuttall's scrub oak will potentially be impacted by project activities.

Moreno Current

Ribes canthariformes

CNPS List 1B

Moreno currant is an erect, open spineless shrub in the gooseberry family (Grossulariaceae) that grows from 3 to 6 feet tall, has rose-purple tubular flowers, and blooms from February to April. Moreno currant is endemic to San Diego County, with fewer than fifteen known occurrences, including Lake Moreno; Lawson, Gaskill, Lyon's Peak and Sequan Peak; near Barona; El Cajon Mountain; and Descanso Junction. Moreno currant grows in chaparral, between 1,100 and 4,000 feet elevation, often on acid igneous rock land, with large, exposed boulders. Moreno currant is the only gooseberry (spineless *Ribes* species) with rose-purple flowers in San Diego County.

A single Moreno currant was observed south of Barber Mountain (Section 8A, MP 78) during the 2009 rare plant survey. The individual was observed within boulders and post burn chaparral within an area mapped as containing Las Posas (gabbro) soils. Moreno currant was found along the ROW within a proposed impact area. A total of 1 individual of Moreno currant will potentially be impacted by project activities.

Protective Measure for Sensitive Plants

1. Monitoring will be required to ensure that all construction occurs within designated areas and a copy of the monitoring reports will be provided to the CPUC for review on a weekly basis.

2. Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies
3. Flag or stake all sensitive plant species for avoidance where feasible. If avoidance is not feasible, then impacts shall be compensated through salvage and relocation.
    - Federal and state listed species: avoid where feasible or salvage and relocate when avoidance is not feasible
    - CNPS List 1 & 2 species: avoid where feasible; reseed or relocate to temporarily disturbed areas

Weed Control

For the purpose of this document, "weeds" are invasive, non-native plant species that have been specifically identified by the California Invasive Plant Council [Cal-IPC] in 2009 or the County of San Diego as those that have negative impacts on California's wildlands.

As outlined in the EIR/EIS and BO, the goals of the weed control plan are to:

- Identify species within the entire ROW that the County of San Diego has identified as "targeted noxious weeds." These are limited to perennial pepperweed (*Lepidium latifolium*), yellow starthistle (*Centaurea solstitialis*), purple loosestrife (*Lythrum salicaria*), and spotted knapweed (*Centaurea maculosa*) (County of San Diego 2009) through preconstruction surveys.
- Identify species within the ROW that promote the spread of wildfires, such as cheatgrass (*Bromus tectorum*), Sahara mustard (*Brassica tournefortii*), and medusa head (*Taeniatherum caput-medusae*) through preconstruction surveys.
- Identify species categorized by the Cal-IPC Invasive Plant Inventory as high or moderate for negative ecological impact (Appendix B) in all areas to be directly impacted by the Project. The Cal-IPC has categorized non-native invasive plant species that threaten California's wildlands as High, Moderate, or Limited ecological impact based on a combination of the species documented impacts, potential for spread, and the range of habitats they are known to tolerate (Cal-IPC 2009).

During Project construction, all seeds and straw materials used will be certified weed free, and all gravel and fill material will be certified weed free by the San Diego County Agriculture Commissioner's Office.

Vehicles and all equipment are required to be washed immediately before project construction begins and prior to returning to project construction should equipment be used in different construction areas. A wash station should be implemented at all stages of construction along the entire Project alignment ROW.

The ROW will be surveyed for invasive exotic species annually for two years following construction and every two years thereafter for the life of the Sunrise Powerlink. Based on the species observed during preconstruction surveys and the species with potential to infest the site in the future, the alignment ROW should generally be surveyed in mid-spring of each year to capture all potentially invasive species. The exact timing will be determined by the Weed Control Manager based on rainfall and other environmental conditions. If evidence of late or early season weed species is noted, timing of annual surveys may be shifted to account for these species.

Surveys should focus on (1) areas where target invasive species have previously been mapped; (2) areas where target species have previously been treated; (3) areas that are being actively disturbed by maintenance activities; (4) all tower and facility sites; and (5) general surveys of the alignment ROW. Prior to each survey, the target species list should be reevaluated to include new species that may be introduced to the area over time and weed species that may be classified into elevated Cal-IPC categories (such as Limited to Moderate).

Surveys should focus on the target species; however, all potentially invasive exotic species present within or adjacent to the ROW should be noted. It is anticipated that those species will be of greatest concern. All

surveys must be conducted by biologists knowledgeable of invasive exotic species to identify infestations of existing or new invasive species.

Survey areas will be traversed on foot, with teams of biologists walking meandering transects along the centerline of the alignment ROW. Biologists will survey in such a manner as to ensure visual coverage of 100 percent of the distance between individual biologists. Surveyors will record the location of all target invasive plant species when encountered using handheld GPS units and field maps. Each exotic species population located within the Action Area should be categorized into one of the four density classes (based on qualitatively derived ocular cover estimates of the population).
The most effective, efficient, and low-cost invasive species control strategies prevent weed invasions from ever occurring and quickly detect invasions that do occur so that invasive species can be eradicated or contained before they spread (Hoshovsky and Randall 2000). This requires not only knowing where existing infestations occur through regular survey and mapping events, but the incorporation of meaningful best management practices (BMPs) into construction activities that are aimed at containment of infestations. Management tools to prevent the establishment of weeds within a given area include regular monitoring, eradicating weeds immediately upon detection, removing seed sources from neighboring areas, and revegetating areas as soon as disturbances occur. If it is not feasible to remove a particular weed species in its entirety, preventative measures may include cutting seed heads off plants and raking and removing seeds as they fall to the ground. Many non-native invasives can be reduced with the successful establishment of native species through restoration.

The following list presents examples of BMPs that should be incorporated into construction activities to prevent the spread of weeds:

- Avoid impacts to native vegetation.
- Avoid disturbance in weedy areas. Do not stage construction activities in weedy areas.
- Avoid and minimize ground disturbance. Consider impacts of different types of equipment and when possible choose equipment that will result in the least disturbance to soil and vegetation.
- Determine whether weed control efforts should be conducted before, during, and/or after maintenance activities, and incorporate into the project schedule.
- Use physical boundaries to exclude infested areas from maintenance activities.
- Plan activities in a manner that limits the potential spread of invasive species. For example, time ground disturbance activities such that machinery is not moving through and transporting weed seeds to new locations. Movement of maintenance and construction equipment should be from areas not infested by invasive plants to areas infested by invasive plants whenever possible.
- Clean vehicles and require any contractors to clean their vehicles to prevent transport of soil and plant material before entering or leaving any construction site or site of weed infestation.
- Remove seeds from clothing, footwear, vehicles, and equipment before entering non-infested areas.
- Cover material, including soil or fill, securely during transport.
- Stabilize disturbed soils as soon as possible with native seed and certified weed-free erosion control materials.
- Use only barren fill and gravel.

San Diego County Noxious Weeds

Yellow starthistle (*Centaurea solstitialis*)

Other Weed Designation(s): Cal-IPC High
Description: Yellow starthistle is an exotic, deep-rooted winter annual native to southern Europe. Flowering generally occurs in June through September. Individuals reproduce only by seed. Seed germination is triggered by fall rains and plants will remain as rosettes until they bolt in late spring (DiTomaso and Gerlach 2000).

As yellow starthistle has a relatively heavy seed, it cannot be dispersed long distances by aeoliar transport (Roche 1992). Instead, the primary mechanism for long-distance dispersal in this plant is anthropogenic. It is frequently transported between sites on road maintenance equipment and on the undercarriage of vehicles (DiTomaso and Gerlach 2000) Yellow starthistle can be found, in general, on moderately warm grasslands, rangeland, pastures, and recreational areas (DiTomaso et al. 1999).

Sahara mustard (*Brassica tournefortii*)

Other Weed Designation(s): Cal-IPC High
Description: Currently, this plant is found throughout the low-elevation deserts of the southwest—southern Nevada, southern California, Arizona, New Mexico, and west Texas. It prefers sandy or gravelly soil, although it is also able to grow on alluvial fans and rocky hillsides. Unlike many invasives, this plant does not require disturbed soil to become established.
This plant is a robust, fast-growing winter annual with a basal rosette of leaves with stinging hairs. The basal rosette of leaves grows up to three feet in diameter in favorable environments (University of Nevada Cooperative Extension [UNCE] 2002). The erect stem can be 4–40 inches in height, and it branches extensively, forming a "tumbleweed" once the plant dries up and the stem breaks. The leaves smell like cabbage when they are crushed.
Plants flower early, as early as December or January, immediately following the first winter rains and may set seed as early as February. The flowers are small and dull yellow, making them inconspicuous compared to most other true mustards (Sanders and Minnich 2000). Fruits are long pods that contain between 750 and 9,000 tiny seeds each.
Sahara mustard forms dense stands that crowd out native wildflowers

Cheatgrass (*Bromus tectorum*)

Other Weed Designation(s): Cal-IPC High
Description: Cheatgrass is a short annual grass native to southern Europe, northern Africa, and southwestern Asia. Its spread around the world is associated with livestock and it came to northeastern California by late in the nineteenth century (Young 2000).
It typically flowers from May to June. Seedlings are bright green with conspicuously hairy leaves. The nodding open panicles with moderately awned seeds are distinctive (Cal-IPC 2009). The seedlings are bright green with hairy leaves, and the mature plant may become reddish.

Red brome (*Bromus madritensis* ssp. *rubens*)

Other Weed Designation(s): None.
Description: Red brome is native to southern Europe, northern Africa, and southwestern Asia; it is thought to have become established in California in the mid 1800's (Brooks 2000).
Red brome is an annual grass that germinates with winter precipitation and reproduces only by seed. Its distinctive brushlike inflorescences are reddish purple at maturity. Plants growing in particularly dry conditions may be less robust and have a more open and rigid panicle. Seedlings are very similar to cheatgrass, being bright green and hairy (Brooks 2000).
This species emerges in early winter following rainfall but remains inactive until spring when rainfall combined with higher temperatures stimulate growth (University of California Davis 2007). Directed surveys for this species should be conducted during the typical flowering period (March through May) during years of normal rainfall, as populations may fall during drought years. This species may be obscured in non-native grasslands by wild oats.
It may be particularly important to survey areas burned following June or October fires. Some research has indicated that sage-covered uplands, particularly those susceptible to disturbance, can have a very large increase in red brome invasion (Newman 1992).

Pampas grass (*Cortaderia selloana*)

Other Weed Designation(s): None.

Description: Pampas grass is a large, showy grass, 6 to 13 feet tall, that was introduced from South America as an ornamental species; it has very attractive, large plumelike inflorescences. In its natural habitat (Argentina, Brazil, Uruguay), it grows in moist soil along river margins. In southern California, it has escaped cultivation and has spread along sandy, moist ditch banks in the coastal regions. Pampas grass forms large clumps and grows rapidly.
Pampas grass reproduces by seed but can also reproduce vegetatively. It competes with native vegetation and increases fire potential (DiTomaso 2000).

Sweet fennel (*Foeniculum vulgare*)

Other Weed Designation(s): None.
Description: Sweet fennel is native to Europe and the Mediterranean region, where it has been used for centuries as a spice and for medicinal purposes. Sweet fennel was presumably brought to North America for the same reasons and has escaped from cultivation.
Sweet fennel is a perennial herb three to six feet tall, with a strong anise odor. The stout stems are grayish green and have long vertical grooves; the flowers are yellow umbels (umbrellalike). The seeds can germinate at almost any time of the year, but plants generally do not flower until 18 months to two years. One plant can produce over 100,000 seeds in the first two years (Holloran et al. 2004).
Once a plant is established, flowering stems are produced from the perennial crown each spring. Sweet fennel has a stout taproot and will reproduce vegetatively from its root crown. Seeds are dispersed by water, humans, birds, and rodents.

Salt cedar/tamarisk (*Tamarix ramosissima*)

Other Weed Designation(s): None.
Description: Salt cedar is a rhizomatous shrub that may occur as spotty to heavy infestations along drainages and shores of water bodies. The scale-like leaves have salt glands; flowers are small, white to deep pink and densely packed on racemes. The bark is reddish brown with smooth stems less than one inch in diameter. Seeds are easily dispersed by wind or as water moves through the watercourses that they occupy. The seeds remain viable only for a few weeks, but they germinate easily in saturated soil. Horton et al. (1960) noted that receding spring and summer flows are ideal for germination and seedling establishment. Salt cedar can also reproduce vegetatively, if stems are buried in damp soil, as in a flooding situation ("layering"). Salt cedar is drought-tolerant and withstands lowered water tables as well as flooding (Carpenter 1998).

Wild oat (*Avena* sp.)

Other Weed Designation(s): None.
Description: *Avena* sp. includes slender wild oat (*Avena barbata*) and wild oat (*Avena fatua*). The wild oats are annual grasses that are native to Europe. Slender wild oat is very similar to wild oat but has florets that are more slender (Whitson et al. 2006). Wild oat is an annual grass that is native to Europe. It is an agricultural weed as well as a weed of roadsides, pastures, and other disturbed areas. This grass is one to four feet tall with hollow stems. Seeds can remain viable in the soil for over 10 years. They tend to outcompete native species for space, nutrients, and water (Whitson et al. 2006).

Black mustard (*Brassica nigra*)

Other Weed Designation(s): None.
Description: Black mustard is an annual that grows two to eight feet tall. The plants have erect stems covered with stiff hairs on the lower sections to smooth near the top. Leaves are stalked, the lower deeply lobed and the upper toothed. This species was introduced from Europe and is widespread throughout North America (Whitson et al. 2006). This species can infest roadsides, disturbed areas, and small disturbed patches within otherwise native habitat.

Ripgut brome (*Bromus diandrus*)

Other Weed Designation(s): None.
Description: Ripgut brome is native to the Mediterranean and is thought to have been widely established in California since the late 1800s (Holloran et al. 2004). It is an annual grass with slender stems up to 30 inches tall. Distinguishing characteristics include flat leaf blades that are one-quarter inch wide and covered in fine hairs, with slightly jagged margins; drooping inflorescence with one or two spikelets of stiff red or purple-tipped awns; and fibrous roots (Holloran et al. 2004).
Ripgut brome is prone to summer fire, is known to cause injury to wildlife (hence the name ripgut), and prevents native perennial species from becoming established (Holloran et al. 2004). Reproduction is exclusively via seed, and plants can produce seeds during the winter, spring, and early summer. Ripgut brome is a very prolific seeder and seeds can remain viable in the soil for up to five years (Holloran et al. 2004).
Typically, this species emerges in early winter following rainfall but remains inactive until spring; plants continue to grow through summer.
Directed surveys for this species should be conducted during the flowering period (spring through summer) during years of normal rainfall, as populations of this annual grass may fail during drought years.

Italian thistle (*Carduus pycnocephalus*)

Other Weed Designation(s): None.
Description: It is an annual or biennial thistle with a basal rosette and is more slender than many other thistle species. The stems, undersides of the spine-tipped leaves, and flower heads are covered in a cobwebby down. On the leaves, the terminal lobe spine is longer and more robust than the other spines, and the stems are slightly winged. Pink or purple inflorescences, about one-half inch across, occur in tight terminal clusters of two to five in the fall (Holloran et al. 2004; Bossard and Lichti 2000).
Reproduction is exclusively by seed. The outer (ray flower) seeds do not have bristles and remain in the flower head until it drops. Inner (disk flower) seeds are sticky with a thin gummy coating when they first develop, which allows them to attach to passing animals or machinery; they also have bristles for wind dispersal. Germination rates are very high and seeds can remain viable in the soil for up to 10 years (Holloran et al. 2004). It thrives on disturbed soil under drought conditions (Bossard and Lichti 2000).

Tocolote (*Centaurea melitensis*)

Other Weed Designation(s): None.
Description: Tocolote is native to Europe. It is an erect winter annual with gray–green foliage that starts as a basal rosette, and the yellow spiny flower heads bloom in May and June. It has rigid branching, winged stems, and the basal leaves are deeply lobed. Flower heads are clustered, spiny, and yellow, and the spines are branched at the base (Whitson et al. 2006).
Early detection and treatment is critical because once the plants flower, they can produce viable seeds within eight days (Chambers and Hawkins 2002).

Bull thistle (*Cirsium vulgare*)

Other Weed Designation(s): None.
Description: This biennial thistle produces a basal rosette the first year and bolts the summer of the second year, reaching heights of two to five feet before setting seed and dying. Distinguishing characteristics include dark green leaves with the texture of sandpaper, winged stems, and large purple flower heads one to two inches wide with feathery bristles on the pappus (Randall 2000).
Bull thistle reproduces exclusively by seed, and each plant can produce thousands of seeds, which germinate in the spring and fall (Holloran et al. 2004). This plant thrives in disturbed areas and outcompetes native plant species.

Artichoke thistle (*Cynara cardunculus)*

Other Weed Designation(s): None.

Description: Artichoke thistle, also called cardoon, is a perennial herb that may grow up to six feet high and six feet wide with a cluster of large, purple flower heads. The plant reproduces from seed and may colonize riparian woodlands, natural openings in chaparral and sage scrub, or native grasslands (Pepper and Kelly 1994). Artichoke thistle is found in disturbed areas and has also been observed colonizing coastal sage scrub habitat, riparian areas, and native grasslands (Pepper and Kelly 1994).

Stinkwort (*Dittrichia graveolens*)

Other Weed Designation(s): None.
Description: Stinkwort is an exotic aromatic annual in the sunflower family. It can grow up to three feet tall and has small, light green glandular foliage. It is strongly branched with small, tarplant-like yellow flowers (Cal-IPC 2009).
Stinkwort is a recent arrival to California and appears to be expanding throughout its range (Preston 1997). It forms dense colonies on disturbed areas including roadsides, unpaved parking lots, and trail edges. The sticky character of these allows them to disperse anthropogenically via attachment to clothing, tools, and vehicles.

Shortpod mustard (*Hirschfeldia incana*)

Other Weed Designation(s): None.
Description: Shortpod mustard is native to Europe and has been established in California since the early 1900s. Unlike many of the other common annual mustards, it does not require ground disturbance to spread. It blooms May through September. It frequently infests grasslands and coastal scrubs (Cal-IPC 2009).

Hare barley (*Hordeum murinum*)

Other Weed Designation(s): None.
Description: Hare barley is a cool season annual grass that grows up to three feet tall and is native to Europe. It is thought to have become naturalized in California at the time of the Spanish missionaries (1700s). Hare barley reproduces by seed and forms dense inflorescences between April and June. The spiky inflorescence is clustered around a central axis and easily breaks apart post-senescence. Hare barley is known to inhabit relatively mesic areas within habitats such as roadsides, fields, pastures, and disturbed areas (DiTomaso and Healy 2007).

Fountain grass (*Pennisetum setaceum*)

Other Weed Designation(s): None.
Description: It is a perennial bunchgrass with attractive feathery bottlebrush inflorescences that generally bloom from July through October. It has been a successful invader of wildlands throughout the world because of its ability to adapt physiologically and morphologically to different environments (Lovich 2000).
This species crowds out native vegetation and can form a dense monoculture of flammable fuel for fires. It is well adapted to and even promoted by burning (Lovich 2000).
Fountain grass has many reproductive attributes that ensure its success, including production of copious amounts of seeds; the ability to reproduce by either fertilized or unfertilized seeds; and long seed life (Lovich 2000).

London rocket (*Sisymbrium irio*)

Other Weed Designation(s): None.
Description: London rocket is a highly competitive winter annual, native to Eurasia. The edges of the first true leaves of seedlings are often somewhat indented, and most or all of the early leaves are deeply indented. The stems of mature plants bear long, tubular seedpods and have a small cluster of yellow flowers at the tip. The plants usually grow to about two feet tall. London rocket is found in irrigated fields, moist fallow fields, and roadsides.

Vehicle Cleaning for Weed Control

The Weed Control Plan will cover all the mitigation measures on treating noxious weeds on the Sunrise Powerlink Project.
Summary: "Vehicle Cleaning Technology for Controlling the Spread of Noxious Weeds and Invasive Species" by Joe Fleming, USDA Forest Service
http://ttap.colostate.edu/Library/USDA/0551-1203-SDTDC.pdf

1. Seeds and spores are found clinging to the undercarriage or underbody parts (such as wheels, wheel wells, drive train, and bumpers). Cleaning focuses on these areas.
2. Washing the exterior body panels does little good.
3. Filter, treat, and recycle the wash water.
4. Washing Equipment
    - Runoff containment
        - Inspect wash sites regularly and treat for weeds as necessary.
        - Forms of containment consistent with BMPs: Geotextile Cloth, Flexible Mat, Elevated Washrack
    - Spraying Equipment
        - Two methods: High pressure with low volume, Low pressure with high volume
        - Manually raising the vehicle's hood to wash debris in the engine compartment is often necessary.
    - Water Supply
        - Water Trucks
        - Tanks should have an opaque tank to reduce algae growth.
    - Filtration
        - Before dumping, wastewater often requires filtration or treatment.
        - Most weeds exceed 100 microns, and most fungal spores exceed 5 microns.
        - Variety of filtration systems: Gravity Filters, Centrifugal Separators, Screen Filters, Bag Filters, Geotextile Bags, Cartridge Filters, Disk Filters, Particle Media Filters, Turnkey Recycling Systems, Rental Systems
    - Water treatment
        - Antibacterial agents, chlorine or any swimming pool clarifiers can eliminate many water-borne pathogens and destroy fungal spores, but their use complicates disposal issues.
        - Ozone treatment
    - Waste containment
        - Heavy debris should be removed manually by trowel, shovel, or brush.
        - Removing enormous amounts of debris by water spray is wasteful.
        - Hydrocarbons should be removed as is most practical.
        - Los Angeles Regional Water Quality Control Board has specified limits for storm water discharge of 100 mg per liter of total suspended solids and 15 mg per liter of oil and grease.
        - Sludge may not be accepted at some landfills.
    - Pumping Equipment
        - Spraying, recovering, and filtering operations require pumps.
        - Wash systems have at least two pumps-a sump pump and a pressure pump.
        - Variety of Pumping Equipment: Vacuum System, Diaphragm Pump, Centrifugal Pump, Plunger Pump
5. Recycling
    - Recycling used wash water greatly reduces the amount of water required as well as the water that requires disposal.

Cultural and Paleontological Resources

Cultural Resources

A cultural resource is defined as any object or specific location of past human activity, occupation, or use, identifiable through historical documentation, inventory, or oral evidence. Cultural resources can be separated into three categories: archaeological, building and structural, and traditional resources. Archaeological resources include both historic and prehistoric remains of human activity. Historical resources can consist of structures (cement foundations), historic objects (bottles and cans), and sites (refuse deposits or scatters). Prehistoric resources can include lithic scatters, ceramic scatters, quarries, habitation sites, temporary camps, rock shelters, cairns, rock rings, agave roasting pits, ceremonial sites, and trails. Building and structural sites can vary from historic buildings to canals, historic roads and trails, bridges, ditches, dams, and cemeteries. As a class, these resources are generally called built environment resources.

A traditional cultural resource or traditional cultural property (TCP) can include, but is not limited to, Native American sacred sites and traditional resources of any community that are important for maintaining the cultural traditions of any group. Examples of Native American TCPs include places such as traditional landscapes, sacred mountains, or areas where plants are collected for food, medicine, basket weaving, and ceremonial uses. Other examples of TCPs include buildings, parks, neighborhoods, or other places required to maintain cultural traditions.

While hundreds of cultural resources can occur along the alignments of the Proposed Project, only a portion of those will qualify for management consideration under existing laws and regulations. The criteria by which resources are determined legally eligible for further management are detailed in the final EIR/EIS sections D.7.7 and D.7.8. This important distinction is denoted by the term “historic properties.” Historic properties are those resources (including historical built environment resources, prehistoric archaeological sites, historical archaeological sites, unique archaeological sites, and traditional cultural properties — regardless of their age) that are determined by a federal, State, or local agency to be eligible for listing on a historic register.

There are cultural resources that are potentially NRHP/CRHR-eligible, NRHP/CRHR-eligible and/or NRHP/CRHR-listed within the Proposed Project transmission corridors. Among the anticipated resources to be encountered during additional cultural resource surveys, it is expected that many of them would be considered eligible for the NRHP and CRHR.

Archaeological sites known to contain Native American human remains may be adversely and directly affected by construction of the Proposed Project transmission lines. These sites include two of the three sites known to contain human remains. Any adverse effect to human remains is considered a significant (Class I) impact.

The BLM, as the Federal Lead Agency under NEPA, is carrying out government-to-government consultation with appropriate Native American groups and notification to other public groups regarding project effects on traditional cultural values. That consultation will determine whether there are additional TCPs that would be affected within the Proposed Project. Though impacts to TCPs are often significant (Class I), mitigation, as defined by NEPA (in King, 2003), can include “minimizing impacts by limiting the degree or magnitude of the action…,” rectifying or reducing the impact, and/or “compensating for the impact by replacing or providing substitute resources or environments,” which when properly coordinated Native Americans or other Traditional Groups can reduce the impact to less than significant (Class II). Implementation of Mitigation Measure C-4a (Complete consultation with Native Americans and other Traditional Groups) would possibly reduce impacts to TCPs to a level that is less than significant (Class II).

Paleontological Resources

Paleontological resources (i.e., fossils) include the remains and/or traces of prehistoric organisms and are the primary source of evidence about the biological history of our planet. Fossils are typically buried in layered sedimentary rocks and can only be collected and studied when those rocks are exposed at the earth's surface in either natural or man-made exposures

The destruction of fossils as a result of human-caused ground disturbance has a significant cumulative impact, as it makes biological records of ancient life permanently unavailable for study by scientists. Implementation of proper mitigation measures can, however, reduce the impacts to paleontological resources to less than significant levels.

Construction-related ground disturbances such as the building or improvement of access roads, borehole drilling for new poles and towers, trenching, excavation, grading, and vegetation removal, as well as indirect impacts such as increased human exposure to sensitive paleontological sites would have the potential to impact paleontological resources in those areas determined to be paleontologically sensitive (areas with low, marginal, moderate, high and undetermined sensitivity). Without mitigation, the fossils contained in sensitive geologic units, as well as the paleontological data they could provide if properly salvaged and documented, would be adversely impacted (destroyed), rendering them permanently unavailable for future scientific research.

Construction of new substations and associated access roads would require excavation, grading, and vegetation removal in paleontologically sensitive geologic units (areas with low, marginal, moderate, high and undetermined sensitivity) Without mitigation, the fossils contained in sensitive geologic units, as well as the paleontological data they could provide if properly salvaged and documented, would be adversely impacted (destroyed), rendering them permanently unavailable for future scientific research. Modifications of substations within existing and previously disturbed property would not impact paleontological resources.

Please remember, our goal is zero impacts to cultural and paleontological resources. State and federal law protects cultural resources, and in order to proceed with this project we must maintain compliance. You will have access to an archaeological monitor should you have any questions about the ESAs, the area you are currently working in, and unanticipated discoveries. Stop work if you have a concern**.**

Remember the following:

1. Be aware of markers and fencing that indicate the presence of an Environmentally Sensitive Area (ESA)
2. Do not cross flagged or fenced ESA boundaries
3. Stop and contact a monitor if a resource cannot be avoided
4. Stop and contact a monitor if artifacts or bones are found
5. Never pick up or remove artifacts

Air Quality

Air quality is an important consideration for any project in Southern California. Elements of this project that have been found to be of particular concern in this regard are vehicle emissions and fugitive dust. Increased emissions may result from idling trucks and equipment, construction-related trips, and construction worker commuting. Dust may arise from on-site activities such as surface clearing, excavation, foundation construction, and steel construction.

The goal for this portion of the environmental program is to reduce the amount of impact that the project will have on air quality by following the standards set forth in the **Dust Control Plan and the Construction Emission Monitoring Plan.** All workers shall be knowledgeable of these plans and there shall be onsite monitors checking for worker adherence.

Dust Control Plan

Fugitive dust emissions during construction of the project are expected to result from site preparation and grading/excavation activities, on-site and offsite travel on paved and unpaved surfaces, and aggregate and soil loading and unloading operations, as well as wind erosion of areas disturbed during construction activities. The largest fugitive dust emissions are often generated during site preparation activities, where work such as vegetation clearing, grading, excavation of footings and foundations, and backfilling operations occur. Helicopter operations, as well as vehicles and equipment moving rapidly on un-surfaced roads and work areas also create dust, while significant wind action on unprotected spoil piles or topsoil storage areas is another source of dust. The Dust Control Plan ("Plan") applies only to fugitive dust generated by construction activities and vehicle trips by support equipment on unpaved roads in Imperial and San Diego Counties.

Fugitive dust is particulate matter that is suspended in the air by wind or human activities and does not come from a point source such as a stack. The construction activities and travel on unpaved road involved in this Project are expected to generate fugitive dust mainly in the form of crustal or geological material composed of minerals such as silicon, aluminum, iron, and calcium. These activities are governed by the applicable rules and regulations promulgated by the Imperial County Air Pollution Control District (ICAPCD), San Diego County Air Pollution Control District (SDAPCD), and by several mitigation measures developed as part of the EIR/EIS. The Plan is designed to reduce fugitive dust emissions to a minimum from the Project.

Fugitive dust control will require the use of adequate measures during each construction activity and will include frequent water applications or application of soil additives, control of vehicle access, vehicle speed restrictions, covering of piles, use of gravel and/or rattle plates at site exit points to remove carry on dirt from tires and tracks, washing of equipment prior to site removal, wet sweeping, and work stoppage under certain conditions (e.g., such as prohibiting construction grading when wind gusts exceed 25 mph). All reasonable measures will be taken to limit opacity of emissions to 20 percent or less.

1. **Unpaved Roads** – Limit vehicle speed to 15 mph. Watering will be applied as needed to control the dust, but usually not less than three times daily; the frequency may be reduced or eliminated during periods of precipitation. The entrances onto unpaved roads will be posted with visible speed limit signs.
2. **Storage Piles** - Exposed storage piles of soil and other excavated materials will be contained within perimeter fencing and covered as necessary. All soil or dirt storage piles will be sprayed daily as needed. In addition, storage piles that remain inactive for longer than four days will be covered or periodically watered for sufficient dust suppression.
3. **Paved Road Track-out** - The unpaved exits from the construction sites may be paved, graveled (e.g., minimum 20 feet gravel ramps), or treated by water as necessary to maintain a stabilized surface starting from the point of intersection with the public paved surface.
    a. Rattle plates may be used at site entrances and exits.
    b. All vehicles that are used to transport solid bulk material will be provided with a cover or will maintain at least six inches of freeboard when travelling on public roads.
    c. Prior to transporting dirt, sand, and loose materials, the loads will be pre-moistened as necessary to prevent track-out and visible emissions of fugitive dust from occurring during the transportation process.
    d. If visible soil material is carried onto adjacent public streets, vehicle tires will be washed free of dirt prior to entering paved roadways or adjacent public streets exiting the construction site will be swept visually clean, using wet sweepers.

4. **Earthmoving** - Water will be applied by means such as trucks, water tanks, water wagons, water trailers hoses, or sprinklers at sufficient frequency and quantity prior to, during, and after earthmoving operations
    a. The construction sites will be pre-watered for 48 hours in advance of vegetation clearing.
    b. Loading activities will be executed carefully by maintaining the bucket close to the truck while dumping. Water will be applied as necessary during loading.
    c. Construction grading will be prohibited on days when the wind gusts exceed 25 mph to the extent feasible to control fugitive dust.
5. **Disturbed Surface Areas** - All disturbed areas in the project and linear construction sites shall be watered until sufficiently wet. Wind erosion control techniques such as windbreaks, water, chemical dust suppressants, and/or vegetation, will be used on all construction areas that may be disturbed.

SDG&E will use environmental monitors for enforcing compliance with the dust control plan. The environmental monitors will be responsible for making sure that dust control is effective and appropriately recorded.

The Air Quality logs will be submitted to SDG&E by the environmental compliance staff for submission to the CPUC as required.

Construction Emissions Monitoring Plan

To track and verify the effectiveness of the air quality mitigation measures and project internal emission reductions as required per mitigation measure(s) AQ-1a to AQ-4c per the MMCRP, SDG&E has prepared a Construction Emissions Monitoring Plan applicable to equipment exhaust from off-road equipment, helicopters, and on-road vehicle use during construction.

SDG&E will coordinate with construction contractors and monitors to implement a tracking system for equipment use. Either SDG&E or contractors will be responsible for each component of the tracking system as follows:

1. Equipment Inventory
2. Equipment Tier Compliance Verification
3. Equipment Usage Tracking
4. Preparation and Submittal of Equipment Usage Reports
5. Helicopter Usage logs
6. On-road vehicle usage

Off-road Construction Equipment

For diesel-fired construction equipment with capacity greater than 50 hp (per Mitigation Measure AQ-1b), the intent of the Plan is to verify log hours for EPA Tier 3-certified equipment to the extent that such equipment will be available, and for EPA Tier 2-certified equipment when Tier 3-certified equipment is not available. If neither EPA Tier 2 nor Tier 3 equipment can be procured for a construction task, the monitoring will verify that EPA Tier 1 equipment with capacity greater than 100 hp has diesel particulate filters installed on engines. The monitoring will also verify that usage of gasoline or electric equipment is also recorded, when such equipment is used in place of diesel-fueled equipment.

Water Resources

In a dry state such as California, the protection of water resources must be a critical part of any environmental protection program. Events such as oil spills on porous soils soil erosion, and the removal of

stream bank vegetation can have a potentially significant effect on the quality of a water source used by thousands of people.

In addition, it is against both state and federal law to release any kind of material, including soil or gravel, into any channel that may conduct water. Any amount of discharge into a ditch, stream channel, or lake, can result in project shutdown and fines.

SWPPP

To ensure compliance with the law and the mitigation measures for this project, storm water pollution prevention plans, or SWPPPs, have been prepared for respective areas along the alignment and must be available for agency inspection at all times. The goal of the SWPPP is to protect overall water quality during construction activities. Construction activities could potentially affect water quality by the storage and handling of various construction-related materials as well as by causing soil erosion or the accumulation of sedimentation. With the implementation of Best Management Practices (BMPs) and/or treatment outlined in the plan, the potential for the transport of contaminants or sediment to receiving waters will be minimized.

Before initiating any ground-disturbing activity, particularly if it is anywhere near a ditch, storm drain, stream, or lake, be sure to review the SWPPP for the area you are monitoring and ensure applicable BMPs are in place. These BMPs will be listed in the SWPPP and include a large variety of techniques. The following is some of the more commonly used BMPs with which you should be familiar:

- Silt fences are used as temporary perimeter controls around sites where construction activities will disturb soil. These fences can also be used around the interior of the site. A silt fence consists of a length of filter fabric stretched between anchoring posts, spaced at regular intervals along the site at low/downslope areas. The filter fabric should be entrenched in the ground between the support posts. These must be removed after project completion to restore natural drainage during the cleanup and restoration phase of the project.

- Straw mulch and straw bale check dams may be installed as appropriate to contain sediment within construction work areas and staging areas.

- Remove all construction and demolition waste to a hazardous waste facility as appropriate. Hazardous material spill kits will be maintained on-site for small spills. See the Hazardous Substances section of this document for additional information on hazardous waste.

- Avoid impacting the streambeds and banks of any streams along the Project route.

Erosion Control

Erosion is the detachment of soil from existing landscapes by water or wind. Erosion is a natural process that can be accelerated by construction activities such as grading or trenching. For example, when a site is cleared or grubbed, protective vegetation is removed and the disturbed soil is directly exposed to wind and water. Erosion controls protect the surface and prevent the soil particles from being detached by rainfall or wind. BMPs for erosion control include:

Mechanical and vegetative measures may be used to provide surface soil stability and re-establish natural contours. Temporary roadways must be situated to prevent undercutting of the designated final cut slope to accommodate drainage.

A temporary slope drain is a flexible conduit for stormwater that extends the length of a disturbed slope to divert the flow and serve as a temporary outlet. Temporary slope drains, also called pipe slope drains, convey runoff without causing erosion on or at the bottom of the slope. This practice is a temporary

measure, typically used for less than 2 years. It is used during grading operations until permanent drainage structures are installed and until slopes are permanently stabilized.

Cover and berm loose stockpiled construction materials that are not actively being used

Inspections

A SWPPP inspector shall perform weekly inspections and observations and at least once each 24-hour period during extended storm events, to identify and record BMPs that have failed, or that could fail to operate as intended. Upon identifying failures or other shortcomings, the contractor shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.

Environmental monitors must check BMPs daily to ensure they are properly installed and working appropriately. If a BMP is failing this must be reported to the Link Lead immediately so that repairs can be implemented as soon as possible.

Hazardous Substances/Public Health & Safety

Hazardous Materials

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

Avoiding the release of hazardous materials into the environment will require both:
1) The control of substances associated with construction, and
2) The identification and proper disposal of any substances that may be encountered during construction

Environmental Field Representative. The environmental field representative or Lead Monitoring Manager for this Project is Steve Riggs. The final reports of any hazardous waste spills or violation of any public health and safety mitigation measures must go to him directly and as soon as the spill report is completed.

Environmental Safety Plans. There may be several environmental safety plans that include but are not limited to: Hazardous Communications Plan, Hazardous Material Business Plan, Spill Response Plan, and Spill Prevention Control and Countermeasure Plan. These plans will only be developed as applicable. It is important that all Field Monitors have copies of any applicable plans to ensure work activities are in compliance.

Remove and properly dispose of all waste. All construction and demolition waste determined to be potentially hazardous; including trash and litter, garbage, other solid waste, petroleum products and other potentially hazardous materials shall be removed to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.

Refueling in designated areas. Only personnel trained in refueling vehicles are allowed to perform this operation in designated areas. Environmental monitors must be cognoscente of where these refueling areas are and ensure that refueling takes place only in these areas.

Keep hazardous material spill kits available. These shall be maintained on-site and in all trucks and equipment for handling small spills. These kits will include oil-absorbent material, tarps, and storage drums to be used to contain and control any minor releases. In addition, emergency spill supplies and equipment shall be kept adjacent to all areas of work and in staging areas and shall be clearly marked.

If hazardous materials such as contaminated soil, or exposed containers of unknown origin are encountered during construction, this must be immediately reported to the environmental monitor then to the Environmental Field Representative. Monitors must remember to follow all Spill Reporting Procedures. All hazardous waste and solid waste must be stored and disposed of in accordance with federal, state, and local regulations. A weekly log of such encounters must be maintained to stay in compliance with state and federal law.