FINAL

MANAGEMENT INDICATOR SPECIES ASSESSMENT FOR THE SUNRISE POWERLINK PROJECT IN THE CLEVELAND NATIONAL FOREST

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SECTION 1.0 – INTRODUCTION

The purpose of this assessment is to evaluate the potential effects of the Sunrise Powerlink Project (SRPL; Project) on Cleveland National Forest (CNF) Management Indicator Species (MIS) identified in the Land Management Plan (LMP) for the southern California forests (U.S. Department of Agriculture [USDA] Forest Service 2005). A Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) (Aspen 2008) for the Project was prepared and issued in October 2008 by the California Public Utilities Commission (CPUC) and the U.S. Bureau of Land Management (BLM), which acted as lead agencies in the review of the Project with the U.S. Forest Service (Forest Service) participating as a cooperating agency. Following issuance of the FEIR/EIS, the CPUC and BLM approved selection of a southern route for the Project, identified in the FEIR/EIS as the Final Environmentally Superior Southern Route (ESSR). This report assesses the ESSR of the Project as identified in the FEIR/EIS and since modified to avoid and minimize project impacts through implementation of mitigation measures and Forest Service comments and requests. Monitoring and evaluation of appropriate indicators are necessary for the Forest Service to ensure appropriate adaptive management of the forest. On a forest level, evaluation requires that current habitat conditions be compared against baseline conditions in existence at the time the LMP was adopted. Making such comparisons on the scale of an entire National Forest is prohibitively difficult, given the large diversity of vegetation communities, habitats, and species within the forest. It is possible to instead monitor individual species (in this case, MIS), their populations, and their habitat trends which accurately reflect the effects of resource management activities. This analysis concludes that the proposed Project will not threaten MIS viability on the CNF.

SECTION 2.0 – PROJECT DESCRIPTION

The ESSR for the Project would extend approximately 120 miles between the existing Imperial Valley Substation in El Centro and the Sycamore Canyon Substation in the City of San Diego. The Project would also include a new Modified Route D Substation (MRD or Suncrest Substation) and other system modifications. The ESSR would cross the CNF as depicted in Appendix A. A full description of the route is provided in the Executive Summary of the FEIR/EIS (Aspen 2008).

The proposed 500 kilovolt (kV) ESSR would enter the CNF at approximately milepost (MP) 53 and extend approximately eight miles within the CNF to MP 61. At MP 61, the transmission line right-of-way (ROW) leaves the CNF to cross private and BLM-managed lands for approximately 17 miles to MP 78, where it re-enters the CNF. From MP 78, the ROW extends through a mix of USFS and private lands to enter the new Suncrest Substation at MP 89 on private land. The 200-foot wide, 500 kV ROW occupies a total of approximately 17 linear miles within USFS land from the eastern end of the CNF to the proposed Suncrest Substation.

Leaving the Suncrest Substation, the proposed double circuit 230 kV line would be contained within a 300-foot-wide easement, except at underground portions where the ROW would be 60-feet wide or in Franchise. This portion of the transmission line traverses BLM, CNF, and private lands in a northwesterly direction for approximately 28 miles from the Suncrest Substation to the Sycamore Canyon Substation (MP 89 to MP 117). From the Suncrest Substation west to the Sycamore Canyon Substation, the proposed ROW is within USFS lands for no more than two of the 28 miles. In total, the ESSR would cross a total of approximately 19 miles of USFS lands within the CNF.

2.1. PROJECT CONSTRUCTION AND O&M METHODS AND EQUIPMENT

The modified Project ROW, including placement of other project features (e.g., roads, work areas, etc.) has been designed and engineered in close coordination with the USFS, including implementation of specific mitigation measures (such as routing modifications) during the project design phase to reduce or eliminate biological impacts within the CNF. A total of 77 transmission towers will be constructed within the CNF, including approximately 17 designated conventionally constructed towers and 52 towers that will be constructed and serviced with helicopters. In addition, eight towers are located along existing roads in the CNF that could provide potential access for conventional construction, but these towers may instead be constructed using helicopter construction. Approximately 2.1 miles of new access roads will be created to facilitate construction and O&M activities at conventional and helicopter-serviced structures on USFS lands.

A brief summary of the project construction and O&M activities for both conventional and helicopter towers is included below.

2.1.1 <u>Conventional Construction</u>

Conventional construction methods will be utilized on USFS lands for approximately 17 towers, as well as for establishing spur roads to conventional towers, completing planned existing access road improvements within USFS lands, and preparing two construction yards and 15 stringing sites for project use. Equipment used for conventional construction is anticipated to include grading equipment (e.g., graders, dump trucks, backhoes, end loaders, bulldozers), as well as tractor trailers for delivering equipment and steel to tower sites, boom cranes for tower erection, cement trucks for tower foundation pours, and crew trucks and utility trailers for transporting personnel and hand tools.

Access to tower sites that will be conventionally constructed will include use of permanent existing access roads within the CNF, and short spur roads will be established to the tower pads from the nearest existing road. A 200' by 200' temporary work area will be established at each tower site which will include a 100' by 100' structure pad area and a 35' by 75' permanent construction and maintenance area. The permanent tower footings will occupy a 40' by 40' area at the center of the structure pad. Grading or crushing of existing vegetation with the temporary work area will be used to establish the temporary pad depending on site conditions. The structure pad area and maintenance area will be graded, surfaced with dirt and maintained for the duration of the construction (and O&M) period. Heavy construction equipment including bulldozers, graders, end loaders, and dump trucks are anticipated to be utilized to establish the temporary and permanent tower pads.

Conventional towers will begin with foundation forming within the structure pad area. Cement trucks will then pour the foundations, a boom crane will be positioned on the maintenance area, and tower steel will be delivered to the site by tractor trailers. The towers will be assembled in sections within the temporary work area, hoisted by the boom crane onto the foundation, and assembled. Tower assembly from the finished foundation will be started and completed in a one day period, with an estimated five to eight structures being fully assembled each day. The entire construction process is estimated to require up to approximately three weeks per tower structure.

2.1.2 Conventional Equipment O&M Activities

Following completion of project construction, O&M activities will be performed at all conventional tower sites on USFS lands as follows:

1) Annual ground maintenance inspections of all project towers. These will be completed with a crew truck and/or utility service truck.
2) Annual ground safety inspections of a minimum of 10% of the Sunrise Powerlink project towers will be completed (approximately 43 towers per year based on May 2010 project designs). The requirements of this mitigation measure will likely be met by coordinating these safety inspections with the annual maintenance inspections.
3) Emergency inspections or repairs when any problems within the Project ROW are suspected or reported. These inspections and repairs will be completed with a crew truck and/or utility service truck, and may require heavy equipment use depending upon the emergency.

2.1.3 Helicopter Construction

Helicopters will be used during the construction on USFS lands for approximately 52 towers. An additional eight structures may be constructed with helicopters if conventional construction is deemed infeasible using existing roads. A flight plan will be prepared and submitted to the FAA and the USFS prior to initiating work on the project. For safety, helicopters will not fly for the project construction or O&M activities during periods of inclement weather including sustained winds exceeding 23 miles per hour, precipitation (rain, snow, and sleet), or periods of reduced visibility due to fog or dust storms. During project construction, heavy-, medium-, and light-duty helicopters will all be utilized: heavy-duty helicopters will be used to lift tower segments and materials from construction yards to the tower locations, but will not land at tower sites; medium- and light-duty helicopters will be used to transport construction crews, monitors, equipment, and materials from the construction yards to the tower sites and will land at designated TSAPs. These helicopters will also be used for tower inspections during and

after installation, and wire stringing after installation. Inspections and wire stringing will not require landing at the individual tower sites.

At tower sites where helicopter construction methods will be used, a 100' diameter area will be cleared for the tower staging area pad (TSAP). The vegetation will be cleared to ground level using hand-held equipment. Ground pads with 40' diameter area in the center of the 100' diameter area referenced above will be leveled in areas with less than 15% slope to allow safe landing zone for helicopters. Ground pads are utilized for the majority of landing sites. Where topography is greater than 15% slope raised platforms will be constructed on steel/concrete legs using conventional or micropile foundations. The platform will consist of a metal deck with steps providing worker access to and from the platform. Helicopter platforms will be classified as Temporary Helicopter Landing Sites, and should not be subject to the heliport marking requirements described within the California Code of Regulations, Title 21 Sections 3525 through 3560, Airport and Heliports. This platform design/construction method will accommodate the varying terrain of the project area and will minimize the amount of ground disturbance required to construct the platform. These platforms will be permanent and will be used for on-going maintenance activities.

A typical helicopter-serviced structure construction period in the USFS would begin with crews at each structure location for several weeks completing micropile drilling, grouting, micropile tension testing, and foundation cap forming and pouring. Each work day of this period would require several trips by a light- or medium duty helicopter to deliver crews and equipment to the tower sites and return crews at the end of the day to the construction yard(s). Once the foundation work is complete, heavy-duty helicopters will then require multiple trips to tower sites to complete tower construction in stages; the lower legs will be delivered to the site, attached to the foundation and secured by temporary guy wires. Then tower segments will be delivered in sections weighing less than 15,000 lbs., and attached by ground crews. Tower assembly from the finished foundation will be started and completed in a one day period, with an estimated five to eight structures being fully assembled each day.

2.1.4 Helicopter O&M Activities

Following completion of project construction, O&M activities will be performed at all tower sites as follows:

1) Annual ground maintenance inspections of all project towers. These will be completed with a light- or medium-duty helicopter, and will require transporting crew and equipment to the tower sites and landing at designated TSAPs.
2) Annual ground safety inspections of a minimum of 10% of the Sunrise Powerlink project towers will be completed (approximately 43 towers per year based on May 2010 project designs). The requirements of this mitigation measure will likely be met by coordinating these safety inspections with the annual maintenance inspections, including helicopter-serviced structures.
3) Annual infrared inspections of the transmission wires. These will be conducted by a light-duty helicopter and will not require landing at individual TSAPs.
4) Emergency inspections or repairs when any problems within the Project ROW are suspected or reported. These will be completed with a light- or medium-duty helicopter, and will require transporting crew and equipment to the tower sites and landing at designated TSAPs.

2.2. PROJECT IMPACT SUMMARY

Table 1 below summarizes the Project impacts to vegetation communities, and Table 2 summarizes the total ground disturbance resulting from project construction, including permanent and temporary impacts on USFS-administered lands. The Project transmission line corridor within USFS lands contains approximately 17.15 linear miles of 200-foot-wide ROW and 1.86 miles of 300-foot-wide ROW for a total of 19.01 miles, or 437.07 acres of Project ROW. When including associated ancillary facilities located on CNF owned/managed lands, the total area encompassed by the Project ROW is 541.80 acres. Additionally, the Project would also traverse approximately 312.93 acres of other public and private lands within the CNF Congressional Boundary,

There are 1.15 miles (2.73 acres) of new access roads within the ROW and 0.95 miles (1.17 acres) outside the ROW for a total of 2.10 miles (3.90 acres) of new access roads located within the CNF Congressional boundary. The standard width of these roads is typically 14 feet wide in straight sections of the road and up to 20 feet wide on curves to allow large turning-radius vehicles. For purposes of calculating impacts, it is assumed that the Project ROW will be 14 feet wide with an additional six feet for curves and manufactured slopes. There are 19.24 acres of construction yards and 18.36 acres of stringing sites. Temporary construction areas would be re-vegetated once the Project is constructed. Construction of the Project is expected to be completed within two years of ground breaking. The term of the Project ROW easement is expected to be 50 years commencing upon energizing of the line. The mitigation measures will continue to be carried out during the 50-year operation and maintenance (O&M) period covered under the easement grant.

As noted above, the Project ROW, including associated project features, in the CNF portion (CNF owned/managed lands) total 541.80 acres. The Project will result in approximately 43.96 acres of permanently impacted area and 48.28 acres of temporarily impacted area. Therefore, the majority (449.56 acres, approximately 83%) of the Project ROW within USFS-managed lands in the CNF will not be directly impacted by the Project. Note that some of the permanent and temporary impacts will be to developed or previously disturbed lands. Nevertheless, some of the area impacted by the Project may be occupied by MIS. These impacts are analyzed for each species below.

Table 1. Impacts to Vegetation Communities on USFS Lands in the CNF

Vegetation Communities	Permanent Impacts (acres)	Temporary Impacts (acres)	TOTAL IMPACTS (acres)
Non-Native Vegetation, Developed Areas, and Disturbed Habitat			
Developed	11.44	0.21	11.65
Disturbed habitat	0.10	0.00	0.10
Subtotal	**11.54**	**0.21**	**11.75**
Coastal and Montane Scrub Habitats			
Diegan coastal sage scrub	0.61	0.0	0.61
Diegan coastal sage scrub – inland form - disturbed	2.04	0.85	2.89
Subtotal	**2.65**	**0.85**	**3.50**
Grasslands and Meadows			
Non-native grassland	0.25	1.20	1.45
Subtotal	**0.25**	**1.20**	**1.45**
Chaparrals			
Chamise chaparral	7.08	7.05	14.12
Chamise chaparral – burned	1.96	3.30	5.25
Northern mixed chaparral	12.43	32.08	44.51
Northern mixed chaparral - disturbed	0.18	0.0	0.18
Scrub oak chaparral	0.41	0.00	0.41
Southern mixed chaparral	6.94	2.50	9.44
Subtotal	**28.99**	**44.93**	**73.92**
Woodlands and Forests			
Coast live oak woodland	0.44	1.09	1.54
Subtotal	**0.44**	**1.09**	**1.54**
Herbaceous Wetlands, Freshwater, and Streams			
Non-vegetated Channel	0.06	0.00	0.06
Subtotal	**0.06**	**0.00**	**0.06**
Riparian Forests and Woodlands			
Southern coast live oak riparian forest	0.03	0.00	0.03
Subtotal	**0.03**	**0.00**	**0.03**
TOTAL	**43.96**	**48.28**	**92.24**

Table 2. Acreage Summary of Ground Disturbance on USFS Lands in the CNF

Disturbance Type	Permanent Impact (acres)	Temporary Impact (acres)	Total Acres Impacted
Access Road	3.54	0.35	3.89
Access Road Existing- Major	10.71	0.00	10.71
Access Road Existing- minor	1.52	0.00	1.52
Construction Yard	0.00	19.28	19.28
Footings	0.14	0.00	0.14
Grading	1.40	0.00	1.40
Guard Areas	0.00	0.08	0.08
TSAP	8.70	0.00	8.70
Pad 100x100	16.42	0.00	16.42
Pad 35x75	1.53	0.00	1.53
Pad Temp	0.00	10.21	10.21
Stringing site	0.00	18.36	18.36
Total	**43.96**	**48.28**	**92.24**

2.3. METHODS FOR VEGETATION MAPPING AND IMPACT ANALYSIS

2.3.1 GIS Vegetation Analysis

A Geographic Information System (GIS) was developed with the San Diego Geographic Information Source (SANGIS) vegetation layers. These broad-scale vegetation maps of the CNF were field verified with surveys performed by Arcadis and Helix biologists and high-resolution aerial photography interpretation, and were further augmented in September 2009 by SDG&E biologists based on mapping completed in Project ROW areas where field studies had been performed. This vegetation map was used to assess the potential habitats for the selected MIS species within the CNF and the Project ROW area based on vegetation community information.

A vegetation community impact analysis utilizing the current field-reviewed engineering data for the Project was conducted. The boundaries of all permanent and temporary project features within and outside of the Project ROW within the Congressional CNF boundary were overlaid on the Project GIS vegetation mapping layers. Impacts to vegetation communities located on USFS lands were calculated and are presented in this MIS Assessment. Appendix A contains a mapbook displaying the GIS spatial information for selected plant and wildlife species analyzed in this MIS. All plant and wildlife species source data was projected in State Plane, North American Datum 1983 (NAD 83), California Zone 6, in U.S. feet. Overlapping features within and between the permanent and temporary impacts were removed so that each impact type was categorized as either a permanent or temporary impact.

Construction of the Project would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features, such as towers or permanent access roads) impacts to vegetation communities. All ground impacts for the Project engineering components were grouped together using the following hierarchy:

Permanent Impacts

- Structure Footings
- Helicopter TSAPs with a 100' diameter from the center.
- Existing Roads – Center lines of roads were buffered:
    - Minor improvements to existing roads buffered at: 5'
    - Major improvements to existing roads buffered at: 10'
- Access Roads (to be constructed)
- Permanent Maintenance Areas (typically 35'x75')
- Grading
- Structural Pad Areas (100'x100' pads at each structure);

Temporary Impacts

- Guard Structure Areas
- Temporary Work Areas (200' x 200')
- Wire Stringing Sites
- Construction Yards
- Temporary Access Roads (to be constructed)
- Temporary Improvements to Existing Roads
    - Temporary minor improvements to existing roads buffered at: 5'.

2.3.2 Regional and Statewide Sensitive Species Data Analysis

In addition to a GIS spatial analysis of the Project disturbance footprint and resulting vegetation community impacts, regional and state-wide sensitive plant and wildlife species occurrence data were assembled in a GIS database, and overlaid with the Project ROW information. A variety of data sources from county-wide conservation planning data to CNF-specific species occurrence data were available for this assessment. Available information utilized included: 1) broad-scale vegetation mapping data for San Diego County; 2) federal proposed and designated-critical habitat areas; 3) sensitive plant and wildlife species distribution data assembled for the Project DEIR/EIS and FEIR/EIS; 4) plant and avian species distribution data from recently completed, comprehensive San Diego County "atlas" projects; 5) USFS sensitive plant and wildlife species occurrence data and modeled habitat data; and 6) USFS vegetation community mapping for the CNF. Specific data sources that were used for this MIS analysis include:

- California Natural Diversity Database (CNDDB) (California Department of Fish & Game, accessed November 2009)
- Critical Habitat Designations, U.S. Fish & Wildlife Service (current to January 2010)
- CNF Sensitive Species Data, U.S. Fish & Wildlife Service (acquired March 2009)
- CNF Modeled Suitable Habitat Data (acquired March 2009)
- DEIR/EIS Sensitive Species (Aspen 2008)
- FEIR/EIS Sensitive Species (Aspen 2008)
- San Diego Natural History Museum Plant Atlas, 2008
- San Diego Natural History Museum Bird Atlas, 2010
- Remote Sensing Lab Vegetation Data, USFS (acquired March 2009)

2.3.3 Project Specific Survey Data Analysis

A GIS spatial analysis of the Project vegetation community and regional biological occurrence data was overlaid with data from focused listed plant and wildlife species surveys that have been conducted for the Project within the CNF over a period of four years, beginning in 2006 and continuing through 2009. The data provide Project-level vegetation mapping, jurisdictional wetlands and waters mapping, and location data for state- and federally-listed plant and wildlife species, rare plants (CNPS Lists 1 through 4), RFS plant and wildlife species analyzed for the Project biological evaluation (BE), and incidental sighting data of plants and wildlife species. The data extend outside of the CNF and include western San Diego and eastern Imperial Counties. This tool can be supplemented with additional information from surveys prior to Project construction that may be required under mitigation measures. The Project-level data included in the MIS analysis include:

- 2006 Rare Plant Survey Report (Jones & Stokes, Arcadis)
- 2007 Arroyo Toad Focused Survey Report (Jones & Stokes, Arcadis)
- 2007 Rare Plant Survey Report (Jones & Stokes, Arcadis)
- 2008 Rare Plant Survey Report (Jones & Stokes, Arcadis)
- 2009 Jurisdictional Delineation Survey Data (WRA, ICF Jones & Stokes)
- 2009 Rare Plant Survey Report (RECON)
- 2009 Arroyo Toad Protocol Survey Report (RECON)
- 2009 Riparian Birds Survey Report (RECON)
- 2009 Cleveland National Forest Sensitive Species Survey Data (Chambers Group)
- 2009/2010 Biological Monitoring Incidental Observations Data (Chambers Group)

SECTION 3.0 – METHOD OF EFFECTS ANALYSIS

Project effects on MIS are generally analyzed through the environmental review process under the National Environmental Policy Act (NEPA). This process includes assessing the direct, indirect, and cumulative impacts of a project on habitats and species. An MIS analysis was conducted for the Sunrise Final EIR/EIS, and this analysis incorporates that MIS analysis as well as provides updated data based on modifications to the Project since release of the Final EIR/EIS.

3.1. ANALYSIS AREA

The CNF boundary includes portions of Orange, Riverside, and San Diego Counties and is composed of three Ranger Districts (Descanso, Palomar, Trabuco), which together contain more than 460,000 acres in Southern California and extend from the north end of the Santa Ana Mountains to the southern tip of the Peninsular Mountains on the U.S./Mexico international border. The Project will take place within the Descanso District of the CNF, which is the most southerly of the three ranger districts and occurs entirely within San Diego County. The Descanso District contains approximately 214,300 acres of lands under management by the USFS (or approximately half of the CNF lands). Included in the Descanso District is the 13,480 acre Pine Valley Wilderness, the 7,457 acre Hauser Creek Wilderness, watersheds for Lake Morena, Barrett Lake, Loveland, and El Capitan Reservoirs. MIS are monitored and the existing data for MIS and their associated habitats are evaluated by the USFS at the forest-wide scale.

Direct effects to MIS would result from habitat destruction, habitat alteration, and/or direct injury or mortality of individuals during project construction or O&M activities. Direct effects of the Project on MIS have been determined by an analysis of the Project impact areas relative to the known distribution areas of the MIS within and outside of the CNF Congressional boundary. The permanent or temporary loss of potentially suitable habitat areas for MIS (e.g., associated vegetation communities) within the Project ROW, including associated facilities, and construction or O&M activities that may have wider ranging effects outside of direct impact areas (e.g., heavy equipment traveling on access roads within and outside of the Project ROW, helicopters flying within and adjacent to the Project ROW, etc.) have been included in this analysis.

Indirect impacts to MIS have been determined through a review of Project construction and O&M activities likely to occur on USFS-managed lands, and an analysis of the potential indirect effects to occur within and adjacent to the Project's direct impact areas. An indirect analysis area was generally defined as the area encompassing approximately 660 feet on both sides of the outer edge of the Project ROW within and adjacent to the CNF Congressional boundary (approximately from MP 53 to MP 102), as well as around wire stringing sites, staging yards, and access roads located outside of the transmission line alignment. The average width of the area analyzed for indirect effects within and adjacent to the CNF Congressional boundary extends about 1,600 feet (approximately 1/3 mile) centered on the transmission line (i.e., 200' to 300' ROW and 660' from both sides of the Project ROW). The indirect impact analysis area as described above contains approximately 7,559.29 acres within the CNF Congressional boundary, of which 4,672.98 acres are USFS-managed lands. Additionally, when considering other public and private lands within 660' (outside of the ROW adjacent to the Congressional boundary, approximately 5,677.83 acres), the indirect impact analysis area increases to a total of approximately 13,237.12 acres. While only 541.80 acres of land administered by the USFS occurs within the Project ROW, this larger area was evaluated to ensure a conservative analysis of effects.

To assess the potential cumulative effects of the Project, this analysis updates that conducted in the FEIR/EIS and considers the Project's direct and indirect effects when added with the effects resulting from present and reasonably foreseeable projects selected from the following sources that are currently available:

1. List of cumulative projects identified in the 2008 SRPL FEIR/EIS;
2. USFS Schedule of Proposed Action (SOPA) projects for April 2010 to June 2010.
3. BLM list of cumulative projects that are adjacent to USFS land.

Any projects whose applications have been withdrawn or which have been idle for one year or more have been removed from the analysis as they are no longer considered reasonably foreseeable. Projects that are partially or wholly complete (i.e., ground disturbing activities completed) were considered as part of baseline conditions for the cumulative analysis. Also, only projects reasonably foreseeable to occur within the next 10 years remained on the list. The remaining list contained in Appendix C identifies projects that are presently being planned or constructed, as well as those where the initial scoping process has not yet been completed that were determined to have potential impacts to MIS species.

To accurately determine a project's status as defined above, SDG&E reviewed the current USFS SOPA for the Descanso District, the U.S. Department of the Interior Bureau of Land Management (BLM) website, the County of San Diego Land Use and Environment Group KivaNet System, the State of California Office of Planning and Research CEQAnet database, and local planning commission meeting minutes for small communities in the analysis area (i.e., Alpine, Descanso, Pine Valley, Boulevard, Jacumba, etc.). Each of the projects identified from these sources were critically evaluated to determine whether and to what extend it could cumulatively impact each MIS species.

The cumulative analysis area, and the reasonably foreseeable projects considered within that area, thus varies for each of the MIS discussed below based on each species' likely home range and/or dispersal distance. The cumulative projects included in the analysis for each species are identified in the individual discussions, and Appendix C provides a matrix demonstrating which projects were used in the cumulative analysis for each species based upon the project's potential to impact each species. Cumulative projects were marked with a checkmark if the project was located within the specific species cumulative project effects analysis area identified, are in the vicinity of potentially suitable habitat, and are likely to have some effect on the species considered. If cumulative projects provided limited project information beyond project location, general project location information was used in the cumulative analysis.

3.2. MIS ASSESSMENT METHODS

The Forest Plan requires forest-scale monitoring of habitat status and trends for MIS, as discussed in Part 3, Appendix C of the LMP (USDA Forest Service 2005). Monitoring of MIS is recommended every five years to determine MIS habitat quantity (status) and whether that quantity is stable, increasing, or decreasing (trend). Habitat includes both the vegetation community in which a species occurs, and other biotic (e.g., food sources, predators) and abiotic (physical structure of the area, slope/aspect, water availability, etc.) factors. MIS habitat trends are analyzed by comparing current ecological and vegetation data with historical data collected for the forest.

Population status is a measure of the current population size of a species, whereas population trend refers to the change in population size over time. Population data for MIS are collected by private

entities as well as state and federal agencies, including the Forest Service, US Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), and the US Geological Survey (USGS). Population data may be assessed by direct species counts, by observation of tracks or scat, monitoring of hunting data, and other means.

Within the CNF, the impacts of a project on habitats, plants, and animals are typically assessed by monitoring the effects on MIS using habitat status and trend criteria, and population status and trend criteria. Both types of data were utilized for the Project MIS assessment, as summarized below.

3.2.1 Habitat Status and Trend

The Forest Plan requires forest-scale monitoring of habitat statuses and trends for MIS. Habitat status is the current amount of habitat on the CNF. Habitat trend is the direction of change in the amount of habitat between the time the Forest Plan was approved and the present. Habitats are the vegetation types (e.g., mixed conifer forest) and/or ecosystem components (e.g., cliffs or lakes) and any special habitat elements (e.g., snags) required by an MIS for breeding, cover, and/or feeding. Habitat relationships for plant MIS are identified individually. MIS habitat trends are monitored using ecological and vegetation data. These data include spatial, ecological, and vegetation layers created from remote sensing imagery obtained at various points in time, which are verified using photo-imagery, on-the-ground measurements, and tracking of vegetation-changing actions or events. The Project MIS assessment utilizes habitat status and trend data that were available from USDA Forest Service for the CNF (2007), including the Descanso District and the Project ROW, and Project-level habitat status data from higher resolution vegetation community mapping completed for the Project.

3.2.2 Population Status and Trend

Population monitoring requirements for the MIS of the CNF are identified in the Monitoring Plan of the LMP (USDA Forest Service 2005). This document requires monitoring of population statuses and trends for select MIS. There are many types of population data, and the LMP also identifies the type of population monitoring data required for each MIS. All population monitoring data are collected and/or compiled at the project scale. Population status is the current condition of the MIS related to the type of population monitoring data (population measure) required in the LMP for that MIS. Population trend is the direction of change in that population measure over time. Population data includes presence data, which is collected using a number of direct and indirect methods. These methods include population surveys, bird point counts, tracking number of hunter kills, and counts of species sign such as deer pellets. The Project MIS assessment utilizes population status and trend data that were available from USDA Forest Service for the CNF (2007), including the Descanso District and the Project ROW, as well as public and private population status and trend data that include Project areas outside of the CNF in San Diego and Imperial Counties. The USDA Forest Service data also were supplemented with Project-level population status data from focused species survey results, as summarized below.

3.2.3 Focused Species Surveys

In addition to the habitat and population status and trend data utilized for this MIS assessment, focused plant and wildlife species surveys also were conducted along the Project ROW (which includes the transmission line alignment, access roads, staging areas, etc.) within USFS lands in the CNF. USFWS protocol surveys were conducted for the California spotted owl (*Strix occidentalis occidentalis*) and arroyo southwestern toad (*Bufo californicus*) on USFS lands on the CNF in 2009, Engelmann oak (*Quercus engelmannii*) trees were mapped within and adjacent to the Project ROW, and incidental

sightings of song sparrow (*Melospiza melodia*) were made during the focused riparian bird surveys conducted in and adjacent to the Project ROW area in 2009. In addition to the surveys summarized below, incidental observations of mule deer (*Odocoileus hemionus*) and mountain lion (*Puma concolor*) were made in the CNF during project monitoring activities and surveys completed from 2006 to 2009.

California Spotted Owl Surveys

A habitat assessment and three protocol surveys were conducted in summer 2009 for California spotted owl (spotted owl) on the Project ROW within the CNF. All historic USFS, San Diego County Bird Atlas, and CNDDB data, and other sources (Unitt 1984) were analyzed for occurrences of this species within San Diego County. In order to evaluate habitat in and around the Project ROW for spotted owl, two areas were selected on USFS lands near the Project ROW along Fred Canyon Road as reference sites for this species. These locations were chosen due to their proximity to the Project ROW, and due to three observations at the first reference site in 1996 (CNDDB 2009, USDA Forest Service 2009b), and five observations at the second reference site in 1995 (CNDDB 2009, USDA Forest Service 2009b). These are the closest historic occurrences of this species along the Project ROW, and other CNF occurrences are generally located farther north and/or at higher elevations within the CNF. The characteristics of the reference sites (e.g., old growth coast live oak woodlands, very large, mature trees, plentiful dead snags and interconnected canopies, relatively wide swath of oak woodland habitat, the presence of a larger stream) were used to detail which areas of the Project ROW contained habitat suitable for spotted owls. No detections of the owl were made during the surveys.

Arroyo Toad Surveys

Habitat assessments for arroyo southwestern toad were conducted at 26 locations within and immediately adjacent to the USFS lands in the CNF in 2009. The assessments spanned the ROW and adjacent areas from San Vicente and the San Diego River east to La Posta Creek and its associated wetlands. Assessments were conducted in and adjacent to all ROW areas where potentially suitable habitat for southwestern arroyo toad was identified, including historical and recent distribution data for the arroyo toad and USFS modeled suitable and occupied habitats along the ROW area in the CNF. The habitat assessments determined that two of the 26 areas did not contain potentially suitable breeding or foraging habitat. Of the remaining 24 sites in or adjacent to the CNF, 11 did not contain surface water and surveys were not conducted in 2009 and 13 contained surface water or adjacent observations of toads and protocol surveys were completed. Arroyo southwestern toads were not detected in any of the survey areas in 2009, all of which were in or adjacent to Project permanent or temporary impact areas.

Riparian Bird Surveys

Habitat assessments and focused protocol surveys for least Bell's vireo (*Vireo bellii pusilus*) and southwestern willow flycatcher (*Empidonax traillii extimus*) were conducted in 12 locations along the Project ROW in 2009, 11 of which occur within or adjacent to the CNF. Song sparrow observations were made during these focused surveys within seven of the survey areas, and two song sparrow observations co-occurred with riparian bird sightings. Riparian bird surveys were conducted in high elevation portions of Diabold and Antone Creeks, as well as La Posta, Cottonwood, Hauser, Wilson, and Viejas Creeks and the San Diego River.

Tree Surveys/Rare Plant Surveys

The locations of trees within the Project ROW area that may be impacted directly by ground disturbance activities associated with Project construction activities or vegetation management requirements associated with Project O&M activities were mapped in 2009/2010 and included in a GIS database. In

addition, the locations of individual Engelmann oak trees and/or the boundaries of Engelmann oak woodland within or adjacent to Project impact areas have been mapped, including occurrences on USFS lands in the CNF. Engelmann oak is a CNPS sensitive plant species and location data was collected for this species within and outside of the CNF along all proposed Project ROW alternatives in surveys beginning in 2006 and extending through 2009.

SECTION 4.0 – MIS SELECTED FOR THE PROJECT

MIS are selected because their population trends are considered indicative of the effects of management activities and as a focus for monitoring. Projects within southern California forests typically assess effects on 12 MIS (USDA Forest Service 2007), since changes in these species populations or habitats can be effectively monitored and reflect the effects of national forest management activities. These species include white fir (*Abies concolor*), Coulter pine (*Pinus coulteri*), bigcone Douglas-fir (*Pseudotsuga macrocarpa*), blue oak (*Quercus douglasii*), Engelmann oak, California black oak (*Quercus kelloggii*), valley oak (*Quercus lobata*), arroyo toad, song sparrow, mountain lion, mule deer, and California spotted owl. As shown in Table 3, six of these species occur in portions of the CNF that may be affected by the Project.

Table 3. Management Indicator Species

Species	Indicator of Management	Potential to be Affected by Sunrise Powerlink Project
White fir (*Abies concolor*)	Montane coniferous forest	Range includes portions of CNF, but the Project would not impact coniferous forest
Coulter pine (*Pinus coulteri*)	Coulter pine forest	Range includes portions of CNF, but the Project would not impact coniferous forest
Bigcone Douglas-fir (*Pseudotsuga macrocarpa*)	Bigcone Douglas-fir forest	Range includes portions of the CNF, but this species does not occur within the Project area
Blue oak (*Quercus douglasii*)	Oak regeneration	Does not occur in Project area
Engelmann oak (*Quercus engelmannii*)	Oak regeneration	Occurs in Project area
California black oak (*Quercus kelloggii*)	Oak regeneration	Range includes portions of the CNF, but this species does not occur within the Project area
Valley oak (*Quercus lobata*)	Oak regeneration	Does not occur in Project area
Arroyo toad (*Bufo californicus*)	Aquatic habitat	Occurs in Project area
Song sparrow (*Melospiza melodia*)	Riparian habitat	Occurs in Project area
California spotted owl (*Strix occidentalis occidentalis*)	Conifer/oak woodland or oak woodland	Occurs in Project area
Mountain lion (*Puma concolor*)	Fragmentation	Occurs in Project area
Mule deer (*Odocoileus hemionus*)	Healthy, diverse habitats	Occurs in Project area

Of the 12 MIS in Table 3, two species do not occur in the CNF (valley oak and blue oak) and four species do not occur in habitats that would be affected by the Project (white fir, Coulter pine, bigcone Douglas-fir, and California black oak). The remaining six MIS (Engelmann oak, arroyo toad, song sparrow, California spotted owl, mountain lion, and mule deer) have the potential to be affected by the Project.

As explained previously, forest-scale monitoring of MIS within the CNF is required every five years to determine if habitat conditions "are in a stable or upward trend." The CNF MIS report (USDA Forest Service 2007) describes how MIS monitoring requirements will be met. Monitoring strategies for MIS, as discussed in the FEIR/EIS (Aspen 2008a) for the Forest Plan (USDA Forest Service 2005), are shown in Table 4.

The CNF MIS report (USDA Forest Service 2007) also provides species accounts for each of the MIS analyzed in this assessment, including baseline data on populations and habitat within CNF as well as available data on population and habitat trends; as such, the CNF MIS report is hereby incorporated by reference in full. Additionally, the Project FEIR/EIS contains analysis of potential impacts to CNF resources, including habitats used by the MIS analyzed in this assessment, as well as an initial MIS assessment, prior to on-the-ground design changes and routine adjustments that have taken place since the issuance of the FEIR/EIS; as such, the FEIR/EIS hereby also is incorporated by reference in full.

Table 4. MIS Monitoring Strategies

Management Indicator Species	Monitoring Method	Measure
Engelmann oak	Forest Inventory Analysis data	Trends in sapling abundance
Arroyo toad	Habitat condition in selected locations	Trends in abundance, distribution, and/or habitat conditions
Song sparrow	Riparian bird species point counts, and/or habitat conditions	Trends in abundance and/or habitat conditions
California spotted owl	Region 5 survey protocol CDFG protocol	Occupied territories and/or habitat condition
Mountain lion	Studies in cooperation with CDFG, USGS	Trend in distribution movement, and/or habitat conditions
Mule deer	Herd composition in cooperation with CDFG habitat condition	Trends in abundance and/or habitat condition

SECTION 5.0 – PROJECT IMPACTS TO SELECTED MIS

5.1. ENGELMANN OAK

Many oak species exhibit very low reproductive rates, and Holland and Keil (1996) noted that the majority of oaks in oak woodlands appear to have ceased reproduction around 1900. As a result, the primary management concern for Engelmann oak woodlands is maintaining sufficient regeneration to sustain long-term viability of the species. Engelmann oaks are used by the Forest Service as a proxy for oak regeneration and as a determinant of oak woodland habitat quality within the CNF (USDA Forest Service 2007). Monitoring of this species, in particular saplings, will measure the success of the forest management strategies (USDA Forest Service 2007).

5.1.1 Natural History

The Engelmann oak is a deciduous tree species that has a small natural range and is the only species of subtropical white oak in California (USDA Forest Service 2007). This species most commonly occurs in savannas with a grassland understory on valley floors, foothill slopes, and raised stream terraces within riparian corridors. It has the smallest natural range of any oak species in California, occurring from the foothills of the San Gabriel Mountains in Los Angeles County through the Santa Ana Mountains in Orange County to the Peninsular Ranges of Riverside and San Diego Counties (USDA Forest Service 2007, Sawyer and Keeler-Wolf 1995).

5.1.2 Status and Trends

The rapid expansion of the urban landscape through much of the Engelmann oak's small natural range is one of the primary threats to this species. As stated above, it has been suggested that oak reproduction throughout California has ceased or is declining. This may be a result of an increase in the numbers of seed-eating species (enabled by the elimination of many natural predators), introduction and rapid expansion of exotic annual grasses which dominate the understory of many oak woodlands, grazing of naturally occurring understory species, and in some areas, root rot. Although the threats to Engelmann oaks are not as serious as those to some other oak species (Holland and Keil 1996), it is still at risk due to its limited distribution, low reproductive rate, and other threats.

5.1.3 Project-level Effects Analysis based on Habitat Data

Key Habitat Factor(s) for the Analysis
Engelmann oak was selected as a MIS to track oak regeneration.

Analysis Area for Project-level Effects Analysis
Engelmann oak is found in limited areas throughout the CNF, including the western foothills of the Palomar, Descanso, and Trabuco Districts. As identified in Section 3.1, the analysis area for the direct and indirect impacts of the Project focuses on the Project ROW and a buffer of approximately 660 feet outside the ROW. The cumulative effects analysis for Engelmann Oak considers past, present, and reasonably foreseeable projects within a 5 mile buffer of the Project ROW, beginning at MP 48 in upper McCain Valley on BLM lands and extending west to MP 107, just west of Wildcat Canyon Road in Lakeside. All public and private lands within this cumulative effects analysis area (CEA), both within and outside the CNF Descanso District, are considered for this analysis. The distribution area for Engelmann Oak extends west of the Descanso District boundary only; Engelmann Oak is not known to occur east of the Descanso District boundary (MP 48 to 53 of CEA).

Current Condition of the Key Habitat Factor(s) in the Analysis Area

Regeneration of Engelmann oak is considered a problem in some areas of the CNF. Grazing of the understory by deer and cattle as well as the introduction of aggressive, non-native grass species pose the greatest risk to this species in the CNF. Grazing by mule deer is assumed to occur throughout the Descanso District in areas accessible to the species. In addition, within the analysis area cattle grazing and/or horse pasturing occurs on an annual basis on many private and public (BLM) lands within the distribution area of Engelmann oak, including portions of the ROW on private lands within and adjacent to the Congressional Boundary (e.g., Tulloch, Berglund, Bartlett, Kretuzkamp, Slaughter, Wilson, Chocolate Mountain Ranch, Hartung). These grazing/pasture areas often co-occur with small stands of coast live oak and occasional individuals of Engelmann oak. In general, seedling or sapling Engelmann oak trees are not present, suggesting that grazing may be affecting the regeneration of Engelmann oak. On private lands within the analysis area where grazing no longer occurs (e.g., Jenson, Long Potrero, Lightner), significant new establishment of Engelmann oak (and coast live oak, scrub oak) is evident.

Project Direct Effects to Habitat

This impact analysis is based on Engelmann oak locations recorded during vegetation mapping and rare plant surveys conducted for the Project in 2006, 2007, 2008 and 2009 (Jones & Stokes/Arcadis 2006, 2007, 2008, RECON 2009). This species would be directly and indirectly impacted by implementation of the Project (Figure 2, Appendix A) on both private lands as well as USFS lands.

Within the Project ROW, Engelmann oak occur primarily as individual trees within small areas of coast live oak woodland or southern coast live oak riparian forest (SCLORF), and in small stands of Engelmann oak woodland. The Project identified direct impacts to Engelmann oaks on the basis of individual trees, as well as Engelmann oak woodland. In total, approximately 2,530 acres of Engelmann oak woodlands occur on public lands in southern California, and approximately 1,749 acres of Engelmann oak woodland are found on the CNF (USDA Forest Service 2007). Within the Project ROW, the species occurs as individuals in stands of coast live oak woodlands near Thing Valley and La Posta Truck Trail, and throughout the Buckman Springs and Potrero Canyon areas. However, the densest woodlands dominated or co-dominated by Engelmann oaks within the Project ROW are located along Bell Bluff Truck Trail and the proposed Suncrest Substation (Figure 2, Appendix A), within the Congressional Boundary of the Descanso District on private lands near Japatul Valley. All Engelmann oak trees mapped in this area that may potentially be impacted occur on privately owned land. Individual trees were not mapped within areas of Engelmann oak woodland; therefore, these areas are treated in this analysis as exclusively consisting of Engelmann oaks. Other habitats where Engelmann oaks were mapped include coastal sage scrub, chaparral, and non-native grassland. Permanent impacts would occur from construction of the Suncrest Substation, towers and access roads, as well as from tree removal related to vegetation management along the entire Project ROW. Temporary impacts would occur from clearing required for staging areas and stringing sites, as well as necessary clearing around the tower footings. Temporary impact areas would be re-vegetated following construction. As noted in Mitigation Measure B-1a, direct impacts to Engelmann oak woodland will be mitigated at a 3:1 ratio (Appendix B).

The FEIR/EIS estimated that less than 1.0 acre of Engelmann oak woodland would be impacted on the CNF (FEIR/EIS at Ap.8M). Based on the modified Project ROW, the Project construction activities would not impact Engelmann oak trees on USFS lands in the CNF. A total of 1.27 acres of Engelmann oak woodland would be impacted on private lands within the Congressional boundary of CNF to construct the Suncrest substation and associated access road improvements. Vegetation management conducted during Project O&M activities may require some additional individual Engelmann oaks to be trimmed and/or removed on both private lands as well as USFS lands.

Project Indirect Effects to Habitat

Potential indirect impacts involving construction activities, such as grading, tower footing excavation, driving of heavy equipment on unpaved roadways and helicopter construction would result in increased levels of blowing dust that may settle on Engelmann oaks adjacent to the Project ROW. Increased levels of dust on plants can significantly impact photosynthetic capabilities and degrade the overall quality of the Engelmann oak woodlands. To offset these indirect impacts during construction, all cleared areas would be regularly watered and a 15 mile-per-hour speed limit shall be observed on dirt access roads to reduce fugitive dust (BIO-APM-3, Appendix B).

Although rare, high voltage power lines have been associated with wildfires, which cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects, such as degradation of habitat and loss of species. While habitats in southern California are adapted to wildfires, an increased fire frequency can dramatically change the plant composition in a habitat, which is called "type conversion" (Keeley *et al*. 2005). When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. Often, type conversion occurs with replacement of native scrub habitats with non-native grassland. Although considered unlikely, should a fire occur and be determined by the CPUC's Consumer Protection and Safety Division (CPSD) or the California Department of Forestry and Fire Protection (CAL FIRE) to be caused by the Project, SDG&E shall re-seed all natural areas, both public and private, that are burned as a result of the Project-caused fire. Mitigation Measure B-1k (Appendix B) addresses type conversion and re-seeding after a transmission line caused fire.

Cumulative Effects to Habitat

Cumulative effects to habitat supporting Engelmann oak are considered over a reasonably foreseeable timeframe of ten years. Engelmann oak has a limited distribution within southern California, but occurs in the Descanso District of the CNF (and adjacent lands), with the densest woodlands in the San Diego County foothills between Cuyamaca Peak and Palomar Mountain (Stephenson 1999). A smaller oak population occurs west of the CNF Boundary in the vicinity of the foothills of Lakeside. The majority of Engelmann oaks (57 percent) are held in private lands, with the next largest portion (24 percent) controlled by the Cleveland National Forest (Scott 1991). Over 1,749 acres of Engelmann oak woodland occur on the CNF (USDA Forest Service 2005), the majority of which occur north of and outside the 5 mile CEA.

The primary threats on public lands to Engelmann oak are maintaining sufficient regeneration, which may be suppressed by unnatural rates of disturbance within its habitats, often caused by livestock grazing within the understory of existing woodlands and/or by non-native grass introduction within these same areas (Stephenson 1999). The primary threat on private lands to Engelmann oak is direct impact from residential and commercial development. Cumulatively, only the Kemerko residential project within the CNF has identified an impact to Engelmann Oak. This project on Mountain View Road in Descanso would result in direct impacts to approximately 94 acres of coastal sage scrub and southern mixed chaparral, and an undisclosed number of Engelmann oaks would be directly impacted in these areas.

As noted above, the Project will result in both direct and indirect effects to approximately 1.27 acres Engelmann oak and will therefore contribute to the cumulative effects on this species. The effects will be adverse, but will be limited in the overall area of effect (i.e., construction impacts of approximately

1.27 acres on private land within and adjacent to the Congressional Boundary compared to over 1,749 acres of Englemann oak woodland found on the CNF) and will be mitigated through purchase, restoration, and preservation of the Engelmann oak trees and woodland habitat surrounding the impact area. In sum, when considered with the impacts of other past, present, and reasonably foreseeable projects in the analysis area, the overall effects of the Project are not expected to cause a decline in the population of this species or reduce the overall quality or quantity of habitat for this species.

Summary of Habitat and Population Status and Trend at the Forest Scale

The LMP requires forest-scale habitat and/or population monitoring for all MIS, so effects analysis for the Project must be informed by habitat and population monitoring data. The discussion below summarizes the habitat status and trend data, and population trend data for the Engelmann oak. This information is drawn from the detailed information on habitat and population trends in the CNF MIS Report (USDA Forest Service 2007), which hereby is incorporated by reference.

Habitat Status and Trend

Approximately 2,530 acres of Engelmann oak woodlands occur on public lands in southern California, and approximately 1,749 acres of Engelmann oak woodland are found on the CNF (USDA Forest Service 2007). The USDA Forest Service estimates that Engelmann oak woodland is the dominant vegetation type on 17,054 to 21,083 acres in San Diego County. In general, the habitat for Engelmann oak is in good condition and the amount of habitat is stable. Estimates of the extent of Engelmann oak woodlands, however, vary depending on mapping criteria (USDA Forest Service 2007).

Population Status and Trend

The Engelmann oak population on the CNF is generally healthy, although poor recruitment is a problem in some areas. The California Native Plant Society considers the species to be endangered in a portion of its range, but widely enough distributed that it is not in danger of extinction at this time (USDA Forest Service 2007).

Relationship of Project-Level Effects to Forest-Scale Habitat and Population Trends for the Species

The Project would not alter the current habitat or population trend for Engelmann oak woodland within the CNF because project-level impacts have been minimized and will not occur to Engelmann oak woodland on USFS lands in the CNF from construction. Project impacts would occur to 1.27 acres of an estimated 17,000 plus acres of Engelmann oak woodland in San Diego County, but would not contribute to the decline of an estimated 1,749 acres of Engelmann oak woodland on the CNF. Project impacts to Engelmann oak woodland on private property would be mitigated at a 3:1 ratio consistent with Mitigation Measure B-1a, consisting of enhancement and/or preservation of existing Engelmann oak woodland within the USFS CNF Congressional boundary (Appendix B). Viability of Engelmann oaks and oak woodland within CNF will be maintained by the Project avoidance and minimization measures.

5.2. ARROYO TOAD

The arroyo toad was selected as an MIS for low-elevation riparian and aquatic habitats (USDA Forest Service 2007). Management goals include maintaining and improving habitat functions, including primary feeding areas, winter ranges, breeding areas, birthing areas, rearing areas, movement corridors, and habitat linkages. Trends in abundance, distribution, and habitat conditions will be assessed to determine management effectiveness for the arroyo toad and other aquatic and riparian fish and game species (USDA Forest Service 2007).

5.2.1 Natural History

The arroyo toad is a federally listed endangered species that is endemic to riparian environments in the foothill canyons and inter-mountain valleys of central and southern California and northwestern Baja California. It is found from near sea level to approximately 8,000 feet in elevation (USDA Forest Service 2005). During the breeding season, this species is typically found in the middle reaches of slow-moving, third-order streams with shallow pools and sandy or gravelly soils and sandy terraces. Breeding pools must be open and shallow with minimal current, and with a sand or pea gravel substrate overlain with sand or flocculent silt (USFWS 1999b). Adjacent terraces must provide open, sandy or gravely terraces with very little herbaceous cover for adult and juvenile foraging areas within a moderate riparian canopy of cottonwood, willow, or oak. This species tends to be found along rivers and streams with open vegetation canopies. Heavily shaded pools are unsuitable for larvae and juvenile toads due to lower water and soil temperatures and poor algal mat development. During the non-breeding season, arroyo toads are found in burrows within the upland habitats located up to one kilometer from breeding streams (USFWS 1999b).

The arroyo toad has been extirpated from 75 percent of its former range, and the remaining occupied habitat is threatened by continued dam construction, river diversion, conversion of riparian wetland habitat by agriculture and urbanization, road construction, off-highway vehicle use, campground development, grazing, and mining activities (USFWS 1994). Arroyo toads are diurnal for the first four to five weeks as juveniles and stay close to breeding pools. They become nocturnal when they reach 17 to 23 millimeters in length and spend the day in burrows. Nocturnal activity is normal for both adults and large juveniles, but they may occasionally be active and observed during the day (USFWS 1999a).

5.2.2 Status and Trends

Regionally, arroyo toads are threatened by removal of riparian habitats and damming or diverting of streams. Dams alter stream flows, reducing the frequency of flooding, increasing water temperature, increasing scour upstream of the dam, and reducing the sediment supply downstream. Without this sediment, appropriate physical characteristics and plant species associated with arroyo toad habitats cannot form or be maintained. Additionally, spread of exotic species through the watersheds reduces the habitat value as it generally results in replacement of native species with non-native species. The CNF has taken measures to improve habitat values for arroyo toad, including improving stream crossings to prevent impacts to arroyo toads, removing unauthorized roads, excluding grazing from certain areas, and acquiring potential habitat areas. Notwithstanding these measures, most arroyo toad sub-populations in the CNF are small. Most arroyo toad populations within the CNF are near the edge of the forest, and most prime breeding habitat occurs just outside the CNF boundary (USDA Forest Service 2007).

It has been estimated that arroyo toad populations on federal lands have increased since federal listing in 1994, and approximately half of the remaining populations are considered to be relatively secure (USDA Forest Service 2007). Within the CNF, it appears that the habitat and populations of the arroyo toad are stable.

5.2.3 Project-level Effects Analysis based on Habitat and Population Data

Key Habitat Factor(s) for the Analysis
Arroyo toad was selected as a MIS as an indicator of the condition of aquatic habitats.

Analysis Area for Project-level Effects Analysis

Arroyo toads occur in most of the major stream systems in the CNF, and occupied habitat covers approximately 8,000 acres on Forest Service owned lands (USDA Forest Service 2007). The Forest Service has designed a digital model to identify potential habitat for the arroyo toad, including within the Descanso District, where the Project will be located. As identified in Section 3.1, the analysis area for the Project's direct and indirect effects to arroyo toad focuses on the Project ROW and a buffer of approximately 660 feet outside the ROW. Additionally, the Project's potential cumulative effects to the species in its known distribution area, up to 5 miles from the Project ROW, also are considered.

Current Condition of the Key Habitat Factor(s) in the Analysis Area

Stream segments within the CNF below a two-percent gradient are considered suitable habitat for arroyo toad. Current management practices within the CNF to protect and improve habitat for the arroyo toad have shown to be effective, and the current status of arroyo toad habitat within the CNF is considered to be good. Habitat exists as a series of short, separate stream segments on the CNF where suitable habitat is present.

Project Direct Effects to Habitat

This impact analysis is based on historical and current data for arroyo toad locations, habitat requirements, former and currently proposed Critical Habitat (USFWS 2005, USFWS 2009), Forest Service GIS information showing suitable (modeled) and occupied habitat, aerial photographs, habitat assessments conducted during the vegetation mapping surveys in Spring 2007 (Jones & Stokes/Helix 2007), and habitat assessments and focused protocol surveys conducted on the Project ROW in 2009 (RECON 2009), as required by the Project Biological Opinion issued by the USFWS. The effects to arroyo toad also were analyzed for the entire Project ROW in the 2008 FEIR/EIS and Biological Assessment (BA); potential impacts to the arroyo toad along with required mitigation measures are addressed in the Project Biological Opinion (BO) issued by the USFWS.

Helix Environmental conducted arroyo toad habitat assessments in Spring 2007 (Helix 2007), identifying drainages potentially affected by the Project within the CNF; these areas are shown on Figure 2 of the FEIR/EIS (Aspen 2008a). Focused surveys conducted in 2007 (Jones & Stokes 2007) followed USFWS protocol, where possible. USFWS protocol (USFWS 1999) focused surveys were conducted in 2009.

Furthermore, Forest Service GIS data showing both suitable and occupied habitat were used to determine the worst-case permanent and temporary impacts to arroyo toad habitat on CNF lands. Table 5 shows the total acreage of potential impacts to arroyo toad within USFS lands. The Project direct impacts to arroyo toad habitat on USFS lands would be limited to 3.50 acres in the upper watershed of La Posta Creek, which is known to contain toads in small numbers throughout this drainage (USDA Forest Service 2005). Direct impacts listed below would occur in several places within the Project ROW (e.g., tower pads, TSAPs, access roads) in areas that are modeled as suitable habitat or are known to be occupied by arroyo toad. Additionally, potential impacts may occur on private lands within and adjacent to the CNF, including approximately 4.29 acres of direct impacts to occupied habitat on other public and private lands within and adjacent to the Congressional Boundary, for a total of approximately 7.79 acres of impacts. These potential impacts to suitable habitat on non-USFS administered lands could occur in Potrero Creek, Cottonwood Creek, Taylor Creek, San Diego River, and Viejas Creek based on the results of the 2009 surveys (RECON 2009) and USFWS proposed critical habitat in the Project ROW.

Table 5. Direct Effects on Arroyo Toads on USFS Lands

Habitat	Permanent (acres)	Temporary (acres)
USFS Breeding Habitat	0.0	0.0
USFS Modeled Suitable Habitat	2.83	0.01
USFS Occupied Habitat	0.66	0.00
Total	**3.49**	**0.01**

Project impacts would occur in the upper portion of the La Posta Creek drainage at: 1) the TSAP and work pad at structure EP142-1 are located within suitable arroyo toad habitat on USFS lands; 2) the TSAP at structure EP137 and the TSAP and work pad at structure EP130-1 are located within suitable arroyo toad habitat on USFS lands; 3) portions of La Posta Truck Trail between MP 54 and MP 58 that will require grading are located within suitable and occupied arroyo toad habitat on USFS lands; and 4) structures EP117-2 and EP118-2, including structure pads, TSAPs, existing access roads requiring minor improvements, and grading around structure pads, located within suitable arroyo toad habitat on both USFS lands and adjacent private lands (Shrock). In total, the Project's direct impact to 3.5 acres of USFS-administered lands is less than 0.07 percent of the occupied habitat located on USFS lands in the CNF.

The Project also will affect occupied habitat along Potrero Creek at structure EP67, including the structure pad, permanent maintenance pad, work area, pull sites, and a new access road, which occur on private lands within the CNF Congressional boundary, and private and BLM lands adjacent to the CNF Congressional boundary. The Project will affect occupied habitat along the San Diego River near MP 101, including an existing access road requiring minor improvements, and a guard area, which occurs on City of San Diego lands within the CNF Congressional boundary.

In locations where the proposed ROW area would cross through occupied habitat, arroyo toad habitat could be permanently impacted by construction of towers and access roads. Because the towers are generally placed on ridgelines and hilltops rather than in canyon bottoms and streambeds, impacts caused by tower installation would avoid arroyo toad breeding habitat, but has potential to impact upland, non-breeding habitat. However, where access roads would cross creeks or drainages, arroyo toad breeding habitat could be permanently impacted. Temporary impacts would occur from clearing required for construction yards, stringing sites, and TSAPs as well as necessary clearing around the tower footings. All temporary impact areas would be re-vegetated following construction (see Mitigation Measure B-7j in Appendix B for a detailed description of mitigation requirements for impacts to arroyo toad habitat).

Mitigation measures for impacts to occupied arroyo toad habitat include exclusionary fencing, pre-construction surveys, and habitat restoration and preservation. Exclusionary fencing would be installed around the construction zone to prevent toad access and to reduce potential Project effects. Pre-construction surveys (including one no more than 24 hours prior to construction) would be conducted for arroyo toads in accordance with the BO. During construction within occupied habitat, surveys would be conducted every morning prior to work commencing. Any toads found would be relocated to appropriate habitat outside the Project impact footprint.

Mitigation of permanent impacts to occupied arroyo toad breeding habitat will include off-site acquisition and preservation of occupied arroyo toad breeding habitat at a ratio of 3:1. Mitigation of permanent impacts to occupied, upland burrowing habitat will include off-site acquisition and preservation of occupied, upland burrowing habitat at a ratio of 2:1. Mitigation of temporary impacts to occupied breeding habitat will include on-site restoration at a 1:1 ratio, and off-site acquisition and preservation of occupied breeding habitat at a 2:1 ratio. Mitigation of temporary impacts to occupied, upland burrowing habitat will include on-site restoration at a 1:1 ratio, and off-site acquisition and preservation of occupied, upland burrowing habitat at a 1:1 ratio (Mitigation Measure B-7j, Appendix B).

Project Indirect Effects to Habitat

Potential indirect effects include risk of increased fire frequency, invasive species introduction, and dust. The Project would not realign or divert any drainages, so downstream loss of habitat is not expected to occur as a result of implementation of the Project.

The construction and operation of new transmission lines in areas with high fire risk could cause wildfires and reduce the effectiveness of fire fighting efforts, which may result in large-acreage wildland fires. Wildfire can be a threat because it can cause the direct loss of habitat and species, and also can lead to type conversion. This fire risk is especially high during the dry period of summer and fall, when arroyo toads are typically aestivating in upland areas. While toads aestivate in burrows underground and may survive the initial burn, the loss of habitat from such a burn could reduce survivorship and reproductive success. Although periodic fires are part of the natural ecosystem, frequent fires may have significant long-term ecological effects, such as type conversion. Often, type conversion occurs with replacement of native scrub habitats with non-native grassland, although riparian habitats may be less susceptible to type conversion than shrub habitats. Although considered unlikely, should a fire occur and be determined by the CPUC's Consumer Protection and Safety Division (CPSD) or the California Department of Forestry and Fire Protection (CAL FIRE) to be caused by the Project, SDG&E shall re-seed all natural areas, both public and private, that are burned as a result of the Project-caused fire. Mitigation Measure B-1k (Appendix B) addresses type conversion and re-seeding after a transmission line caused fire.

Installation of towers and access roads would create openings in existing habitat and increase edge effects, which could provide avenues for invasive plant species to colonize. Such invasive plants could supplant native species and alter the habitat, reducing its quality for arroyo toads. A Weed Control Plan would be implemented to reduce the effects of invasive plants (Mitigation Measure B-3a, Appendix B).

Construction activities, such as grading, tower footing excavation, driving of heavy equipment on unpaved roadways, and helicopter construction could increase dust that may settle on surrounding vegetation. Such dust would be considered an indirect impact that would degrade the overall quality of arroyo toad habitat. To offset these indirect impacts during construction, all cleared areas would be regularly watered (with water from agency approved sources outside of the CNF), and a 15 mile-per-hour speed limit shall be observed on dirt access roads to reduce fugitive dust (BIO-APM-3, Appendix B).

Cumulative Effects to Habitat

Cumulative effects to habitat supporting arroyo toad are considered over a reasonably foreseeable timeframe of ten years. As noted, the projects included in the cumulative analysis occur within 5 miles of the Project ROW, given the potential dispersal and home range of the arroyo toad, which has a common dispersal distance of less than 1 mile, but has been known to travel more than 2 miles on

occasion. A full list of cumulative projects identified with potential to impact the arroyo toad is included as Appendix C.

Arroyo toad populations are found along the forest boundary, in surrounding creeks and rivers in the area. Within the CNF in general, recent droughts, fires, and floods have likely adversely affected arroyo toads. Some known occupied habitat has gone for several years with no surface water for breeding during the breeding season. In addition to the droughts, fires, and floods, the affected areas likely had emergency repairs conducted on roads, railroads, and utilities. Conversely, arroyo toad habitat within the CNF has been protected during the breeding season through the temporary and permanent closure of specific campgrounds. The USFS considers threats to arroyo toad habitat to include releases from reservoirs, drawdown of surface water from wells, the introduction of predatory non-native species and invasive non-native plants as a result of campgrounds, OHV activity, livestock grazing, suction-dredge mining, and siltation (USDA Forest Service 2005). Habitat outside national forest land also has been degraded by increased development and flood control.

As stated earlier, occupied arroyo toad habitat covers approximately 8,000 acres on USFS lands in the entire CNF (USDA Forest Service 2007). For the cumulative analysis area (within 5 miles of the Project ROW), there are approximately 4,495 acres of occupied habitat on USFS-administered lands within the CNF Congressional Boundary, approximately 4,375 acres of occupied habitat on other public and private lands within the CNF Congressional Boundary, and an additional 2,955 acres of occupied habitat on public and private lands outside of the CNF Congressional Boundary, for a total of approximately 11,825 acres. Projects within 5 miles of the Project on CNF lands that may impact arroyo toad include approximately 464 acres of residential subdivisions, the Japatul Watershed Improvement Project, and the West-Wide Energy Corridor Project. Cumulative projects outside of the CNF (within 5 miles of the Project ROW and within 5 miles of the nearest identified arroyo toad habitat) include two residential subdivisions, a military project, and a commercial development. However, no suitable arroyo toad habitat has been identified within the construction footprint for these projects, none of these projects are located within known arroyo toad habitat, and major highways or roadways occur between each of these individual projects and occupied arroyo toad habitat. Therefore, these cumulative projects outside of the CNF were considered unlikely to impact arroyo toad. All of the cumulative projects within the CNF may have some potential to impact arroyo toad and/or lessen the quantity and quality of arroyo toad habitat available, and would be expected to contribute to cumulative impacts if impacts cannot be avoided by the projects.

During the Project design phase, contribution to cumulative impacts on arroyo toad was minimized by designing the Project to avoid habitat and limiting the area and duration of effect during the Project construction phase within and adjacent to the creeks and rivers designated as habitat. The Project avoids direct and indirect impacts to arroyo toad habitat to the greatest extent feasible. As discussed above, temporary adverse effects of Project construction would be minimized or avoided altogether. However, approximately 7.79 acres total of occupied habitat will be directly affected by the Project on public and private lands within and adjacent to the Project ROW (3.5 acres of which is on the CNF). Of the total 7.79 acres affected, 5.22 acres will be temporarily affected.

The Project impact to 3.5 acres on CNF is less than 0.07 percent of the occupied habitat on USFS lands in the CNF. The Project impact to 7.79 acres total is also less than 0.07 percent of the occupied habitat on public and private lands within and adjacent to CNF lands. Additionally, these impacts would not be concentrated in one area containing a large population of arroyo toad within the Descanso District. Indirect impacts would potentially occur within multiple drainages in the Descanso District, but would be

limited to existing road crossings within these areas. In sum, given these factors and with the proposed mitigation measures, the proposed Project in combination with past, present, and reasonably foreseeable future actions, would likely not contribute a substantial incremental effect on arroyo toad, and the overall effects are not expected to cause a decline in the population of this species.

Summary of Habitat and Population Status and Trend at the Forest Scale

The LMP requires forest-scale habitat and/or population monitoring for all MIS, so effects analysis for the Project must be informed by habitat and population monitoring data. The sections below summarize the habitat status and trend data, and population status and trend data for arroyo toads. This information is drawn from the detailed information on habitat and population trends in the CNF MIS Report (USDA Forest Service 2007).

Habitat Status and Trend

Arroyo toad habitat within the CNF is generally in good condition, and the trend has been toward improvement in riparian habitat. Conservation of riparian areas has been a top priority for the CNF since at least the 1980s. The CNF has implemented measures to enhance and protect these areas, including reducing or excluding livestock grazing, re-routing roads and trails away from streams, and replanting streamside areas with willows. Because of the emphasis on protecting and enhancing riparian habitat, riparian habitat forest-wide, including the Descanso District, is generally in stable or improving condition (USDA Forest Service 2007).

Population Status and Trend

The population of arroyo toads within the CNF is small, and the ability to detect populations and their reproductive success in any given year is highly dependent on the timing and amount of rainfall. The population trend for arroyo toad appears to be stable.

Relationship of Project-Level Effects to Forest-Scale Habitat Trends

The CNF MIS report (USDA Forest Service 2007) indicates a stable and improving trend in arroyo toad habitat on the CNF. Habitat improvement is the result of closure of two miles of unauthorized roads, exclusion of grazing from over 12,000 acres (centered on riparian areas), and acquisition of arroyo toad habitat.

Implementation of the Project would result in minor impacts to CNF-identified suitable and occupied arroyo toad habitat, as illustrated above in Table 5. No impacts to breeding habitat are identified on USFS lands. There may be minimal impacts to a small area on private land along La Posta Creek that is assumed to be occupied by arroyo toad, and potential minor impacts to suitable habitat could occur in Potrero Creek, Cottonwood Creek, Taylor Creek, and Viejas Creek based on the results of the 2009 surveys (RECON 2009) and USFWS proposed critical habitat in the Project ROW. Project design avoidance and minimization measures limit impacts to arroyo toad habitat on the CNF, and implementation of the Project, including applicable pre-construction, construction, and O&M mitigation measures for arroyo toad would not alter the current habitat status or trend.

Relationship of Project-Level Effects to Forest-Scale Population Trends

The CNF MIS report (USDA Forest Service 2007) indicates a stable population trend for arroyo toad on the CNF, with no new populations being detected in recent years. Construction of the Project would not impact arroyo toad habitat in Wilson Creek or Sweetwater River. Potential minor impacts could occur in suitable or occupied arroyo toad upland habitat (Figure 3, Appendix A) within the CNF along Potrero Creek, Cottonwood Creek, Taylor Creek, and Viejas Creek based on the results of the 2009 surveys

(RECON 2009) and USFWS proposed critical habitat in the Project ROW. Impacts to assumed occupied arroyo toad breeding habitat would not occur within or adjacent to the CNF. The Project would directly impact up to 3.5 acres of approximately 8,000 acres of occupied arroyo toad habitat on USFS lands within the CNF and an additional 4.29 acres of occupied habitat on private lands, and potentially may result in short-term indirect impacts associated with Project construction activities. Project activities will be limited in scale (less than 100 acres total of USFS lands permanently and temporarily impacted in the CNF by the Project) and duration (construction activities lasting approximately 3 to 6 weeks total within most tower sites). The Project is not expected to alter the current arroyo toad population status or trend on the CNF because of the limited area and duration of potential effect, and because potential direct Project impacts would be limited to small numbers of arroyo toad located in a single drainage. Viability of arroyo toad within the CNF will be maintained by the Project, particularly with avoidance and minimization measures, including Mitigation Measure B-7j and the Species Specific Conservation Measures (SS-CM-8 through SS-CM-15) in the BO (Appendix B).

5.3. SONG SPARROW

The song sparrow was selected as a MIS for riparian areas because its abundance is indicative of management and reflects the overall health of riparian communities (USDA Forest Service 2007). Since the vast majority of song sparrow observations are made in riparian habitats, its population trend is considered indicative of changes in riparian habitat. Breeding survey data collected between 1966 and 2004 suggest that song sparrow numbers are decreasing (Sauer *et al*. 2005). Threats to song sparrows include habitat loss, water extraction, brood parasitism by brown-headed cowbirds (*Molothrus ater*), and predation by native and introduced wildlife.

5.3.1 Natural History

The song sparrow is the most common bird within the riparian woodlands of San Diego County (Unitt 1984). It often is found in riparian habitat with a dense understory, although it has adapted somewhat to urbanization and has been found in upland scrub habitats or landscaped areas, provided permanent water is present.

5.3.2 Status and Trends

Because song sparrows occur almost exclusively in riparian areas, all riparian habitat within the CNF is considered occupied for the purpose of this assessment. On the whole, riparian habitats within the CNF are of moderate to good quality, although large areas burned in the 2007 Witch Creek and Harris Fires as well as the 2003 Cedar Fire.

Sampling data for song sparrow populations suggest that there appears to be a nationwide decline in song sparrow populations, and regionally, song sparrow populations may be declining at a slow, steady rate. While this decline, measured between 1966 and 2004, did not indicate a statistically significant population trend, a Forest Service study detected similar negative population trend within the southern California forests (Sauer et al. 2005).

5.3.3 Project-level Effects Analysis based on Habitat and Population Data

Key Habitat Factor(s) for the Analysis
Song sparrow was selected as a MIS to track condition of riparian habitat.

Analysis Area for Project-level Effects Analysis

As identified in Section 3.1, the analysis area for the Project's direct and indirect effects to song sparrow focuses on the Project ROW and a buffer of approximately 660 feet outside the ROW. Additionally, the analysis of the Project's potential cumulative effects considers past, present, and reasonably foreseeable projects located within 3 miles of the Project ROW. This distance takes into consideration that while song sparrows can be highly territorial and typically have dispersal distances of less than 1 mile, some individuals may migrate beyond that distance.

Current Condition of the Key Habitat Factor(s) in the Analysis Area

Riparian habitat within the CNF is considered to be in stable or improving condition as a result of measures implemented by the Forest Service to enhance and protect these areas, including restrictions on livestock grazing, re-routing roads and trails away from streams, and replanting streamside areas (USDA Forest Service 2007).

Project Direct Effects to Habitat

Project construction and O&M activities would require utilizing existing access roads to move materials and equipment to conventional construction tower sites. Roads in the Project ROW cross drainages supporting riparian habitat, and Project activities could therefore affect song sparrows. However, direct impacts to song sparrow habitat have been minimized during the Project design process by avoiding streams, riparian habitat, wetlands, etc. This was accomplished by siting towers on ridgelines and hillsides and designing them for helicopter construction whenever possible, thereby avoiding sensitive canyon bottoms and streambeds. The modified Project ROW will however permanently impact a total of 0.03 acre riparian forest and 0.06 acre of associated non-vegetated channel (ephemeral streams) on USFS lands in the CNF, while temporary impacts to riparian habitat have been avoided. Based on USFS vegetation type mapping for the CNF (USDA Forest Service 2009a), approximately 3,490 acres of riparian habitat occur forest-wide (this total does not include any riparian habitat that may be present in CNF wilderness areas). Project impacts would thus permanently affect less than 0.003 percent of the potentially suitable riparian habitat for the song sparrow on USFS-administered lands within the CNF. Additionally, the Project would permanently impact a total of approximately 0.19 acre riparian forest and 0.25 acre of associated non-vegetated channel (ephemeral streams), and temporarily impact approximately 0.07 acre of riparian forest and approximately 0.03 non-vegetated ephemeral channel on other public and private lands within and adjacent to the CNF Congressional Boundary.

Permanent impacts would be mitigated through off-site acquisition and preservation of riparian habitat (Mitigation Measure B-2a, Appendix B). Temporary impacts to riparian habitat would be avoided and permanent impacts would be mitigated within the CNF through preservation of riparian habitat. The Project also would not result in a reduction of riparian habitat quality in or adjacent to the Project ROW because of the minimization of permanent impacts and avoidance of temporary impacts to riparian habitat, implementation of a Weed Control Plan (Mitigation Measure B-3a) during and after Project construction, implementation of a USFS approved Stormwater Pollution Prevention Plan (SWPPP) and Sediment Control Plan (Mitigation Measure H-1l), and avoidance of conventional construction activities during the bird breeding season (Mitigation Measure B-8a).

Additionally, potential direct effects to song sparrows could include electrocution and collision risk. Song sparrows are unlikely to be at risk of electrocution because the birds are too small to simultaneously contact two energized phase conductors or an energized conductor and grounded hardware. However the species is at risk of collision with towers and transmission lines. Most collisions occur with migratory birds during spring migration when strong winds and storms are more likely to

force the birds to fly at relatively low altitudes. The collision risk for song sparrows is expected to be relatively low because populations are largely sedentary.

Project Indirect Effects to Habitat

Potential indirect effects to riparian habitat include increased fire frequency, edge effects, invasive species introduction, fugitive dust, and noise.

The construction and operation of new transmission lines in areas with high fire risk could cause wildfires and reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects, such as degradation of habitat and loss of species. While habitats in southern California are adapted to wildfires, an increased fire frequency with growth in the human population can cause type conversion. When burned too frequently, vegetation communities may often be taken over by weedy, non-native plant species that may be more flammable and provide minimal habitat value. It should be noted that the riparian habitats, in which song sparrows occur, are probably less susceptible to type conversion than upland shrub habitats. While direct impacts to song sparrows caused by fire would be negligible, any impacts from type conversion would be treated as a temporary impact and would be mitigated with restoration. Although considered unlikely, should a fire occur and be determined by the CPUC's Consumer Protection and Safety Division (CPSD) or the California Department of Forestry and Fire Protection (CAL FIRE) to be caused by the Project, SDG&E shall re-seed all natural areas, both public and private, that are burned as a result of the Project-caused fire. Mitigation Measure B-1k (Appendix B) addresses type conversion and re-seeding after a transmission line caused fire.

Installation of towers and access roads would create openings in existing habitat and increase edge effects, which could provide avenues for invasive plant species to colonize. A Weed Control Plan would be implemented to reduce the effects of invasive plants (Mitigation Measure B-3a, Appendix B).

Construction activities such as grading, tower footing excavation, and driving of heavy equipment on unpaved roadways could increase dust that may settle on surrounding vegetation. Such dust would be considered an indirect impact that would degrade the quality of song sparrow habitat. To offset these indirect impacts during construction, all cleared areas would be regularly watered (with water from agency approved sources outside the CNF), and a 15 mile-per-hour speed limit shall be observed on dirt access roads to reduce fugitive dust (BIO-APM-3, Appendix B). Construction noise could cause a temporary, indirect impact to song sparrows, some of which may be displaced from the vicinity of the construction areas. Birds would be expected to return to the area following construction.

Cumulative Effects to Habitat

Cumulative effects to habitat supporting song sparrows are considered over a reasonably foreseeable timeframe of ten years. As noted above, the cumulative effects analysis considered projects up to 3 miles from CNF lands, given that while song sparrows can be highly territorial and typically have dispersal distance of less than 1 mile, some individuals may migrate beyond this distance. A full list of cumulative projects with potential to impact the song sparrow is included as Appendix C.

Song sparrows are well represented in the CNF, almost exclusively in riparian areas. Song sparrow populations also are found outside of the forest boundary, as the song sparrow is the most common bird within the riparian woodlands of San Diego County. The Project will result in minimal permanent

impacts to potentially suitable and assumed occupied habitat for song sparrows, as well as potential direct effects to song sparrows from electrocution and collision risk.

In general, recent and planned vegetation treatments throughout the CNF have and will have the potential to affect song sparrows. However, each of those projects also includes measures to protect riparian habitat, riparian-dependent threatened and endangered species, and water quality, thus effectively reducing the degree and duration of potential effects to song sparrows within those project areas. Similar vegetation projects on private lands, however, do not generally carry the same levels of riparian protection as those on the CNF and likely have resulted in disturbance to song sparrows in short-term and, potentially, long-term alterations of habitat. Riparian habitats on and near the CNF on federal and non-federal lands have been affected by water diversions and extractions that reduce the amount and quality of this habitat type. As such, effects on song sparrow populations likely have occurred due to reduction in habitat quality and quantity.

Low productivity and brood parasitism rates, both likely the result of habitat degradation, particularly the destruction of riparian understory, probably have the greatest influences on song sparrow numbers. The species is not overly sensitive to human-induced disturbance (Humple et. al. 2004). Cumulative projects identified in or near both the CNF and Project boundaries include residential (approximately 464 acres) and local improvement projects. Other projects include road improvements at Old Highway 80 and Pine Creek Road and the gold spotted oak borer study. Proposed and planned housing developments will result in increased recreational uses in the Project ROW, particularly in some of the more accessible areas along National Forest System roads. The increasing human population in southern California is putting more pressure on the few perennial streams for recreation. This can affect song sparrows and other riparian dependent birds when overuse may negatively impact nesting success.

As discussed above, the Project may result in some direct or indirect effects to song sparrow habitat and, as a result, may contribute cumulative effects. While those effects may be adverse, they would not be considered substantial due to the limited area of effect to song sparrow habitat. The Project will permanently impact 0.03 acre of riparian forest and 0.06 acre of non-vegetated channel on USFS lands in the CNF, and avoid temporary impacts to these vegetation communities and jurisdictional habitats. The Project also will permanently impact approximately 0.44 acre, and temporarily impact approximately 0.1 acre, of riparian forest and non-vegetated channel on non-USFS lands within and adjacent to the CNF Congressional boundary. The permanent impacts on USFS lands within the CNF, which are less than 0.003 percent of potentially suitable habitat for the song sparrow within the CNF based on USDA Forest Service (2009a) vegetation mapping, would be mitigated through preservation of 0.21 acre riparian woodland/ephemeral stream habitat within the CNF. Any indirect effects to song sparrow habitat on USFS lands within the CNF resulting from the Project would likely be limited as well. Additionally, implementation of proposed mitigation measures will avoid or minimize any direct or indirect effects. As a result, the total permanent loss of 0.09 acre of potential habitat for the sparrow on USFS lands in the CNF (or the additional limited impacts on private lands within and adjacent to the Congressional Boundary) would not contribute to a substantial incremental effect on song sparrows, and the overall effects are not expected to cause a decline in the population of this species within the CNF. Optimal habitat (riparian forest) for the song sparrow has been avoided to the maximum extent practicable during the Project design process, and the Project, in combination with past, present, and reasonably foreseeable future actions in the area, would not reduce the quality and quantity of song sparrow habitat.

Summary of Habitat and Population Status and Trend at the Forest Scale

The Forest Plan requires forest-scale habitat and/or population monitoring for all MIS, so effects analysis for the Project must be informed by habitat and population monitoring data. The sections below summarize the habitat status and trend data, and population status and trend data for the song sparrow. This information is drawn from the detailed information on habitat and population trends in the CNF MIS Report (USDA Forest Service 2007).

Habitat Status and Trend

Song sparrow riparian habitat condition is stable or improving. Conservation of riparian areas has been a top priority for the CNF since at least the 1980s, and the Forest has implemented measures to enhance and protect these areas, including reducing or excluding livestock grazing, re-routing roads and trails away from streams, and replanting streamside areas with willows. Because of the emphasis on protecting and enhancing riparian habitat on the Forest, in general riparian habitat is in stable or improving condition (USDA Forest Service 2007).

Population Status and Trend

There appears to be a nationwide decline in the abundance of song sparrows, and a negative trend in song sparrow abundance was determined from monitoring on southern California National Forests. Although not statistically significant, other surveys have shown that California populations declined 0.3 percent per year between 1966 and 2004, with the decline becoming more evident in the 1980-2004 sampling period (Sauer *et al*. 2005). Within the Project ROW in the CNF, song sparrows were present in 63% of the focused riparian bird survey sites (RECON 2009) and were observed breeding in 18% of the sites during the surveys.

Relationship of Project-Level Effects to Forest-Scale Habitat Trends

The CNF MIS report (USDA Forest Service 2007) states that the riparian habitat status on 86 percent of the 88 watersheds on the Southern California National Forests were rated as being in either good or moderate condition. The current habitat trend on the CNF is a stable and improving condition.

The Project would not alter the current habitat status or trend because the towers would be generally constructed on ridgelines and hillsides rather than in canyons and streambeds. Minimal permanent impacts are expected to riparian habitat as a result of the creation and maintenance of access roads, but these impacts will be mitigated, consistent with the Project MMCRP (Appendix B).

Relationship of Project-Level Effects to Forest-Scale Population Trends

The CNF MIS report (USDA Forest Service 2007) states that song sparrows are common and abundant, but are experiencing a negative population trend. Song sparrows are expected to disperse from construction areas, and construction would be timed to avoid the bird breeding season in accordance with Mitigation Measure B-8a (Appendix B). Impacts to riparian habitat from each Project feature are generally small in size, are separated in space by at least several hundred feet, and would be mitigated for, including on-site restoration for temporary impacts. Access roads would be constructed at right angles to drainages to reduce impacts to riparian areas.

The Project will not contribute to the current declining trend of song sparrow populations within the Project ROW. All habitat impacts associated with the Project will be minimized to the maximum extent practicable through design of the Project, avoidance of riparian habitat where possible, habitat restoration, and pre-construction nesting bird surveys, if activities are to take place during the general avian breeding season (Jan 15 – Aug 15), or the raptor breeding season (Jan 1 – Sept 15) (Mitigation

Measure B-8a, Appendix B), effectively reducing the degree and duration of potential effects. Unavoidable impacts will be mitigated according to the Project Mitigation Measures (Appendix B).

5.4. CALIFORNIA SPOTTED OWL

The California spotted owl was chosen as a MIS for mature, large diameter, high canopy closure conditions of riparian/hardwood forest, live oak/bigcone Douglas-fir forest, montane conifer forest, and mixed conifer forest. The management goals for this species include maintaining and improving habitat conditions to sustain healthy populations, and to prevent federal listing (USDA Forest Service 2005). To meet these goals, it is necessary to preserve primary feeding areas, winter ranges, breeding areas, nesting areas, rearing areas, migration corridors, and landscape linkages. Trends in the number of occupied territories and/or habitat condition will be measured to assess management success. The Forest Service does not have sufficient data to quantify impacts and trends in habitat types utilized by spotted owls in southern California.

5.4.1 Natural History

California spotted owls occur in all the major mountain ranges in southern California from below 1,000 feet along the Monterey coast to approximately 8,500 feet in the San Bernardino Mountains (USDA Forest Service 2007). In southern California, spotted owls occur within three general but distinct forest types: riparian/hardwood forest, live oak/bigcone Douglas-fir forest, and mixed conifer forest (USDA Forest Service 2005).

In San Diego County and the CNF, it occurs year-round in woodlands characterized by a mix of coast live oaks and conifers, particularly in areas with a closed canopy, permanent water, ample tree cavities, and abandoned raptor nests or debris platforms (Unitt 1984). Within the CNF, the California spotted owl is known from numerous observations in the Laguna Mountains, from Forest Service records near Long and Antone Canyons, and from a nest sighting near Espinosa Creek and Corte Madera Mountain.

5.4.2 Status and Trends

The California spotted owl is a territorial species requiring large areas of appropriate habitat. Where appropriate habitat occurs, the species usually occurs in clusters with large areas of unsuitable habitat surrounding these clusters (Stephenson and Calcarone 1999). A range-wide study of California spotted owl populations reports that there is insufficient data for the establishment of trends for the entire population (Franklin *et al*. 2003).

5.4.3 Project-level Effects Analysis based on Habitat and Population Data

Key Habitat Factor(s) for the Analysis
California spotted owl was selected as a MIS to track the condition of riparian/hardwood forest, live oak/bigcone Douglas-fir forest, montane conifer forest, and mixed conifer forests.

Analysis Area for Project-level Effects Analysis
The California spotted owl occupies distinct territories within CNF and is a year round resident. As identified in Section 3.1, the analysis area for the Project's direct and indirect effects to California spotted owl focuses on the Project ROW and a buffer of approximately 660 feet outside the ROW. Additionally, the Project's potential cumulative effects considers past, present, and reasonably foreseeable projects located within approximately 8 miles of the Project ROW within and outside of the

CNF, to encompass the known dispersal distance of the species in San Diego County (USDA Forest Service 2005).

Current Condition of the Key Habitat Factor(s) in the Analysis Area

Recent drought conditions coupled with negative effects from air pollution, disease, and insect infestations, including the gold-spotted oak borer and the bark beetle, have increased tree mortality in all forest types found within all four southern California National Forests. The resulting tree mortality in the CNF was the most severe in recorded history. These die-offs affected the trees of highest value to spotted owls. Although the wildfires of 2003 and 2007 greatly affected spotted owl habitat in the other southern California National Forests, the effects within the CNF were relatively minor because much of the historically occupied habitat did not burn.

Project Direct Effects to Habitat

This impact analysis is based on historical and current data for the California spotted owl in and adjacent to the CNF, GIS vegetation mapping of the Project ROW, and the results of focused protocol surveys for spotted owl conducted in 2009 within potentially suitable habitat on the CNF within and adjacent to the Project ROW. Currently, there are 35 known territories on or adjacent to all three districts of the CNF (USDA Forest Service 2009b). The San Diego County Bird Atlas reports five observations within 10 miles of the proposed Project ROW, but no observations occur within the Project ROW (SDNHM Bird Atlas 2010). The Bird Atlas also includes 11 additional California spotted owl occurrences elsewhere in the County beyond 10 miles from the ROW (Appendix C). The closest recorded USFS observation occurs approximately one mile to the west northwest of MP 55 of the Project route (USDA Forest Service 2009b).

The Project ROW crosses or is adjacent to (within 1,000 feet) suitable habitat for the California spotted owl in several areas, including just east of proposed structures EP31-1 through EP26-1, directly adjacent to structure EP24-1, and east of structure EP23-2 (Chambers Group Inc., 2009). In addition, proposed structure EP138-2 is the closest Project structure to a recorded California spotted owl location (Figure 4, Appendix A), approximately 1.16 miles to the west of the ROW. These areas are considered potential habitat for California spotted owl. Forest Service records show presence of spotted owl in Long and Antone Canyons, both of which occur within two miles of the Project ROW (CNDDB 2009).

Construction of the Project would result in 0.03 acre of permanent impacts to southern coast live oak riparian forest (SCLORF) within USFS lands (Table 1). The Project also would result in permanent impacts to 0.44 acre and temporary impacts to 1.09 acres of coast live oak woodland (CLOW) on USFS-administered lands. The Project would also result in permanent impacts to 0.23 acre and temporary impacts to 0.07 acre of SCLORF, and permanent impacts to 1.16 acre and temporary impacts to 0.90 acre CLOW on public and private lands within and adjacent to the Congressional Boundary. In addition, vegetation management associated with Project O&M activities along this portion of the Project ROW may result in a loss of some individual trees within these riparian areas. Mitigation for any loss of trees resulting from the Project follows that described in Mitigation Measure B-1a of Appendix B.

The California spotted owl is an MIS for mature, large diameter, high canopy closure conditions of montane conifer forest. They are generally permanent residents within their range, with territory size ranging from 100 to 600 acres (Zeiner et al. 1990). However, the USDA Forest Service (2005) notes that spotted owl territories in the CNF historically occur more frequently in live-oak/big-cone Douglas fir habitat than in riparian or coniferous forest and, where appropriate habitat is present, the species usually occurs in clusters with large areas of unsuitable habitat surrounding these clusters (Stephenson

and Calcarone 1999). Spotted owls are habitat specialists and have very specific stand requirements for nesting and foraging sites; based on a review of existing studies referenced in the USDA Forest Service MIS for the CNF (2007). Nesting and roosting sites typically have in excess of 70 percent canopy cover, foraging areas in excess of 50 percent canopy cover, and both areas have high total snag and downed woody debris densities per acre. Based on USFS vegetation type mapping for the CNF (USDA Forest Service 2009a), approximately 3,490 acres of riparian habitat, 14,752 acres of conifer forest, and 18,997 acres of broadleaf woodland (woodland dominated by trees that do not have needle-like leaves) occur forest-wide (not including any riparian or conifer forest habitat), all of which could contain potential spotted owl habitat. Given the species specific habitat requirements discussed above and the negative impacts of drought and wildlife on the owls' habitats from 2003 to 2008 in southern California, some percentage of the total 37,239 acres likely represents the actual potentially suitable spotted owl nesting and foraging habitat in the CNF.

The smallest spotted owl territories referenced in the available literature occur in lower elevation woodlands in the CNF where an abundance of wood rats exist (USDA Forest Service 2007). The USDA notes that a total of 35 territories occurr in the CNF; to be conservative, using the available data for the smallest home range size (98 to 243 acres) for spotted owls in the CNF, the suitable habitat utilized for the 35 spotted owl territories in the CNF would therefore range in total acreage from approximately 3,430 acres to 8,505 acres. This would be approximately 9 to 23 percent of the potentially suitable habitat mapped in the CNF outside of wilderness areas. These figures are presented to characterize the Project impacts to the spotted owl in the CNF and the Descanso District only, and not to suggest that all spotted owls in the CNF have home ranges that are between 98 and 243 acres in size. Based on this estimated range of potential spotted owl territory acreage in the CNF, the Project permanent and temporary impacts to riparian woodland and coast live oak woodland totaling 1.56 acres would permanently affect less than 0.02 percent to less than 0.05 percent of the potentially suitable habitat for the spotted owl within the CNF, not including any habitat for spotted owls that may occur in wilderness areas. Using a larger home range estimate for spotted owl habitat, as is typical in higher elevation, coniferous-dominated forests would render the potential Project impacts to spotted owl habitat even smaller.

Additionally, potential direct effects to California spotted owls include electrocution and collision risk. California spotted owl are unlikely to be at risk of electrocution because the birds are too small to simultaneously contact two energized phase conductors or an energized conductor and grounded hardware. However, the species is at risk of collision with towers and transmission lines. As previously mentioned, most collisions occur with migratory birds during spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes. However, collisions would be unlikely given the lack of observations of California spotted owl within the CNF along the Project ROW. In an effort to reduce the risk of any injury or fatality to individual spotted owl, mitigation measures will be implemented, such as the use of a biological monitor during all construction activities, limiting access to pre-determined access and public roads, as well as installing all above-ground lines, transformers, or conductors to fully comply with the Avian Power Line Interaction Committee (APLIC) 2006 standards to prevent avian fatality through electrocution and collision.

The USFS Conservation Strategy for the Spotted Owl (CASPO) focuses on preserving Protected Activity Centers (PACs) for the spotted owl. The Project impacts to riparian and woodland habitats will occur near the outer periphery of a historical nest site (e.g. 1.16 miles away), and in an area where focused surveys in 2009 did not detect any spotted owls. The direct impacts would not remove nesting habitat, but would instead occur within potential foraging habitat areas within the chaparral matrix. The USDA

Forest Service (2007) also notes that prime low-elevation habitats in the CNF for the spotted owl are dominated by narrow "stringers" of live oak and big cone Douglas-fir on north-facing slopes and in deep canyons, and these areas should be a high management priority. The Project impacts do not occur in these areas; they occur on south-facing slopes, lower in elevation that the distribution of big cone Douglas-fir, on chaparral dominated slopes interspersed with riparian woodland and small stands of coast live oak woodland.

Finally, Project impacts also would occur over one mile from any known or historical spotted owl locations in the Descanso District. Project activities are expected to occur during a limited time frame (e.g., 3 to 6 weeks at most tower site for construction impacts, several hours per year for O&M site visits and/or maintenance). California spotted owl generally are permanent residents within their range. However, migrants potentially may be impacted by the Project if they were to pass through the Project ROW during construction or O&M activities.

Any potential effects to California spotted owl habitat would be avoided or minimized through the implementation of proposed mitigation measures. Mitigation for impacts to habitat include pre-construction surveys, exclusionary buffer areas in occupied areas, and habitat restoration and preservation. For instance, temporary impact areas would be re-vegetated following construction. Additionally, as noted in Mitigation Measure B-1a, direct impacts (removal and trimming), to native trees will be mitigated by replacement in-kind (by species) with ratios dependent on the size of tree. For instance, trees removed that are less than five inches diameter at breast height (DBH) shall be replaced at a 3:1 ratio; between five and twelve inches DBH at a 5:1 ratio; between twelve and 36 inches DBH at a 10:1 ratio; and greater than 36 inches DBH at a 20:1 ratio. For all trimmed native trees, the trees will be monitored for a period of three years, and if a trimmed tree declines or suffers mortality during that period, the tree shall be replaced in-kind at a 2:1 ratio for trees less than 12 inches DBH and 5:1 ratio for trees greater than 12 inches DBH. This exceeds the mitigation requirements identified in the Forest Plan, which requires any lost spotted owl habitat to be mitigated at a ratio of "up to a two-to-one basis" (USDA Forest Service 2005: Part III, Standard S21).

<u>Project Indirect Effects to Habitat</u>
Potential indirect impacts to habitat include increased fire frequency, construction noise, fugitive dust, and reduced habitat value caused by invasive species.

As described above, there is a risk of fire with the presence of power lines. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species, and may lead to type conversion, which could impact the California spotted owl. Although considered unlikely, should a fire occur and be determined by the CPUC's Consumer Protection and Safety Division (CPSD) or the California Department of Forestry and Fire Protection (CAL FIRE) to be caused by the Project, SDG&E shall re-seed all natural areas, both public and private, that are burned as a result of the Project-caused fire. Mitigation Measure B-1k (Appendix B) addresses type conversion and re-seeding after a transmission line caused fire. In addition, installation of towers and access roads could result in the introduction of invasive plant species; however, a Weed Control Plan would be implemented to reduce the effects of invasive plants (Mitigation Measure B-3a, Appendix B).

Construction noise could cause a temporary, indirect impact to California spotted owls outside of the Project ROW, some of which may be displaced from the vicinity of the construction areas. Any displaced birds would be expected to return to the area following construction. If Project construction (not vegetation clearing or tree trimming/removal), 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 ten calendar days prior to the initiation of construction that would occur within January 1 and September 15 (Mitigation Measure B-8a, Appendix B). If active nests are identified, the Wildlife Agencies would be contacted regarding an appropriate exclusionary buffer zone around the nest site. In this case, construction may occur if noise levels do not exceed 60dB an hour Leq at the edge of the nesting territory (Mitigation Measure B-8a, Appendix B).

Fugitive dust released from construction activities, such as grading, excavation, and driving on unpaved roadways, would be considered an indirect impact that could degrade the quality of occupied California spotted owl habitat. To offset these indirect impacts during construction, all cleared areas would be regularly watered, and a 15 mile-per-hour speed limit shall be observed on dirt access roads to reduce fugitive dust (BIO-APM-3, Appendix B). Tree removal for clearing activities shall take place between August 16 and January 14 outside of the general avian breeding season. If tree trimming or removal takes place between January 15 and August 15, pre-construction surveys and monitoring for breeding birds (Mitigation Measure B-8a, Appendix B) would take place within 100 feet of the construction zone within ten calendar days prior to the initiation of construction.

Cumulative Effects to Habitat

Cumulative effects to California spotted owl are considered over a reasonably foreseeable timeframe of ten years. As noted above, the projects considered in the cumulative analysis occur within 8 miles of the Project ROW within and outside of the CNF, to encompass the known dispersal distance of the species in San Diego County (USDA Forest Service 2005). The full list of cumulative projects with the potential to impact California spotted owl is included as Appendix C.

Within the CNF in general, conservation of riparian areas has been a top priority since at least the 1980s, and the Forest has implemented measures to enhance and protect these areas. Protecting riparian habitat, which is home to many owls within the chaparral matrix (USDA Forest Service 2007), has increased the quality of habitat for this species. Riparian habitat improvement forest-wide is the result of closure of two miles of unauthorized roads, and exclusion of grazing from over 12,000 acres (centered on riparian areas) in the CNF.

There are a wide range of threats to the California spotted owl in the CNF, including unnatural fuel build-up, fuels management activities, drought, air pollution, forest fragmentation, and human disturbance related to special uses, roads, and recreation. Cumulative projects identified within the CNF in or near the Project boundaries are mainly residential and local improvements projects. Cumulative projects that may affect California spotted owl in the analysis area include the Conejos Road Special Use Permit (Conejos Road to the Capitan Grande Indian Reservation), Old Highway 80 and Pine Creek Road Intersection Improvements (between State Highway 79 and Pine Creek Road), and Sweetwater and Viejas Creek Fuels Treatment Project. These cumulative projects may decrease suitable habitat for the species or increase noise and human disturbance.

The California spotted owl was not detected within the CNF along the Project ROW during any 2009 surveys. Impacts of the cumulative projects would be expected to be limited to the immediate area of that individual project, and would not be anticipated to significantly affect the quantity or quality of spotted owl territories in the cumulative effects analysis area or CNF. These cumulative projects, as well as the Project, would be required to avoid or minimize impacts to optimal spotted owl habitats and known territories, including riparian habitat, woodlands and coniferous forest within the CNF to be

consistent with the LMP. In addition, Bigcone Douglas-fir, White fir, and conifer forest communities that are favored by this species will not be directly affected within the Project ROW.

Suitable habitat for the California spotted owl was identified during monitoring surveys conducted by Chambers Group in 2009 in several areas (within 1,000 feet of the Project ROW), including just east of structures P31-1 through P26-1, directly adjacent to structure EP24-1, and east of structure EP23-2 (Chambers Group Inc., 2009). Although suitable habitat is present within and directly adjacent (within 1,000 feet) to the Project ROW at the above listed locations, the closest recorded occurrence of the California spotted owl is more than one mile from the proposed structure P138-2.

While Project contributions to cumulative effects to California spotted owl may be adverse, they would not be considered substantial for several reasons. Direct habitat impacts to USFS lands resulting from the Project construction and O&M activities are limited to 0.47 acres of permanent and 1.09 acres of temporary habitat disturbance. Project impacts to private and other public lands within and adjacent to the Congressional Boundary are limited to 1.39 acres of permanent and 0.97 acres of temporary habitat impacts. These localized, direct impacts will be mitigated in-kind and will not contribute to a decline in the quantity of spotted owl habitat within the Project ROW. Based on the fact that spotted owl nesting and foraging sites have extremely specific stand requirements and that 9 to 23 percent of the 37,249 acres of riparian habitat, broadleaf woodland and coniferous forest mapped on USFS lands within the CNF (excepting wilderness areas) by the USDA Forest Service (2009a) may represent potentially suitable nesting or foraging habitat for the spotted owl, Project impacts (to riparian woodland and coast live oak woodland) would permanently affect less than 0.02 to 0.05 percent of the potentially suitable habitat for the spotted owl on the Forest.

Given the limited area of effect and the proposed mitigation measures, the proposed Project would not have a substantial incremental cumulative effect on California spotted owl habitat, and the overall effects are not expected to cause a decline in the population of this species within the CNF. The Project, in combination with past, present, and reasonably foreseeable future actions, would not reduce the quantity and quality of California spotted owl habitat in the analysis area.

Summary of Habitat and Population Status and Trend at the Forest Scale

The LMP requires forest-scale habitat and/or population monitoring for all MIS, so effects analysis for the Project must be informed by habitat and population monitoring data. The discussions below summarize the habitat status and trend data, and population trend data for the California spotted owl. This information is drawn from the detailed information on habitat and population trends in the CNF MIS Report (USDA Forest Service 2007).

Habitat Status and Trend

California spotted owl habitat condition on the CNF appears to be deteriorating. Recent droughts and insect infestations, including the gold-spotted oak borer, have caused noticeable tree mortality in many southern California mountain ranges, including the Laguna Mountains. In addition, several California spotted owl territories in the adjacent Cuyamaca Rancho State Park were damaged or destroyed by the Cedar Fire in 2003.

Population Status and Trend

Insufficient data exist to indicate population trends for California spotted owls on the CNF. However, a combined total of 30 territories (20 on and 10 off the CNF) were monitored in 2005 and/or 2006. Of these, only eight were occupied for an occupancy rate of 27 percent. This occupancy rate is much lower

than those detected in previous survey efforts (1987-1995), when occupancy rates were typically 55 to 60 percent (USDA Forest Service 2007).

Relationship of Project-Level Effects to Forest-Scale Habitat Trends

The CNF MIS report (USDA Forest Service 2007) states that the habitat status and trend for spotted owl is declining as a result of multiple years of drought and subsequent attack by insects, particularly the gold spotted oak borer.

In 2009, Chambers Group identified suitable habitat that the Project ROW crosses or is adjacent (within 1,000 feet) to for the California spotted owl in several areas, including just east of structures P31 through EP26-1, directly adjacent to structure EP24-1, and east of structure EP23-2. Conservation of riparian areas has been a top priority for the CNF since at least the 1980s, and the Forest has implemented measures to enhance and protect these areas. Protecting riparian habitat, which is home to many owls within the chaparral matrix (USDA Forest Service 2007), has increased the quality and quantity of habitat for this species. In addition, Bigcone Douglas-fir, White fir, and conifer forest communities that are favored by this species will not be affected within the Project ROW. Although suitable habitat is present within and directly adjacent (within 1,000 feet) to the Project ROW at the above listed locations, the closest recorded occurrence of the California spotted owl is more than one mile from the proposed structure EP138-1, and direct impacts to potential habitat are minimal. The Project would result in 1.56 acres of total impacts to potential habitat on USFS-administered lands within CNF, including 0.03 acre permanent impacts to southern coast live oak riparian forest, and 0.44 acre permanent and 1.09 acre temporary impacts to coast live oak woodland. Mitigation also would be completed through impact minimization measures, including pre-construction surveys and exclusionary buffer areas in occupied areas, as well as replacement in kind (by species), as discussed above. These replacement ratios exceed the mitigation requirements identified in the Forest Plan, which requires any lost spotted owl habitat to be mitigated at a ratio of “up to a two-to-one basis” (USDA Forest Service 2005: Part III, Standard S21).

Project impacts on Forest Service-administered lands would be mitigated within the CNF through onsite restoration of 0.44 acre of temporary impacts and approximately 3.60 acres of offsite preservation, including 0.09 acre of riparian forest and 3.50 acres of coast live oak woodland. Project impacts to private and other public lands within and adjacent to the CNF Congressional boundary would also be mitigated at the same percentages. This mitigation area is a small portion of any given territory for a spotted owl, but an overall reduction in habitat area or quality would not result from the Project. The Project would not result in a net reduction of nesting or foraging habitat area for the spotted owl and would assist in maintaining available habitat for the California spotted owl in the Descanso District and forest-wide in the CNF.

Relationship of Project-Level Effects to Forest-Scale Population Trends

The CNF MIS report states that in 1994, the Southern California Spotted Owl Biologist Team documented a total of 36 territories on the CNF. USFS surveys since this time indicate that there is not enough data to indicate population trends for spotted owl on the CNF (USDA Forest Service 2007).

Structures EP132-2 through EP137 will be constructed and maintained by helicopter. Although the helicopter noise would be relatively short in duration during construction activities, the noise may cause California spotted owls to temporarily avoid this area during construction. If Project construction (not vegetation clearing or tree trimming/removal), including the use of helicopters cannot occur completely outside the raptor breeding season, then preconstruction 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 within January 1 and September 15 (Mitigation Measure B-8a, Appendix B). If active nests are identified, the Wildlife Agencies would be contacted regarding an appropriate exclusionary buffer zone around the nest site. In this case, construction may occur if noise levels do not exceed 60dB an hour Leq at the edge of the nesting territory (Mitigation Measure B-8a, Appendix B). The use of helicopters for maintenance activities would be limited to several times per year and would again cause a temporary noise disturbance to owls that may reside in this area. Further, electrocution and collision risk for this species as a result of the Project is considered low. Overall, given the limited amount of potential spotted owl habitat affected by the Project (approximately 0.47 acre permanent impacts and 1.09 acres temporary impacts), and the implementation of mitigation measures, including conducting pre-construction nesting bird surveys (Mitigation Measure B-8a), avoidance of work outside of the general raptor and nesting bird season (Mitigation Measure B-12a), and providing onsite restoration of temporary impacts, in-kind preservation of woodland habitat within the CNF for permanent impacts, and mitigation for tree impacts (Mitigation Measures B-1a, B-2a), the Project is not expected to affect the current population status or trend for this species.

5.5. MULE DEER

The mule deer was selected as a MIS to determine if shrub, woodland, and forests are being managed adequately to provide the quality and quantity of habitat for species dependent on or strongly associated with large blocks of healthy, diverse habitats with low to moderate disturbance (USDA Forest Service 2007). The goal of management is to ensure that a mosaic of meadow, woodland, and shrub habitats are maintained or improved for such species as the mule deer. Prescribed burning is a management tool that helps keep a continued supply of high-quality forage in proximity to cover areas for mule deer.

5.5.1 Natural History

The mule deer is a widespread species that occurs over much of western North America from Alaska, through western Canada and the western United States, into Baja California and the southern end of the Mexican Plateau (USDA Forest Service 2007).

The mule deer occurs in a wide variety of habitats, but in southern California forests, it occurs in the highest densities in oak woodlands and riparian areas, scrublands, and grasslands (USDA Forest Service 2007). It typically prefers ecotone habitats, where there is a mosaic of dense shrubs for cover and new shrub growth and grasses for food. Fawning typically occurs in higher elevation meadows and woodlands with trees or shrubs that provide protection for birthing does and newborns. Wintering habitat is in lower elevation meadows and woodlands, as well as open sage scrub and chaparral, such as that which occurs in the first several years after a fire. Because fire and other forms of disturbance open up vegetation and provide new foraging options for deer, lack of fire, which results in denser vegetation, has a detrimental effect on mule deer habitat quality (USDA Forest Service 2007).

5.5.2 Status and Trends

One of the primary threats to mule deer at higher elevations is fire suppression, which results in denser, lower quality habitat. Vegetation thinning to protect nearby communities is improving habitat conditions for mule deer in these areas. Conversely, the high frequency of large wildfires in recent years may be negatively affecting mule deer habitat at lower elevations, converting shrublands to grasslands.

Additionally, urban development is expanding in the region at an unprecedented rate (USDA Forest Service 2007), removing mule deer habitat as it expands.

5.5.3 Project-level Effects Analysis based on Habitat and Population Data

Key Habitat Factor(s) for the Analysis
Mule deer was selected as a MIS to indicate the presence of healthy diverse habitats.

Analysis Area for Project-level Effects Analysis
Mule deer and suitable mule deer habitat are found throughout CNF. As identified in Section 3.1, the analysis area for the Project's direct and indirect effects to mule deer focuses on the Project ROW and a buffer of approximately 660 feet outside the ROW. Additionally, the Project's potential cumulative effects considers past, present, and reasonably foreseeable projects located within 15 miles of the Project ROW within and outside of the CNF, to encompass the known dispersal distance of the species in San Diego County (USDA Forest Service 2005).

Current Condition of the Key Habitat Factor(s) in the Analysis Area
All of the analysis area is suitable habitat for mule deer. The current condition of mule deer habitat on and adjacent to the CNF is a mixture of large blocks of undisturbed habitat separated by private in-holdings and developments, and by Forest Service roads or other facilities and features, such as campgrounds, fire stations, and trails. Overall, healthy diverse habitats are present on National Forest System lands in the analysis area.

Project Direct Effects to Habitat
Mule deer observations were noted throughout the Project ROW where it crosses the CNF during numerous Project-related surveys. However, specific locations were not recorded on all maps. The mule deer is a wide-ranging species with broad habitat requirements, including woodland, grassland, and shrubland, so all habitats within the CNF are considered occupied for the purpose of this assessment. Forest-wide, this would include over 460,000 acres and within the Descanso District of the CNF, this would include over 214,000 acres of potentially suitable habitat areas comprised of many vegetation communities. The Project ROW, within and adjacent to the CNF Congressional boundary, plus the area in its immediate vicinity (within 660' of the ROW) totals approximately 13,237.12 acres. The Project ROW would permanently impact approximately 43.96 acres, and temporarily impact approximately 48.28 acres, of potential mule deer habitat on USFS-managed lands within the CNF Congressional boundary. Additionally, the Project ROW would permanently impact a total of approximately 92.98 acres, and temporarily impact approximately 36.03 acres, of potential mule deer habitat on other public and private lands within and adjacent to the CNF Congressional boundary. Permanent impacts would occur from construction of towers and access roads. Any required thinning of vegetation would not be expected to reduce the mule deer habitat quality since this species is often drawn to disturbed areas with new foraging opportunities. Temporary impacts would occur from clearing conducted for staging areas, stringing sites, and helicopter pads, as well as necessary clearing around the tower footings. All temporary impact areas would be re-vegetated following construction.

For all locations of the Project that occur on the CNF, temporary and permanent impacts to mule deer habitat would be mitigated as part of the habitat mitigation described in the FEIR/EIS (Aspen 2008a). Mitigation for temporary impacts would include an on-site restoration component. Permanent impacts to habitat would be mitigated off-site through acquisition and preservation of habitat. A combination of Mitigation Measures found in Appendix B will minimize direct effects to mule deer as a result of the

Project. These measures include limiting speed limits on access roads to 15 mph to reduce the potential of vehicle impacts and to reduce dust levels, permanently closing access roads no longer required, restricting the construction of access and spur roads during the design phase, and gating (where acceptable to the Forest Service) all access roads. These measures are designed to avoid impacts to mule deer from a variety of factors, including access by hunters.

Project Indirect Effects to Habitat

Potential indirect impacts to mule deer include construction noise, fugitive dust, and increased fire risk/habitat type conversion.

Construction noise could cause a temporary, indirect impact to mule deer outside of the Project ROW, and may displace some individuals. Any displaced deer would be expected to return to the area following construction.

Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Fires are a natural phenomenon and have been shown to improve the quality of shrub habitats, which open up the vegetation and improve access for mule deer. Frequently burned areas can cause type conversion, allowing invasion by opportunistic non-native annual grasses and resulting in habitat type conversion from chaparral to non-native grassland, which would impact mule deer. Although considered unlikely, should a fire occur and be determined by the CPUC's Consumer Protection and Safety Division (CPSD) or the California Department of Forestry and Fire Protection (CAL FIRE) to be caused by the Project, SDG&E shall re-seed all natural areas, both public and private, that are burned as a result of the Project-caused fire. Mitigation Measure B-1k (Appendix B) addresses type conversion and re-seeding after a transmission line caused fire.

Fugitive dust released by such construction activities as grading, tower footing excavation, and driving of heavy equipment on unpaved roadways would be considered an indirect impact that could degrade the quality of occupied mule deer habitat. To offset these indirect impacts during construction, all cleared areas would be regularly watered to reduce fugitive dust (BIO-APM-3, Appendix B). Additionally, a 15 mph speed limit shall be observed on dirt access roads to reduce dust (BIO-APM-3, Appendix B).

Cumulative Effects to Habitat

Cumulative effects to mule deer are considered over a reasonably foreseeable timeframe of ten years. As noted, the projects considered in the cumulative analysis occur within 15 miles of the Project ROW within and outside of the CNF, to encompass the known dispersal distance of the species in San Diego County (USDA Forest Service 2005). In addition to the cumulative analysis area, large renewable energy projects over 15 miles from the Project ROW were included. The full list of cumulative projects with potential to impact the mule deer is included as Appendix C.

Within the CNF in general, the primary influences to mule deer habitats are due to development and disturbance by roads, people, and dogs. Several other factors, such as hunting, poaching, traffic, natural predation, and diseases also affect mule deer population numbers. Fuels treatment projects on the CNF, including within the analysis area, have likely had both short-term negative and positive effects and longer term beneficial effects on mule deer habitats. Because of the way these treatments have been and will be spread spatially across the landscape, the effects of these projects are not likely to result in long-term negative effects to mule deer populations or habitats. In fact, by changing the vegetation to earlier successional stages and creating openings, it is likely that there have been some longer-term improvements in habitat for deer. Riparian and meadow habitats within and adjacent to the CNF on

federal and non-federal lands has been affected by development, water diversions, and grazing over the years, reducing the amount and quality of these habitat types. As such, effects to mule deer populations likely have occurred due to reduction in habitat quality and quantity for fawning, water sources, and movement corridors. Demands on water, and thus riparian/meadow habitats, will likely continue to increase with increasing human populations. Migratory mule deer establish distinct summer and winter home ranges and use approximately the same home ranges in consecutive years. Non-migratory mule deer maintain year-long home ranges. Home range size increases as distance between food, cover, and water sources increase (Anderson and Wallmo 1984).

In general, housing developments in and adjacent to the CNF will result in increased recreational uses in the Project ROW, particularly in some of the more accessible areas and along National Forest System roads, including riparian habitats. Hunting and poaching pressures in the area also may increase as human populations increase with development. Additionally, associated increases in vehicle traffic on existing routes will likewise result in more injuries and deaths of mule deer while also reducing the quality of movement corridors that are bisected by busier roadways.

Cumulative projects identified in or near both the CNF and the Project ROW include residential subdivisions, local improvement, and research projects, including 12 residential projects (approximately 921 acres total), Old Highway 80 and Pine Creek Road (between State Highway 79 and Pine Creek Road), the gold spotted oak borer study, and Laguna and Laguna Meadow allotments range analysis. Cumulative projects that may construct new structures beyond 15 miles of the Project ROW include the La Rumorosa Wind Project, Crestwood Wind Project, Stirling Energy Systems and SDG&E Solar Power Project, and ENPEX Power Plant. As discussed above, the Project may result in some direct or indirect effects to mule deer habitat and, as a result, may contribute cumulative effects. These effects may be adverse, but would not be considered substantial due to the limited area of effect. The Project ROW would permanently impact approximately 43.96 acres, and temporarily impact approximately 48.28 acres, of potential mule deer habitat on USFS-managed lands within the CNF Congressional boundary, or less than 0.1 percent of the available habitats for mule deer in the Descanso District of the CNF, and an even smaller percentage forest-wide. Additionally, the Project ROW would permanently impact a total of approximately 92.98 acres, and temporarily impact approximately 36.03 acres, on other public and private lands within and adjacent to the CNF Congressional boundary. The Project is not expected to pose a barrier to mule deer movement during or after construction, given the nature of transmission line facilities and the ease with which mule deer cross beneath them, and implementation of proposed mitigation measures will further avoid or minimize any adverse impacts. As a result, the Project is not likely to have a substantial incremental effect on mule deer habitat, and the overall effects are not expected to cause a decline in the population of this species within the CNF. The Project, in combination with past, present, and reasonably foreseeable future actions, would not reduce the quality and quantity of mule deer habitat in the analysis area.

<u>Summary of Habitat and Population Status and Trend at the Forest Scale</u>

The LMP requires forest-scale habitat and/or population monitoring for all MIS, so effects analysis for the Project must be informed by habitat and population monitoring data. The sections below summarize the habitat status and trend data, and population status and trend data for mule deer. This information is drawn from the detailed information on habitat and population trends in the CNF MIS Report (USDA Forest Service 2007).

Habitat Status and Trend

Mule deer habitat condition on the CNF appears to be improving, in some cases due to increased acreage of wildfire in recent years and improved management of conflicting uses in critical areas, such as riparian habitats and meadows. Grazing reductions have resulted in improved riparian habitat conditions. Threats include increased recreation in riparian areas, grazing, and too-frequent fire and resulting type conversion in chaparral and coastal sage scrub.

Population Status and Trend

As the CNF MIS Report explains, trends in mule deer populations are difficult to detect, but can be estimated using data from California Department of Fish and Game related to the State's hunting programs. The current population status and trend for mule deer in California is secure. Within CNF, data suggests a declining population from levels seen in the 1960s and 1970s. Mule deer herds have declined from historic population levels due to high human disturbance levels (e.g., recreation) in meadows and riparian areas, gradual drying of streams, meadows and riparian areas from diversion and pumping for human use, and high road densities in some prime deer habitat (USDA Forest Service 2007). Current management under the new LMP anticipates increasing herd size over the next four decades, at which time it is expected to stabilize.

Relationship of Project-Level Effects to Forest-Scale Habitat Trends

The CNF MIS report (USDA Forest Service 2007) states that mule deer habitat is improving in some areas due to wildfires, which create openings and new growth for foraging, and improved management of conflicting uses (e.g., reduction in grazing). However, habitat quality is declining in other areas of the CNF due to overly frequent wildfires in the same areas that have resulted in type conversion of scrub habitat into grasslands. Vegetation management activities by the CNF in the analysis area would provide short-term benefits to foraging habitat for mule deer, and grazing activities would continue to be managed to retain sufficient deer forage.

The Project would impact mule deer habitat on the CNF, which would generally be dispersed across the landscape (e.g., there are approximately four towers per mile). Some new access roads would be constructed on the CNF for use during construction and maintenance. However, these roads will be closed, gated, and/or patrolled once construction is complete to prevent unauthorized access, in accordance with Mitigation Measure B-1a (Appendix B). Additionally, the Project ROW will directly impact only 92.24 acres of potential mule deer habitat on USFS-administered lands within CNF (43.96 acres of which are considered permanent impacts) and result in an additional 92.98 permanent and 36.03 temporary impacts to private and other public lands within and adjacent to the CNF Congressional boundary, as compared to over 214,000 acres of potential habitat in the Descanso District and over 460,000 acres forest-wide.

Moreover, the access roads, maintained tower pads, and work areas will create more edge habitat and are expected to create openings in some areas of dense chaparral habitat, both of which are considered improvements to habitat quality for mule deer. Similarly, vegetation management conducted for Project O&M, including periodic trimming of vegetation around access roads, tower pads and TSAPs would help maintain these habitat edge effects and potentially improve habitat quality for mule deer. The Project is expected, therefore, minimally to contribute beneficially to the current habitat status and trends on the CNF.

Relationship of Project-Level Effects to Forest-Scale Population Trends

The CNF MIS report (USDA Forest Service 2007) states that there is a negative population trend for mule deer on the CNF, however, current management under the new LMP anticipates increasing herd size over the next four decades, at which time it should stabilize. Population trends are based on population monitoring and kill records.

The Project is not expected to affect the current population status or trends because of the intermittent nature of construction and maintenance activities at each Project feature and because the impacts would be dispersed across the landscape. Construction at each tower location would occur over short periods of time, which will allow mule deer to disperse into nearby habitat areas during construction. Mule deer are expected to return to these areas once construction is complete. Vehicles and personnel would use access roads several times per year for maintenance activities, which would result in only minor disturbance if mule deer are in these areas during maintenance (see Section D.2.16 of the FEIR/EIS for a description of maintenance activities, [Aspen 2008b]).

5.6. MOUNTAIN LION

The mountain lion was selected as a MIS to evaluate management of habitat fragmentation and maintenance of habitat linkages (USDA Forest Service 2007). The biggest threat to mountain lions in southern California is habitat fragmentation and isolation by urban and agricultural development, as well as construction of freeways and highways (USDA Forest Service 2007). The management goal for mountain lions is to maintain functional landscape linkages and populations well distributed through National Forests.

5.6.1 Natural History

The mountain lion is a wide-ranging species occurring throughout much of the western hemisphere, from western Canada and the western United States, south through Mexico, Central America, and nearly all of South America east of the Andes. It occurs in a wide variety of habitats, including deserts, woodlands, grasslands, and scrublands, especially in areas that support mule deer, which in this region, are its primary prey item. As a top predator, mountain lions occur in low densities with very large home ranges, averaging nearly 23,000 acres for females and 90,000 acres for males (USDA Forest Service 2007). As a result, mountain lion habitat quality is dependent on large areas of contiguous habitat.

Fragmentation can reduce the carrying capacity for prey species, which, in turn, reduces the carrying capacity for mountain lions. Habitat linkages are important for mountain lions because they connect otherwise isolated habitat patches, allowing mountain lions to move between different sections of their home ranges.

5.6.2 Status and Trends

Mountain lion populations are dependent on the abundance of their prey. As mule deer comprise the majority of the mountain lion diet in this region, CNF mountain lion populations are largely dependent on the abundance of mule deer. While population data on mountain lion numbers are generally lacking, there has been a slow decline of mule deer populations within the CNF due to increased wildfire frequency and expansion of adjacent development (USDA Forest Service 2007). This suggests the mountain lion numbers also may be in decline. Vegetation thinning for fuel management has opened up scrub habitat for mule deer, thereby improving its value for mountain lions.

5.6.3 Project-level Effects Analysis based on Habitat Data

Key Habitat Factor(s) for the Analysis
Mountain lion was selected as a MIS to provide an index for habitat fragmentation.

Analysis Area for Project-level Effects Analysis
Suitable mountain lion habitat is found throughout CNF. As identified in Section 3.1, the analysis area for the Project's direct and indirect effects to mountain lion focuses on the Project ROW and a buffer of approximately 660 feet outside the ROW. Additionally, the Project's potential cumulative effects considers past, present, and reasonably foreseeable projects located within 20 miles from the Project ROW, in addition to several larger renewable energy projects over 20 miles from the CNF, to encompass the known dispersal distance and home range (as low as 20 square miles to over 100 square miles) of the species in San Diego County (USDA Forest Service 2005).

Current Condition of the Key Habitat Factor(s) in the Analysis Area
All of the analysis area is suitable mountain lion habitat. The current condition of lion habitat in the Project ROW is a mixture of large blocks of undisturbed habitat separated by private in-holdings and developments, and by Forest Service roads or other facilities and features, such as campgrounds, fire stations, and trails. Overall, habitat fragmentation is at a low level on National Forest System lands in the analysis area.

Project Direct Effects to Habitat
Mountain lion sign was recorded in two locations within the CNF during vegetation mapping and focused surveys for the Project alternatives in 2007, both of which were just southwest of Cedar Creek within the 'Route D Alternative' right-of-way, which was not ultimately included in the selected alignment for the Project. In addition, mountain lion tracks and/or scat were observed near EP148-1 approximately 0.5 miles west of the end of McCain Valley Road, approximately ¼ mile north of EP152-2 along a wash, near the stringing site for EP141, in the Cameron Fly Yard off the Cameron Truck Trail, and near the La Posta Truck Trail/Thing Valley Ranch Road intersection during monitoring activities conducted by Chambers Group in 2009 – 2010 (Chambers Group 2009 – 2010).

This species has very large home ranges and can occur in a wide variety of habitats. The CNF contains approximately 460,000 acres of potentially suitable habitat for mountain lion, and the Descanso District contains over 214,000 acres of potential habitat. The Project ROW, within and adjacent to the CNF Congressional boundary, plus its immediate vicinity (within 660' of the ROW) totals approximately 13,237.12 acres. The Project ROW would permanently impact approximately 43.96 acres, and temporarily impact approximately 48.28 acres, of potential mountain lion habitat on USFS-managed lands within the CNF Congressional boundary. Additionally, the Project ROW would permanently impact a total of approximately 92.98 acres, and temporarily impact approximately 36.03 acres, of potential mountain lion habitat on other public and private lands within and adjacent to the CNF Congressional boundary. The Project would impact less than 0.05 percent of the potentially suitable habitat for mountain lion in the Descanso District, and a lower percentage forest-wide.

Direct, permanent impacts to mountain lion habitat would result from tower, TSAPs, and access road construction along the Project ROW. However, vegetation thinning associated with project construction and O&M activities is expected to attract mule deer, the primary prey of the mountain lion, so it would not substantially reduce mountain lion habitat quality. Temporary impacts would occur from clearing

required for staging areas, stringing sites, and temporary helicopter pads, as well as necessary clearing around the tower footings. All temporary impact areas would be re-vegetated following construction.

Temporary and permanent impacts to mountain lion habitat would be mitigated for as part of the habitat mitigation described in the FEIR/EIS (Aspen 2008a). Temporary impacts would be mitigated at a 1:1 to 3:1 ratio, depending on the specific habitat impacted. Mitigation for temporary impacts include 1:1 ratio of onsite restoration. Permanent impacts to habitat would be mitigated off-site through acquisition and preservation of lands at a 1:1 to 3:1 ratio, depending on the specific habitat impacted (Appendix B).

Project Indirect Effects to Habitat

Potential indirect impacts to mountain lions include construction noise, fugitive dust, increased fire risk, and habitat type conversion.

Construction noise could cause a temporary, indirect impact to mountain lions outside of the Project ROW, and may displace some individuals. However, given the very large home range of this species, any displaced individuals would be expected to move to other suitable areas of their home ranges during construction.

Fugitive dust released by construction activities, such as grading, tower footing excavation, and driving of heavy equipment on unpaved roadways, would be considered an indirect impact that could degrade the quality of occupied mountain lion habitat. To offset these indirect impacts during construction, all cleared areas would be regularly watered to reduce fugitive dust (BIO-APM-3, Appendix B). Additionally, a 15 mph speed limit shall be observed on dirt access roads to reduce dust (BIO-APM-3, Appendix B).

Installation of high voltage power lines creates a fire risk. On one hand, fires are a natural phenomenon and have been shown to improve the quality of shrub habitats for mountain lions by opening up the vegetation and improving access for mule deer, a primary prey item. Conversely, a frequent fire regime could result in habitat type conversion, allowing invasion by opportunistic non-native annual grasses and resulting in habitat type conversion from chaparral to non-native grassland. Such type conversion would reduce habitat quality and would be considered an indirect impact to mountain lions. Although considered unlikely, should a fire occur and be determined by the CPUC's Consumer Protection and Safety Division (CPSD) or the California Department of Forestry and Fire Protection (CAL FIRE) to be caused by the Project, SDG&E shall re-seed all natural areas, both public and private, that are burned as a result of the Project-caused fire. Mitigation Measure B-1k (Appendix B) addresses type conversion and re-seeding after a transmission line caused fire. Impacts from fire/type conversion would be treated as a temporary impact and would be mitigated with restoration at a 1:1 ratio.

Cumulative Effects to Habitat

Cumulative effects to mountain lion are considered over a reasonably foreseeable timeframe of ten years. As noted, the projects considered in the cumulative analysis occur over 10 miles from CNF to encompass the known dispersal distance of the species in San Diego County (USDA Forest Service 2005). The full list of cumulative projects with potential to impact the mountain lion is included as Appendix C.

Within the CNF in general, fuels treatment projects in the CNF have likely had some effect on mountain lion populations. Because of the way these treatments have been and are planned to be spread spatially across the landscape, the effects of the projects cumulatively are not likely to result in long-term negative effects to the mountain lion population. In fact, by changing the vegetation to earlier successional stages and creating openings, it is likely that there have been some short-term

improvements in habitat for mule deer, and thus resulted in increases in the prey base for mountain lions in multiple project areas. None of the recently implemented projects or currently planned vegetation treatment projects is expected to adversely affect mountain lion corridors.

The San Diego (Laguna Mountains) population of mountain lions disperses to the Sierra Juarez Mountains in Baja Norte, Mexico. In general, the mountain lion is considered imperiled in Southern California due to a loss of connectivity between habitat areas, and loss of back country areas of sufficient size to sustain a population of individuals in the CNF. The Project would not affect the critical landscape linkages between the Santa Ana Mountains and the Chino Hills and the Palomar Mountain range, which is identified as an area of concern in southern California.

Influences to prey, such as hunting, seasonal fluctuations, or diseases that affect mule deer populations, probably have the greatest influences on mountain lion numbers (see mule deer discussion). In general, increasing urbanization and agricultural pressure outside the CNF boundary may reduce deer populations on surrounding lands. As a result, mountain lions may attack more pets and livestock or otherwise threaten local communities, leading to more depredation permits issued to kill lions. Proposed and planned housing developments in and around the CNF will result in increased recreational uses in the Project ROW, particularly in some of the more accessible riparian zones that are likely used as movement corridors by mountain lions. Hunting and poaching pressures in the area may also increase as human populations adjacent to the Project ROW increase with development, affecting both deer and mountain lion populations. Additionally, associated increases in vehicle traffic will result in more injuries and deaths of deer and mountain lions and reduce the quality of movement corridors that are bisected by busier roadways.

Cumulative projects identified in or near both the CNF and the Project ROW mainly include residential subdivisions (approximately 921 acres), local improvement projects and research projects, including Old Highway 80 and Pine Creek Road, the gold spotted oak borer study, and Laguna and Laguna Meadow allotments range analysis. In addition, cumulative projects that may construct new structures beyond 20 miles of the Project ROW include the La Rumorosa Wind Project, Crestwood Wind Project, Stirling Energy Systems and SDG&E Solar Power Project, and ENPEX Power Plant. These cumulative projects potentially would contribute to cumulative impacts by increasing urbanization, potentially increasing barriers to movement, and influencing prey availability, in addition to increased human interaction and disturbance.

As discussed above, the Project may result in some direct or indirect effects to mountain lion habitat and, as a result, may contribute cumulative effects. These effects may be adverse, but would not be considered substantial due to the limited area of effect. The Project ROW would permanently impact approximately 43.96 acres, and temporarily impact another 48.28 acres, of potential mountain lion habitat that would be revegetated following completion of Project construction. The small size of the permanent impacts at tower sites (e.g., generally under 0.25 acre) and relatively large distance between the impact sites (e.g. generally around 0.25 mile) would not be expected to contribute to habitat fragmentation effects within the CNF. Additionally, the Project ROW would permanently impact a total of approximately 92.98 acres, and temporarily impact approximately 36.03 acres, on other public and private lands within and adjacent to the CNF Congressional boundary. The Project would not restrict the movement of mountain lion in the impacted habitat areas after Project construction given the nature of transmission line facilities and the mountain lion's ability to move easily below the facility, and implementation of the proposed mitigation measures would be expected to further avoid or minimize any adverse impacts. Additionally, as noted above, vegetation management activities in the analysis

area would likely provide short-term benefits to foraging habitat for deer with likely benefits to mountain lions. As a result, the proposed Project is not likely to have a substantial incremental effect, and the overall effects are not expected to cause a decline in the population of this species within the CNF. The Project, in combination with past, present, and reasonably foreseeable future actions, would not reduce the quality and quantity of mountain lion habitat in the analysis area.

Summary of Habitat and Population Status and Trend at the Forest Scale

The LMP requires forest-scale habitat and/or population monitoring for all MIS, so effects analysis for the Project must be informed by habitat and population monitoring data. The sections below summarize the habitat status and trend data, and population trend data for mountain lion. This information is drawn from the detailed information on habitat and population trends in the CNF MIS Report (USDA Forest Service 2007).

Habitat Status and Trend

Mountain lion habitat condition on the CNF appears to be stable or improving. **"**The CNF has good habitat for the mountain lion (USDA Forest Service 2007)." Deer herds have declined from historic times for many reasons, but are expected to rise with implementation of LMP management direction. The creation of edge and early successional habitat for fuel management benefits mule deer and foraging areas for mountain lions. In addition, the recent large burns on the CNF also should benefit deer and mountain lion (USDA Forest Service 2007).

Population Status and Trend

Populations of mountain lions in southern California are becoming fragmented at an increasing rate due to freeways and urbanization. Based on the review of studies and contacts with mountain lion experts, it appears that long-term viability of mountain lions in southern California may be at risk due to existing and planned developments and freeway construction on and off National Forest System land.

Relationship of Project-Level Effects to Forest-Scale Habitat Trends

The CNF MIS report (USDA Forest Service 2007) states that good mountain lion habitat exists on the CNF. As local mountain lion populations are partially dependent on the presence of mule deer, factors that affect mule deer habitat similarly affect mountain lion habitat. Some areas of mountain lion habitat are improving because wildfire and vegetation thinning are improving their value for mule deer. However, habitat quality is declining in other areas of the CNF because wildfires have been too frequent in the same areas that have resulted in type conversion of scrub habitat into grasslands. Vegetation management activities by the CNF in the analysis area would provide short-term benefits to foraging habitat for deer with likely benefits to mountain lions, and grazing activities would continue to be managed to retain sufficient deer forage and other lion prey.

The Project would generally be dispersed across the landscape (e.g., tower locations are approximately 1,200 to 1,400 feet apart). Approximately 2.10 acres of new access roads would be constructed on the CNF to facilitate Project construction and O&M activities. These roads will be closed, gated, and/or patrolled once construction is complete to prevent unauthorized access, in accordance with Mitigation Measure B-1a (Appendix B). The access roads would create more edge habitat and are expected to create openings in some areas of dense chaparral habitat, which would be an improvement to mule deer habitat. With the expectation that mule deer would utilize this increased edge habitat for foraging, it is also expected that mountain lions would utilize these areas for preying upon mule deer and for travelling through territories.

Relationship of Project-Level Effects to Forest-Scale Population Trends

The CNF MIS report (USDA Forest Service 2007) indicates a stable mountain lion population trend for the CNF and for southern California, but also states that mountain lion populations in southern California face serious risks due to habitat fragmentation, loss of landscape connectivity, and decreases in the mule deer population. Current management under the new LMP anticipates increasing mule deer herd size over the next four decades at which time it is expected to stabilize, which will provide a benefit to mountain lion.

The Project is not expected to affect the current mountain lion population status or trends because of the intermittent and short-term nature of construction and O&M activities at each Project tower site. Also, the total direct Project ROW impacts to 92.24 acres of potential mountain lion habitat on USFS-managed lands within the CNF Congressional boundary and total impacts of approximately 129 acres on other public and private lands within and adjacent to the CNF Congressional boundary would occur in small areas (e.g., 0.25 acre) over a total of 19 miles and would not result in habitat fragmentation or habitat quality reduction. Construction at each tower location would occur over short periods of time, which will allow mountain lions to disperse into nearby habitat areas during construction. Mountain lions are expected to return to these areas once construction is complete. Vehicles and personnel would use access roads several times per year for maintenance activities, which would result in only minor disturbance if mountain lions are in these areas during maintenance (see Section D.2.16 of the Final EIR/EIS for a description of maintenance activities, [Aspen 2008b]). The Project O&M activities would occur during daylight hours and are not anticipated to interfere with mountain lion reproduction, and as noted above may minimally contribute beneficially to nocturnal hunting activities by attracting mule deer into the Project ROW through maintenance of small areas of edge habitat associated with openings for tower pads, TSAPs, and access roads. Given the small amount of potentially suitable habitat permanently impacted by the Project and the creation and maintenance of potentially suitable mule deer foraging habitat within the ROW, Project-level habitat effects will not contribute to a decline in population or habitat trends for this species.

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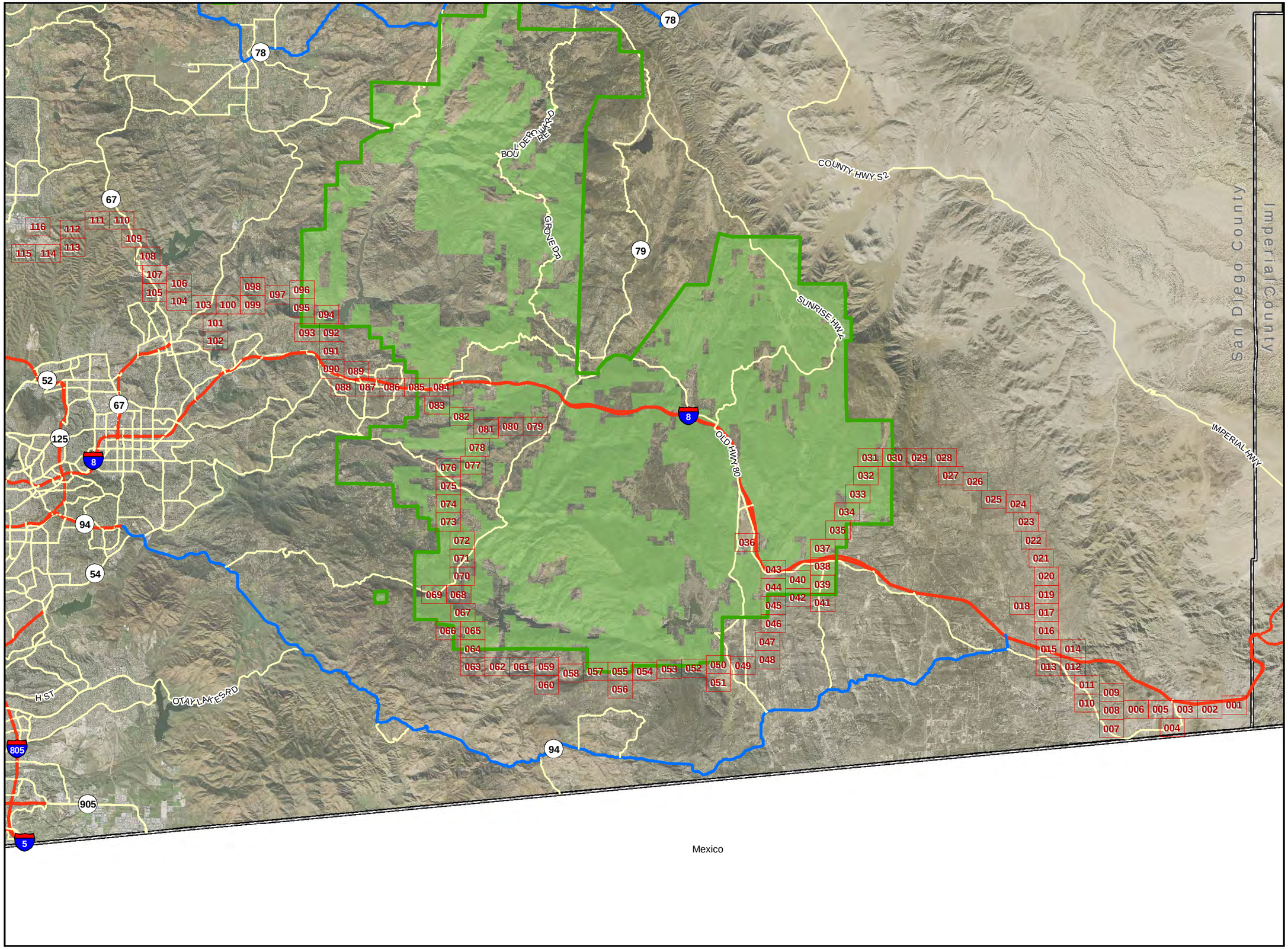
APPENDIX A – SELECTED SPECIES MAP BOOKS



Appendix A
USFS Sensitive
Species Occurrences
Overview - 5/24/2010

L E G E N D

SUNRISE POWERLINK℠

USFS Sensitive Species

Plants

- Dunn's mariposa lily
- Chaparral beargrass
- Dean's milk-vetch
- Delicate clarkia
- Felt-leaved monardella
- Gander's ragwort
- Jacumba milk-vetch
- Lakeside ceanothus
- Long-spined spineflower
- Moreno currant
- Orcutt's brodiaea
- Payson's jewelflower
- Ramona horkelia
- Southern jewelflower
- Tecate tarplant
- Vanishing buckwheat

- Chaparral beargrass
- Dean's milk-vetch
- Delicate clarkia
- Dunn's mariposa lilly
- Gander's ragwort
- Lakeside ceanothus
- Moreno currant
- Orcutt's brodiaea
- Payson's jewelflower
- Ramona horkelia

Wildlife

- California cactus wren
- California legless lizard
- Coastal rosy boa
- Golden Eagle
- Pallid bat
- San Diego horned lizard
- San Diego ring-necked snake
- Townsend's big-eared bat
- Two-striped garter snake
- Western red bat

Riparian Forests and Woodlands

- Black Oak Woodland (BOW)
- Coast Live Oak Woodland (CLOW)
- Coast Live Oak Woodland - Burned (CLOW-B)
- Coast Live Oak Woodland - Disturbed (CLOW-D)
- Engelmann Oak Woodland (EOW)
- Mixed Oak Woodland (MOW)
- Mesquite Bosque (MB)
- Mule Fat Scrub (MFS)
- Peninsular Juniper Woodland Scrub (PJWS)
- Riparian Woodland (RW)
- Southern Coast Live Oak Riparian Forest (SCLORF)
- Southern Cottonwood-willow Riparian Forest (SCWRF)
- Southern Riparian Forest (SRF)
- Southern Willow Scrub (SWS)
- Tamarisk Scrub (TS)
- Tamarisk Scrub - Disturbed (TS-D)

Non-native Vegetation, Developed Areas, and Disturbed Habitat

- Developed (DEV)
- Disturbed Habitat (DH)
- Extensive Agriculture (AG-E)
- Extensive Agriculture - Field/Pasture, Row Crops (AG-FP)
- Non-native Vegetation (NNV)
- Unvegetated Habitat - Badlands (UH-L)
- Unvegetated Habitat - Badlands - Disturbed (UH-L-D)
- Unvegetated Habitat - Desert Pavement (UH-P)
- Unvegetated Habitat - Desert Pavement - Disturbed (UH-P-D)
- Eucalyptus Woodland (EUC)

Chaparrals

- Chamise Chaparral (CC)
- Chamise Chaparral - Burned (CC-B)
- Chamise Chaparral - Disturbed (CC-D)
- Northern Mixed Chaparral (NMC)
- Northern Mixed Chaparral - Disturbed (NMC-D)
- Redshank Chaparral (RSC)
- Redshank Chaparral - Disturbed (RSC-D)
- Scrub Oak Chaparral (SOC)
- Scrub Oak Chaparral - Disturbed (SOC-D)
- Semi-desert Chaparral (SDC)
- Semi-desert Chaparral - Disturbed (SDC-D)
- Southern Mixed Chaparral (SMC)
- Southern Mixed Chaparral - Burned (SMC-B)
- Southern Mixed Chaparral - Disturbed (SMC-D)

Coastal and Montane Scrub Habitats

- Big Sagebrush Scrub (BSS)
- Coastal Sage Scrub - Disturbed (CSS-D)
- Coastal Sage-Chaparral Scrub (CSCS)
- Coastal Sage Scrub (CSS)
- Diegan Coastal Sage Scrub (DCSS)
- Diegan Coastal Sage Scrub - Disturbed (DCSS-D)
- Diegan Coastal Sage Scrub - Inland Form (CSSI)
- Diegan Coastal Sage Scrub - Inland Form - Disturbed (CSSI-D)
- Flat-topped Buckwheat Scrub (FTBS)
- Flat-topped Buckwheat Scrub - Disturbed (FTBS-D)

Desert Scrub and Dune Habitats

- Sagebrush Scrub (SS)
- Sonoran Creosote Bush Scrub (SCBS)
- Sonoran Creosote Bush Scrub - Disturbed (SCBS-D)
- Sonoran Desert Mixed Scrub (SDMS)
- Sonoran Desert Mixed Scrub - Disturbed (SDMS-D)
- Sonoran Desert Scrub (SDS)
- Sonoran Desert Wash Scrub (SDWS)
- Sonoran Mixed Woody Scrub (SMWS)
- Sonoran Mixed Woody Scrub - Disturbed (SMWS-D
- Sonoran Mixed Woody and Succulent Scrub (SMWSS)

Grasslands and Meadows

- Alkali Meadow (AM)
- Native Grassland (NG)
- Native Grassland - Disturbed (NG-D)
- Non-native Grassland (NNG)
- Non-native Grassland - Disturbed (NNG-D)
- Valley Needlegrass Grassland (VNG)

Herbaceous Wetlands, Freshwater, and Streams

- Lakeshore Fringe (LF)
- Non-vegetated Channel (NVC)
- Freshwater (FW)
- Vernal Pool (VP)

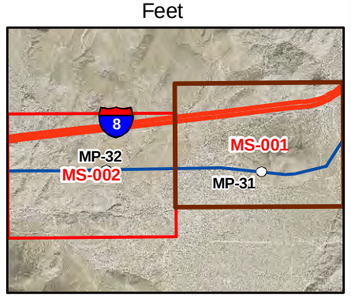
Appendix A
USFS Sensitive
Species Occurrences
Legend - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

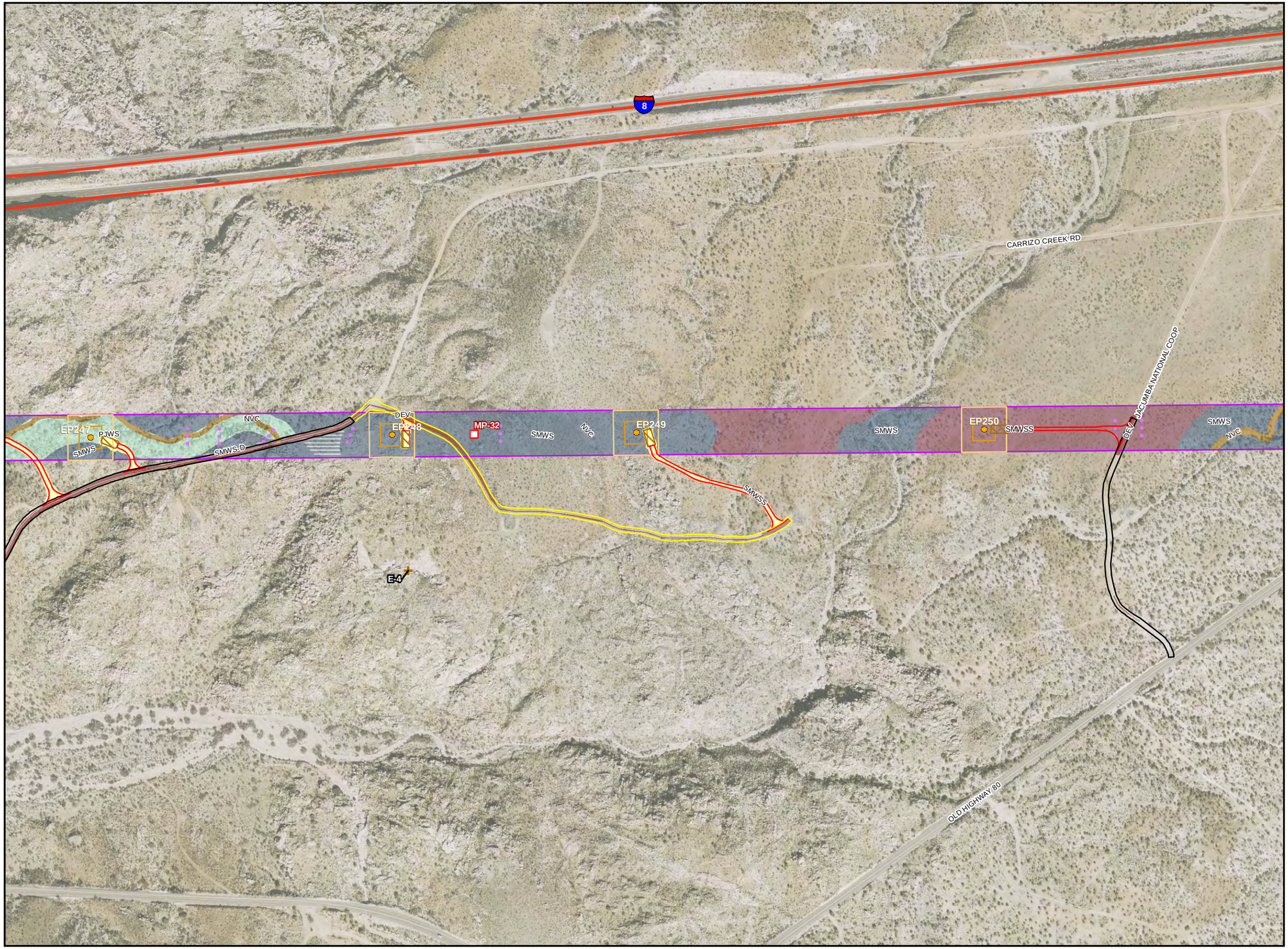
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-001 - 5/24/2010

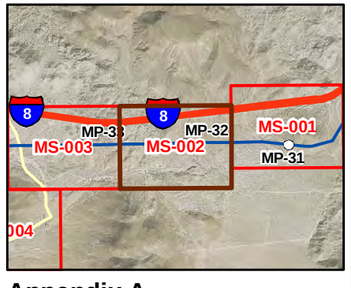


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

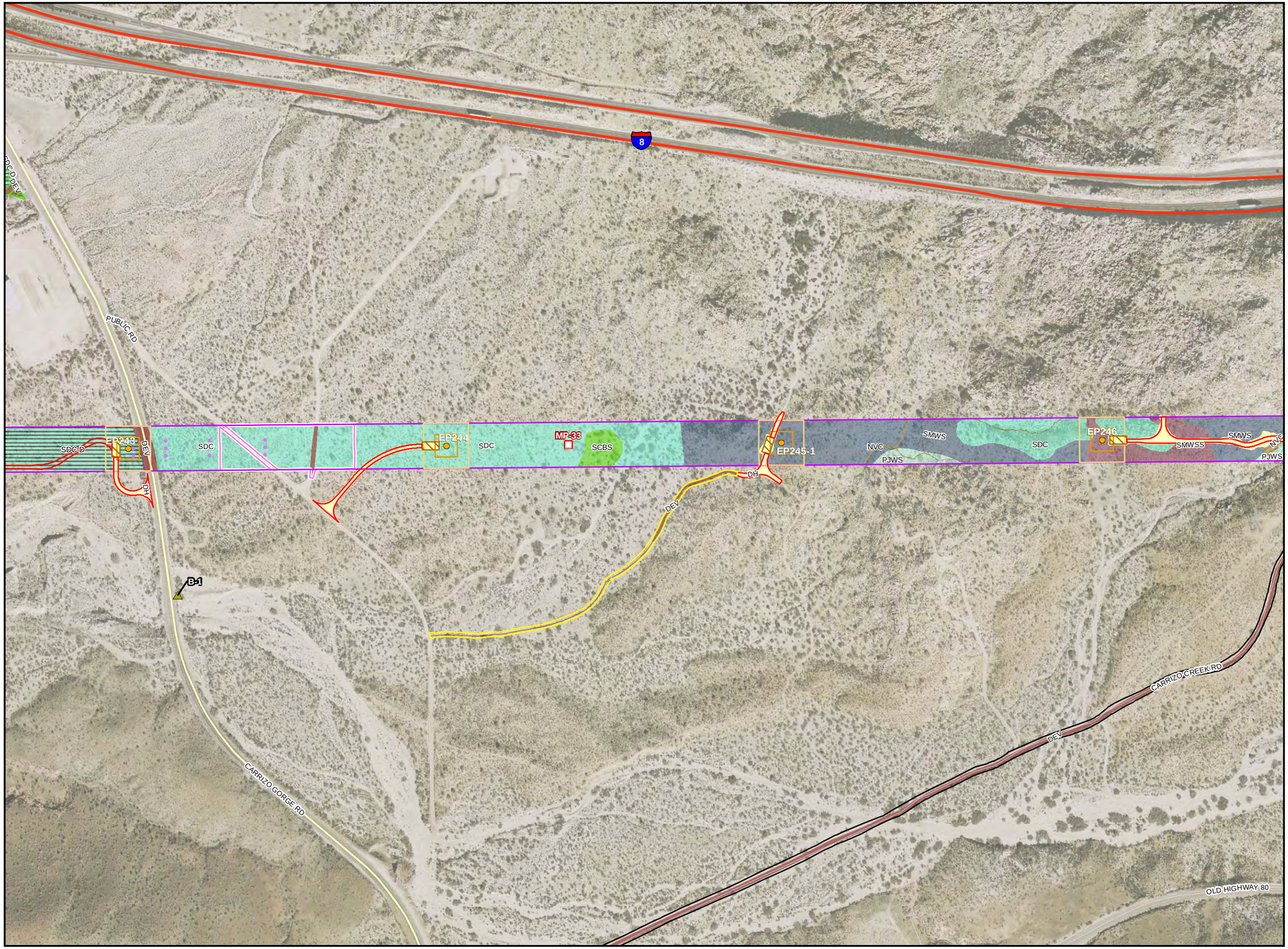
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-002 - 5/24/2010

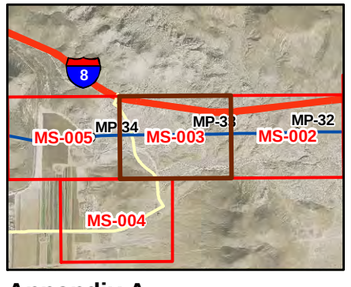


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

USFS Sensitive Species Occurrences

MS-003 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

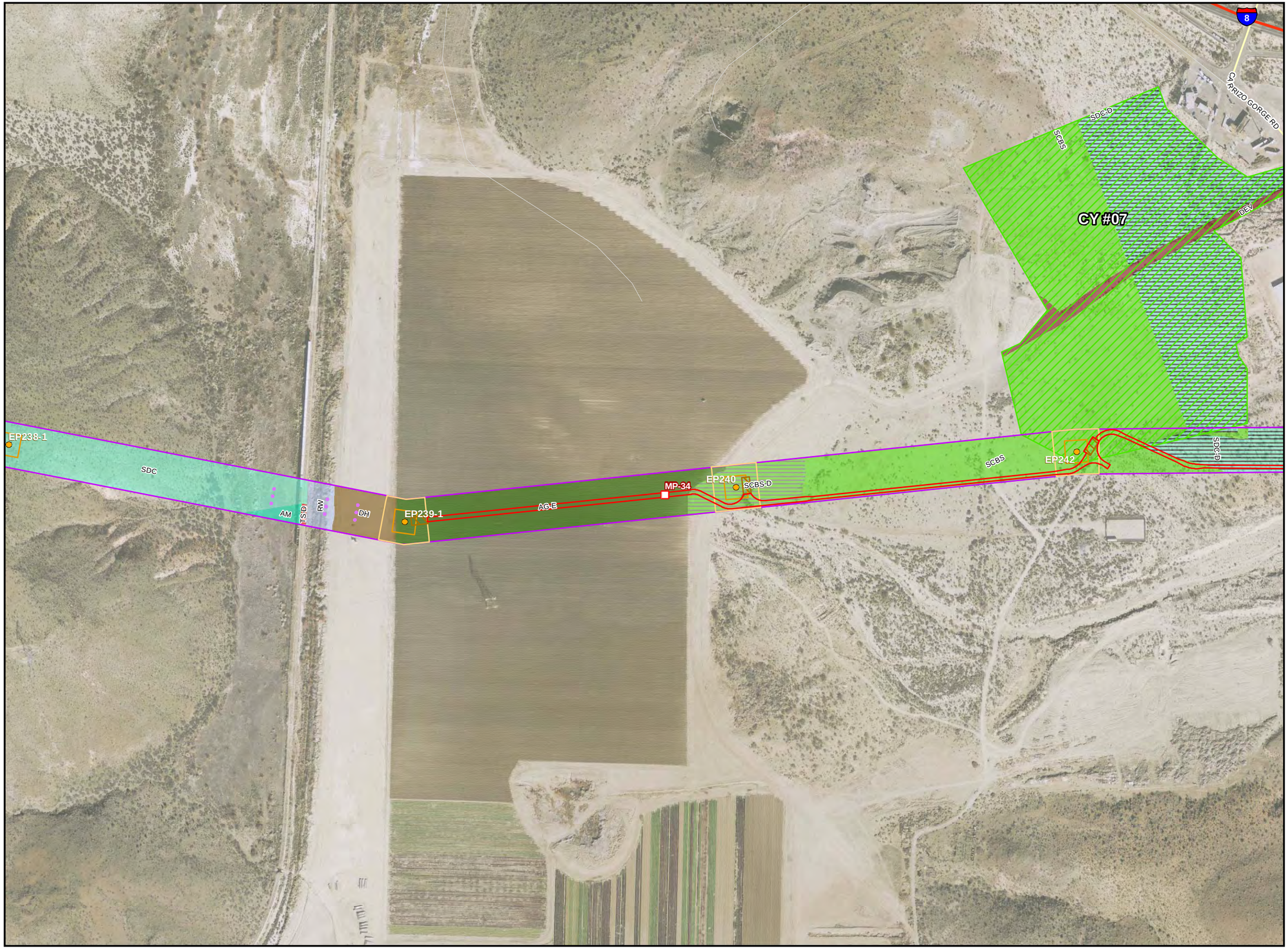
0 400 800

Feet

Appendix A

USFS Sensitive Species Occurrences

MS-004 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
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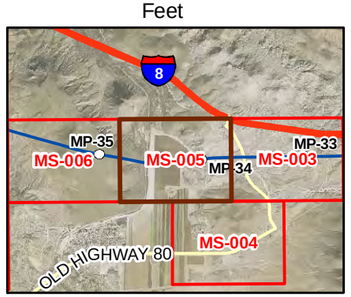
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

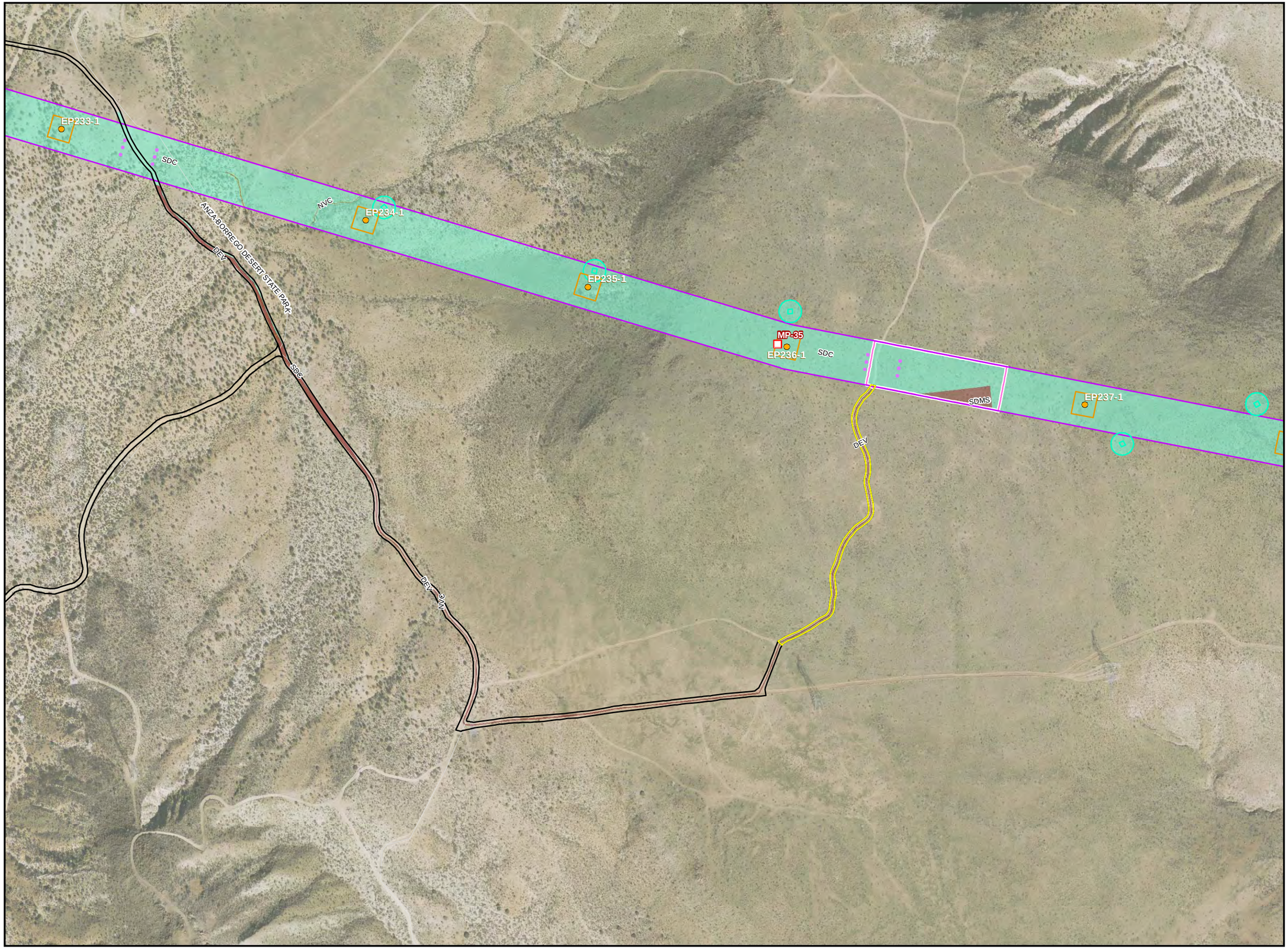
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-005 - 5/24/2010

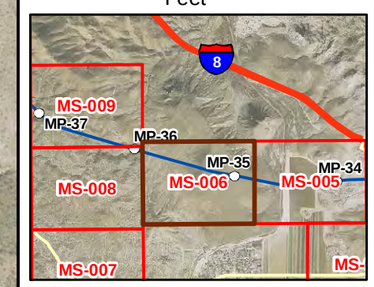


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

USFS Sensitive Species Occurrences

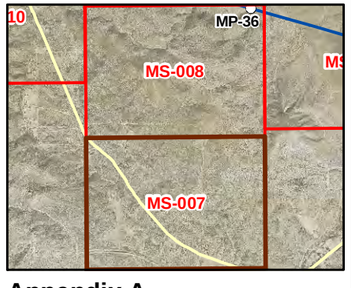
MS-006 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

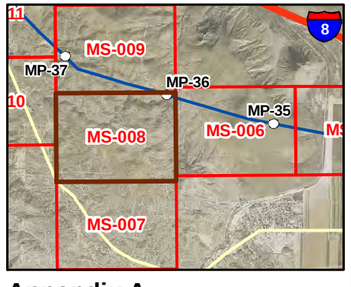
USFS Sensitive Species Occurrences

MS-007 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet

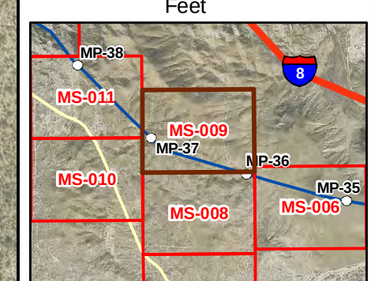


Appendix A
USFS Sensitive
Species Occurrences
MS-008 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



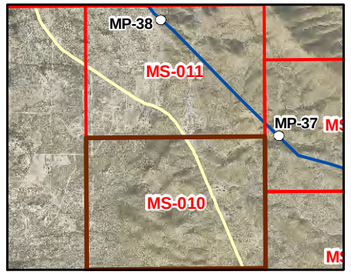
Appendix A
USFS Sensitive
Species Occurrences
MS-009 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

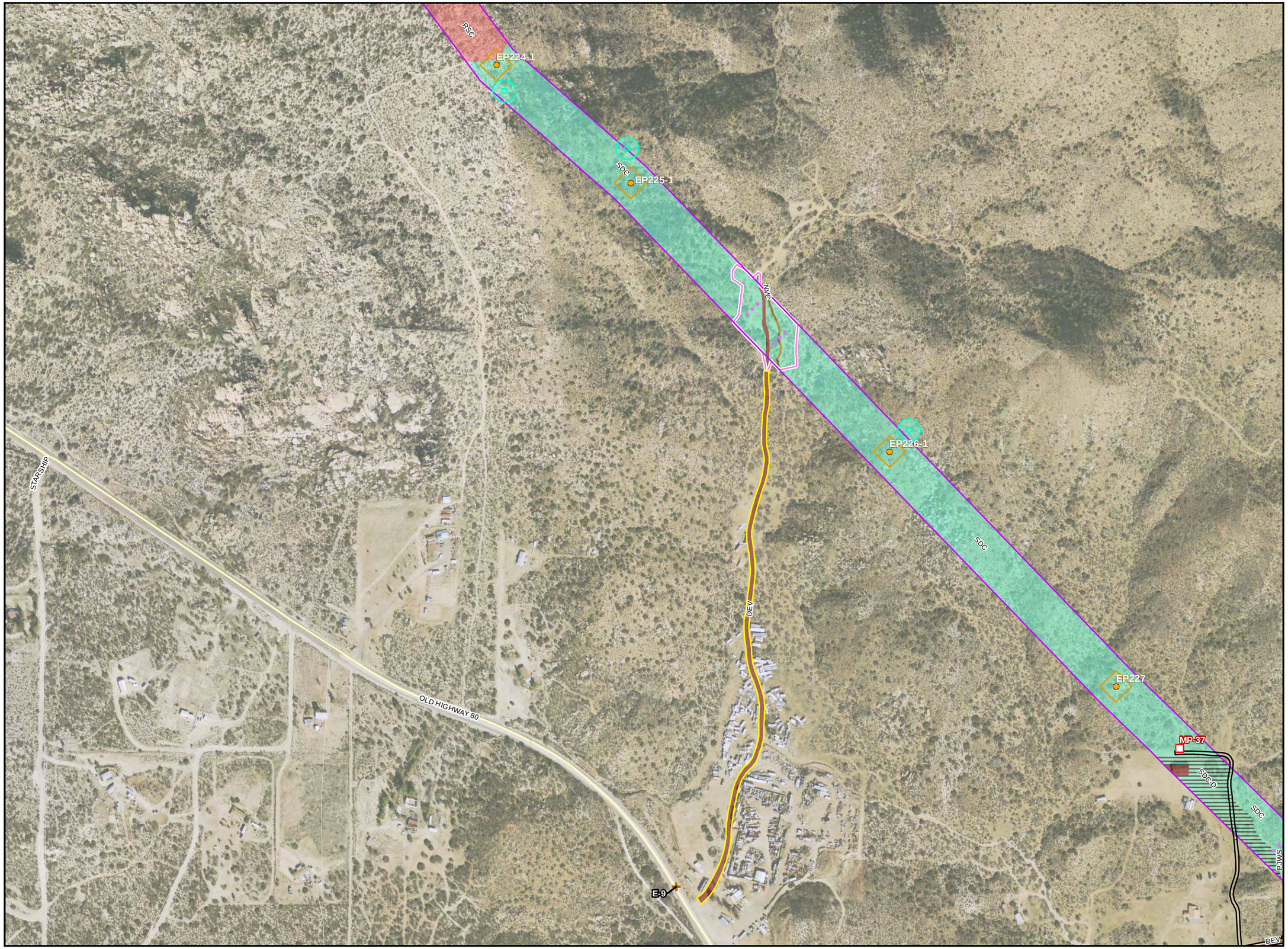
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-010 - 5/24/2010

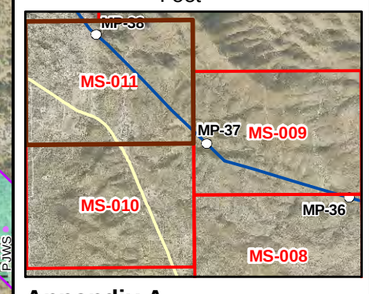


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

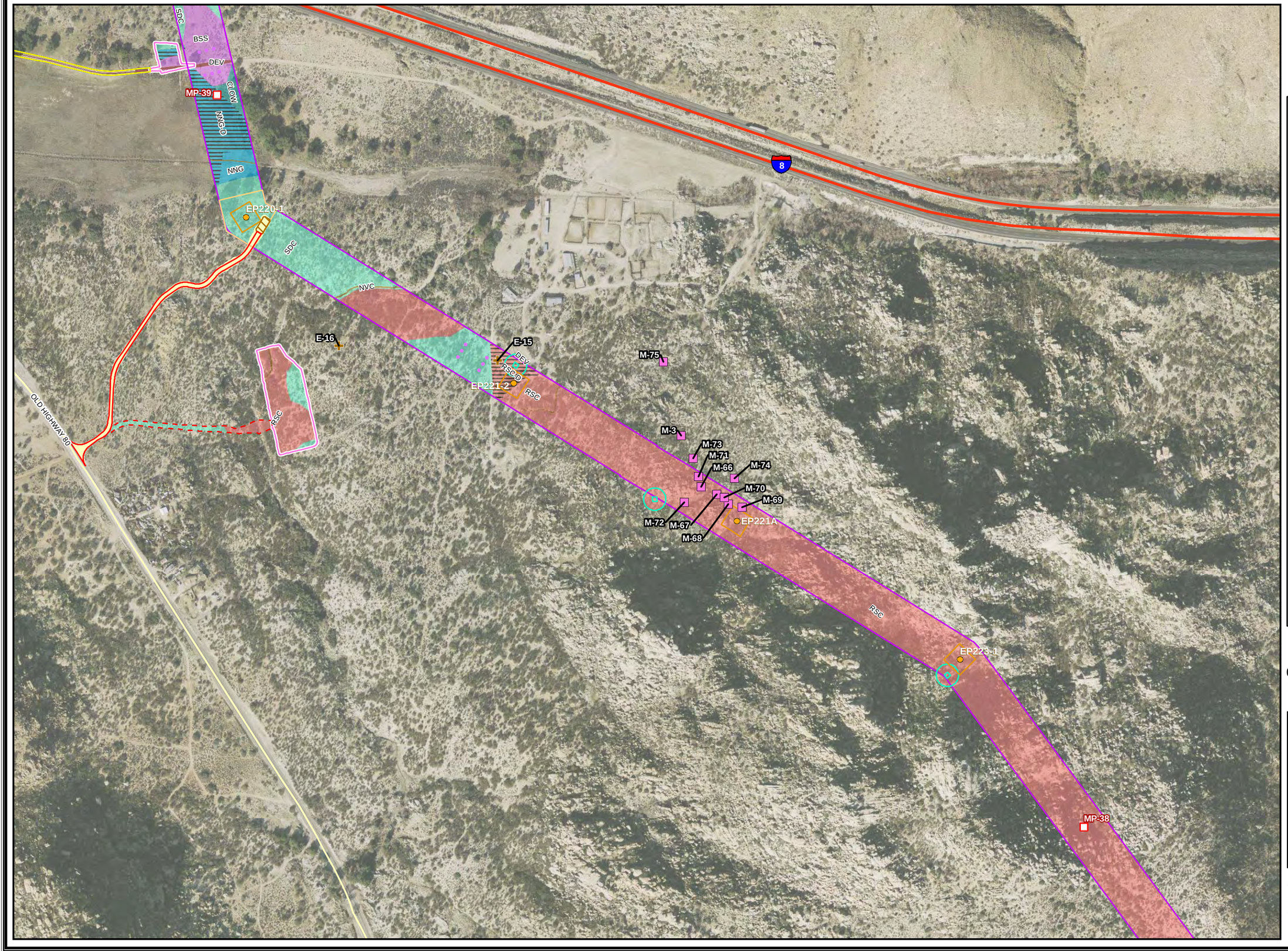
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-011 - 5/24/2010

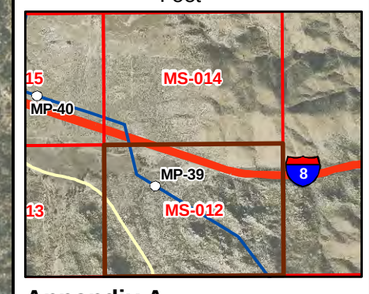


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



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USFS Sensitive Species Occurrences

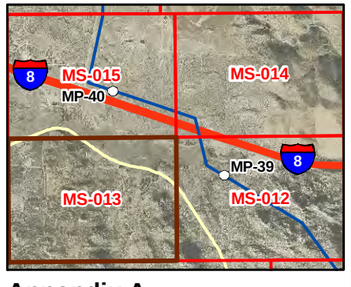
MS-012 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

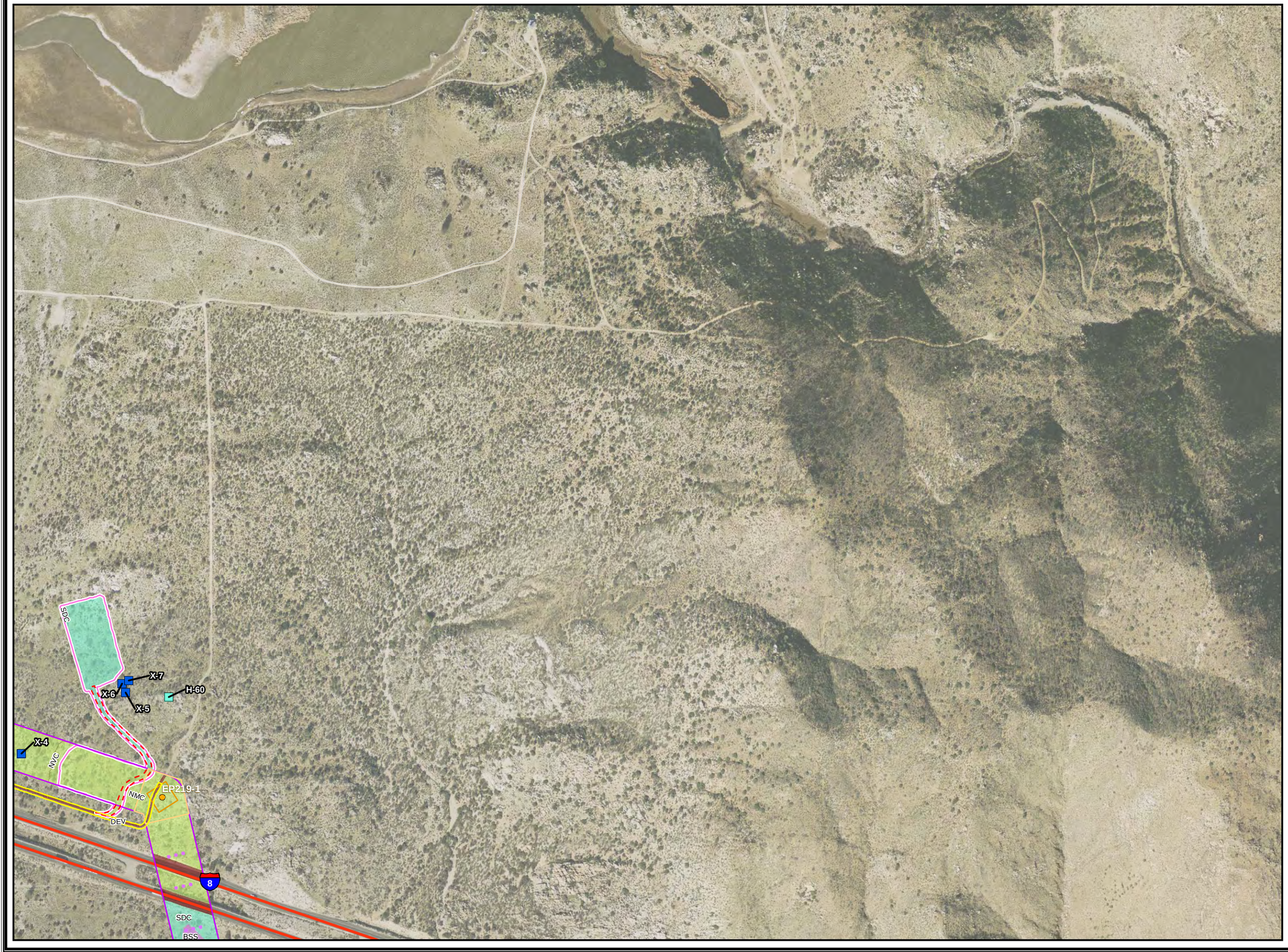
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-013 - 5/24/2010

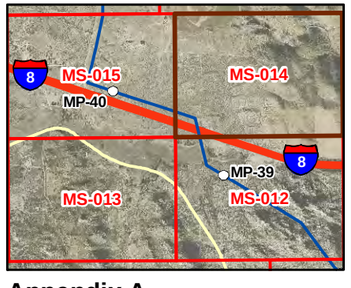


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

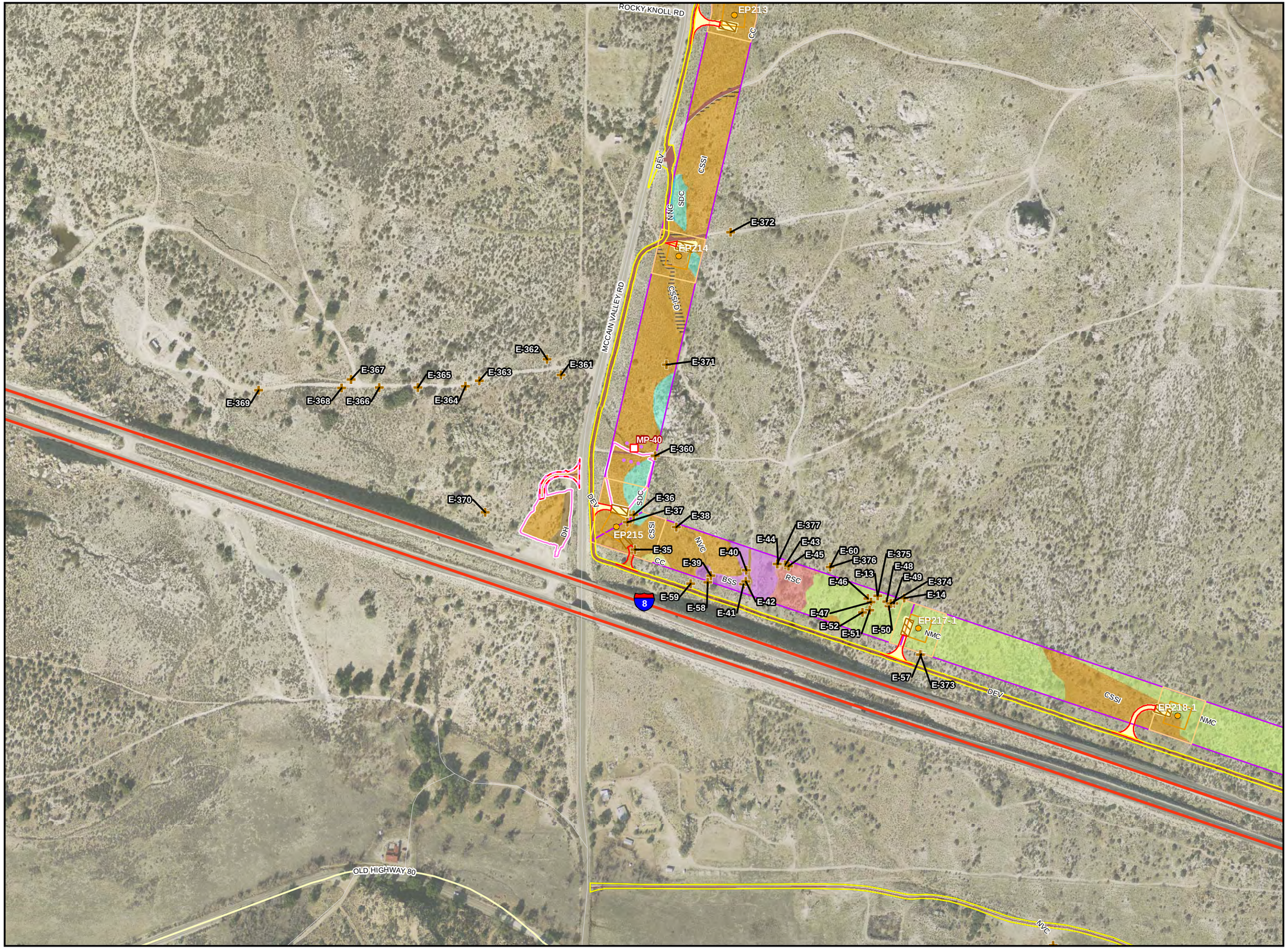
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-014 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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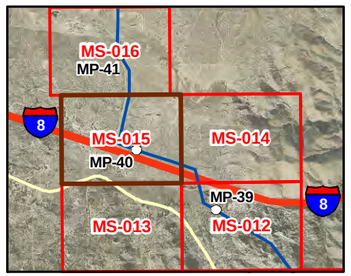
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

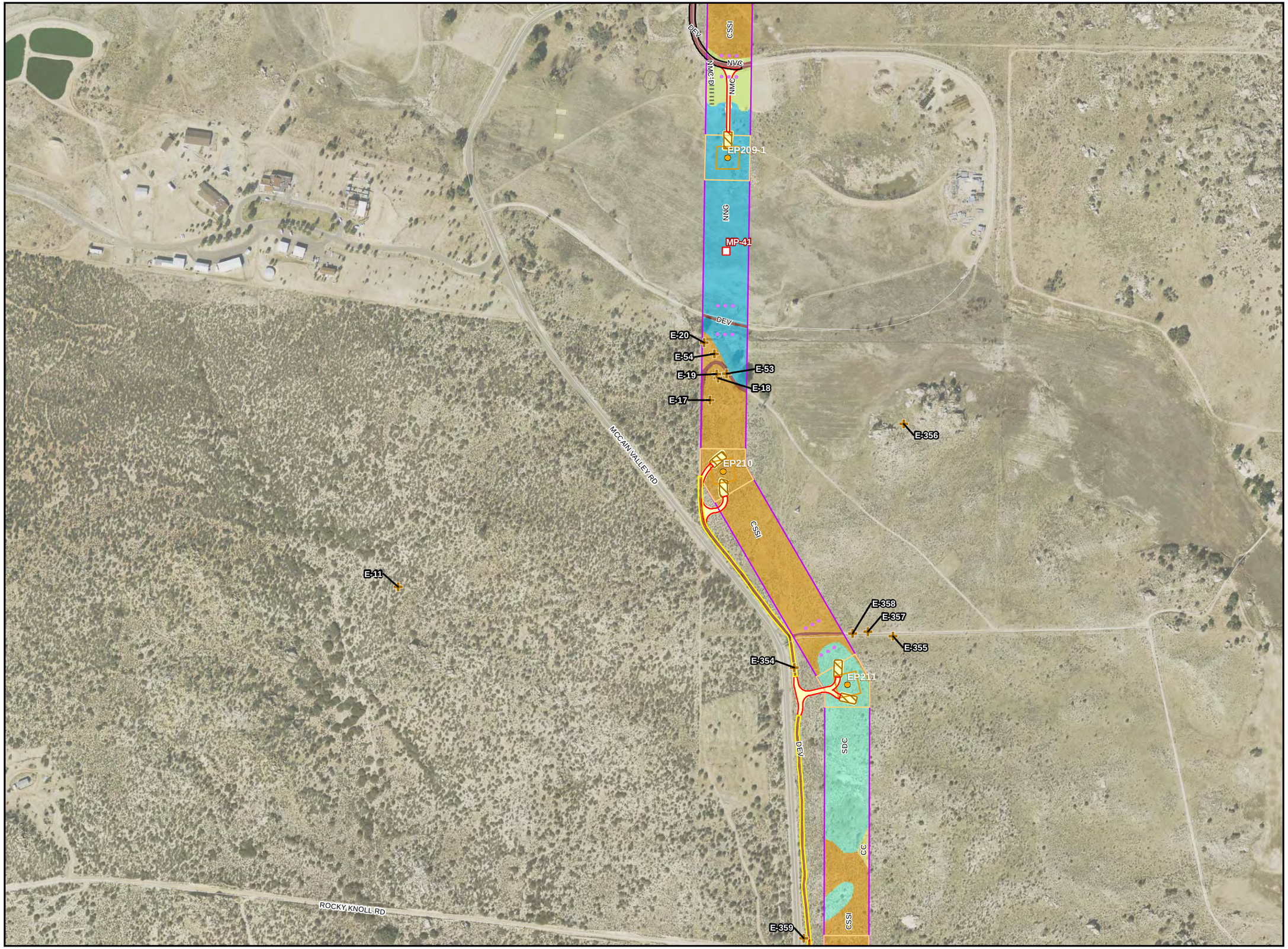
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-015 - 5/24/2010

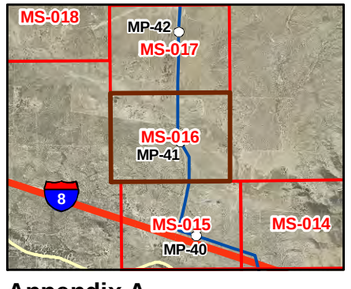


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



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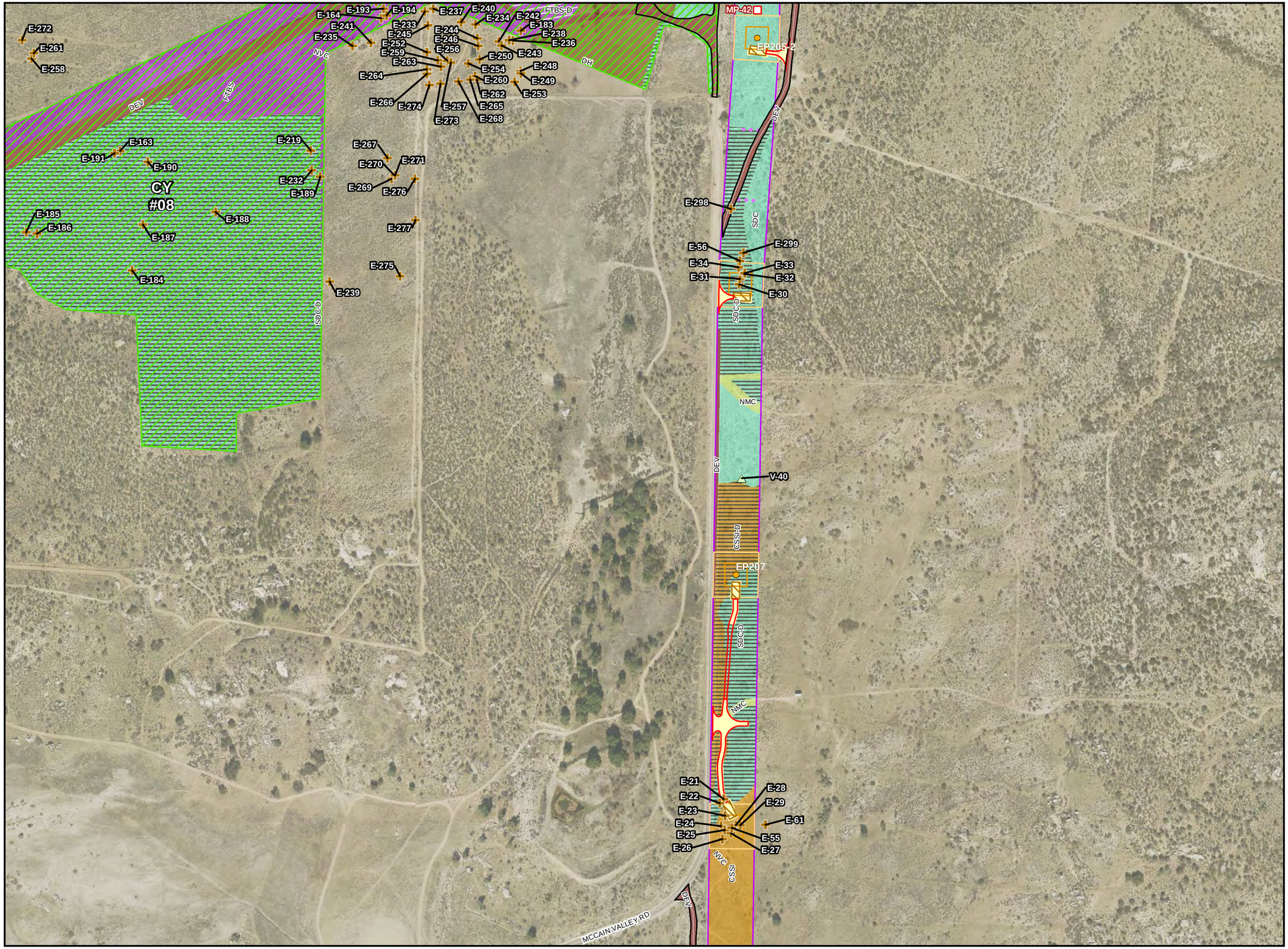
USFS Sensitive Species Occurrences

MS-016 - 5/24/2010

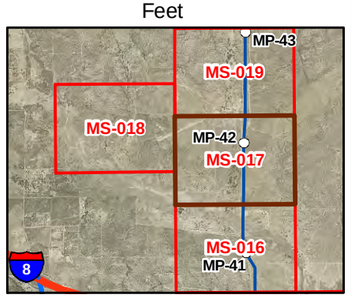


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

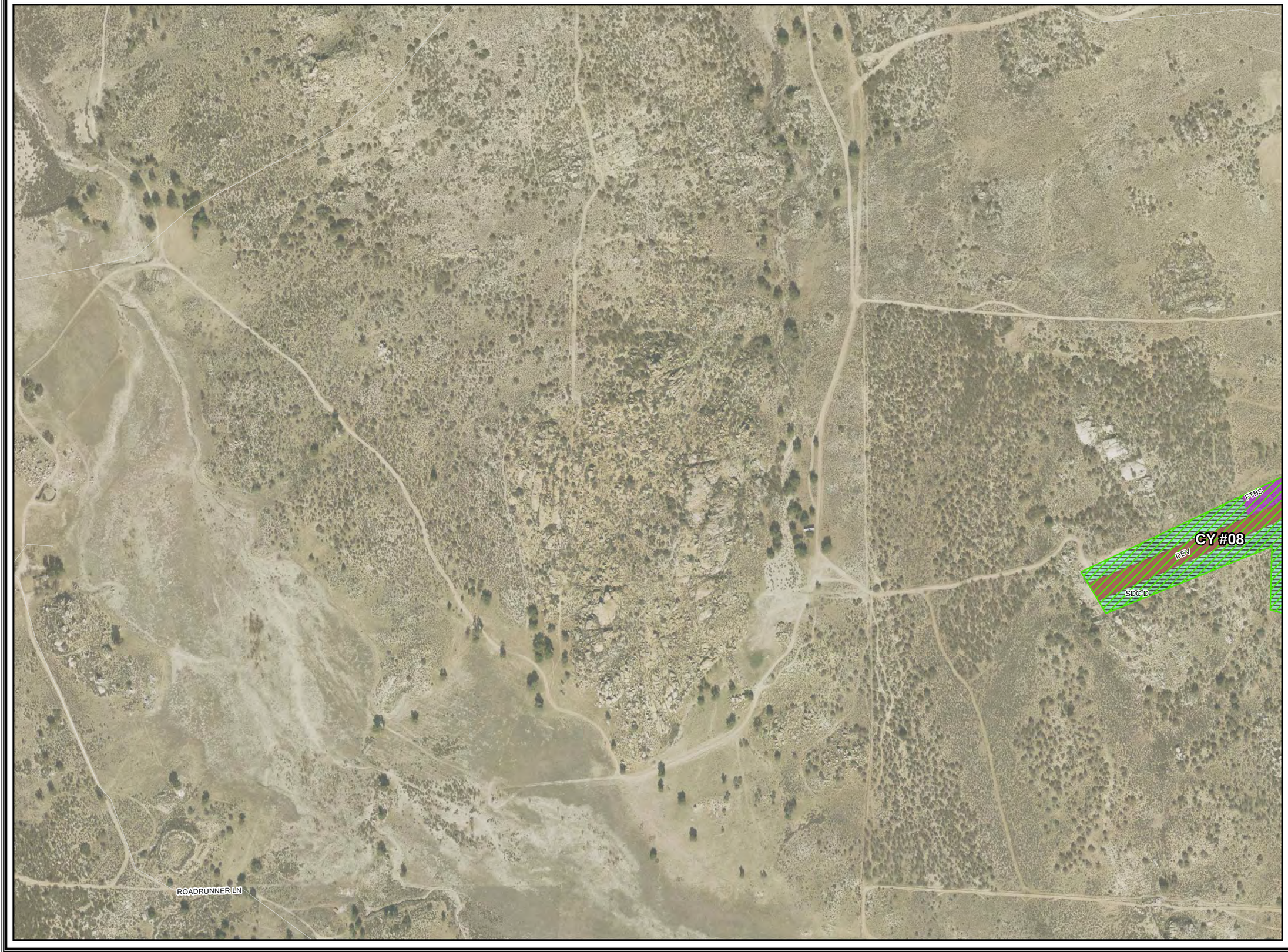
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-017 - 5/24/2010

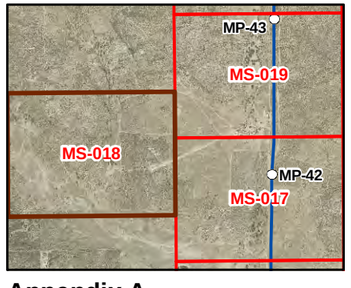


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



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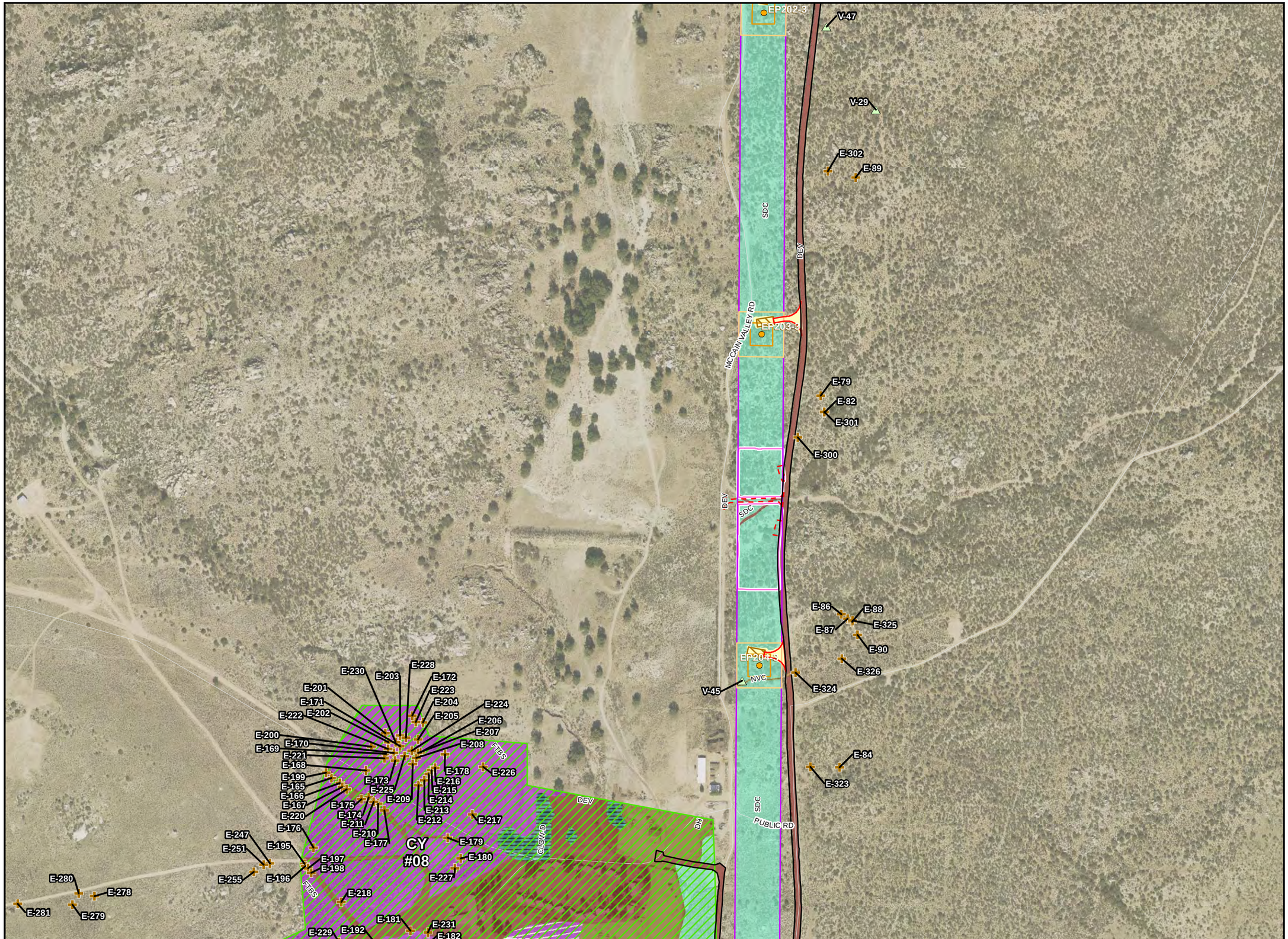
USFS Sensitive Species Occurrences

MS-018 - 5/24/2010

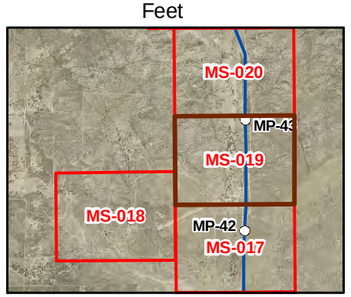


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



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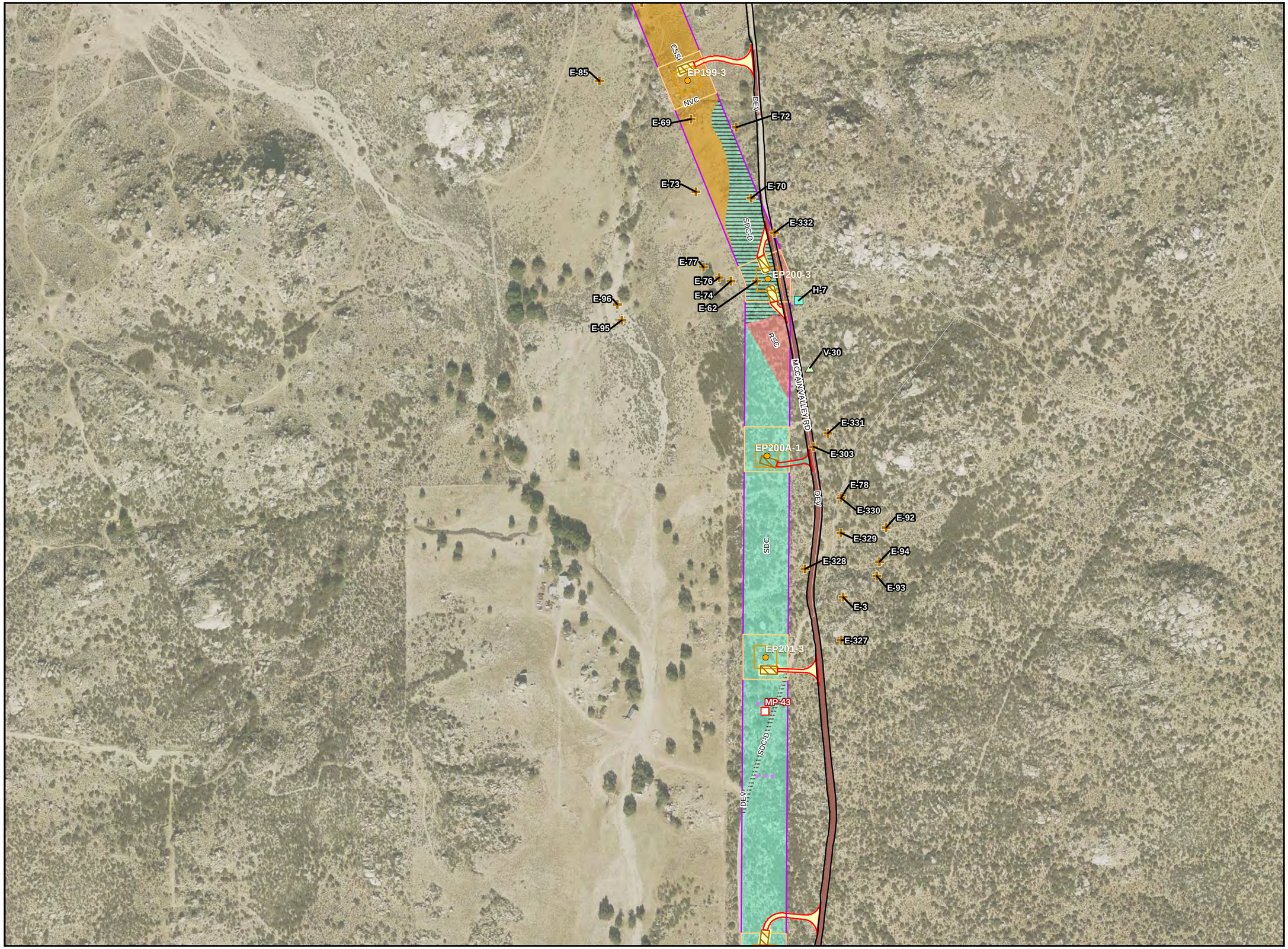
USFS Sensitive Species Occurrences

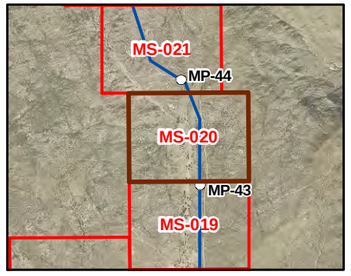
MS-019 - 5/24/2010



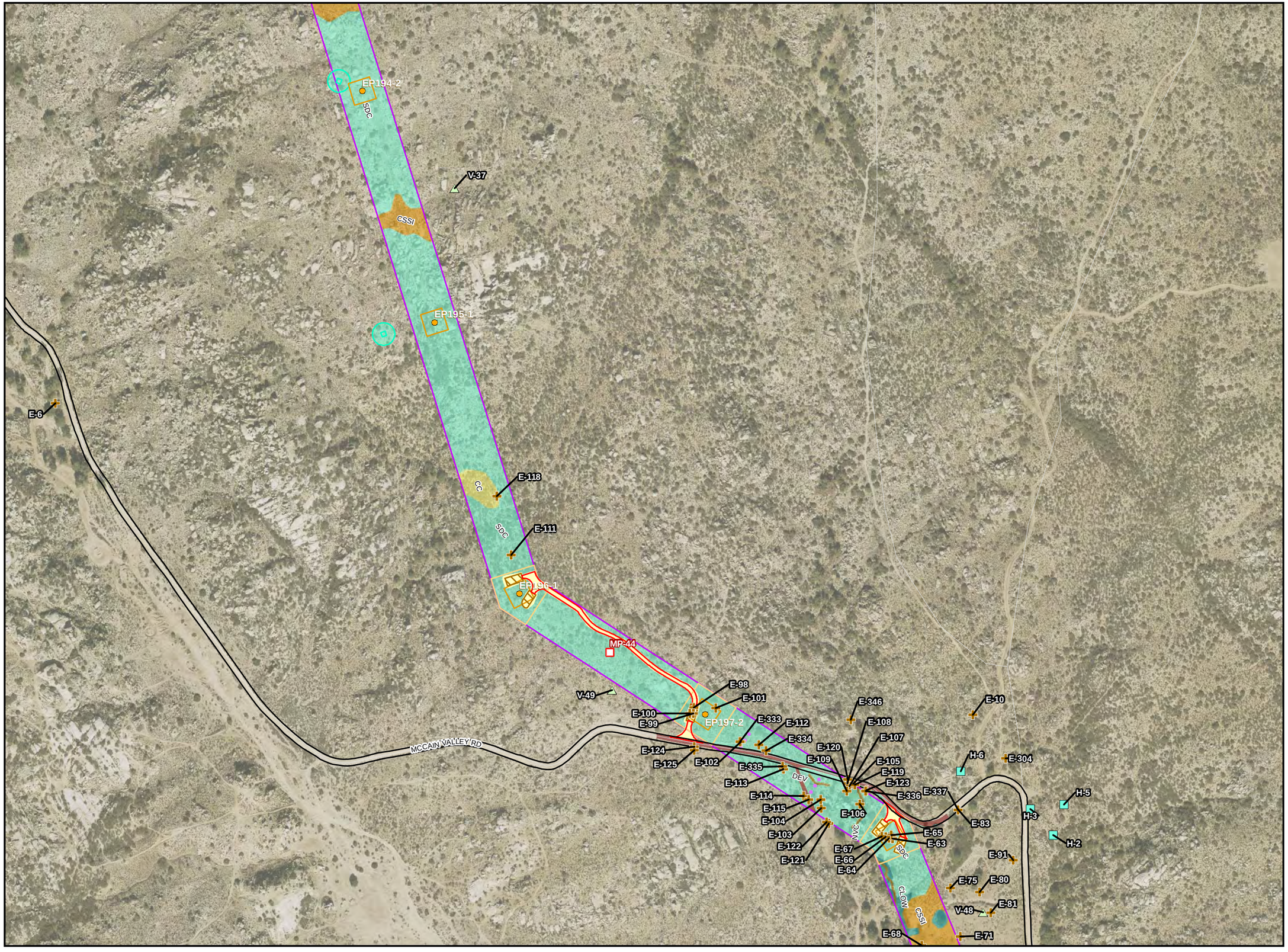
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive
Species Occurrences
MS-020 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
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- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
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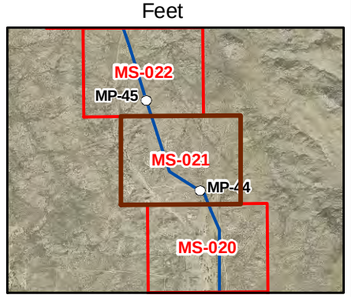
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

USFS Sensitive Species Occurrences

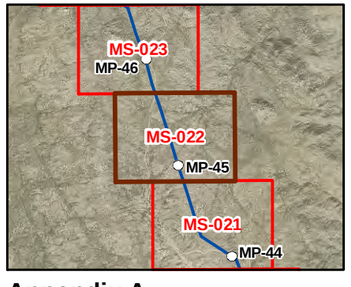
MS-021 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

USFS Sensitive Species Occurrences

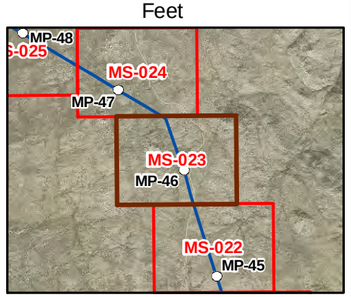
MS-022 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

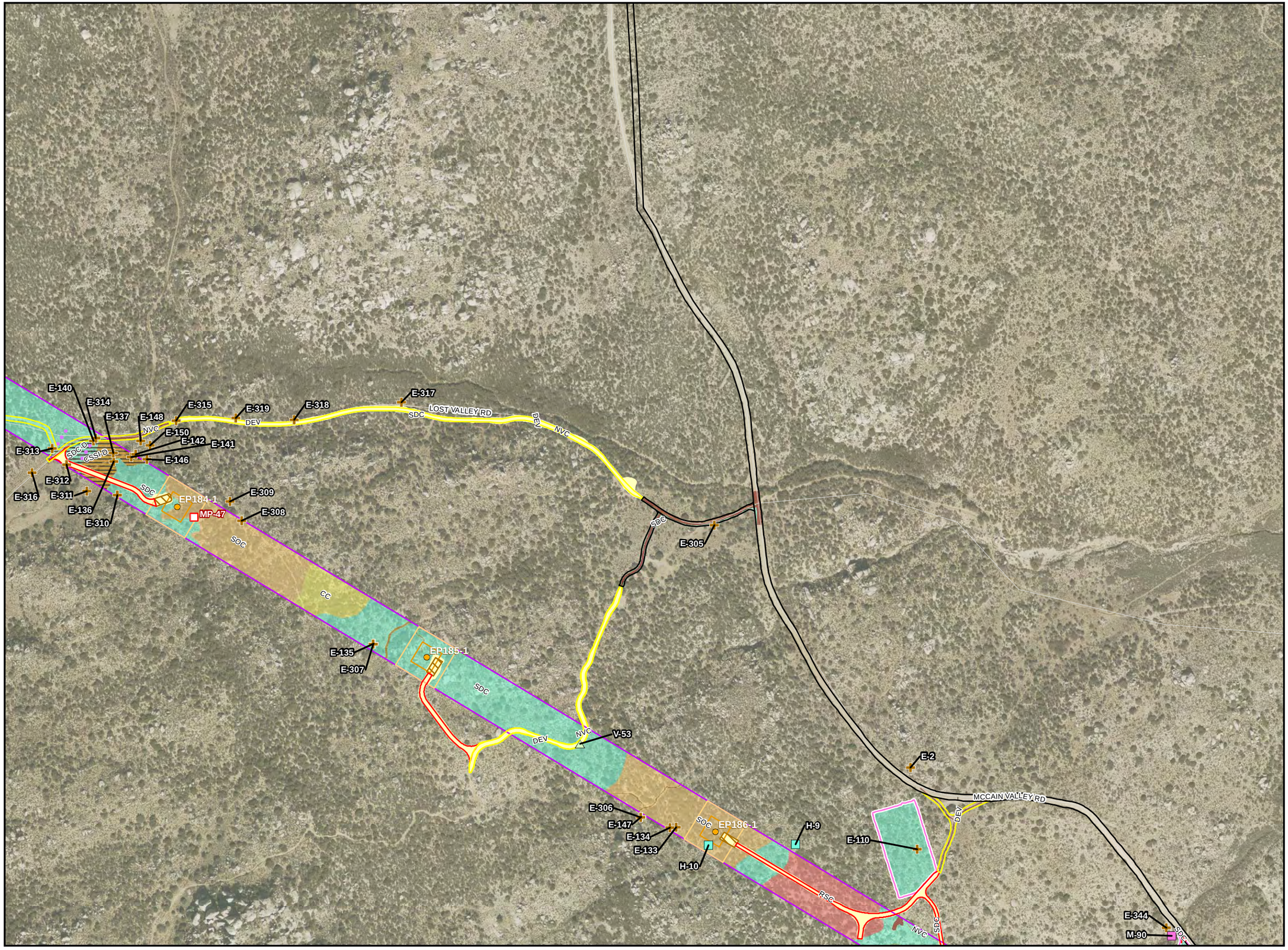
Feet



Appendix A

USFS Sensitive Species Occurrences

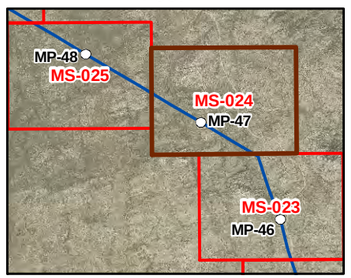
MS-023 - 5/24/2010



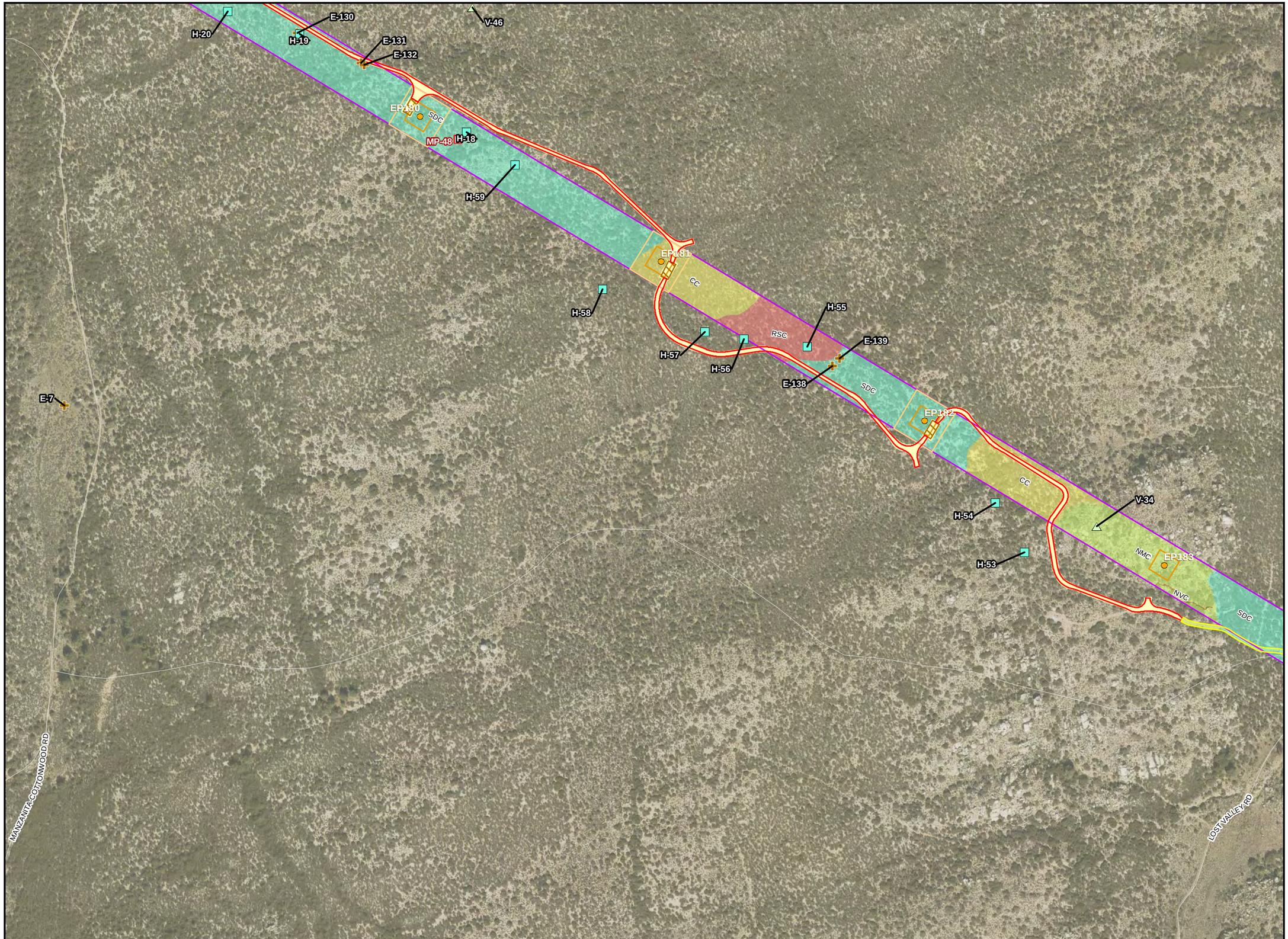
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



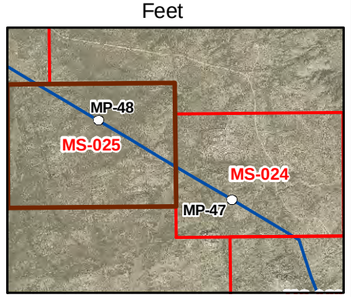
Appendix A
USFS Sensitive
Species Occurrences
MS-024 - 5/24/2010



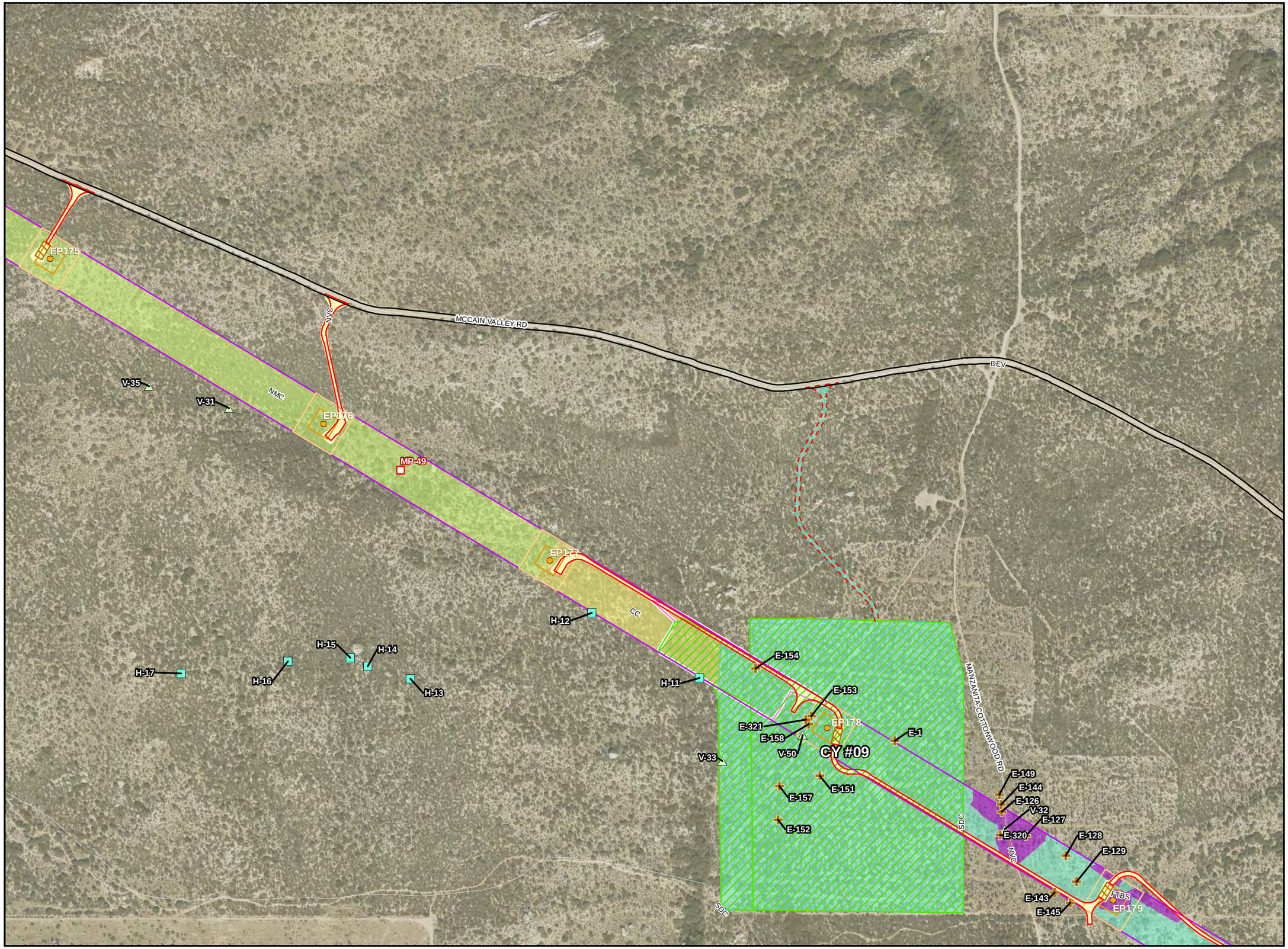
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



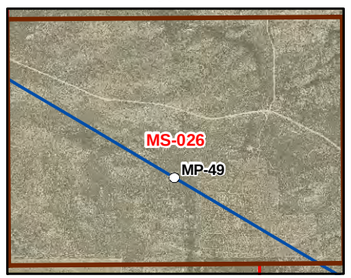
Appendix A
USFS Sensitive
Species Occurrences
MS-025 - 5/24/2010



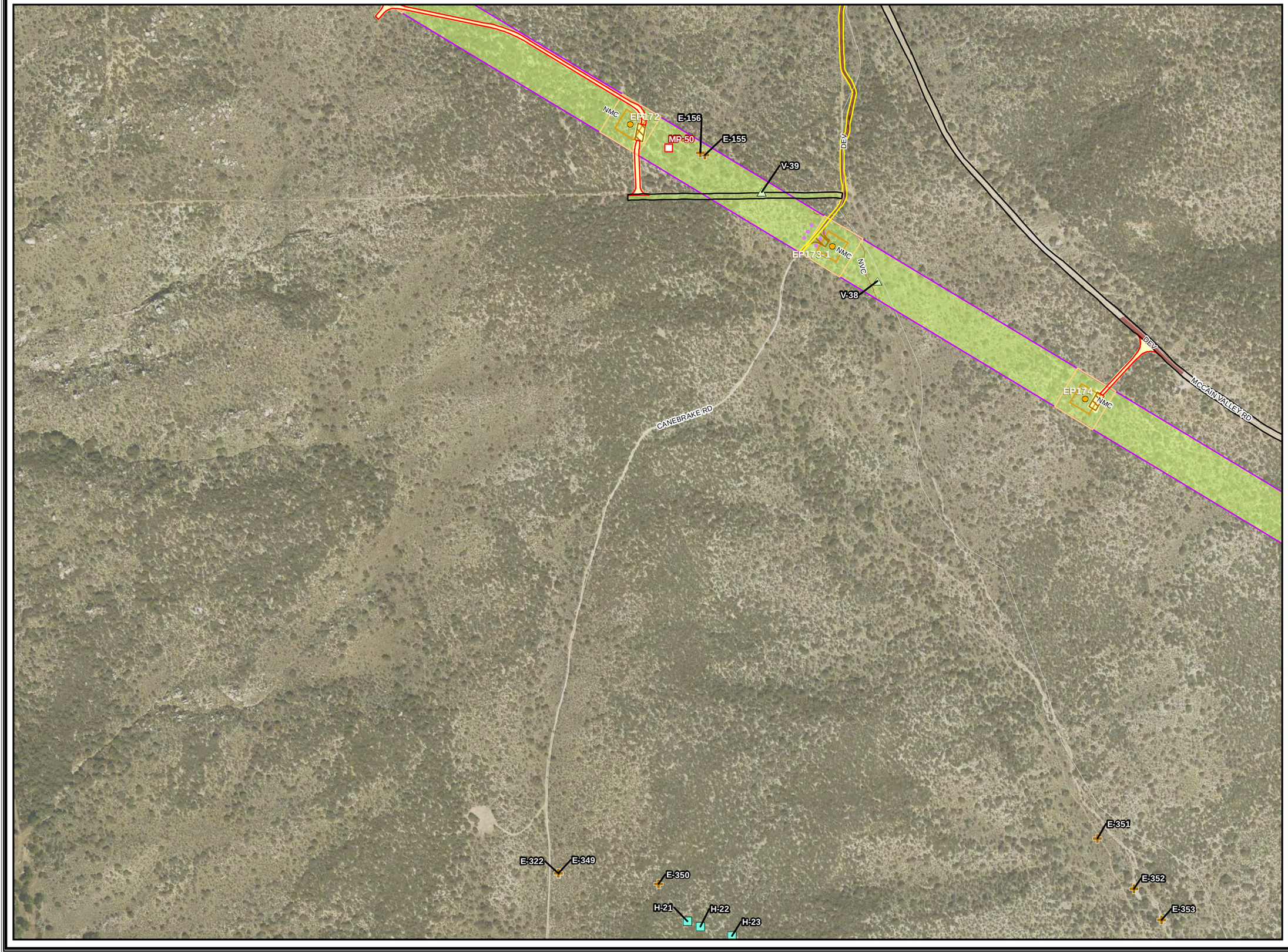
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive
Species Occurrences
MS-026 - 5/24/2010

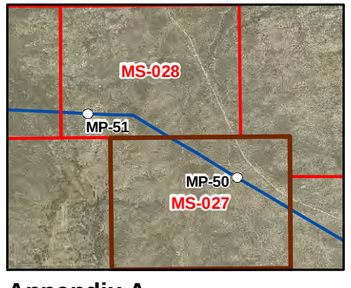


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

USFS Sensitive Species Occurrences

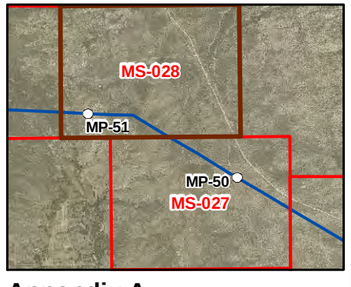
MS-027 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

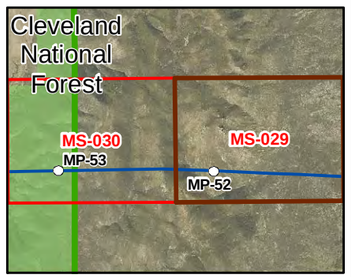
USFS Sensitive Species Occurrences

MS-028 - 5/24/2010

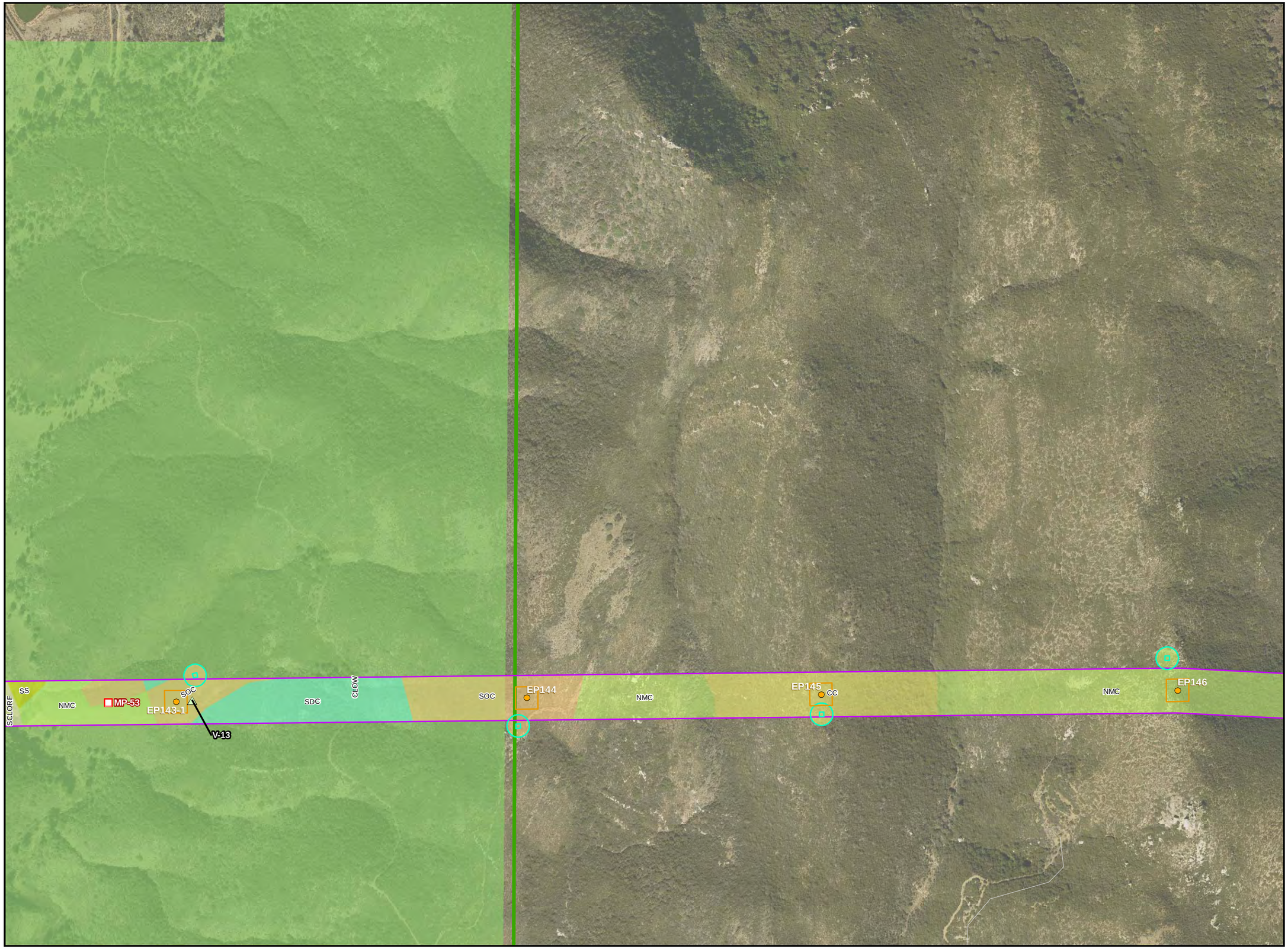
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



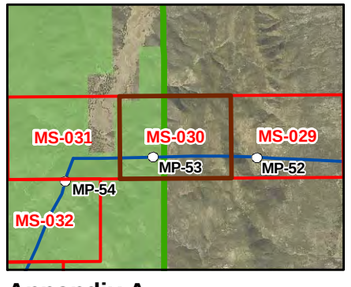
Appendix A
USFS Sensitive Species Occurrences
MS-029 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



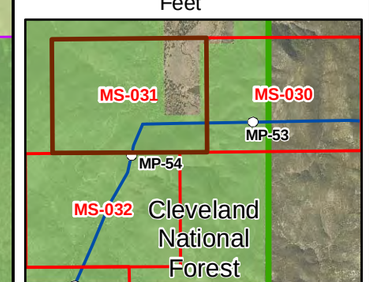
Appendix A
USFS Sensitive
Species Occurrences
MS-030 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

USFS Sensitive Species Occurrences

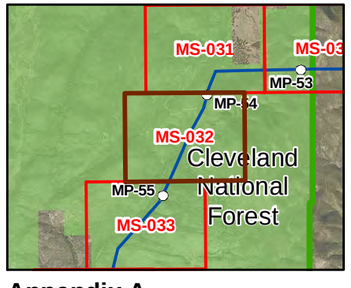
MS-031 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

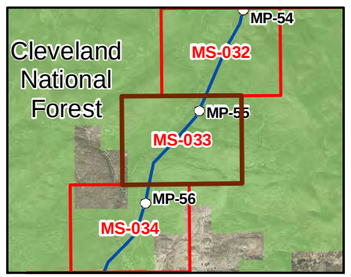
USFS Sensitive Species Occurrences

MS-032 - 5/24/2010

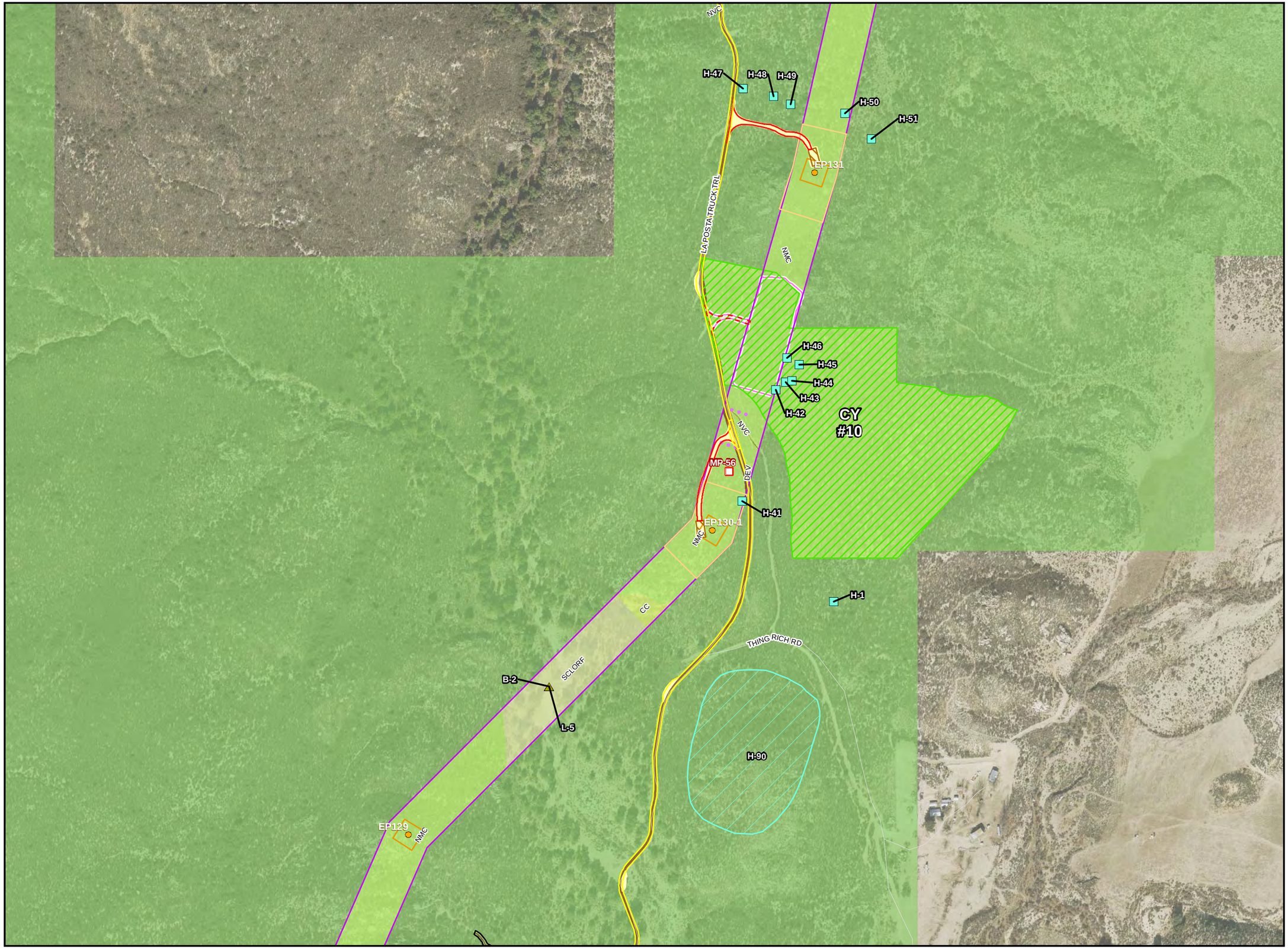
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive Species Occurrences
MS-033 - 5/24/2010

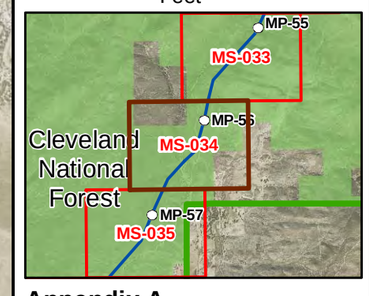


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

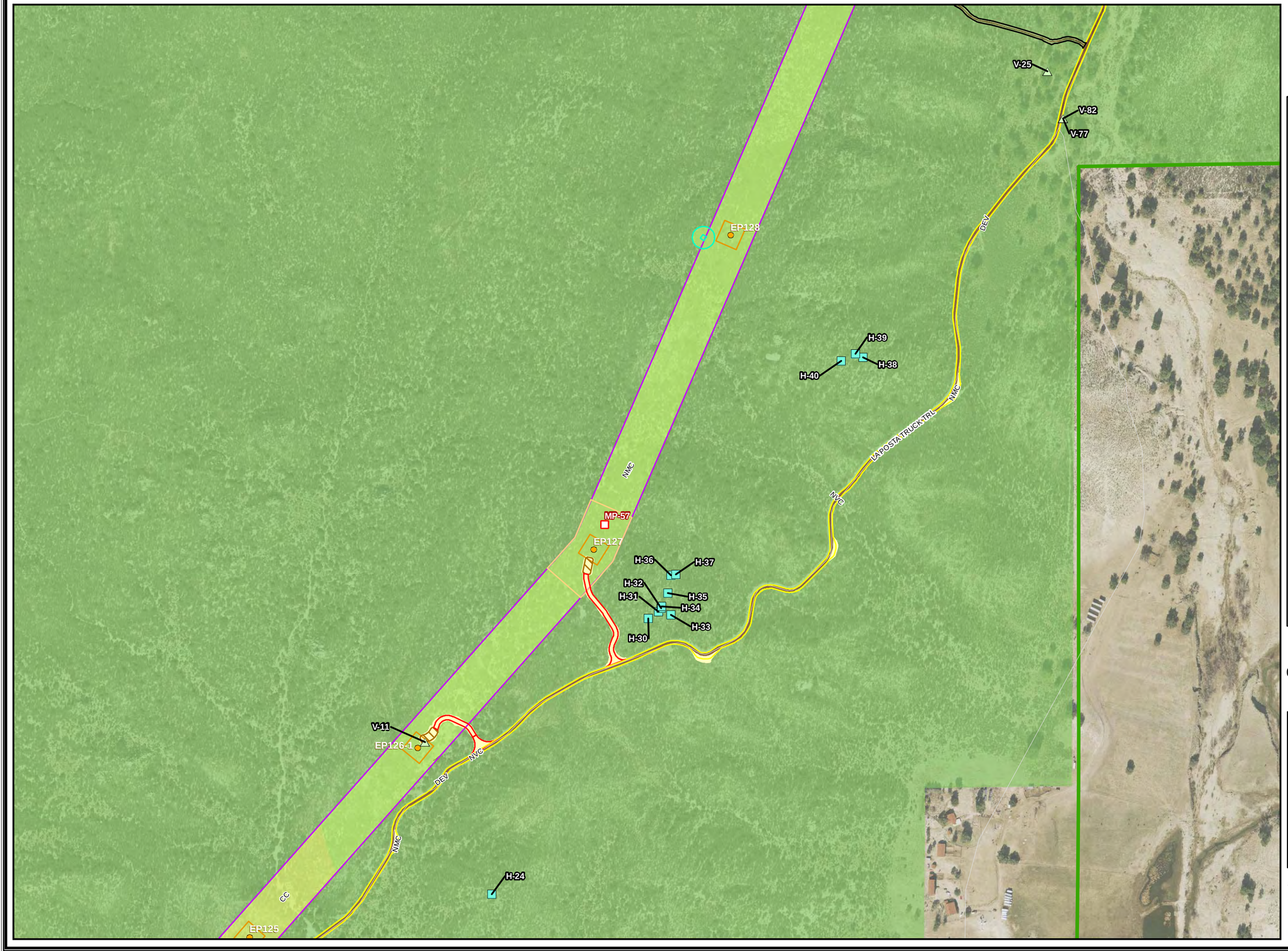
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-034 - 5/24/2010

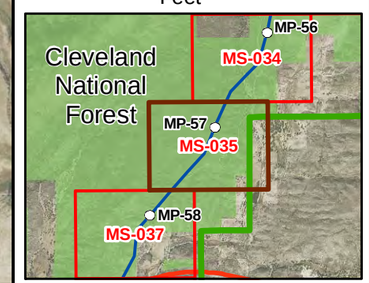


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

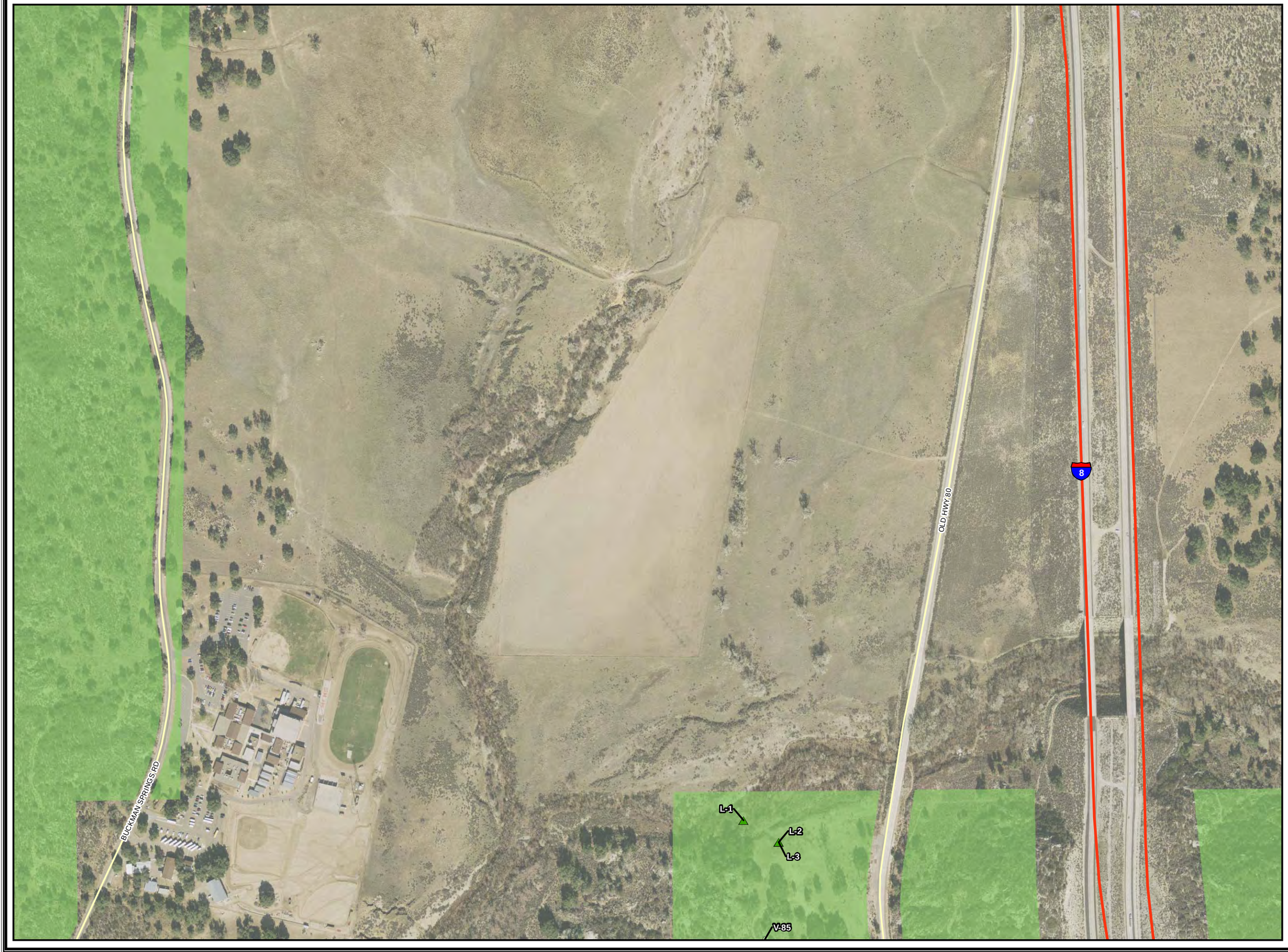
Feet



Appendix A

USFS Sensitive Species Occurrences

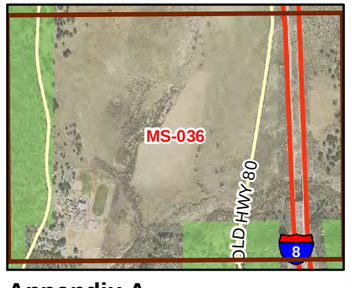
MS-035 - 5/24/2010



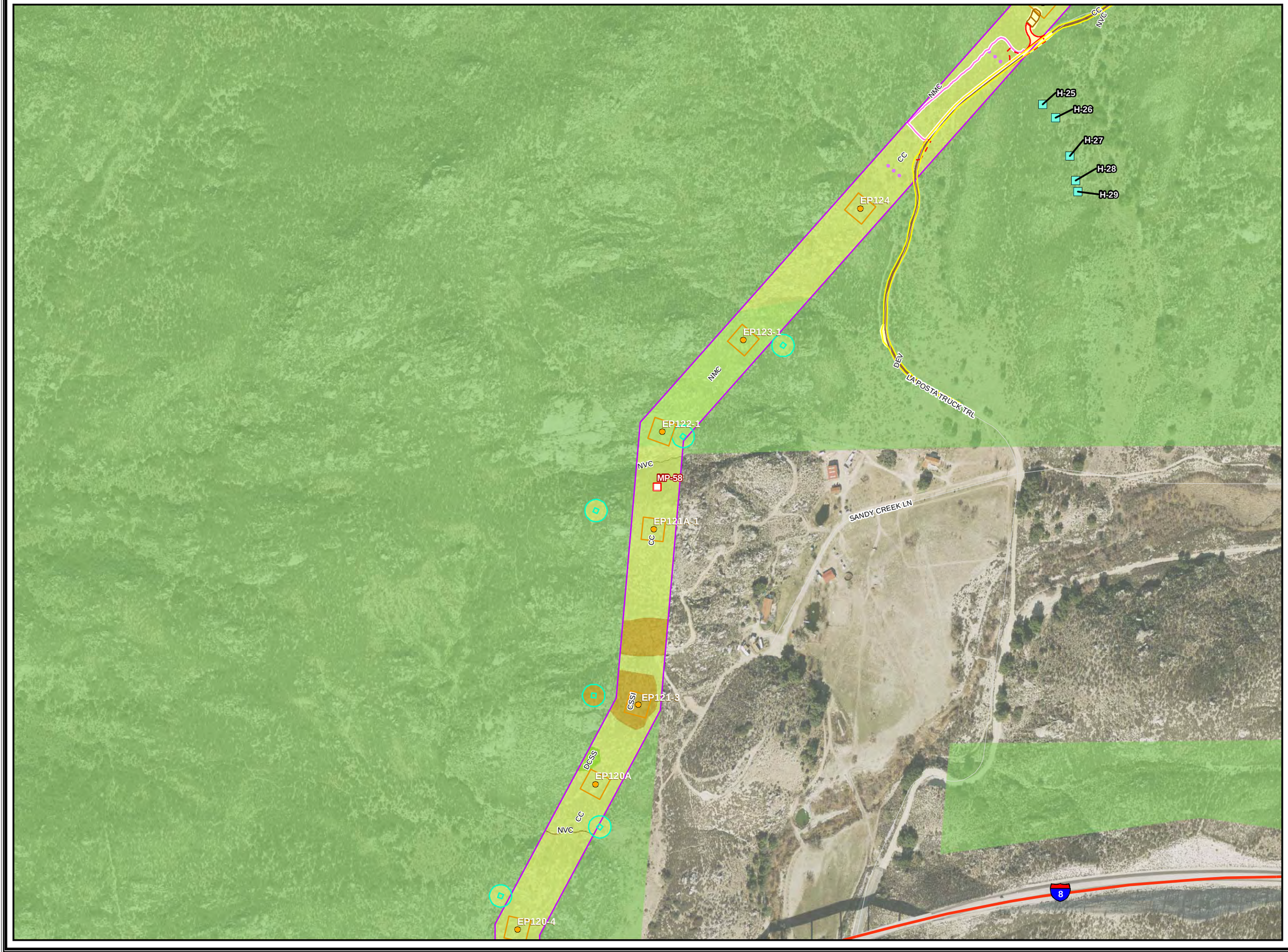
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



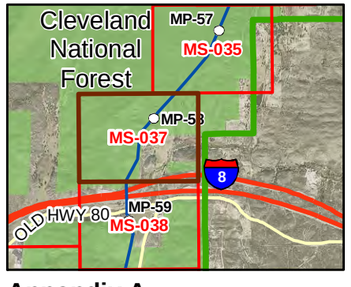
Appendix A
USFS Sensitive
Species Occurrences
MS-036 - 5/24/2010



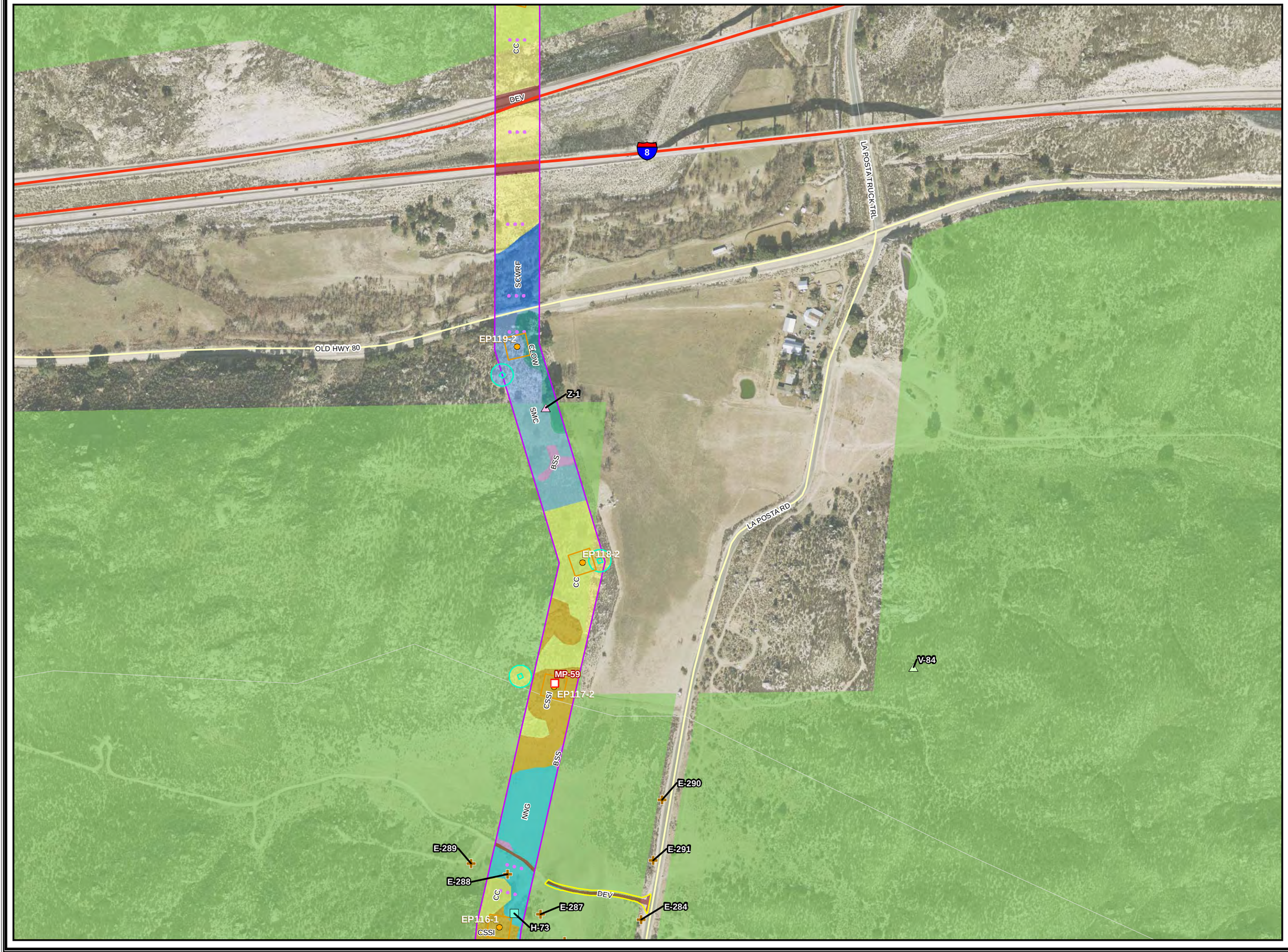
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive Species Occurrences
MS-037 - 5/24/2010

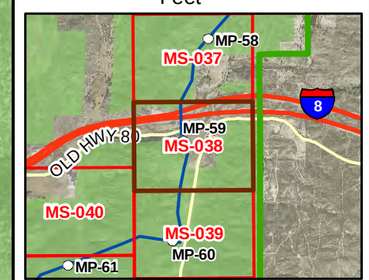


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

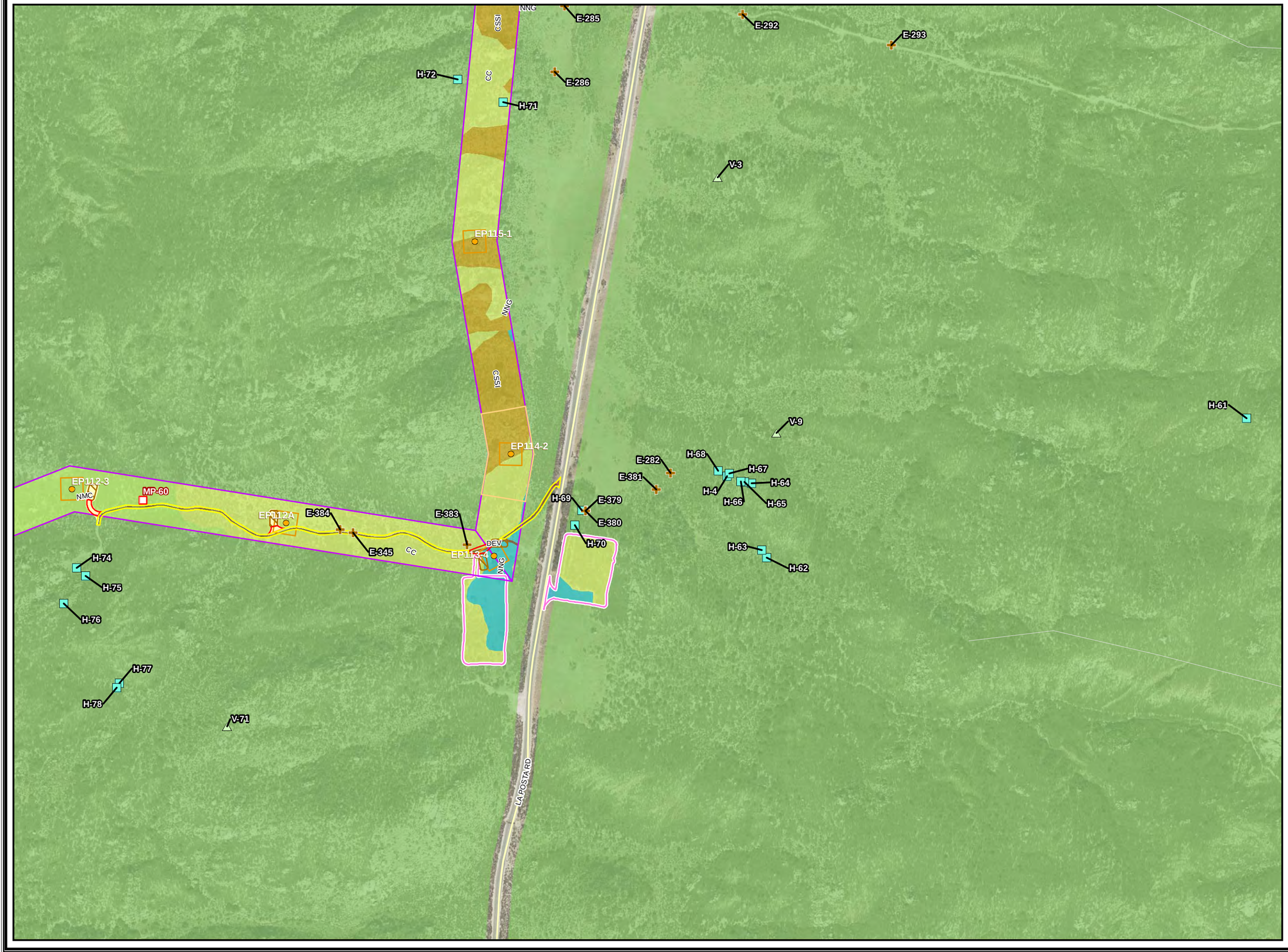
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-038 - 5/24/2010

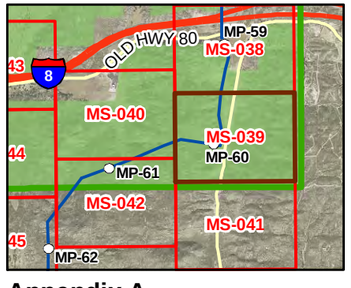


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

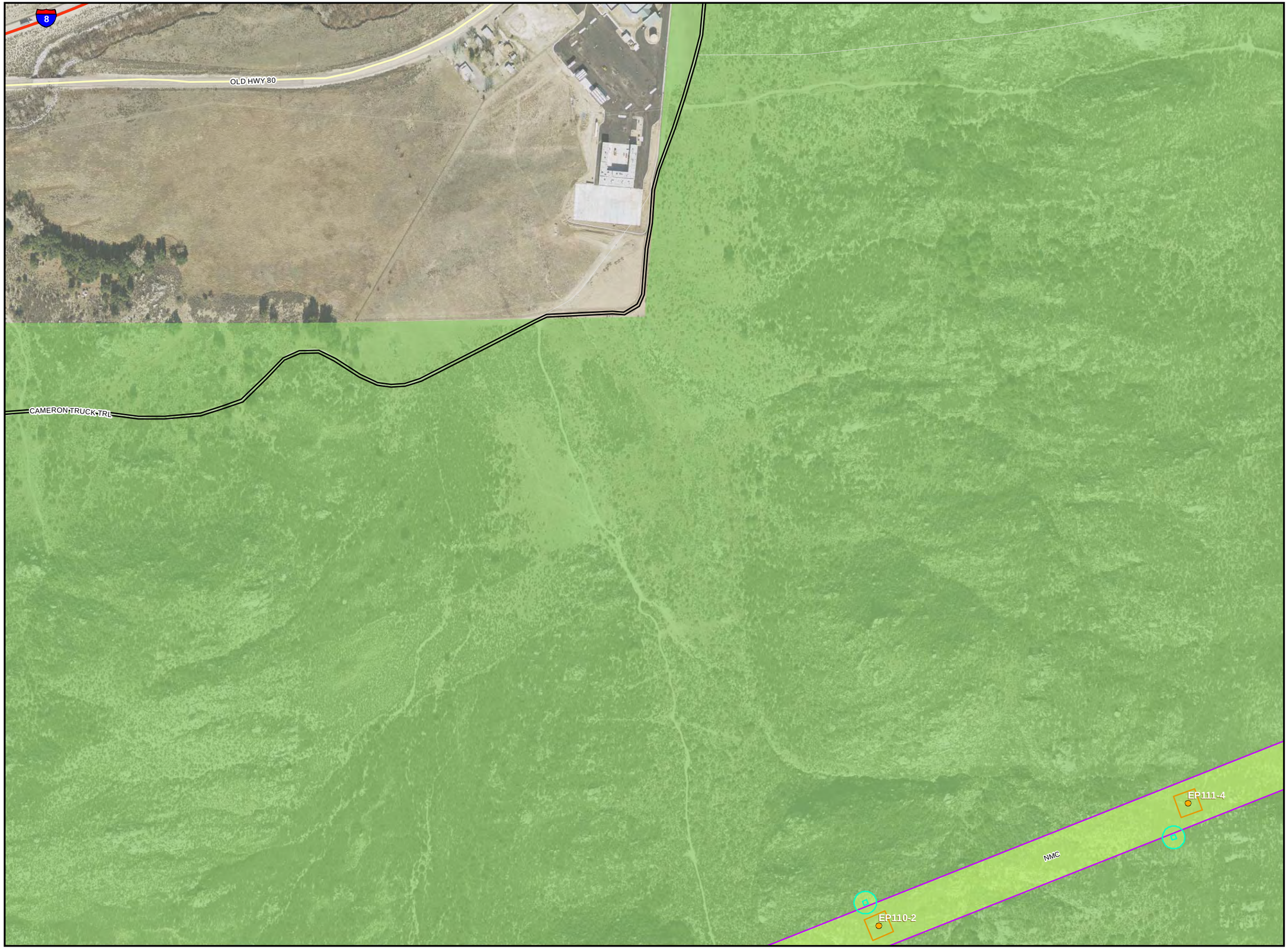
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-039 - 5/24/2010

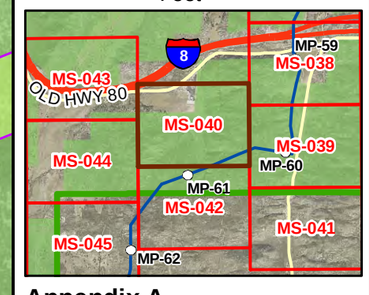


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

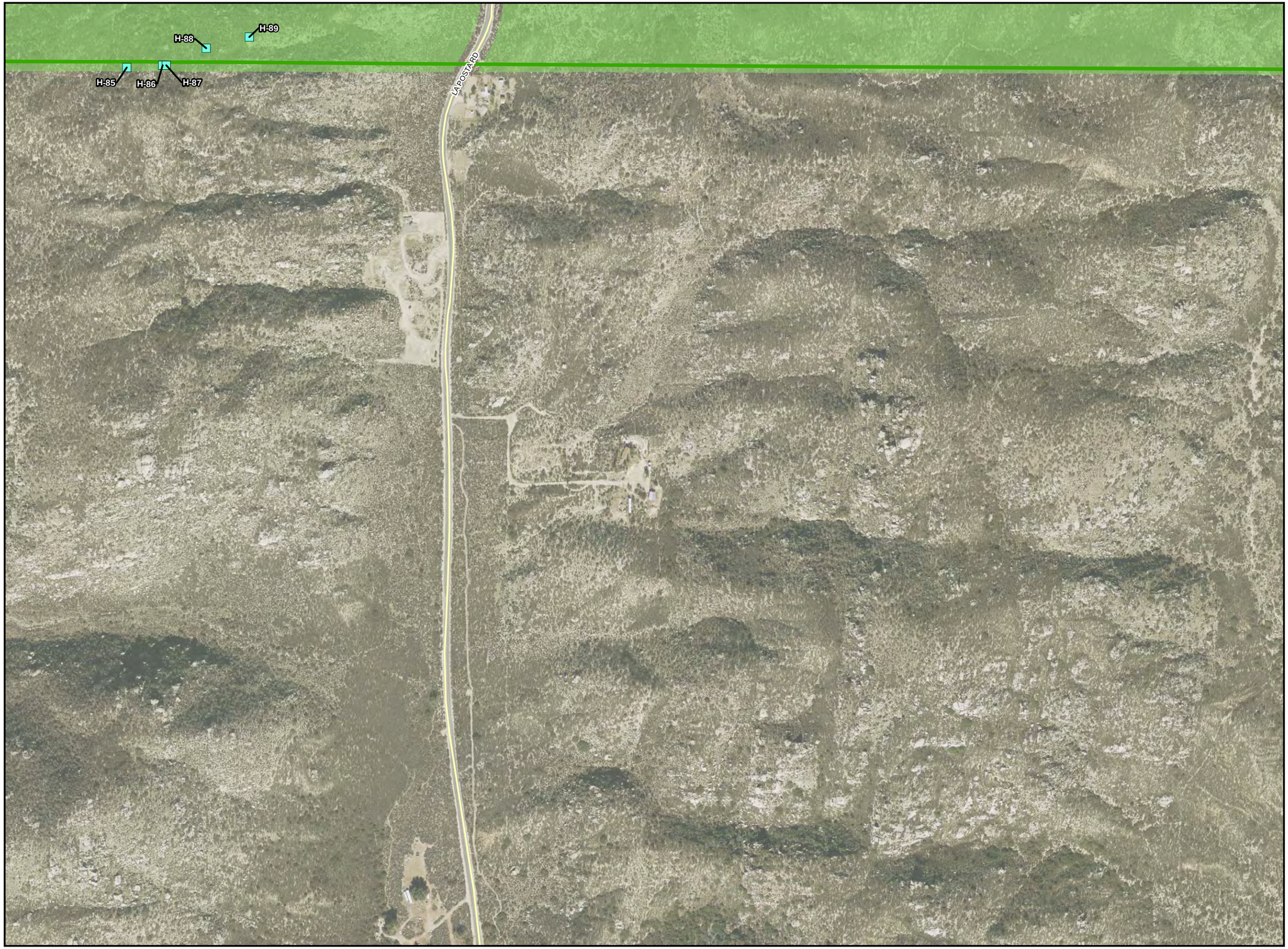
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-040 - 5/24/2010

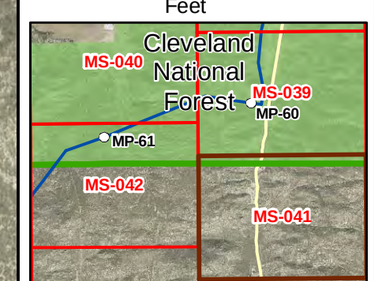


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

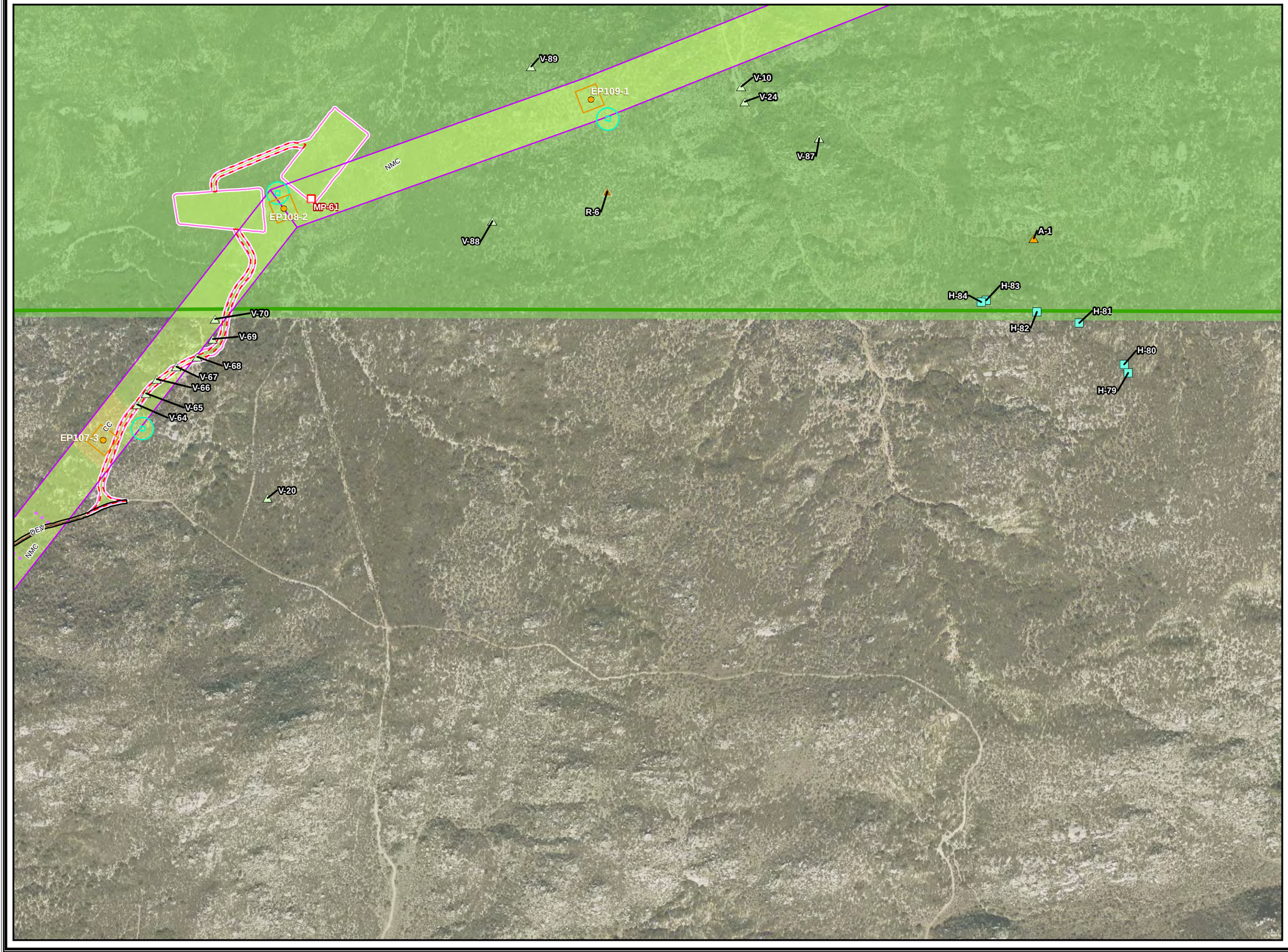
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-041 - 5/24/2010

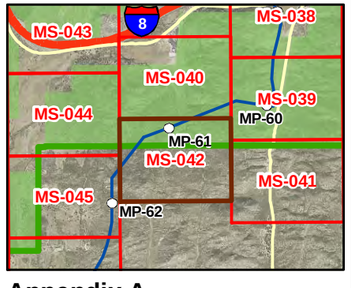


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

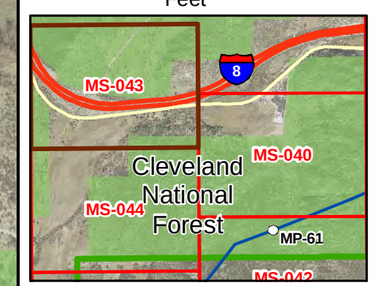
USFS Sensitive Species Occurrences

MS-042 - 5/24/2010

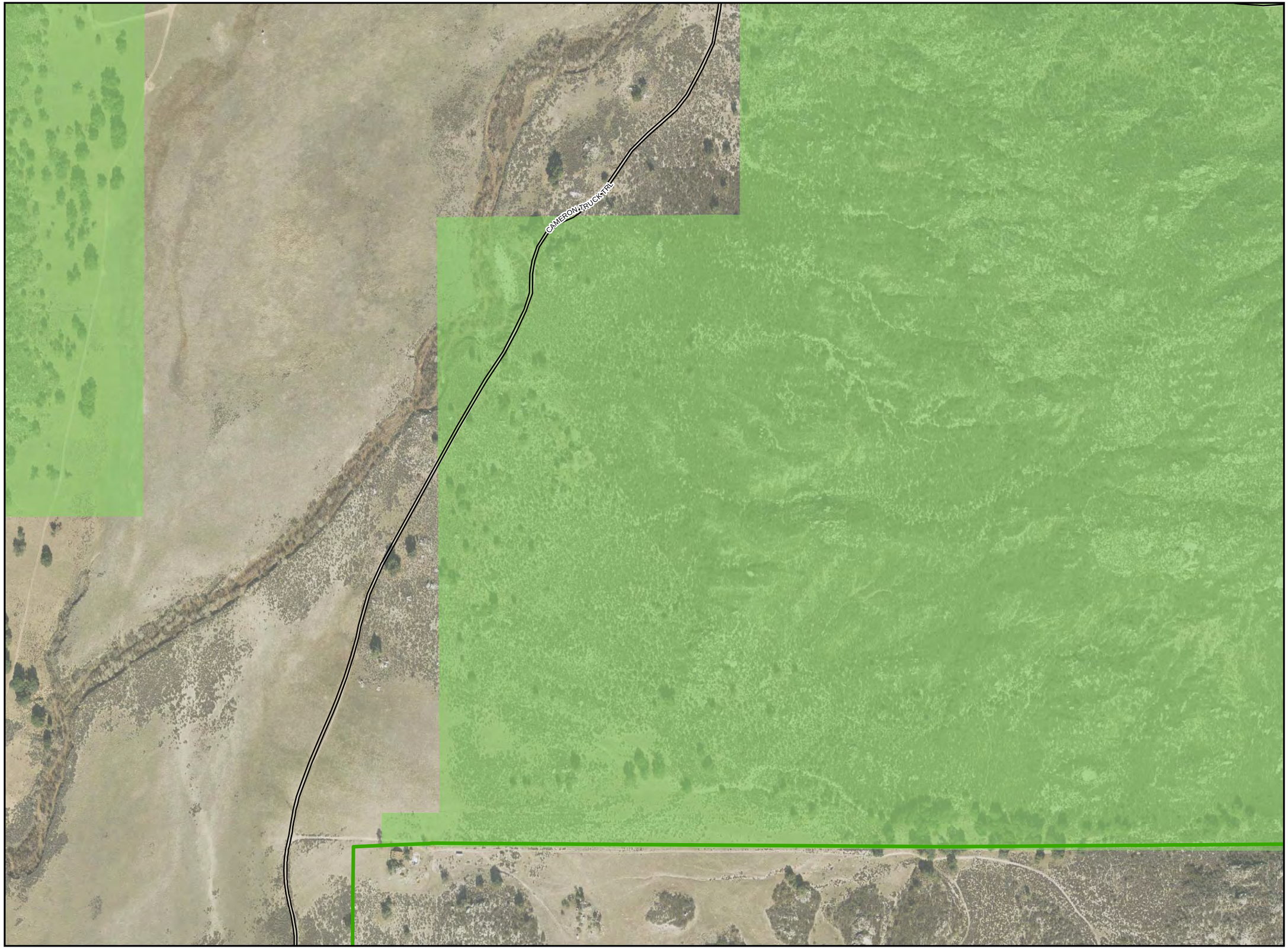
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive Species Occurrences
MS-043 - 5/24/2010

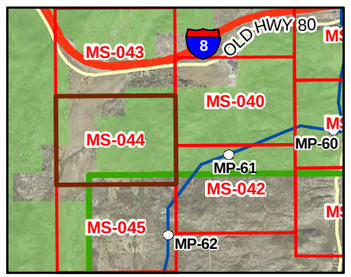


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

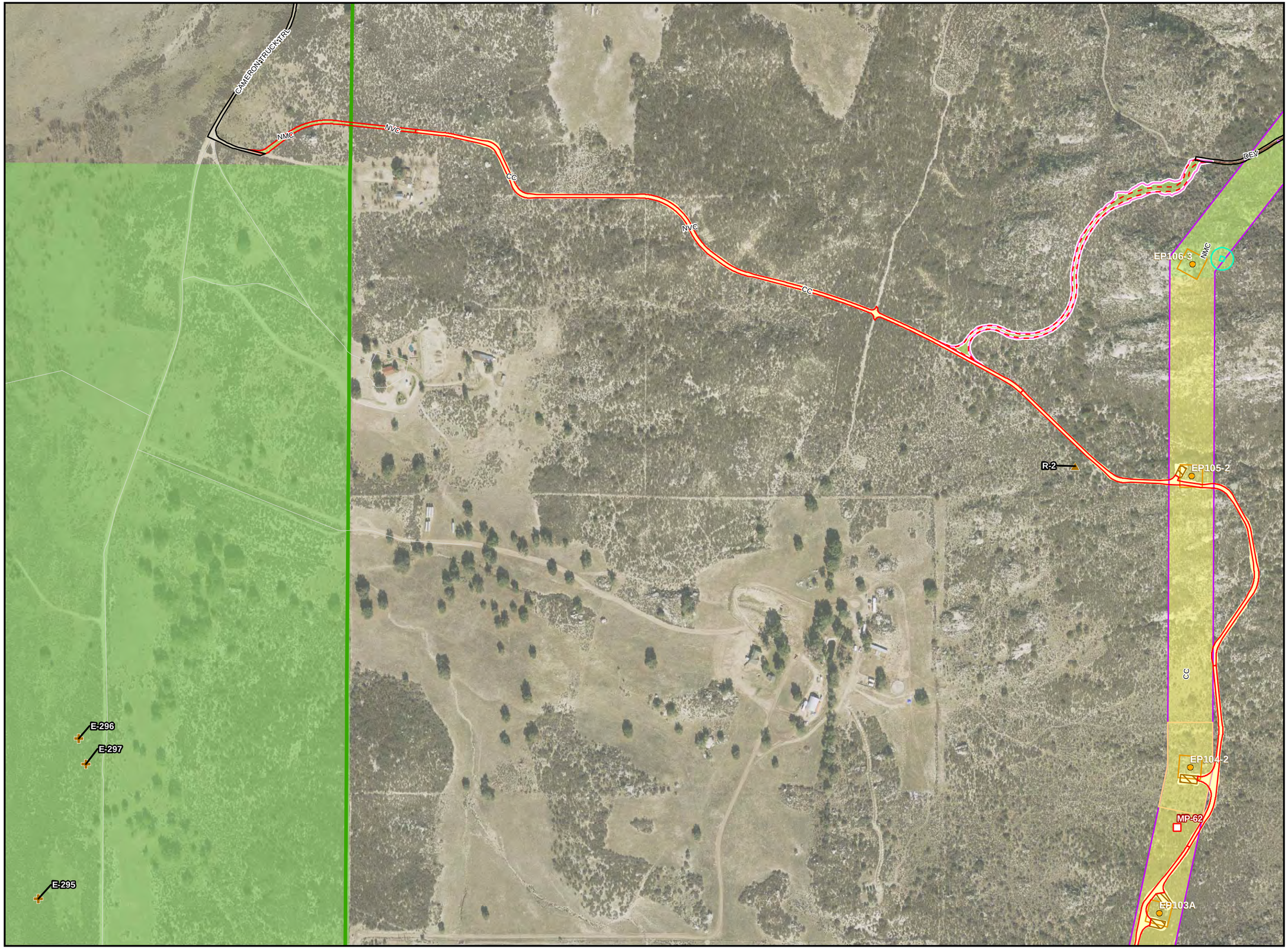
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-044 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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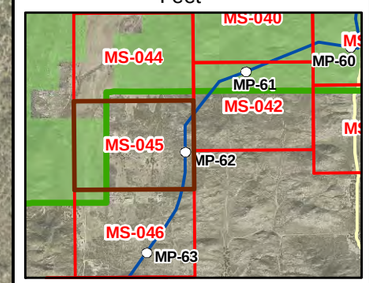
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

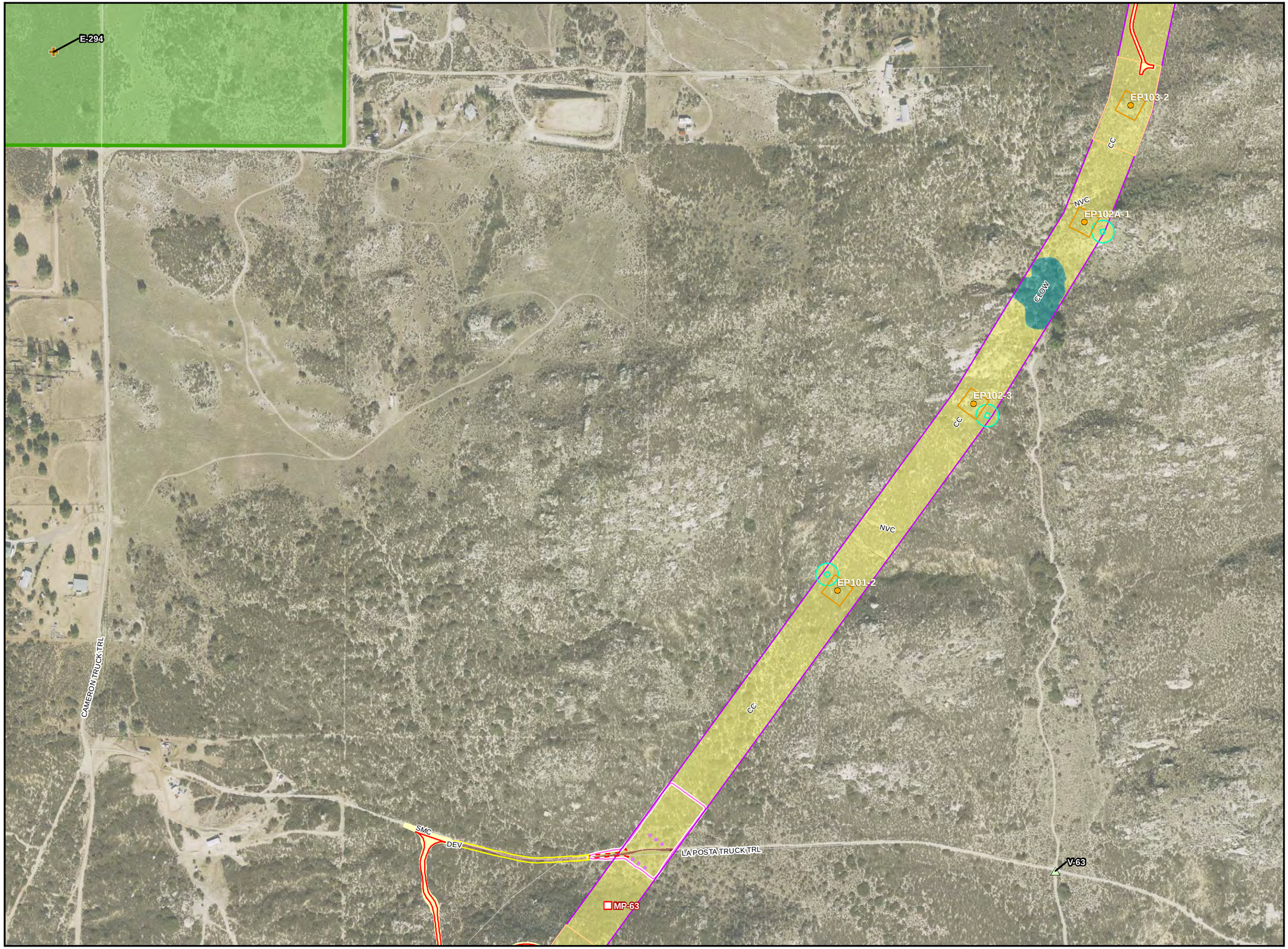
Feet



Appendix A

USFS Sensitive Species Occurrences

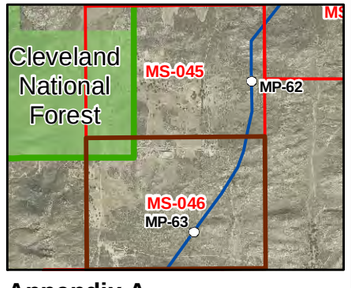
MS-045 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



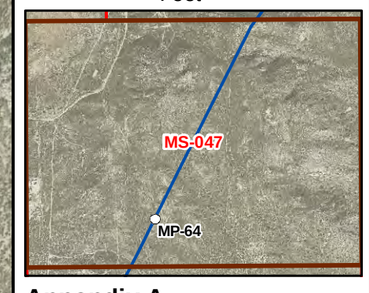
Appendix A
USFS Sensitive Species Occurrences
MS-046 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

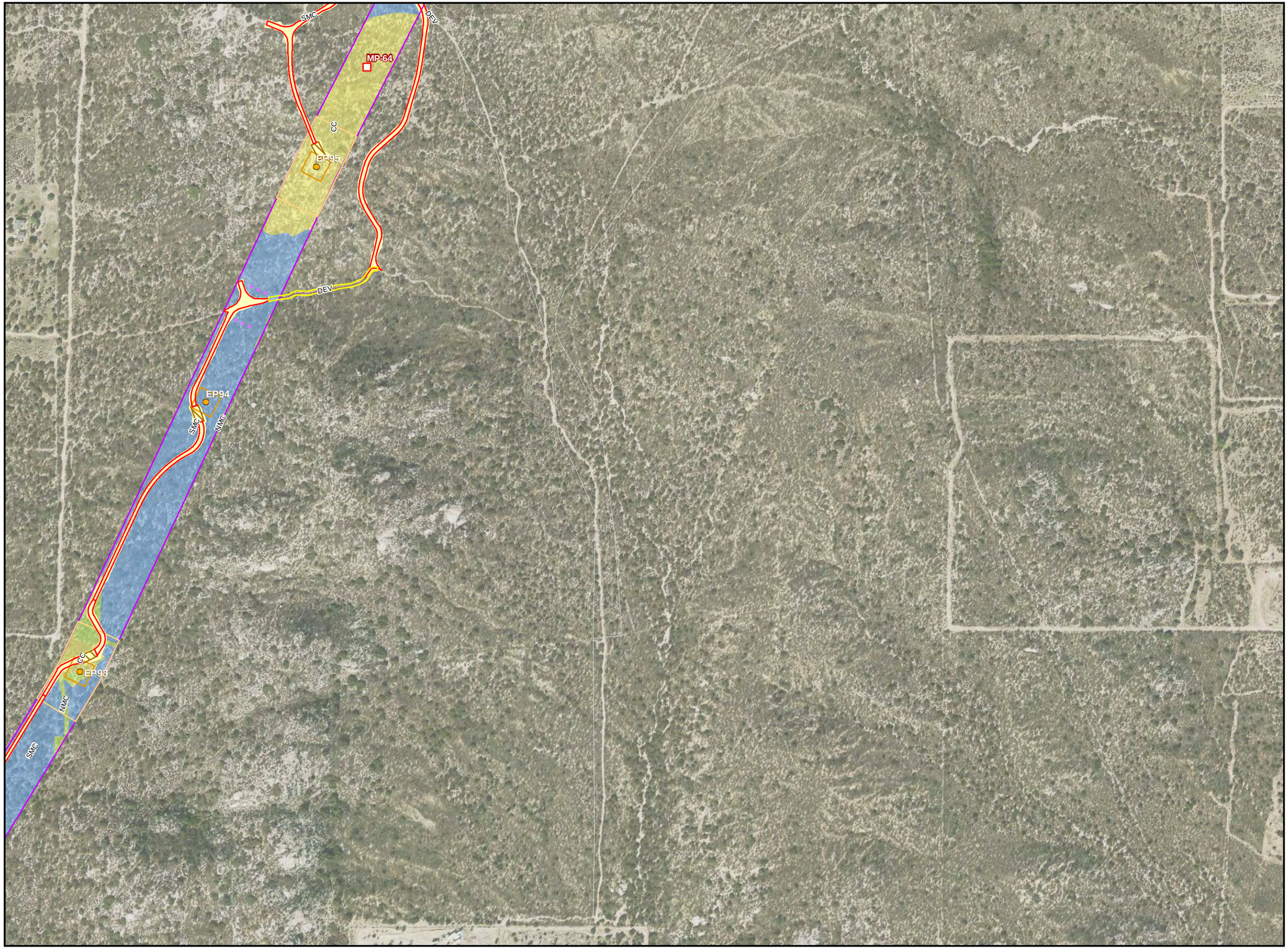
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-047 - 5/24/2010

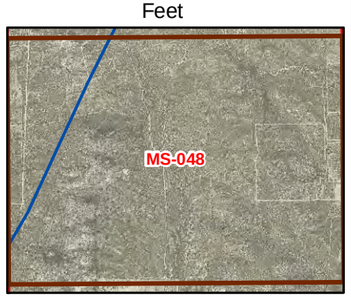


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

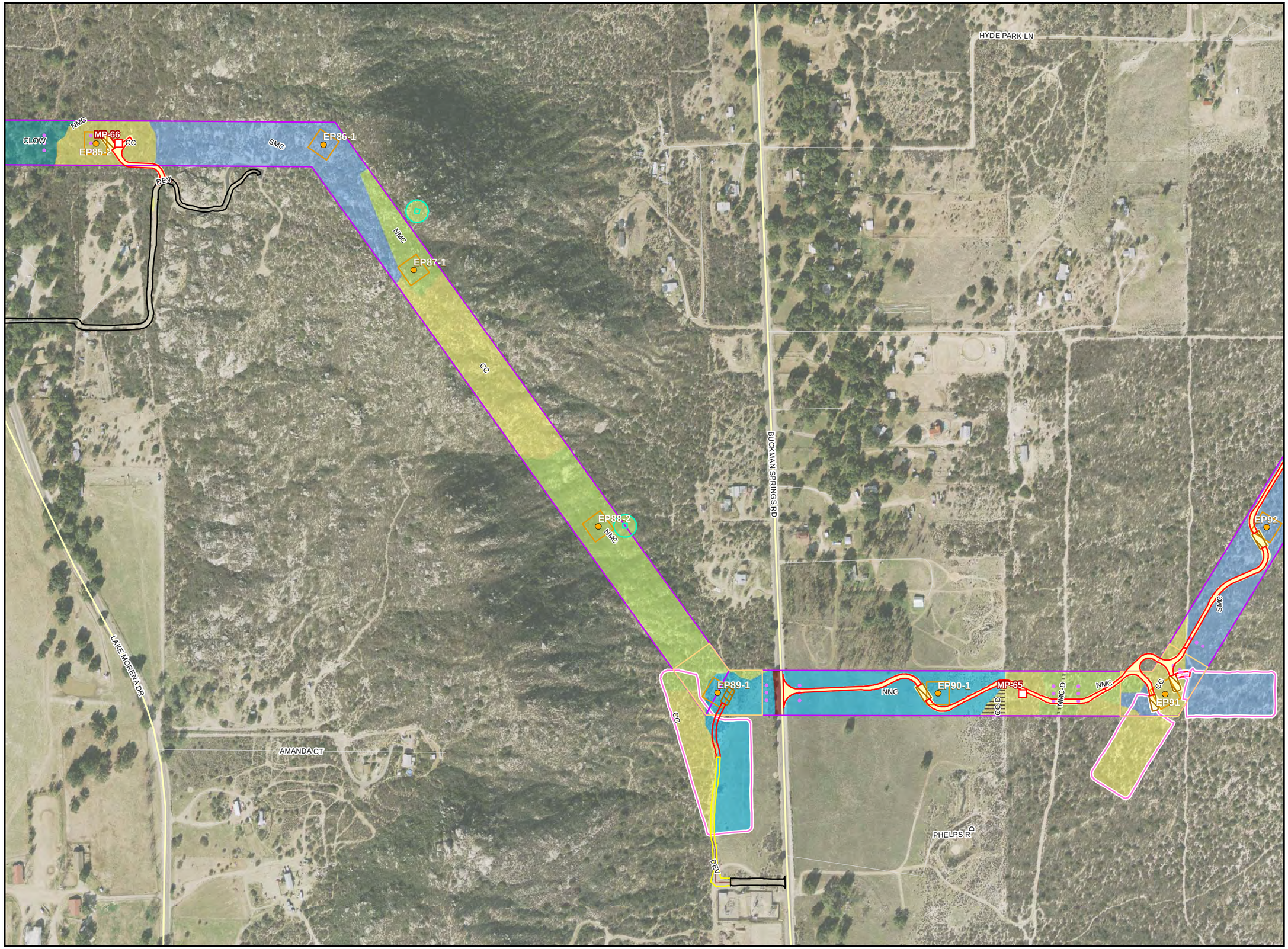
Feet



Appendix A

USFS Sensitive Species Occurrences

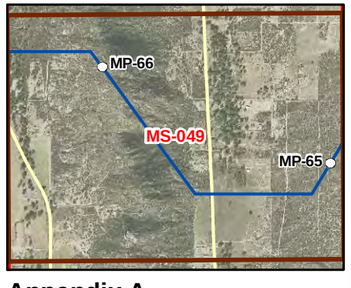
MS-048 - 5/24/2010



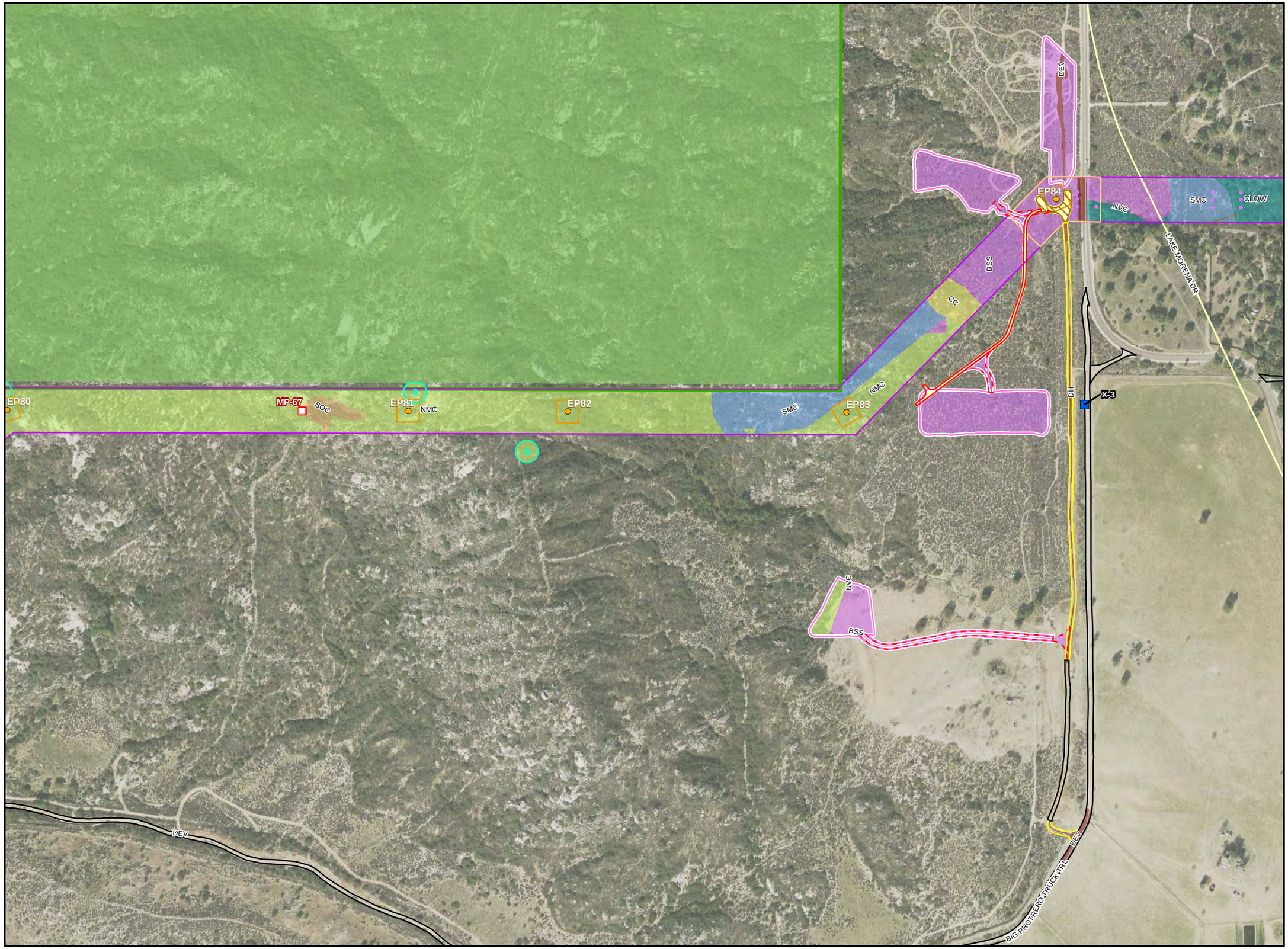
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive
Species Occurrences
MS-049 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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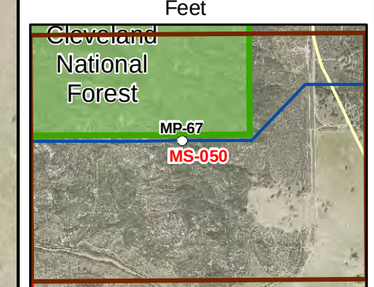
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

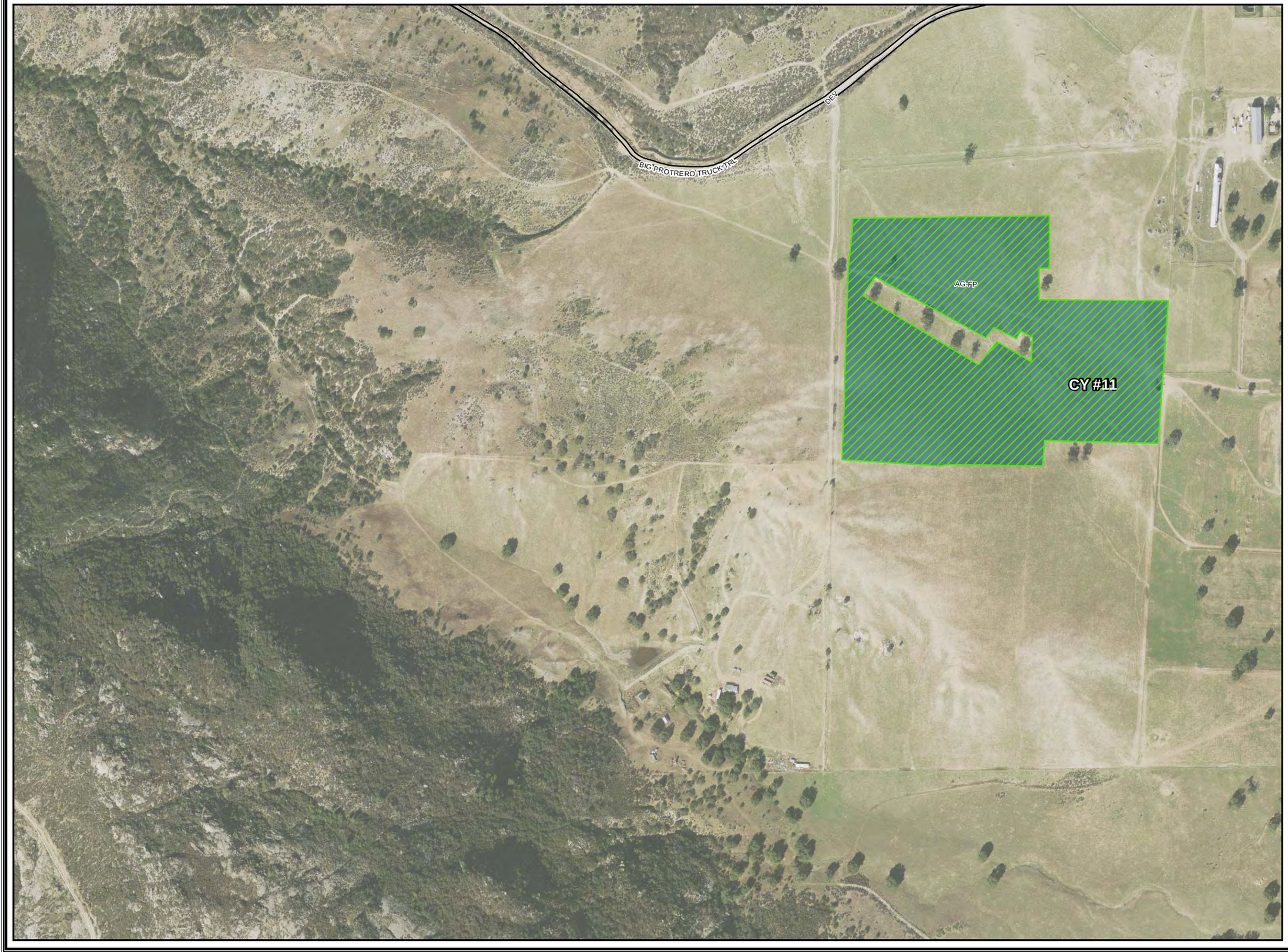
Feet



Appendix A

USFS Sensitive Species Occurrences

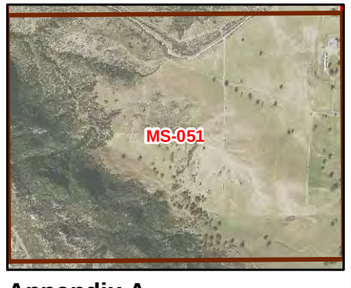
MS-050 - 5/24/2010



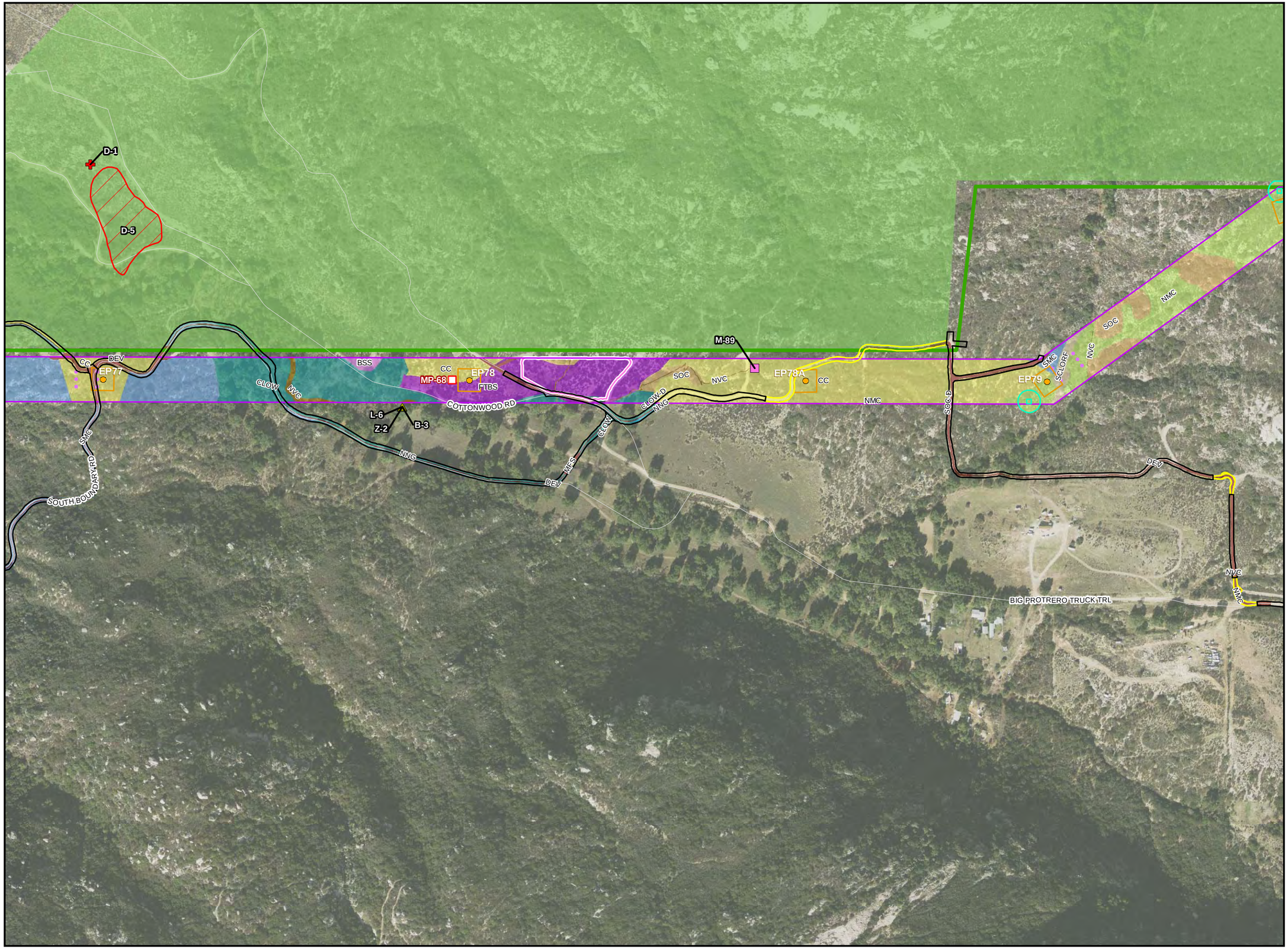
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive
Species Occurrences
MS-051 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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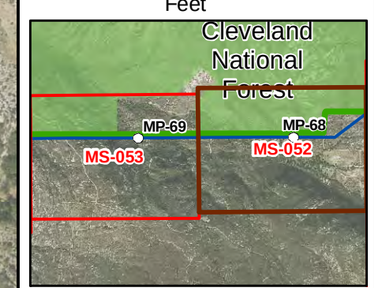
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

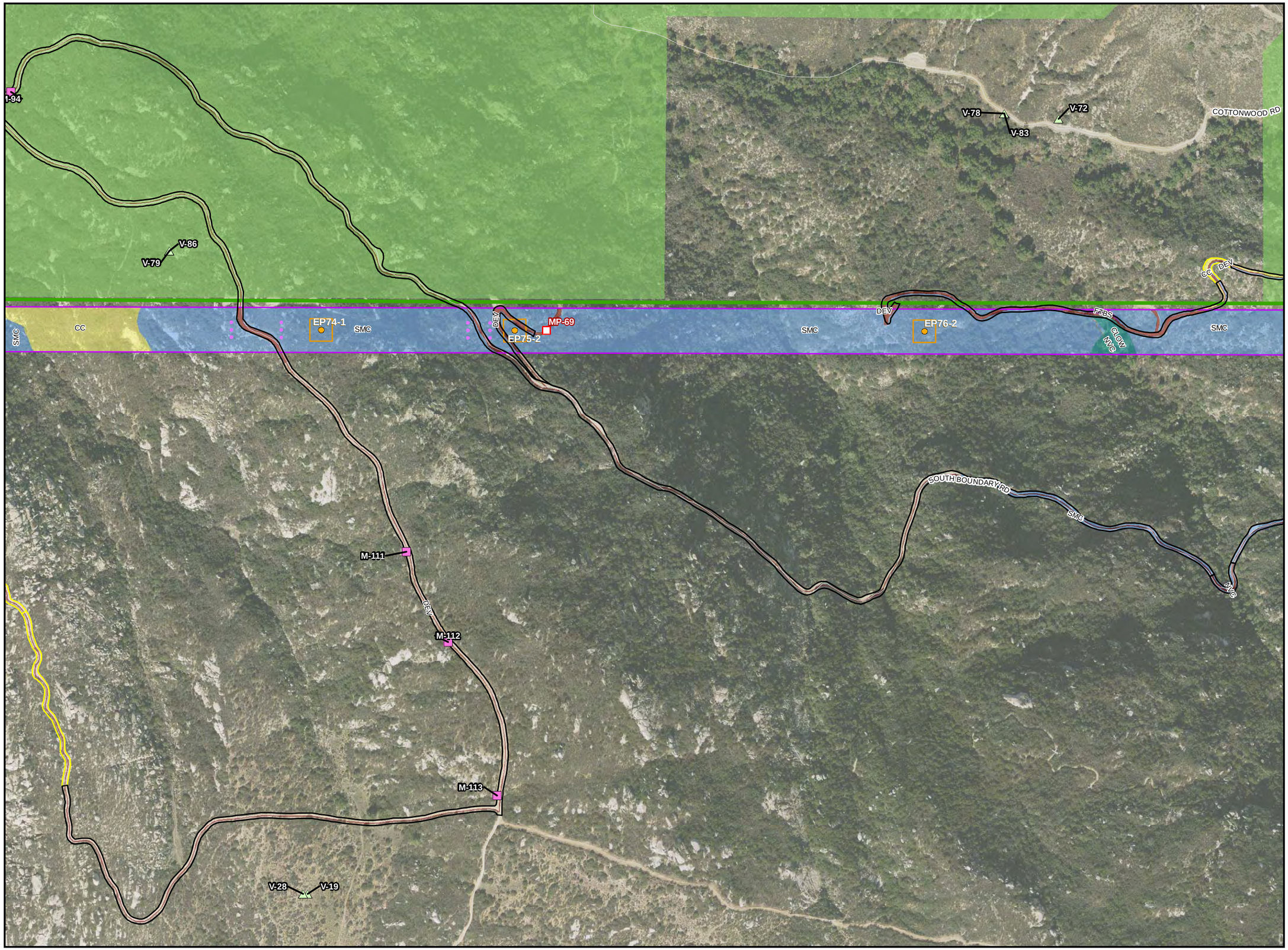
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-052 - 5/24/2010

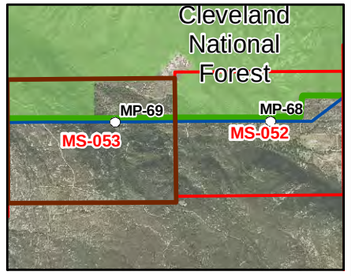


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

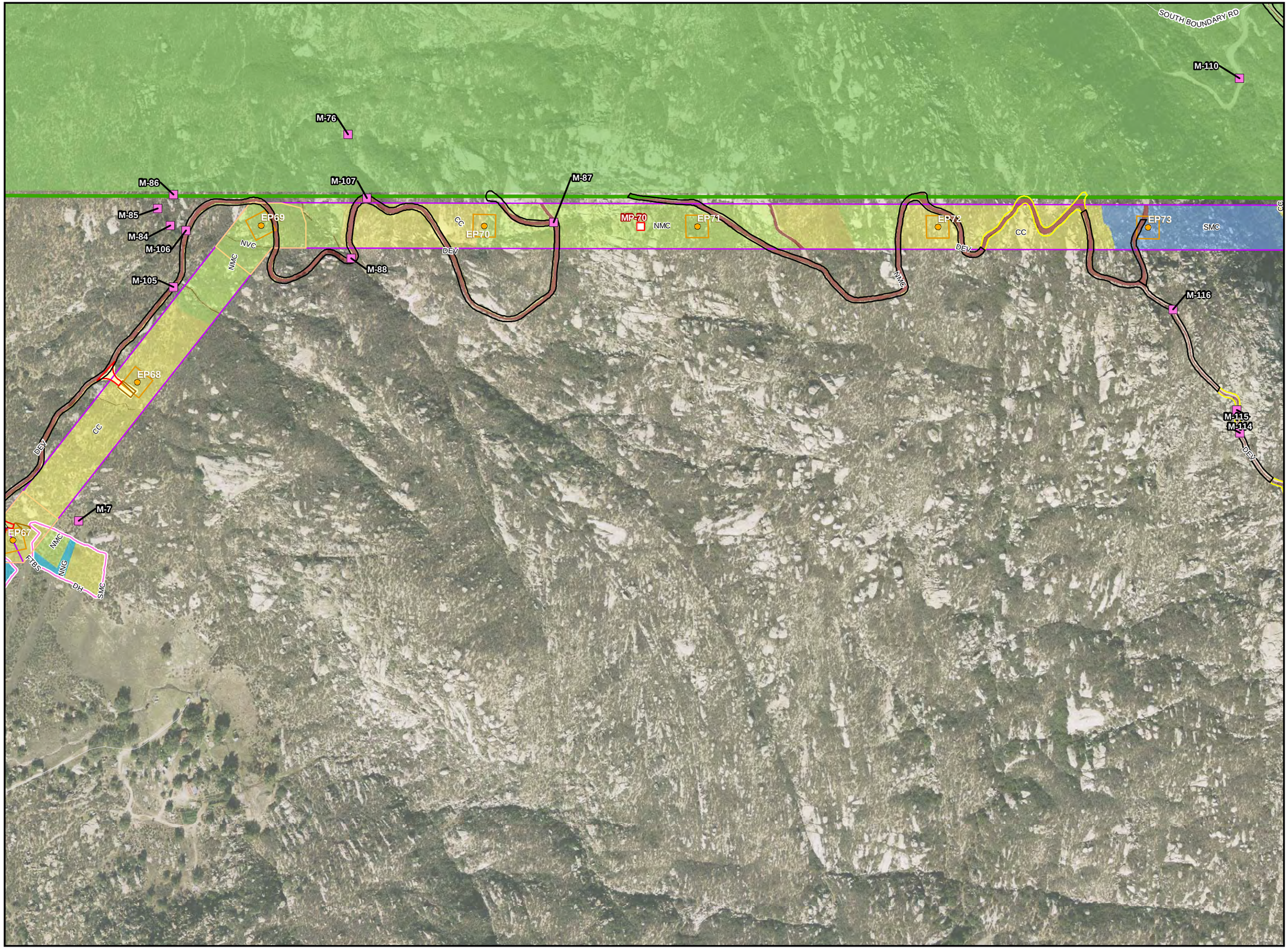
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-053 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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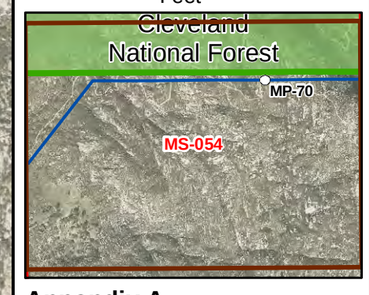
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

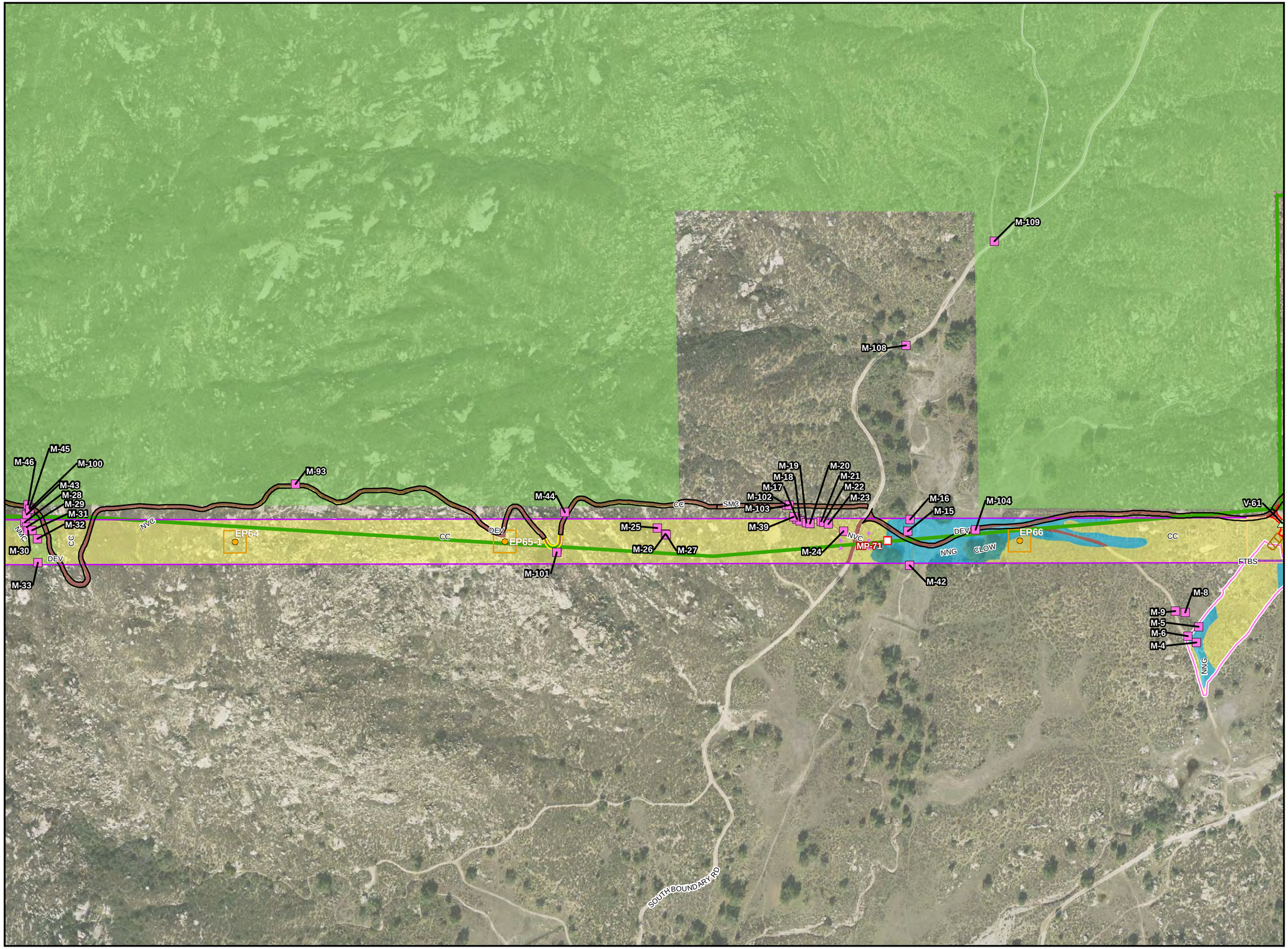
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-054 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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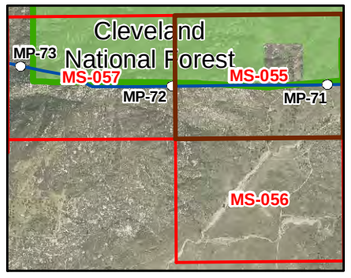
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

USFS Sensitive Species Occurrences

MS-055 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
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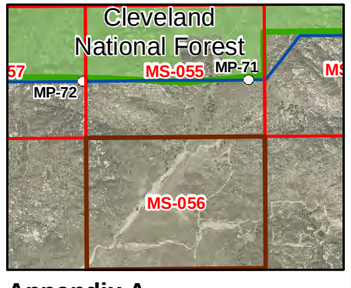
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

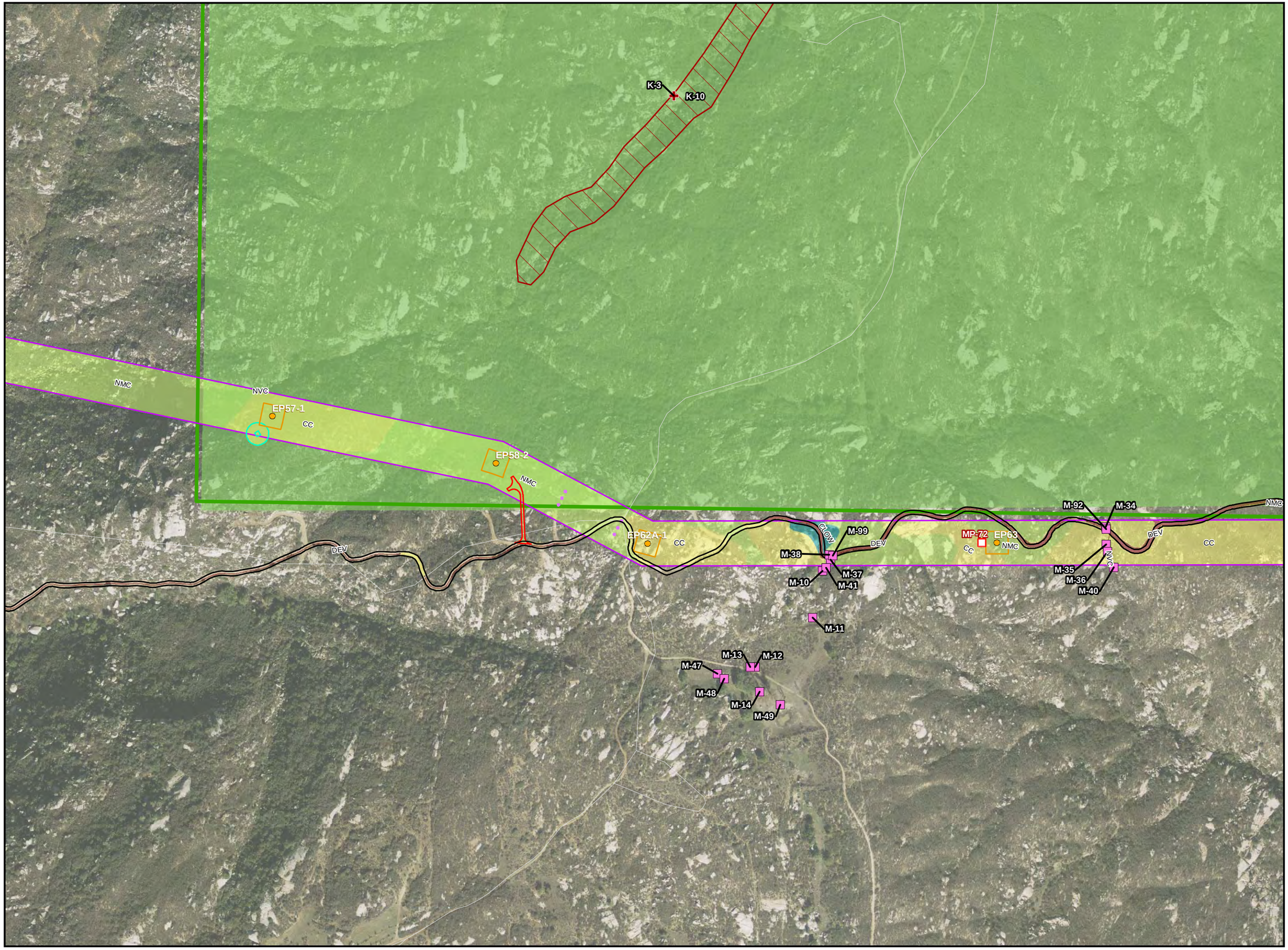
Feet



Appendix A

USFS Sensitive Species Occurrences

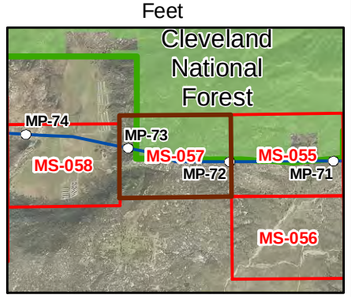
MS-056 - 5/24/2010



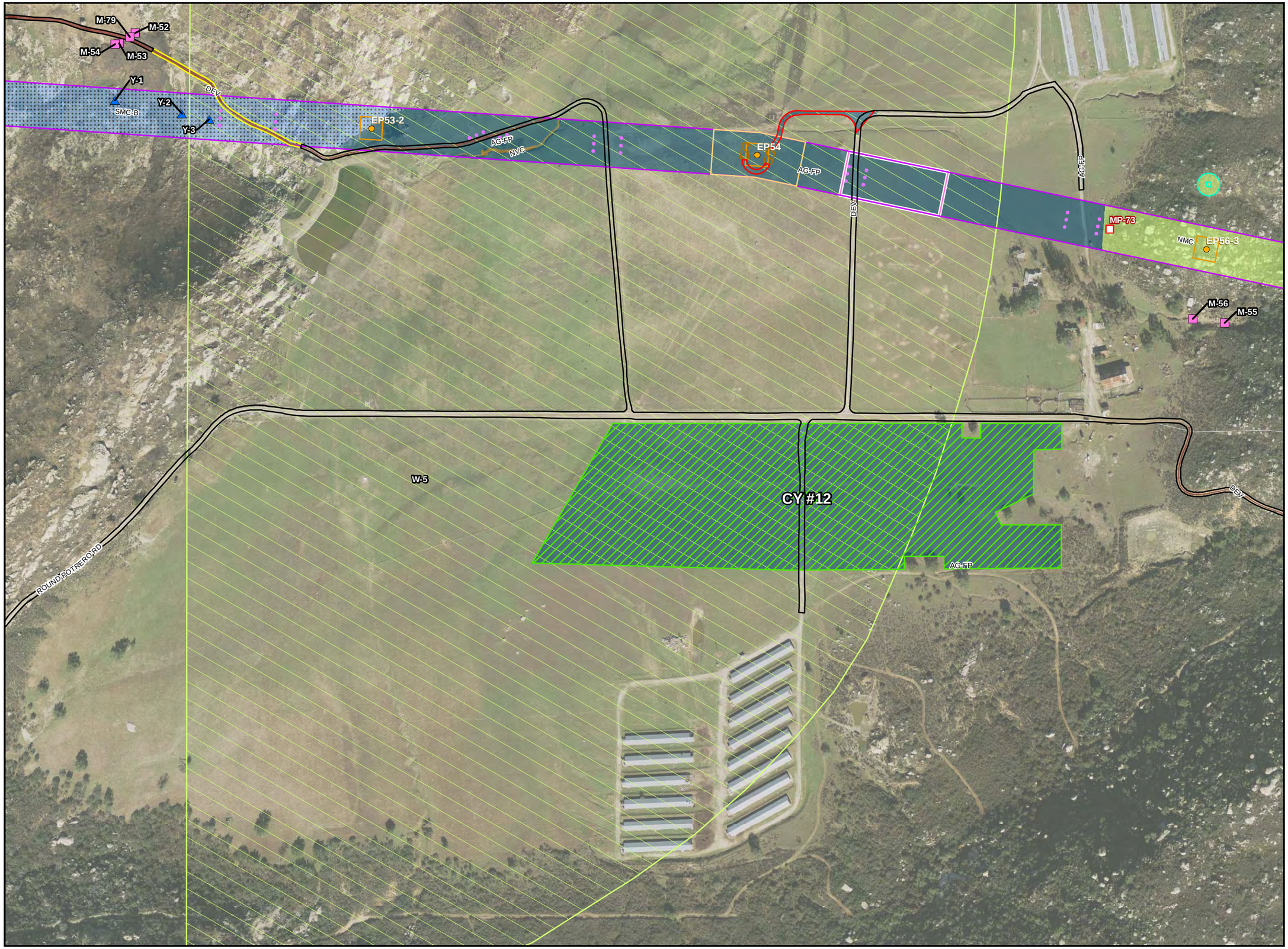
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive Species Occurrences
MS-057 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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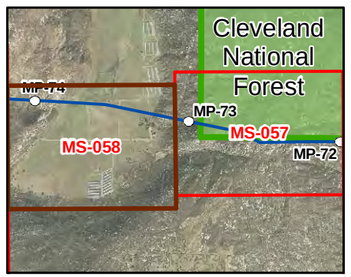
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

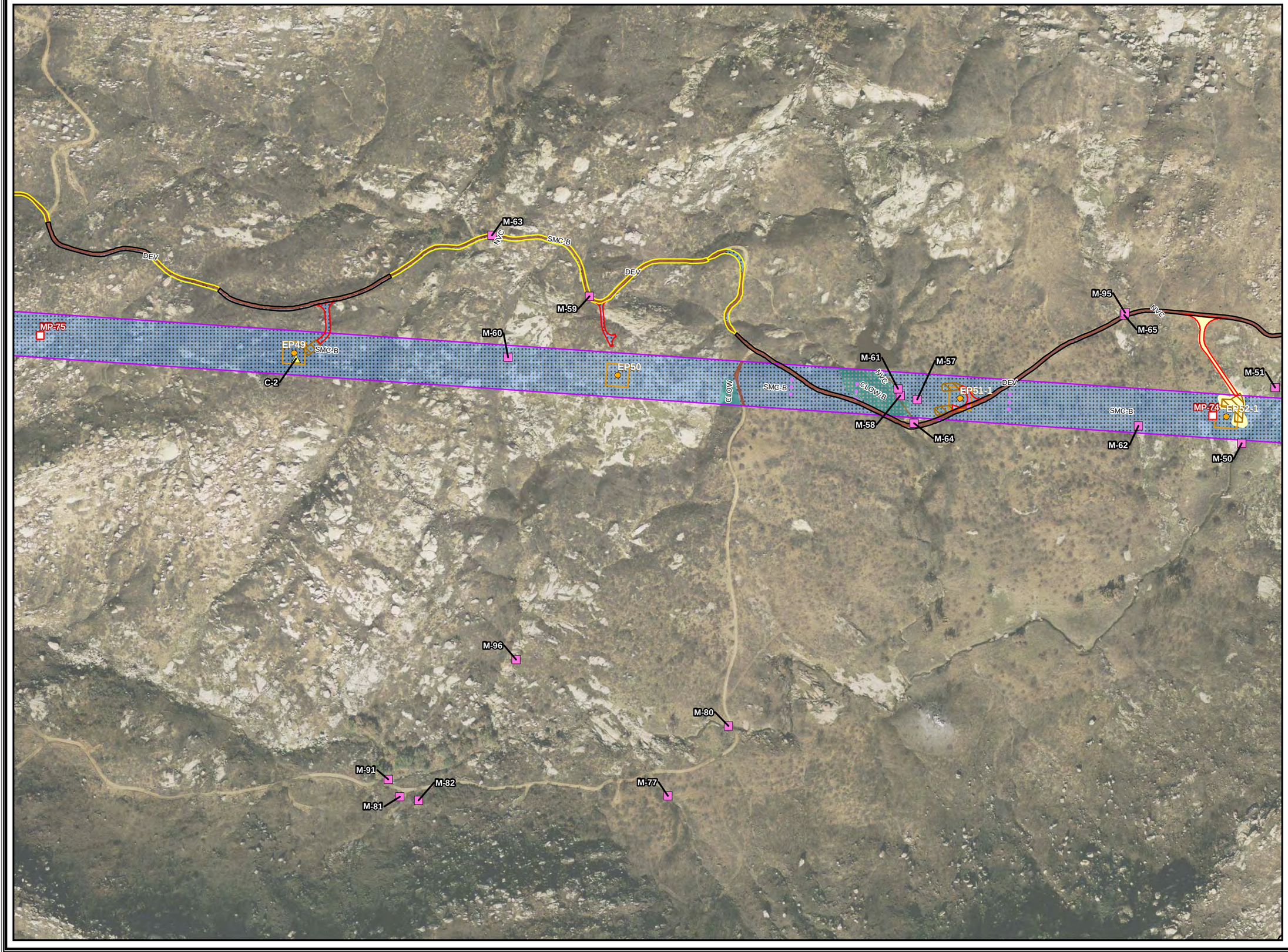
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-058 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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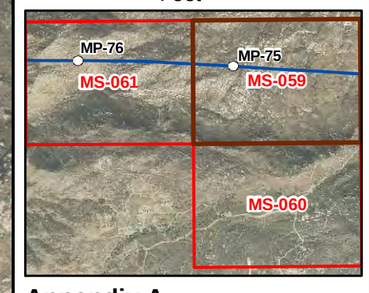
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



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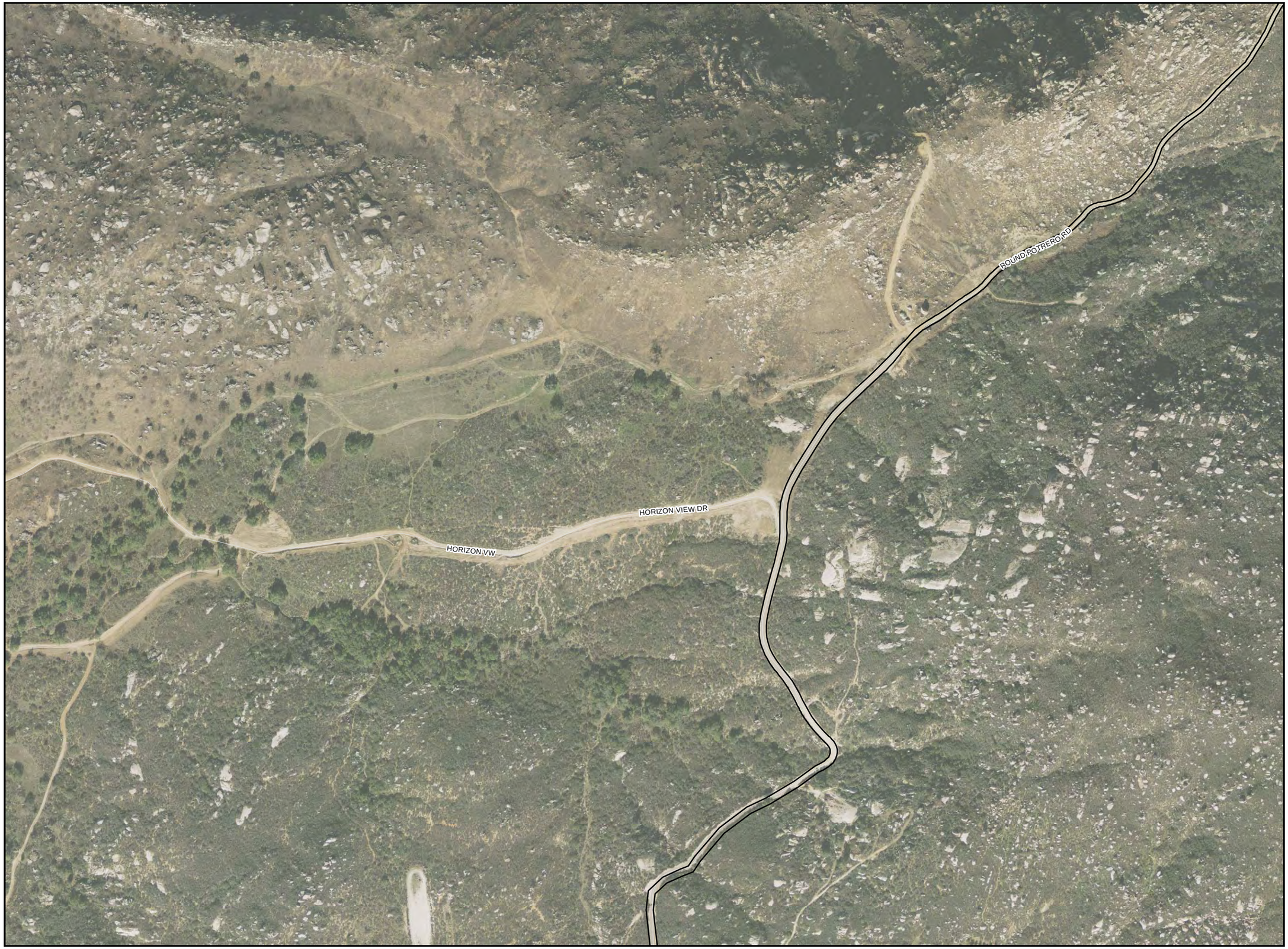
USFS Sensitive Species Occurrences

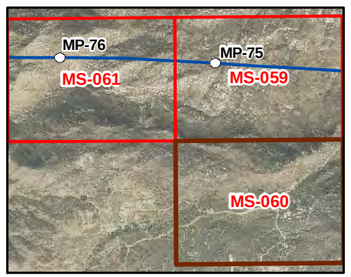
MS-059 - 5/24/2010



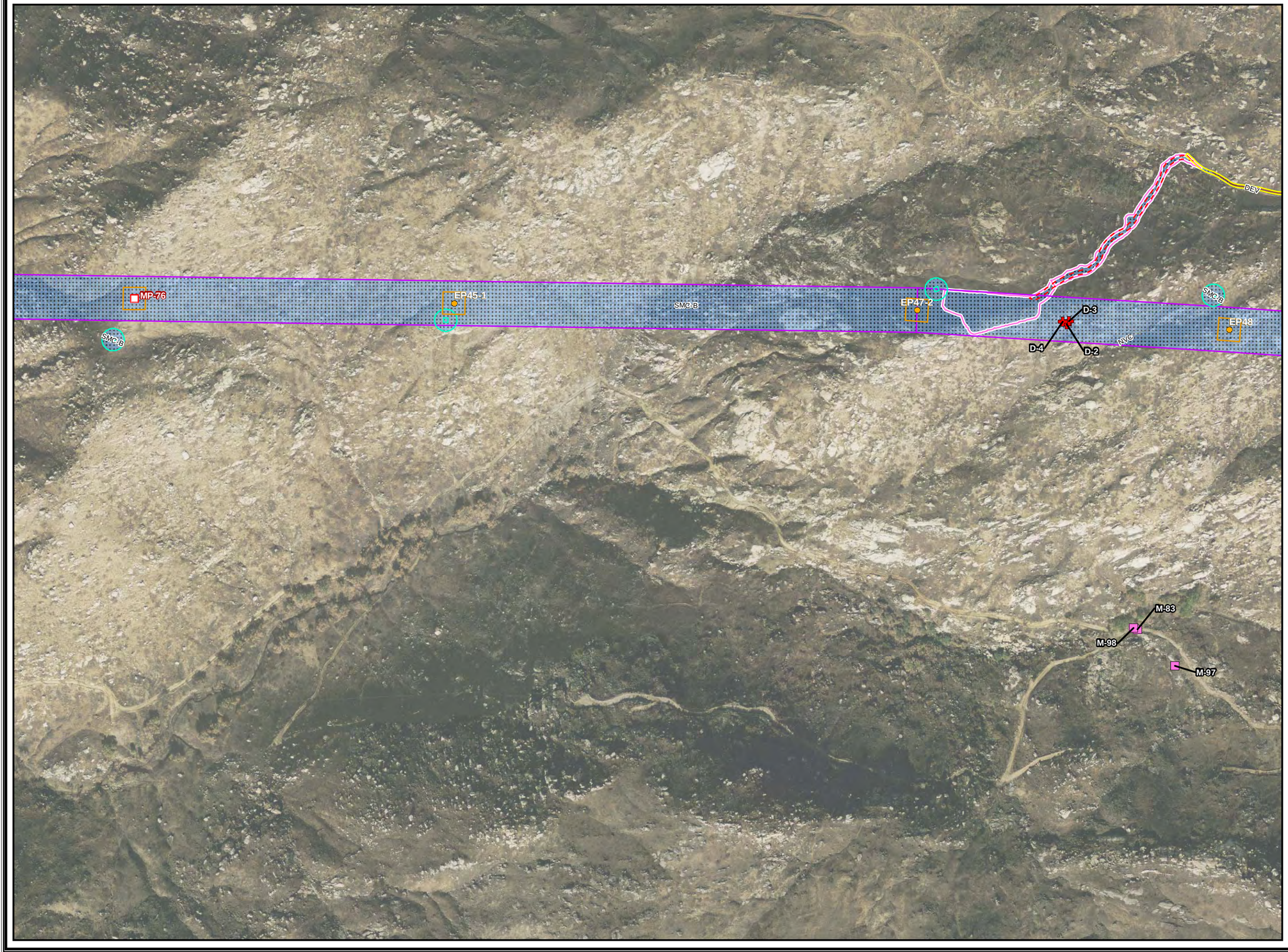
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



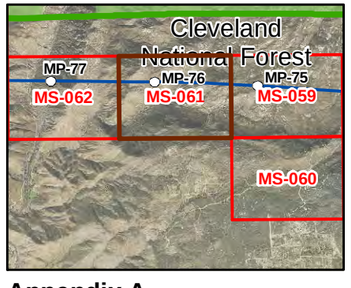
Appendix A
USFS Sensitive
Species Occurrences
MS-060 - 5/24/2010



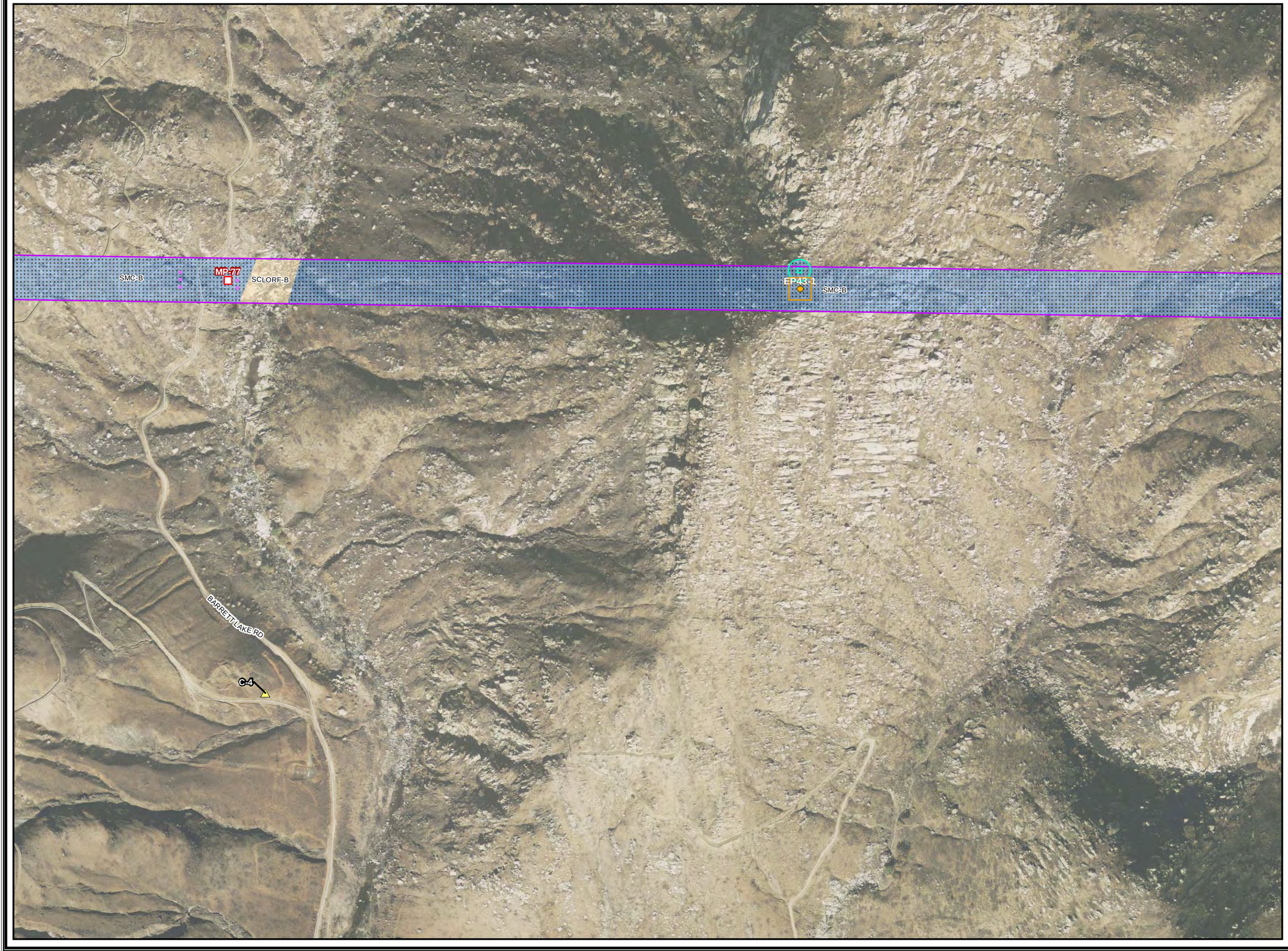
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive
Species Occurrences
MS-061 - 5/24/2010

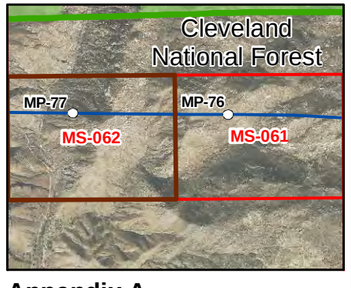


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

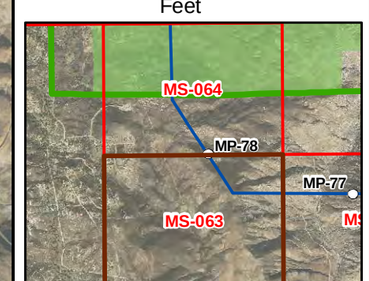
USFS Sensitive Species Occurrences

MS-062 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet

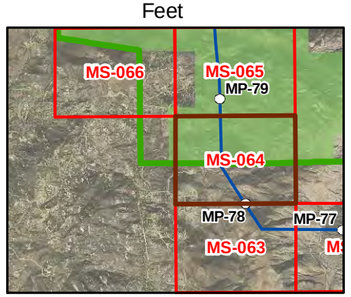


Appendix A
USFS Sensitive
Species Occurrences
MS-063 - 5/24/2010

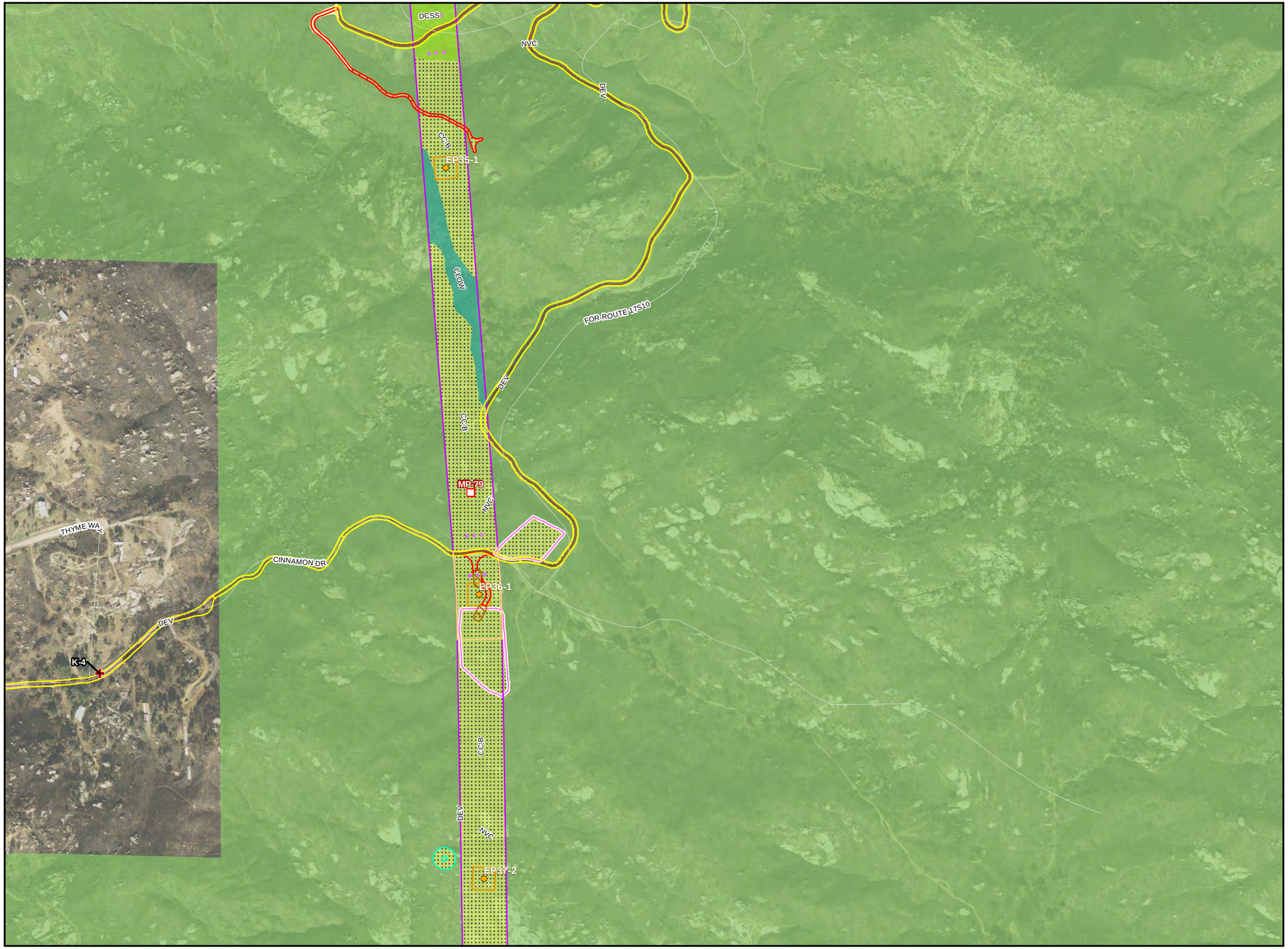
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive
Species Occurrences
MS-064 - 5/24/2010

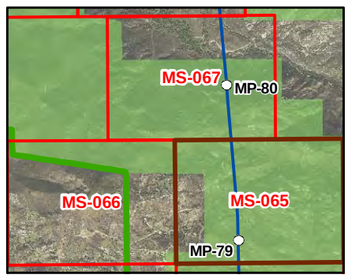


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

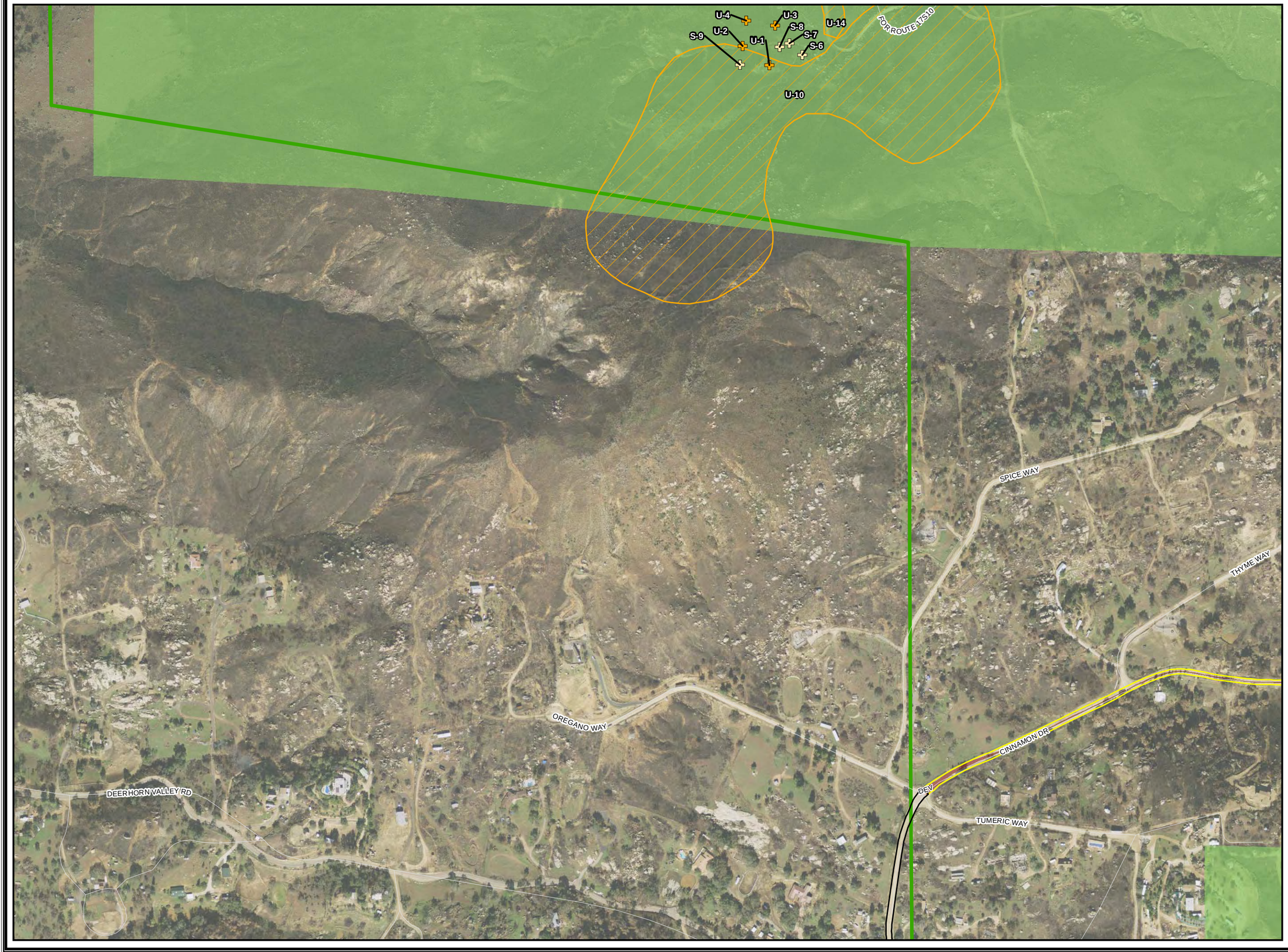
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-065 - 5/24/2010

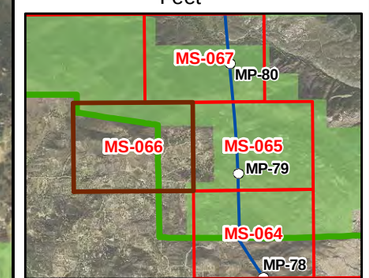


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

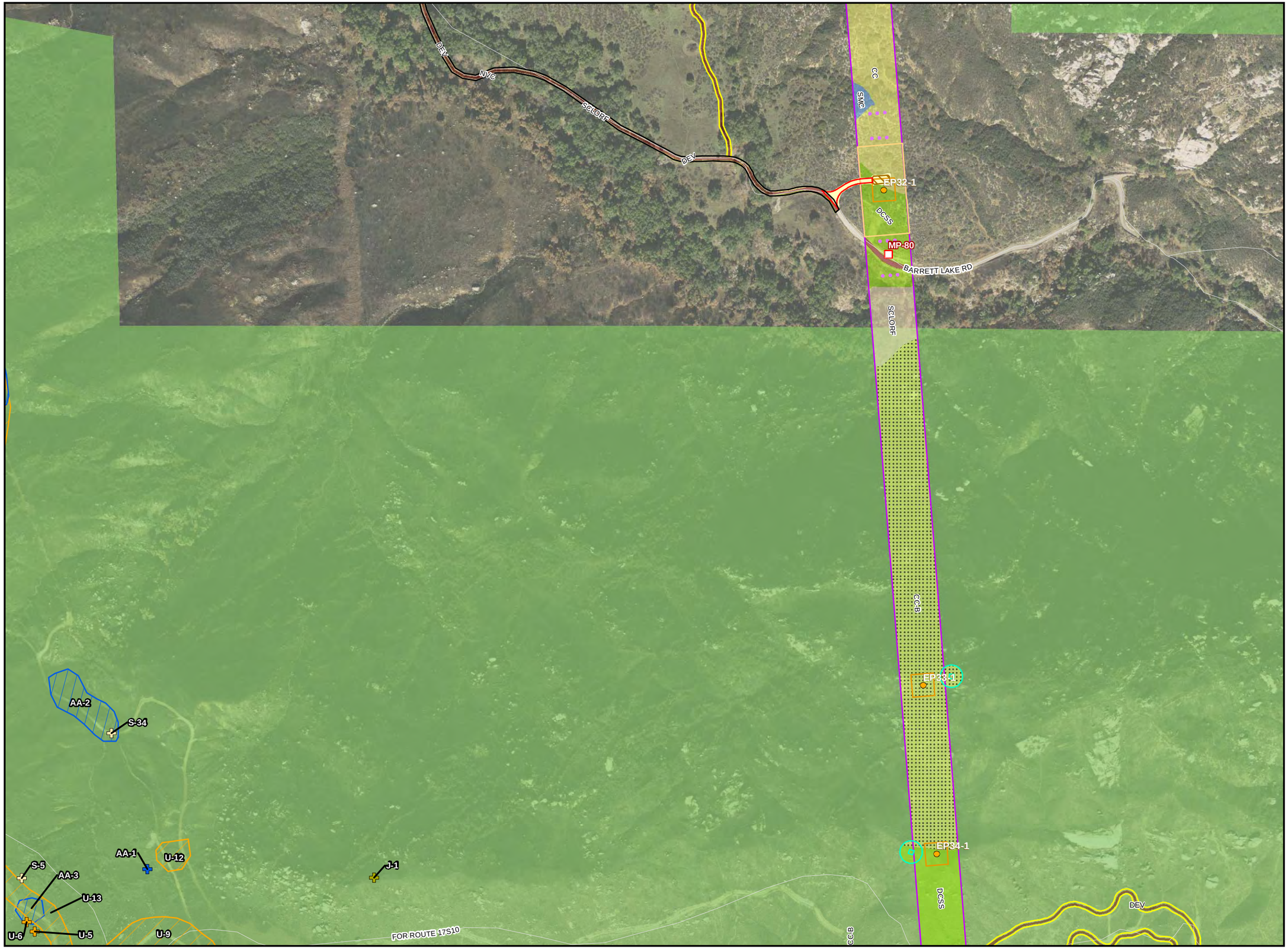
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-066 - 5/24/2010

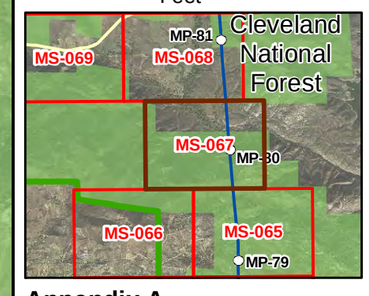


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



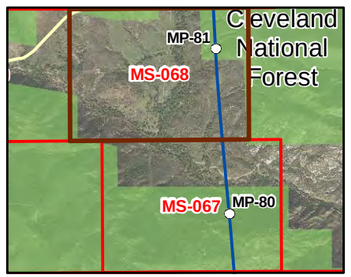
Appendix A
USFS Sensitive Species Occurrences
MS-067 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

USFS Sensitive Species Occurrences

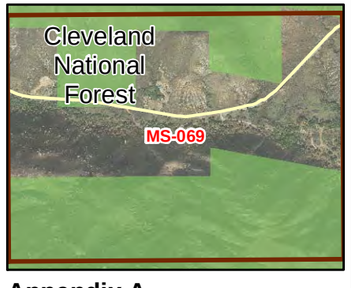
MS-068 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

USFS Sensitive Species Occurrences

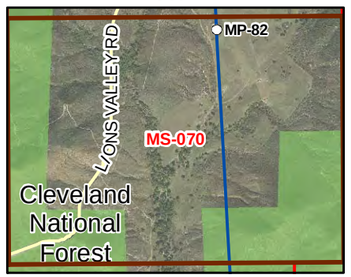
MS-069 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

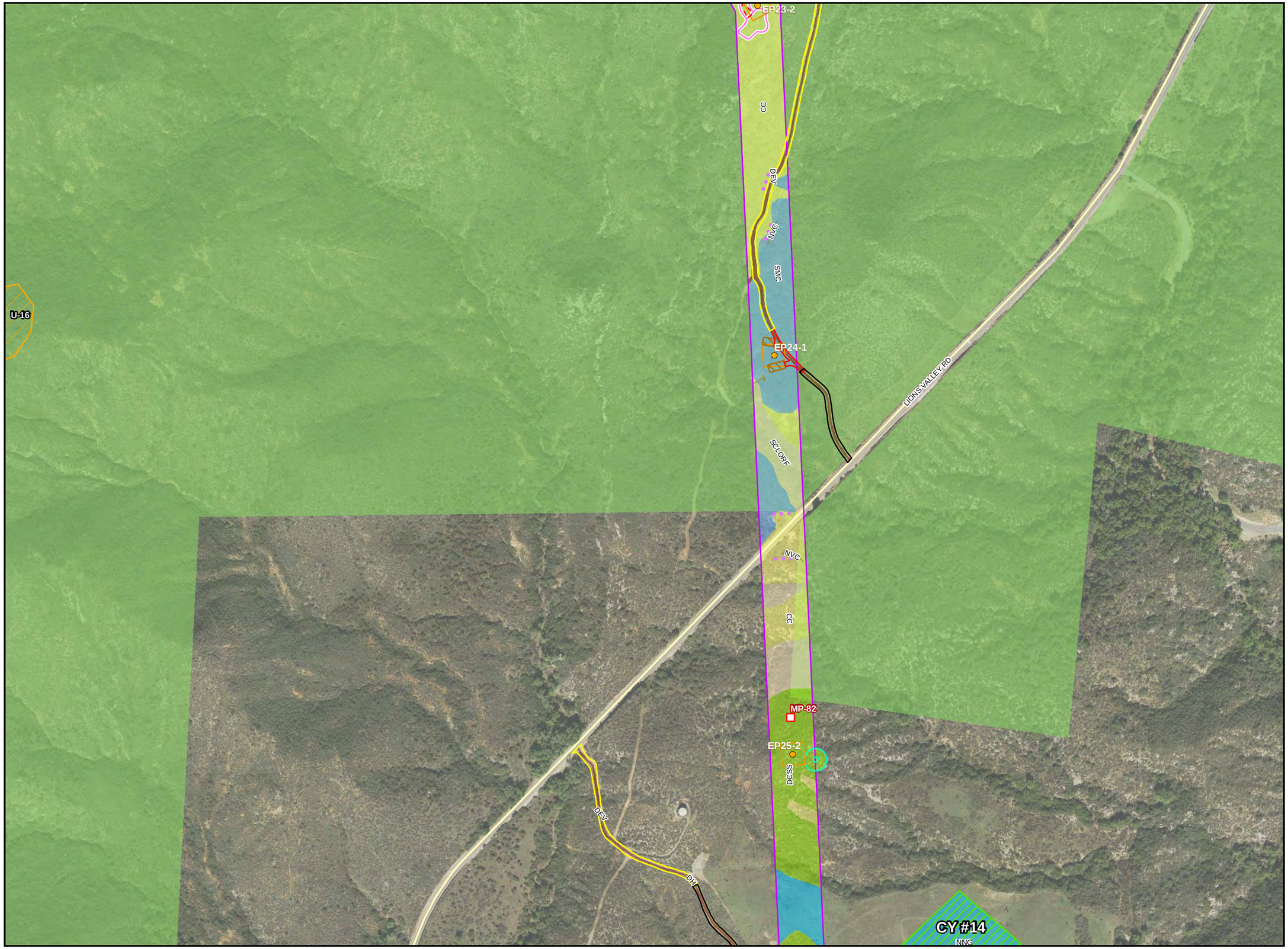
Feet



Appendix A

USFS Sensitive Species Occurrences

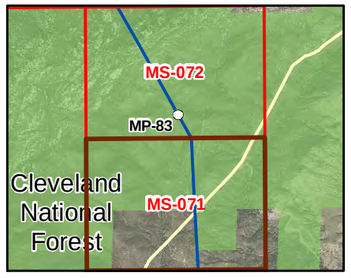
MS-070 - 5/24/2010



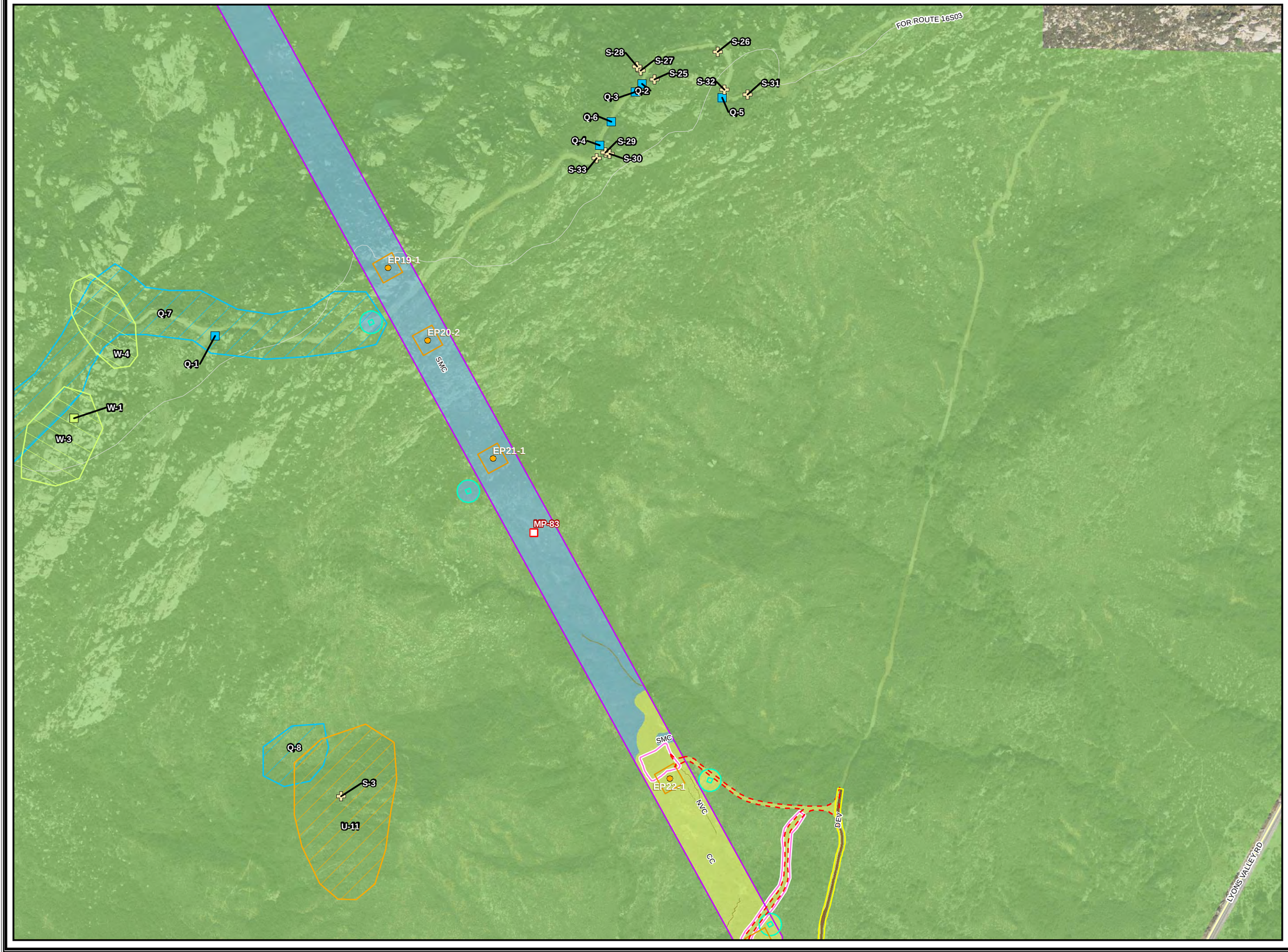
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive Species Occurrences
MS-071 - 5/24/2010

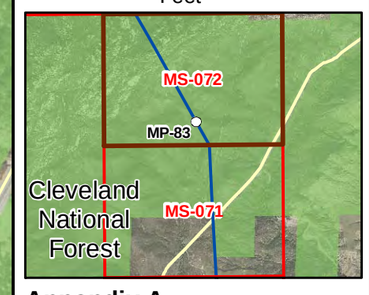


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

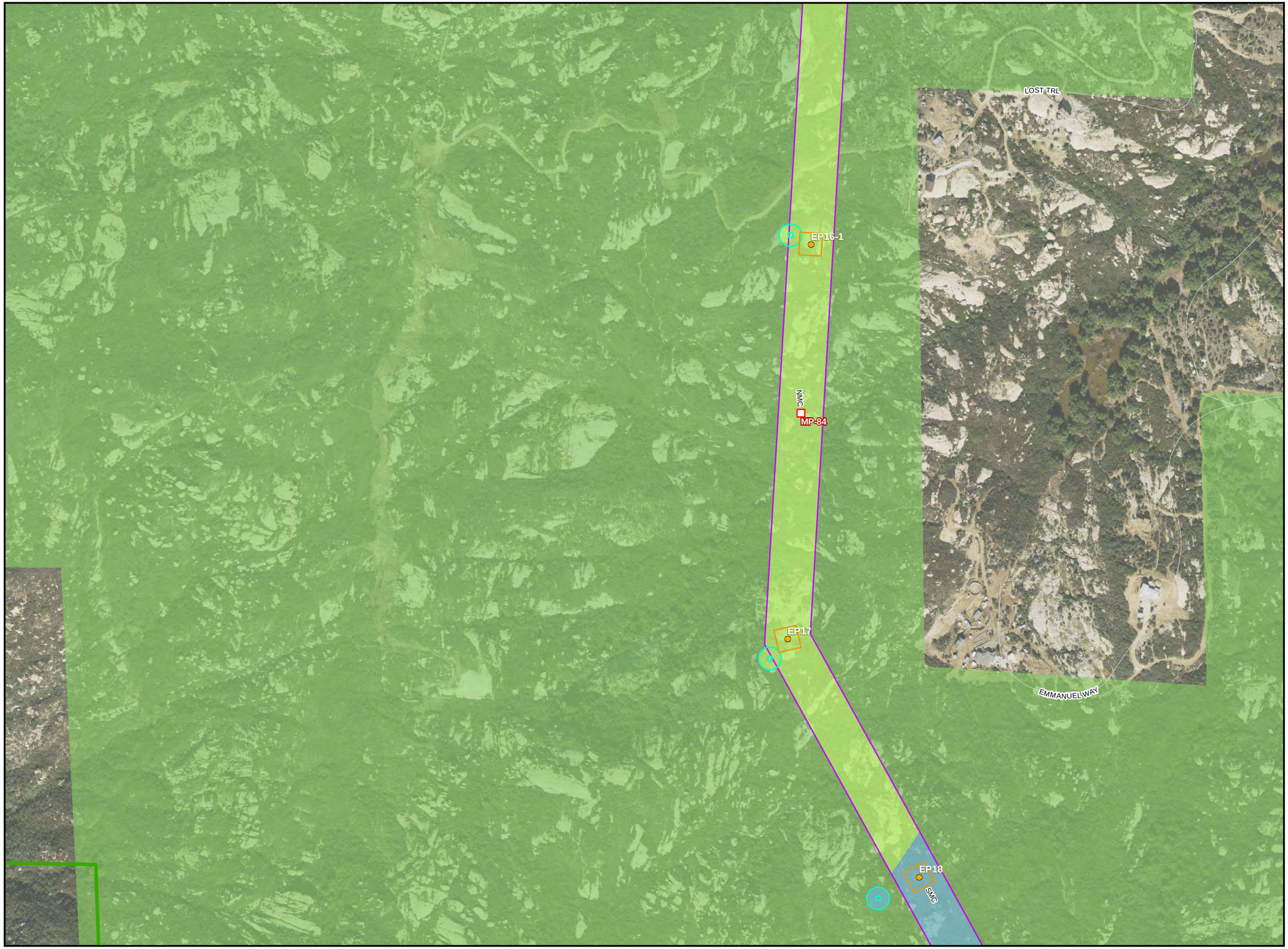
Feet



Appendix A

USFS Sensitive Species Occurrences

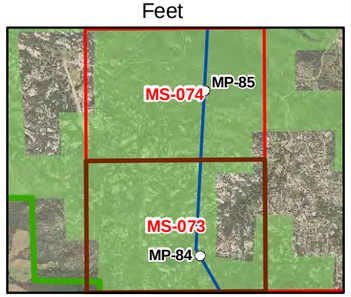
MS-072 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



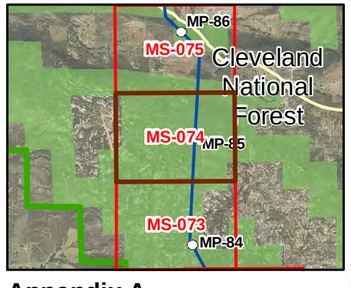
Appendix A
USFS Sensitive
Species Occurrences
MS-073 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

USFS Sensitive Species Occurrences

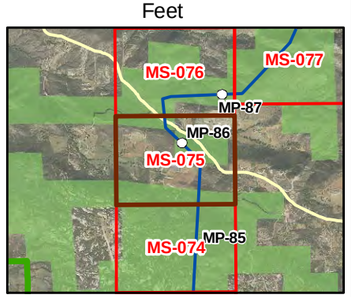
MS-074 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

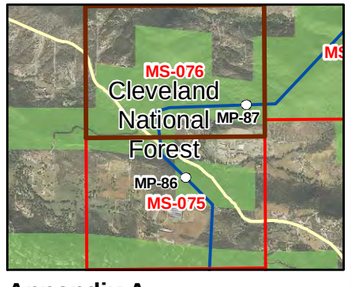
USFS Sensitive Species Occurrences

MS-075 - 5/24/2010

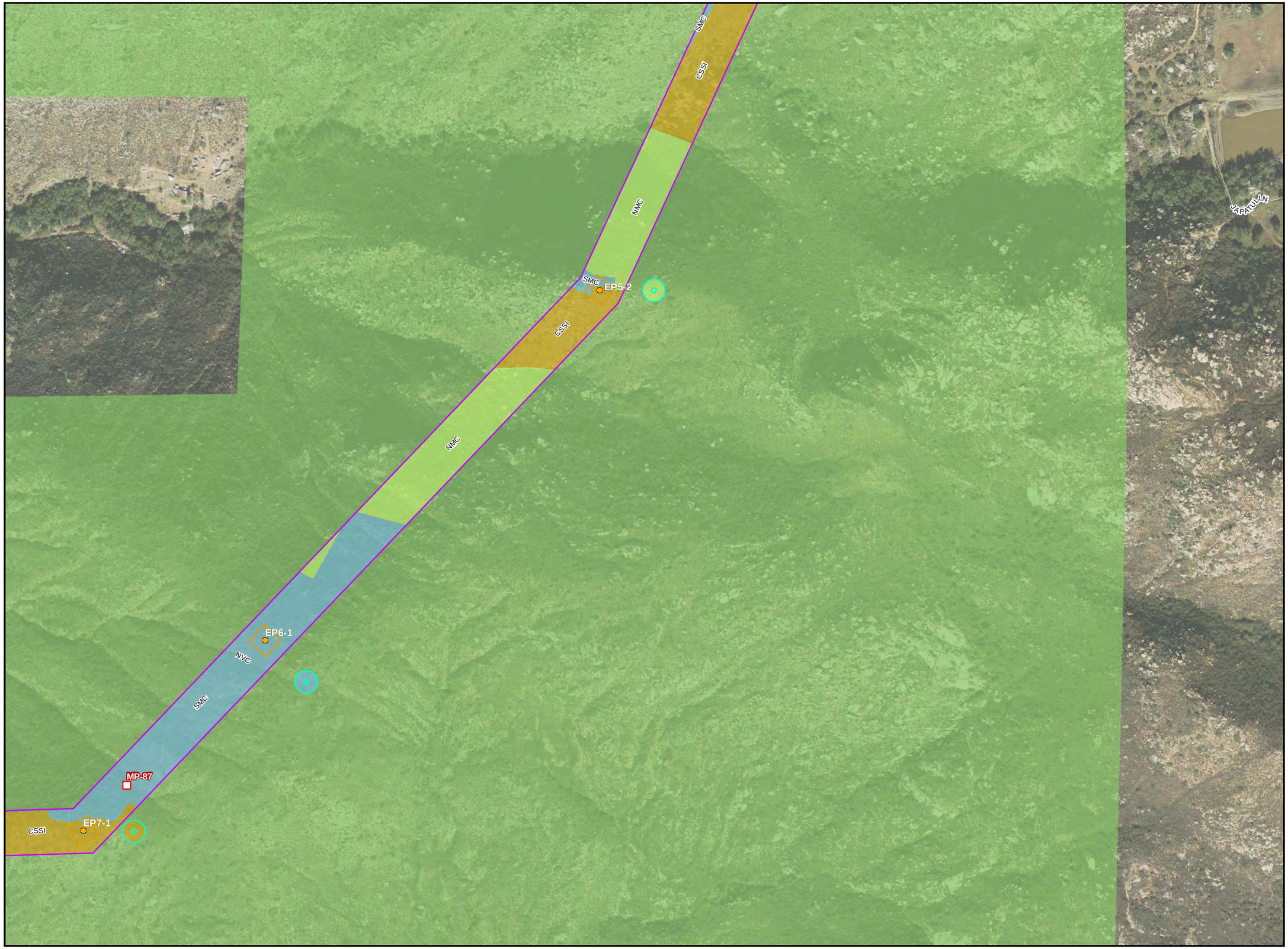
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



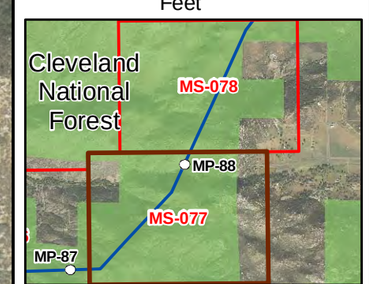
Appendix A
USFS Sensitive Species Occurrences
MS-076 - 5/24/2010



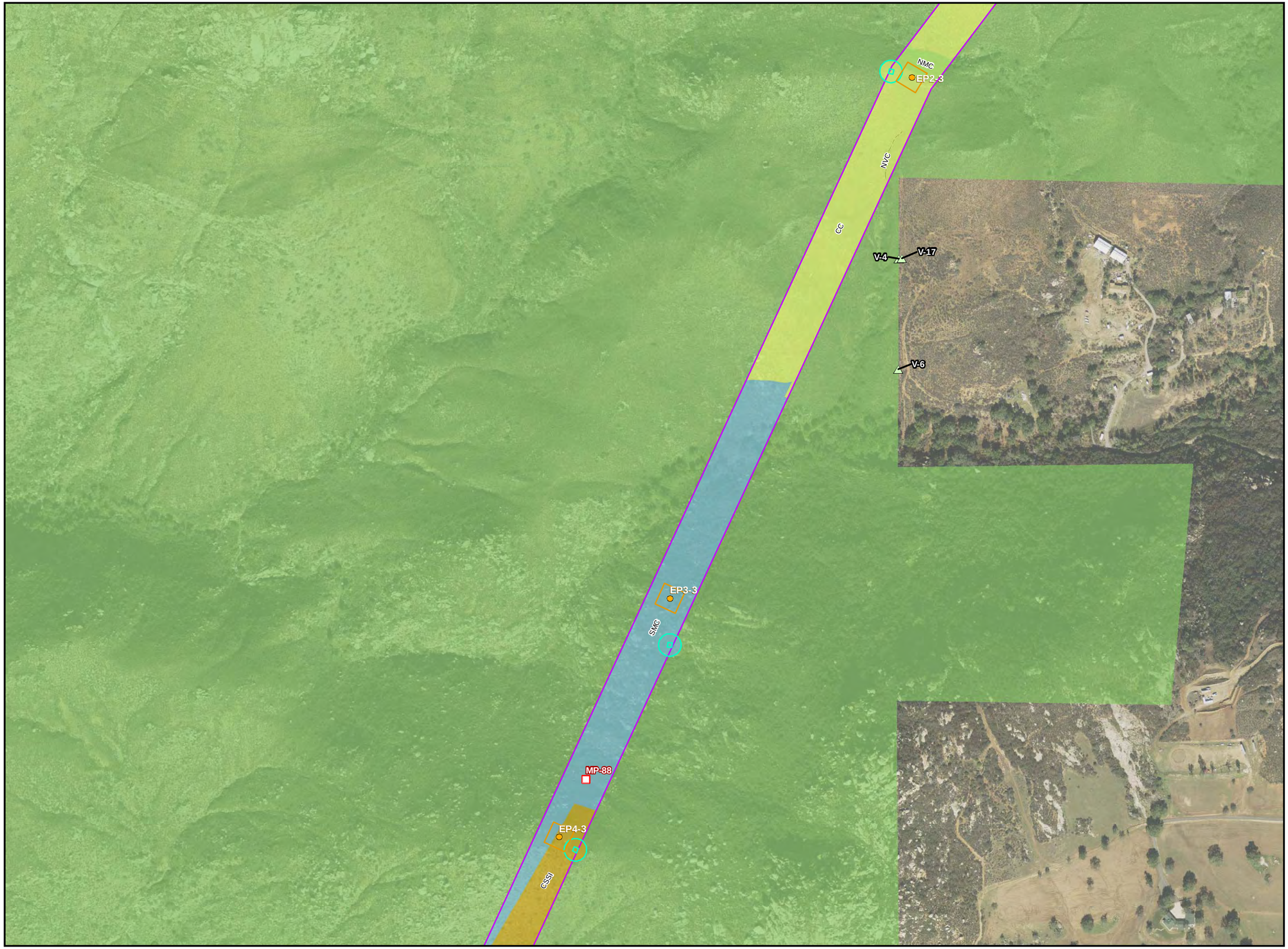
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive Species Occurrences
MS-077 - 5/24/2010

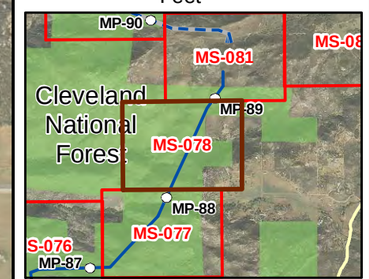


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

USFS Sensitive Species Occurrences

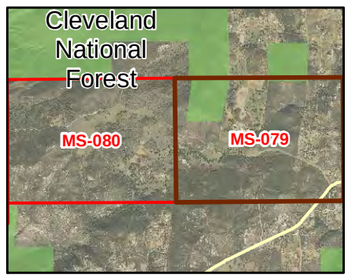
MS-078 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

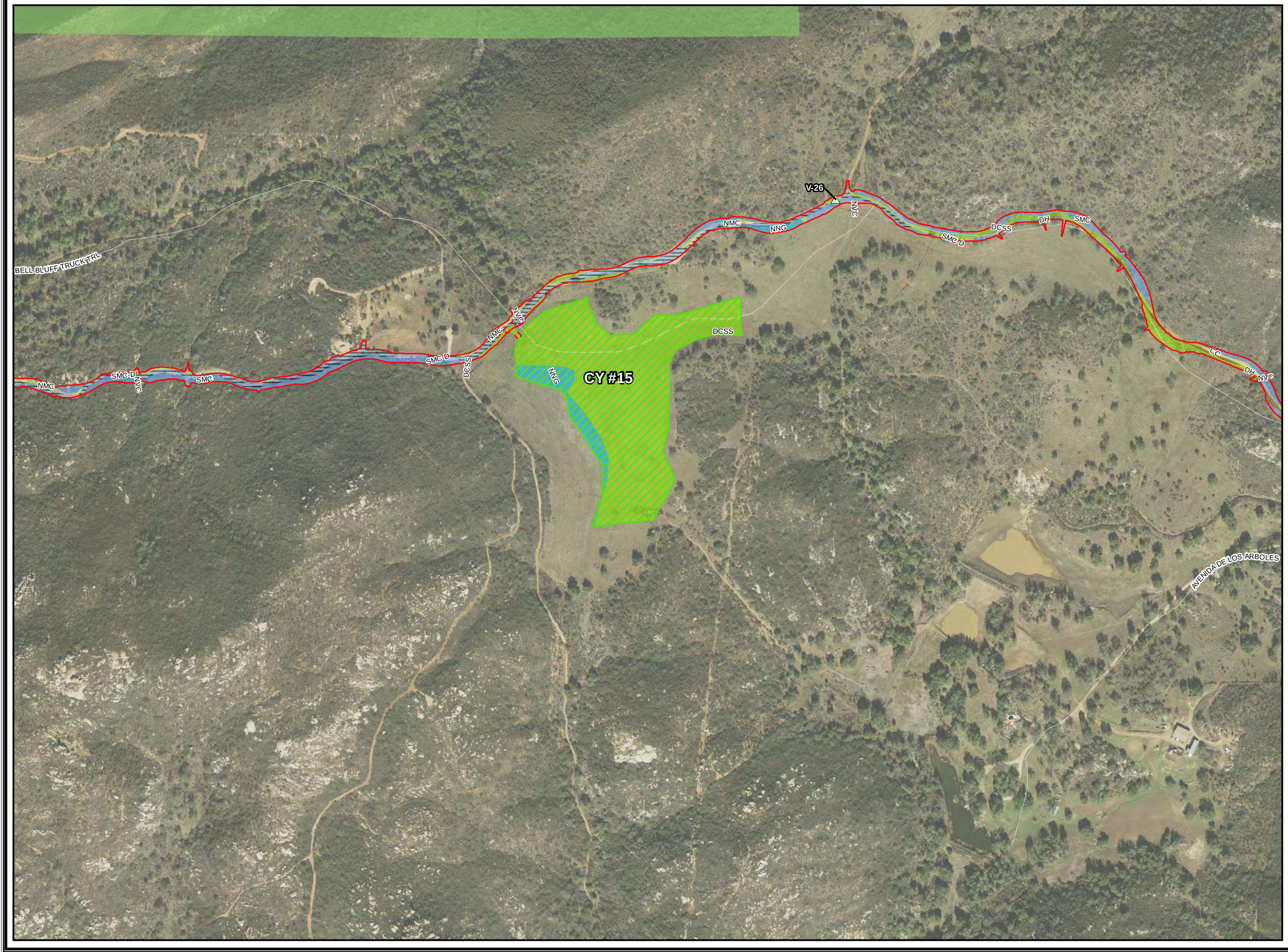
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-079 - 5/24/2010

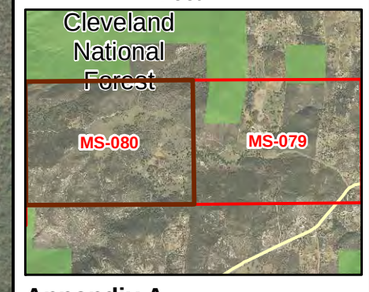


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

USFS Sensitive Species Occurrences

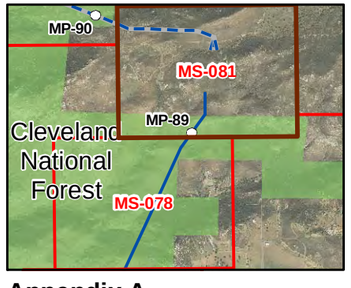
MS-080 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

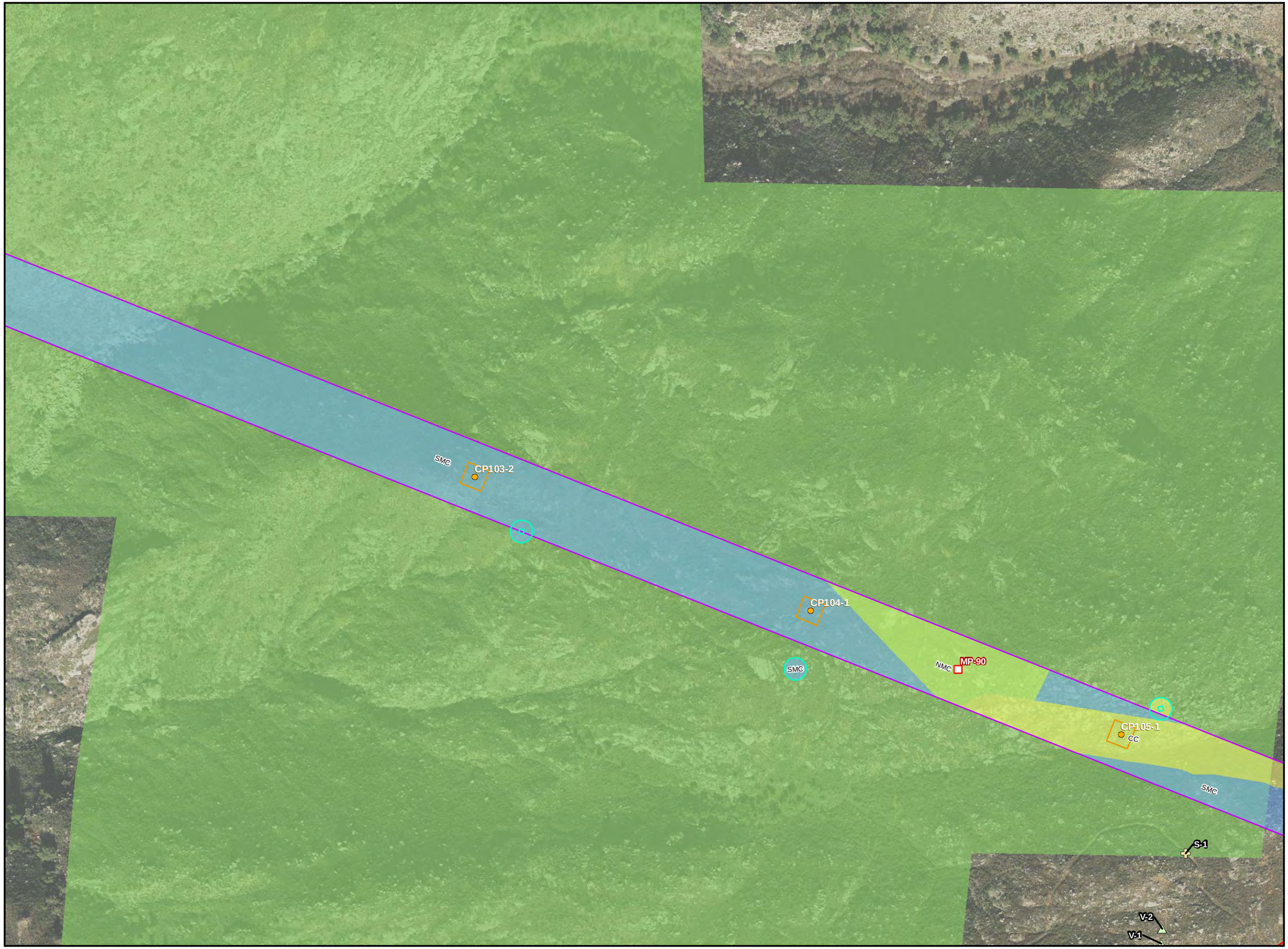
Feet



Appendix A

USFS Sensitive Species Occurrences

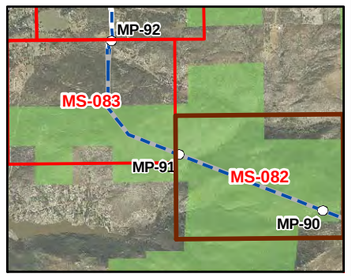
MS-081 - 5/24/2010



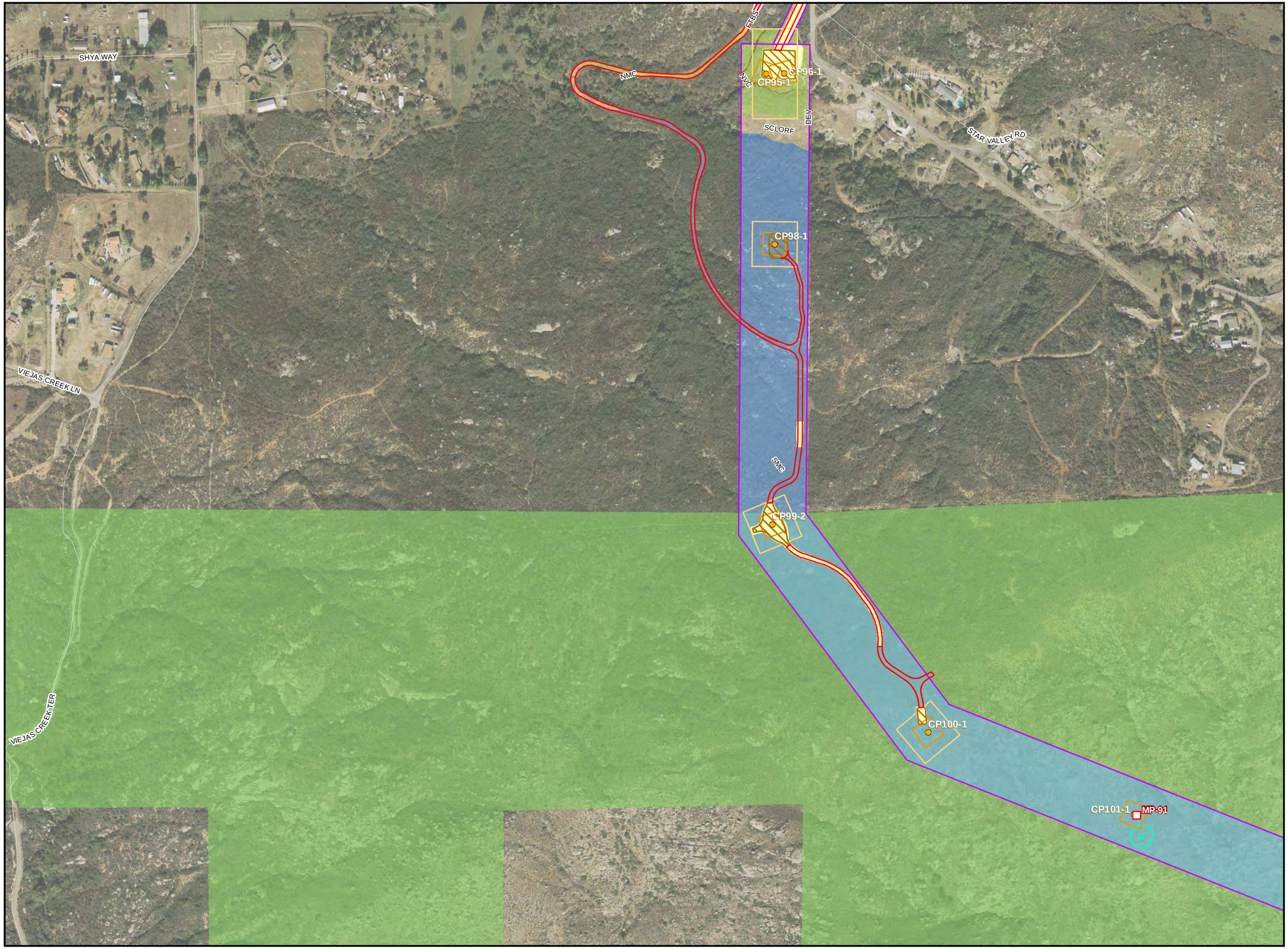
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive
Species Occurrences
MS-082 - 5/24/2010

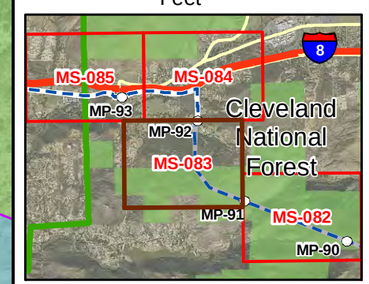


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

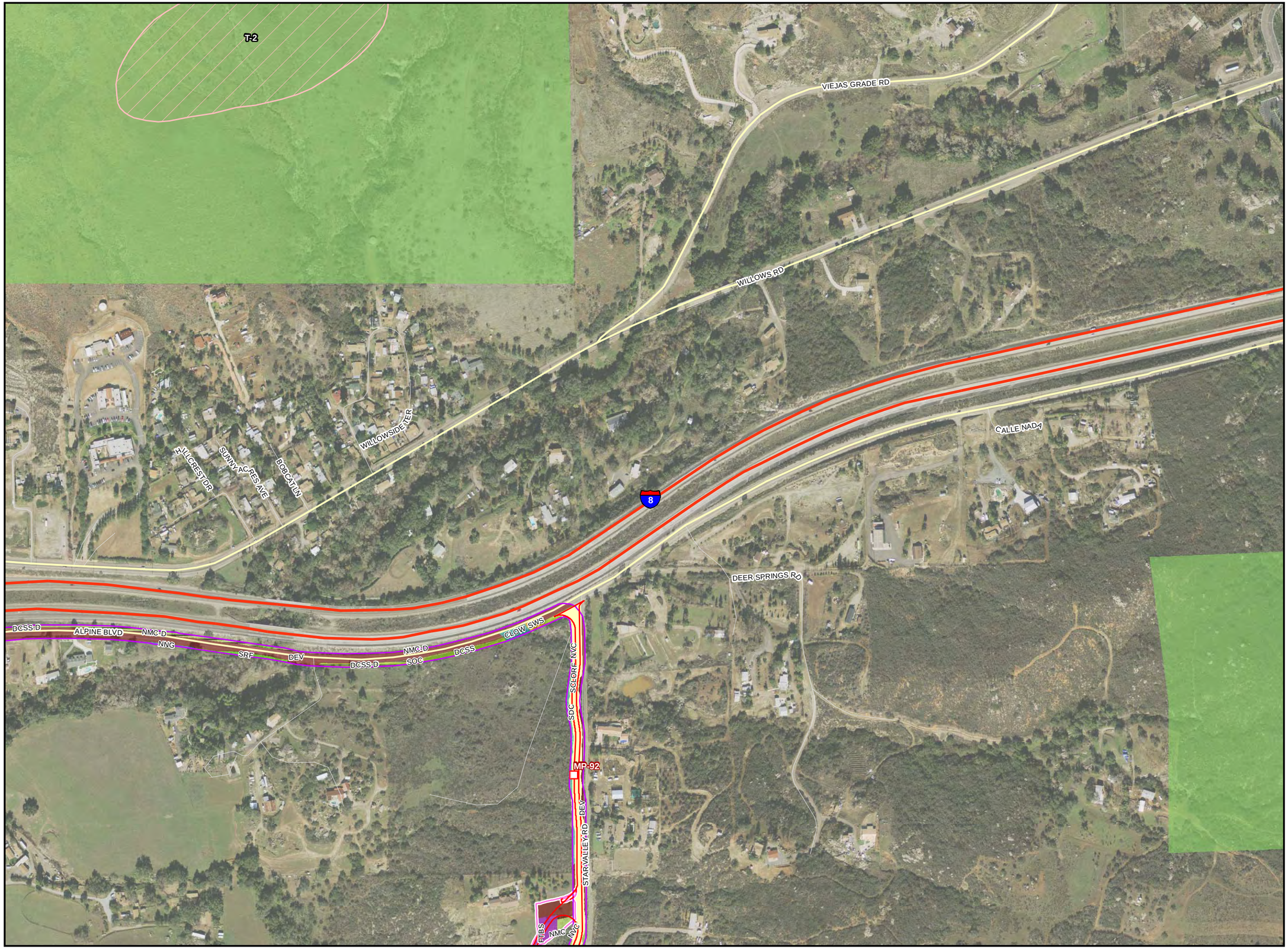
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-083 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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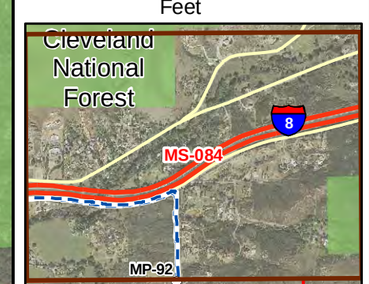
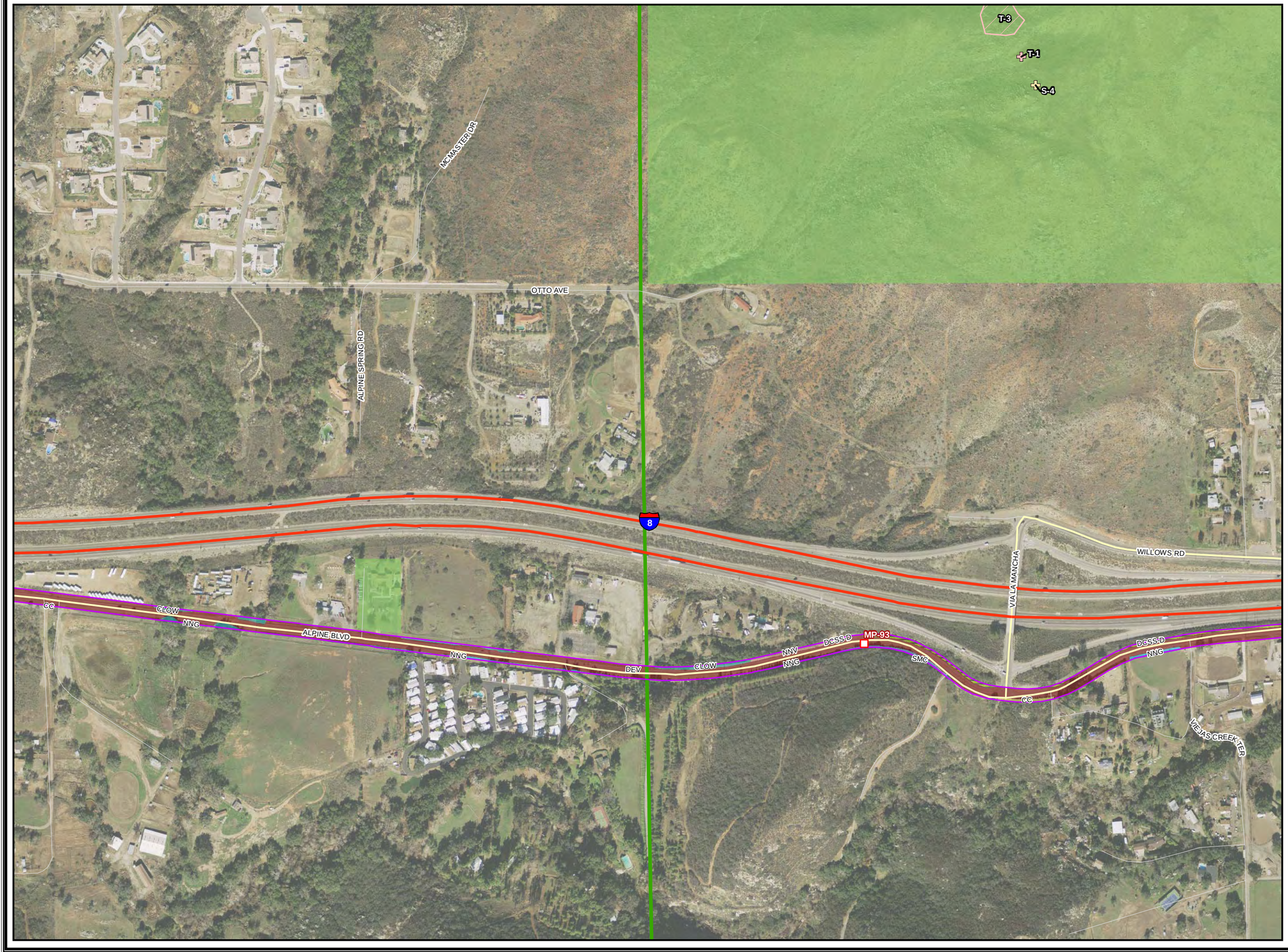
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive Species Occurrences
MS-084 - 5/24/2010

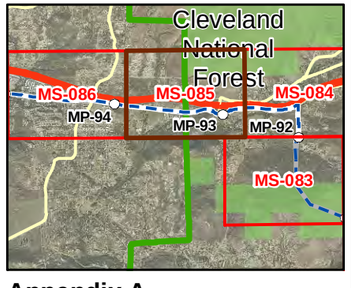


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

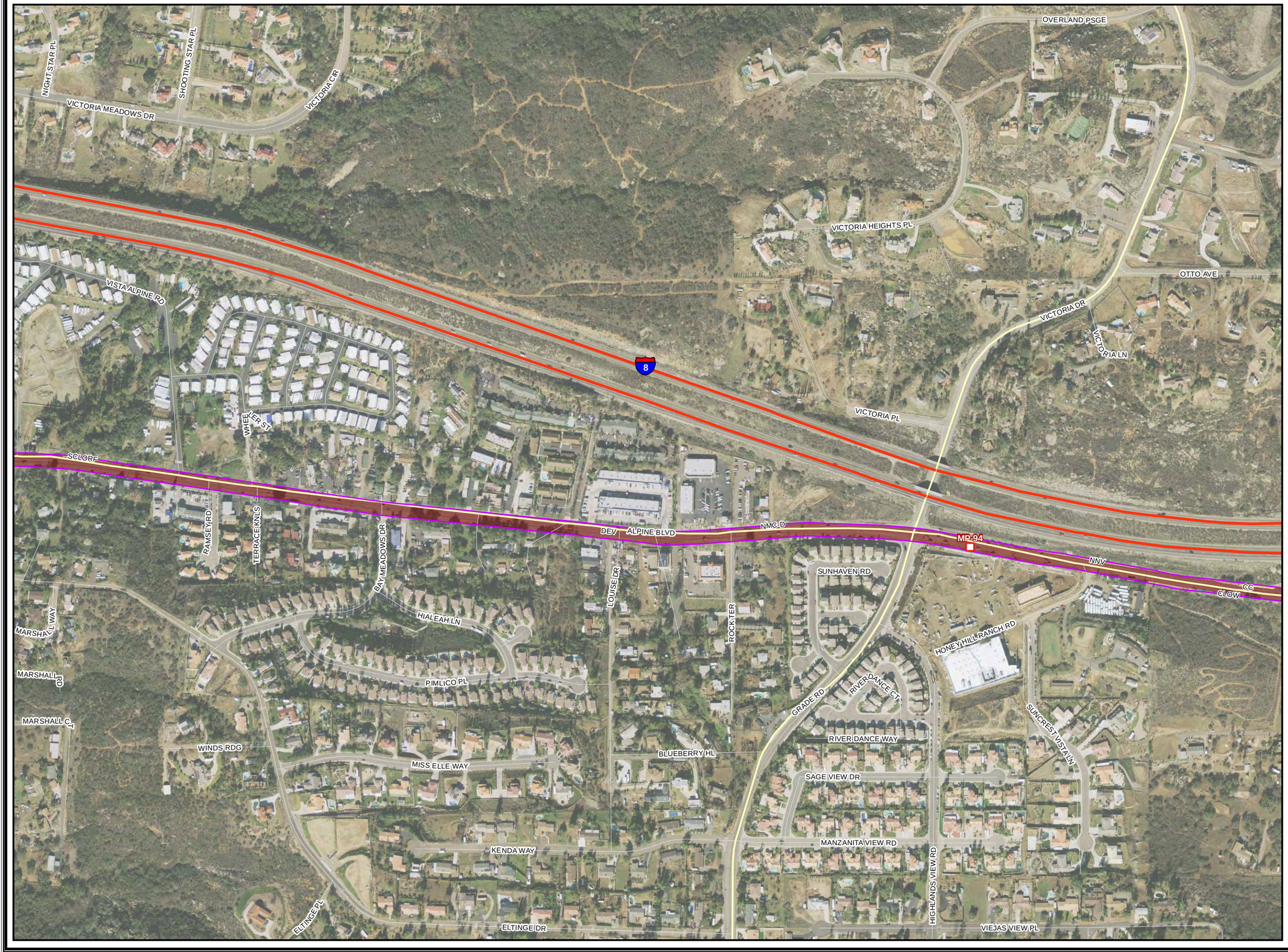
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-085 - 5/24/2010

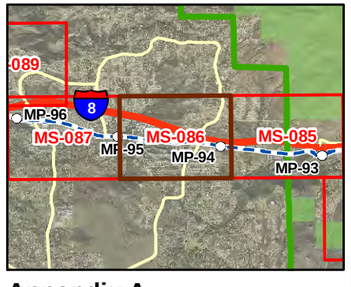


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

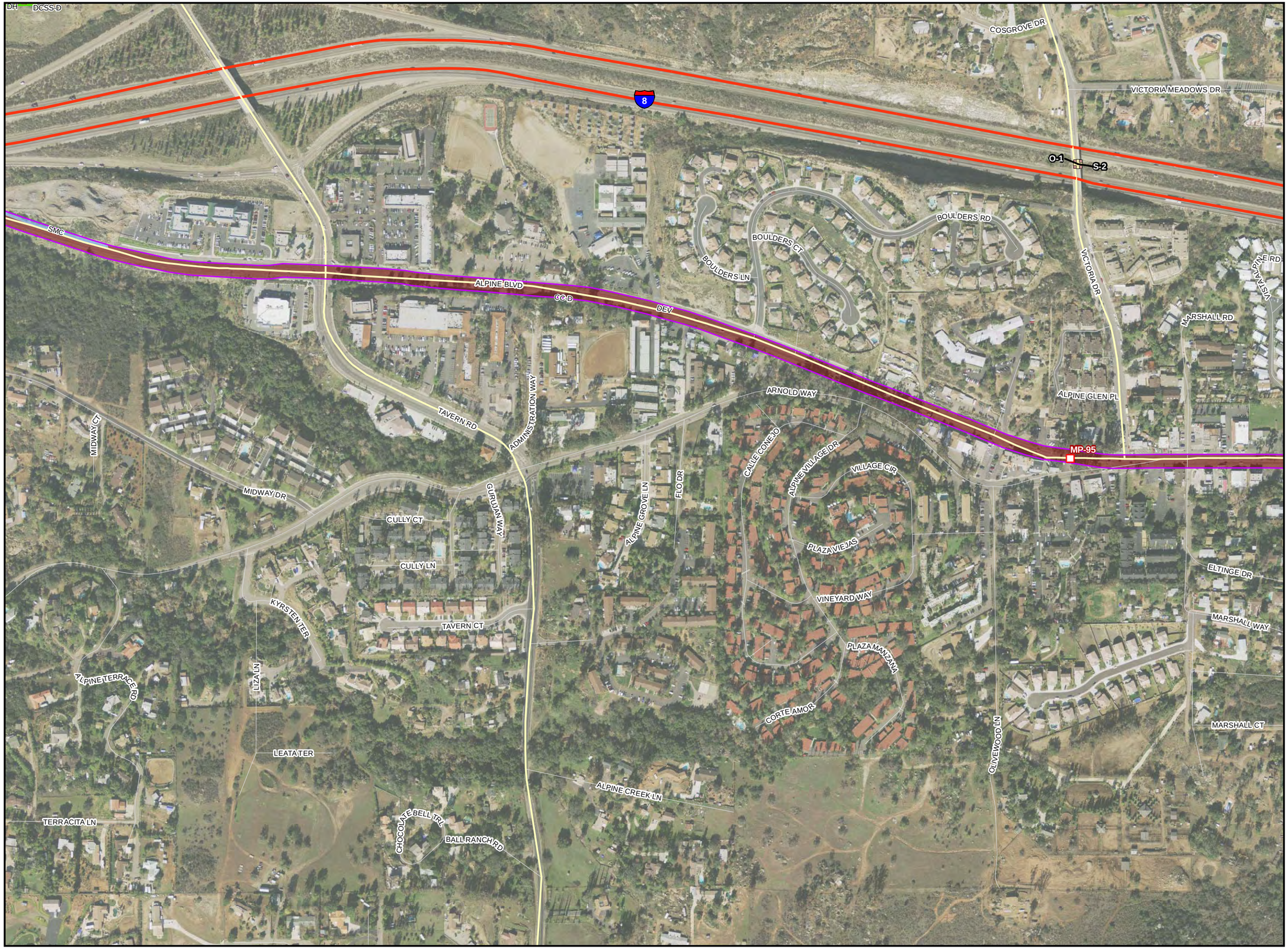
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-086 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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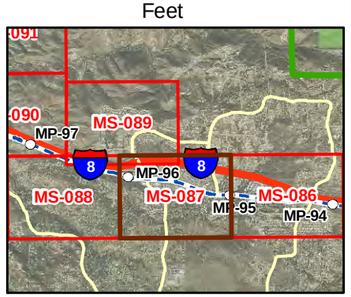
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

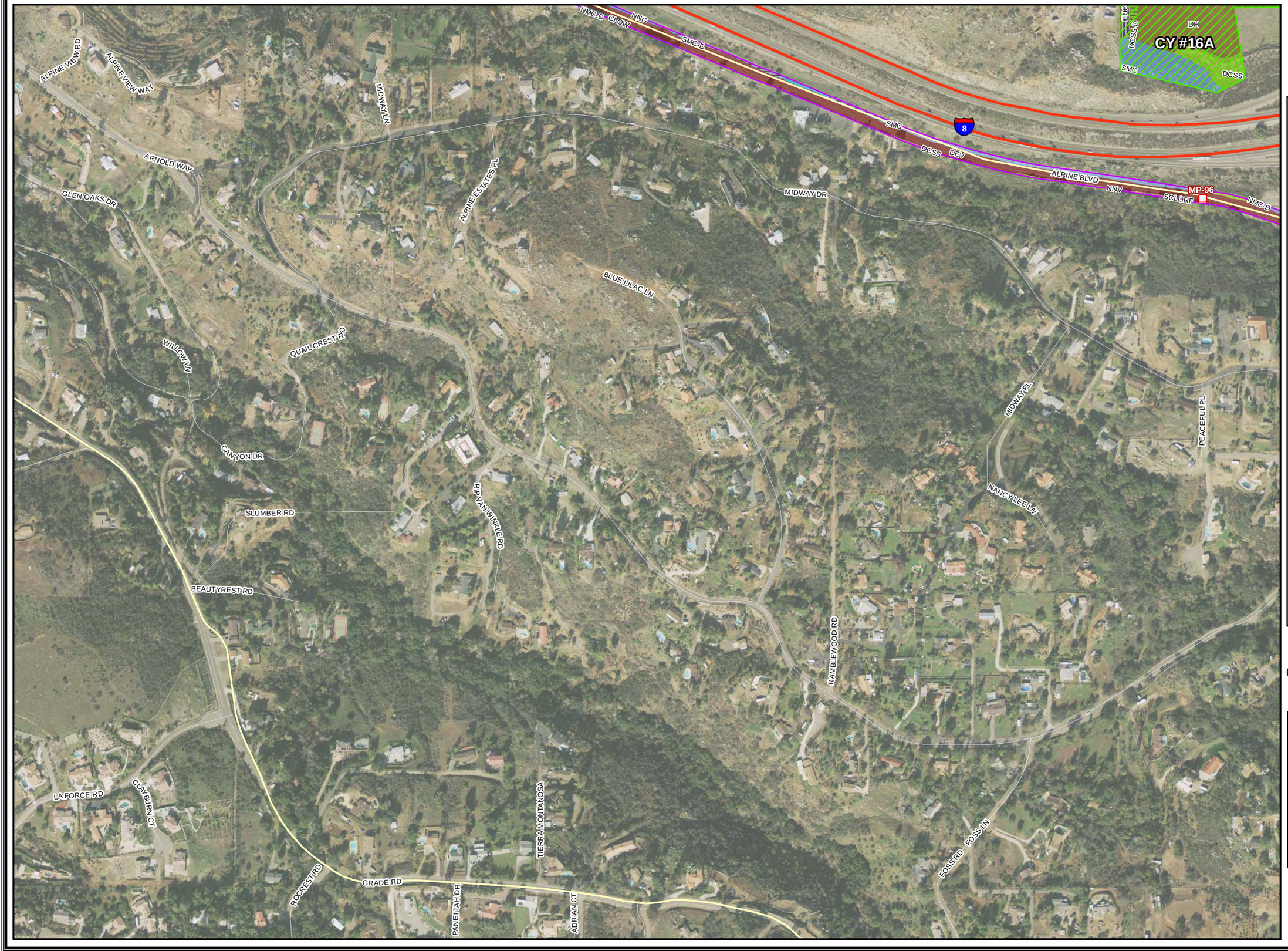
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-087 - 5/24/2010

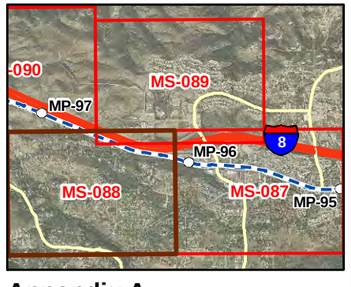


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

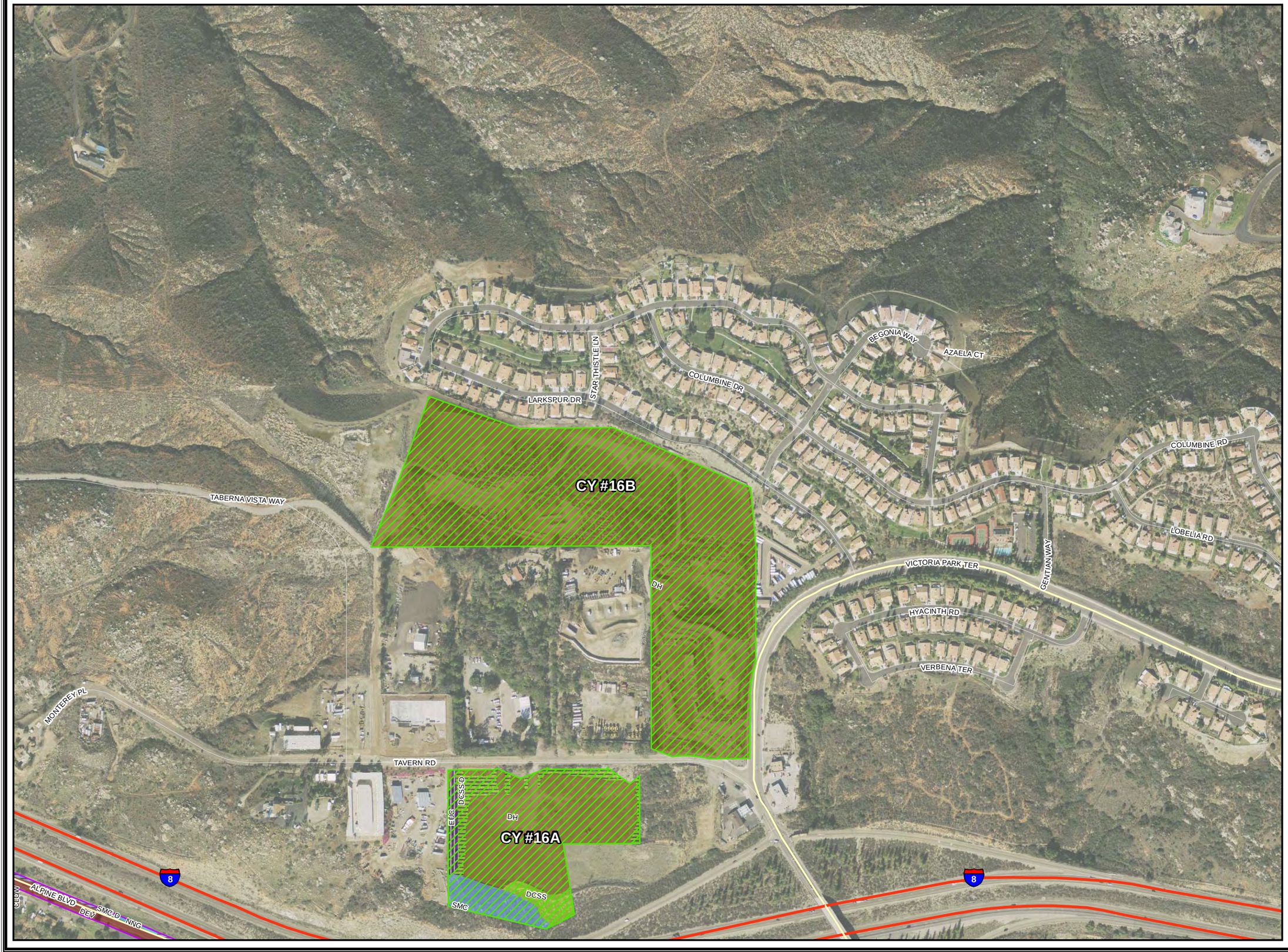
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-088 - 5/24/2010

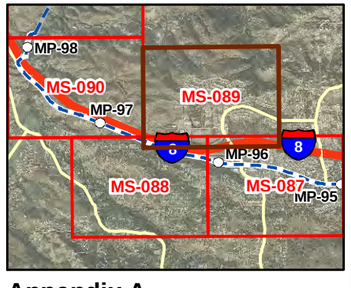


SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

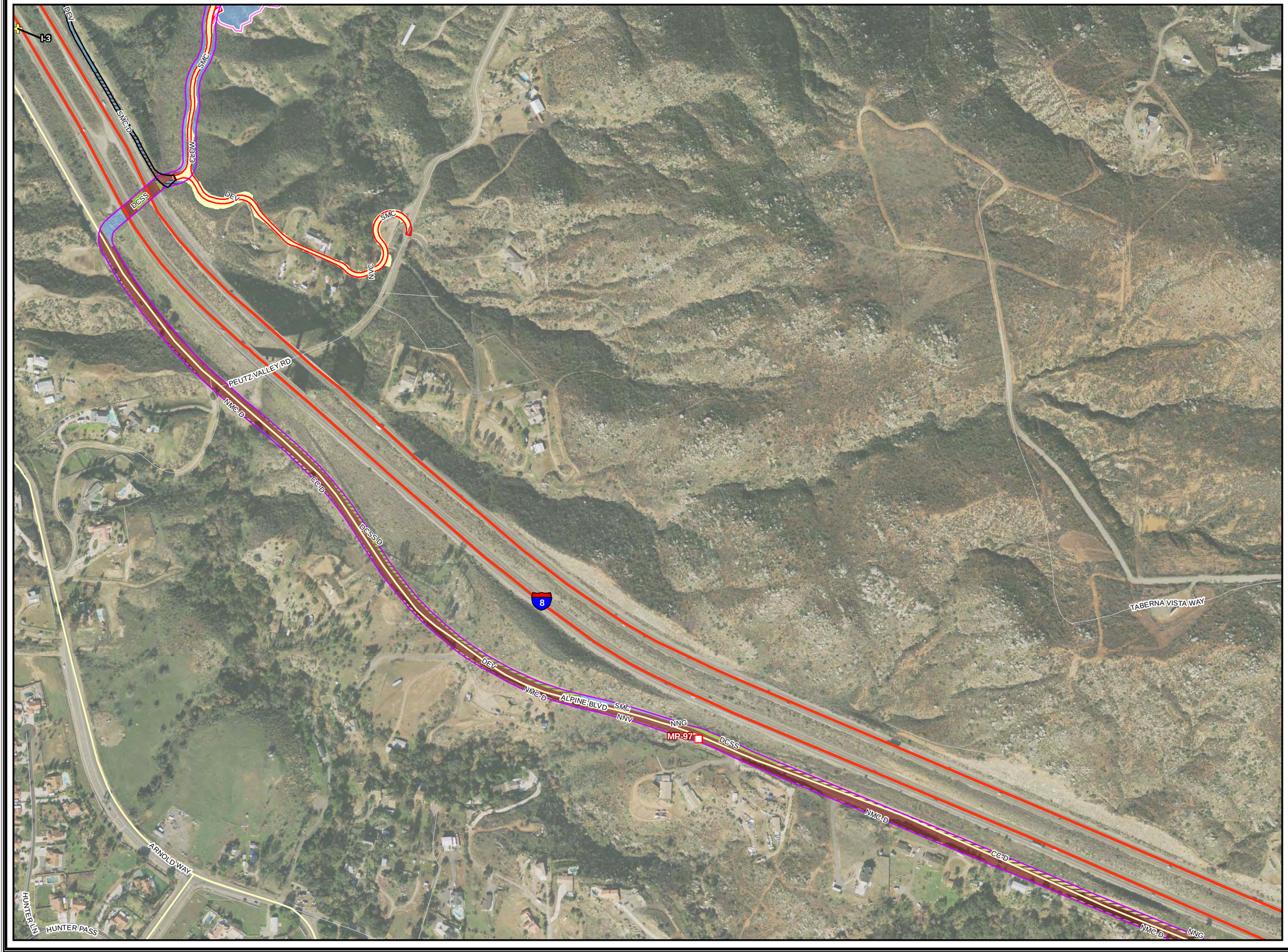
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-089 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
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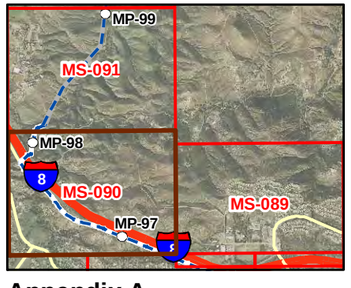
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

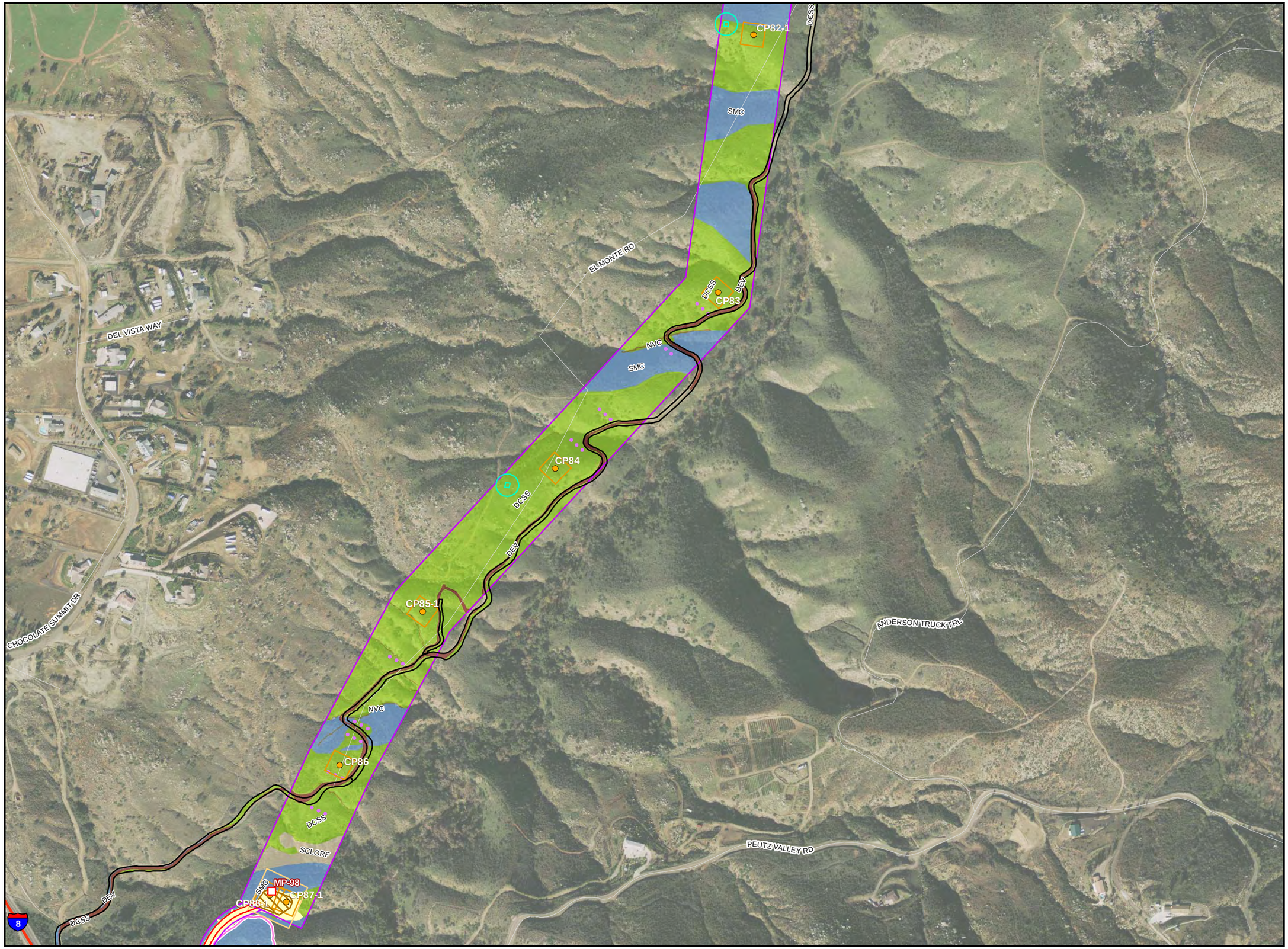
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-090 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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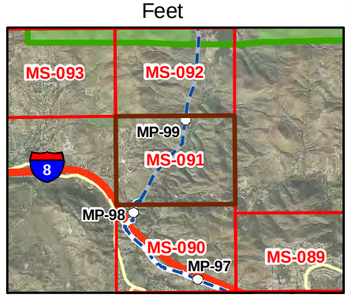
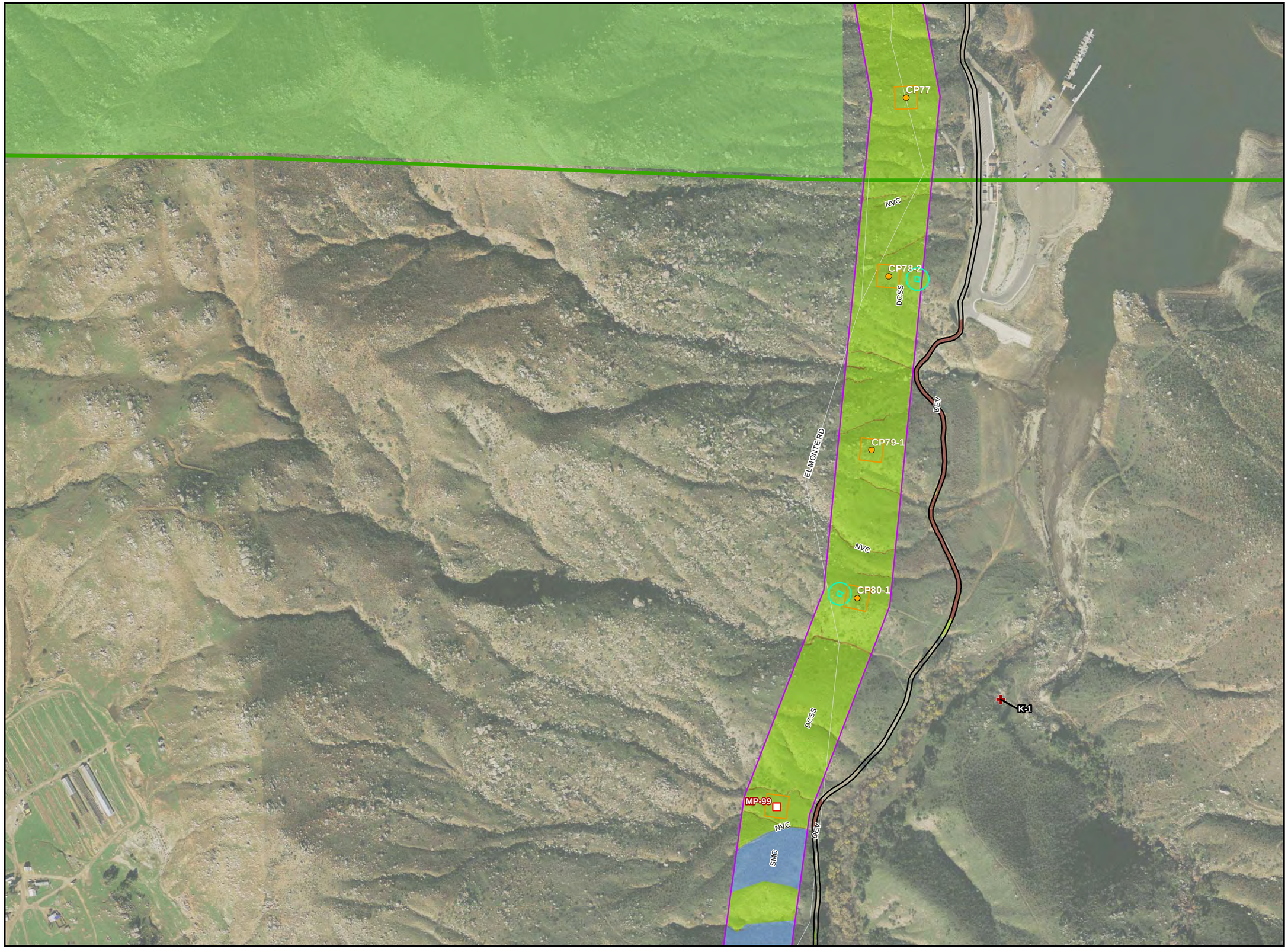
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive
Species Occurrences
MS-091 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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- Existing Road Ready to Use
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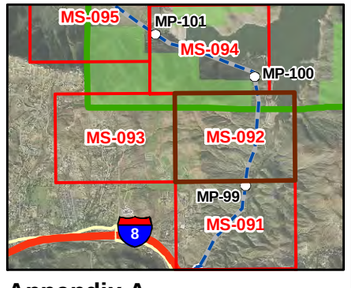
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

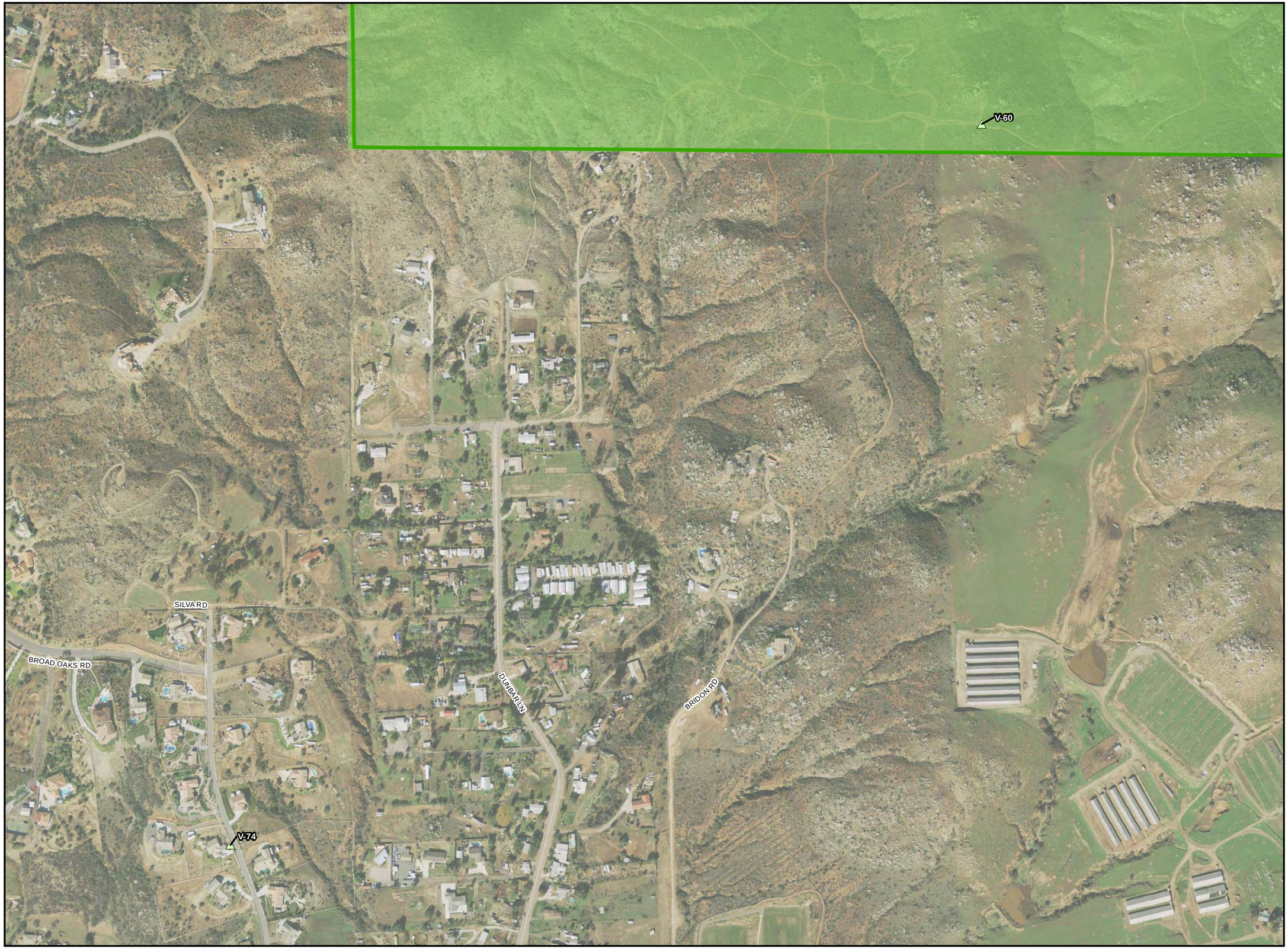
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-092 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
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- Existing Road Needing Minor Grading
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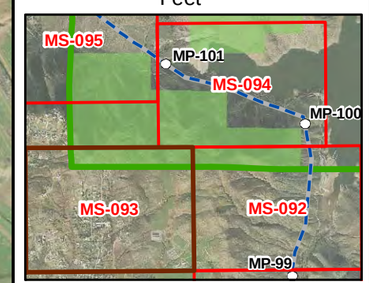
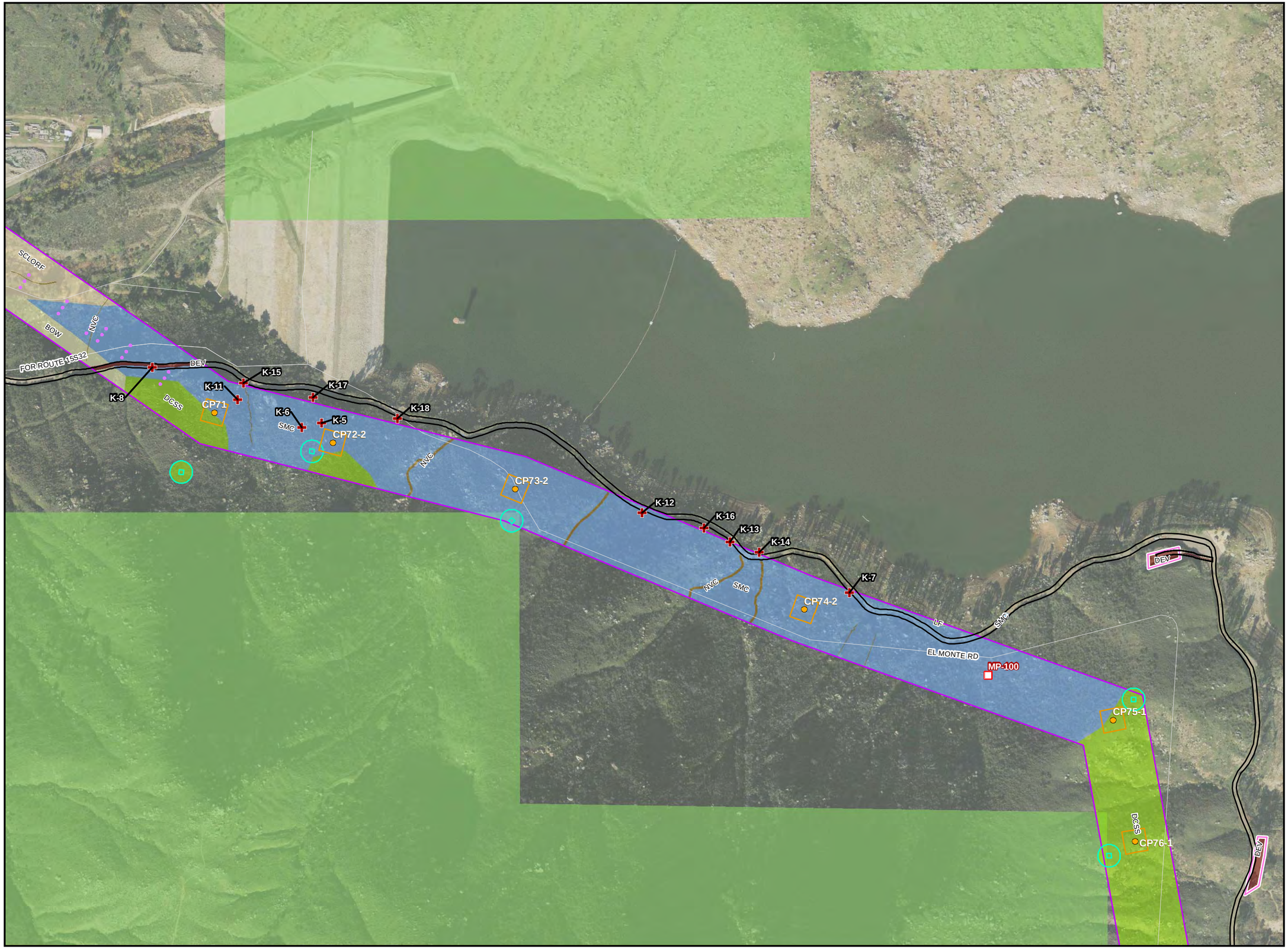
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive
Species Occurrences
MS-093 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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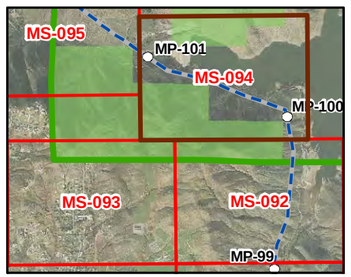
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

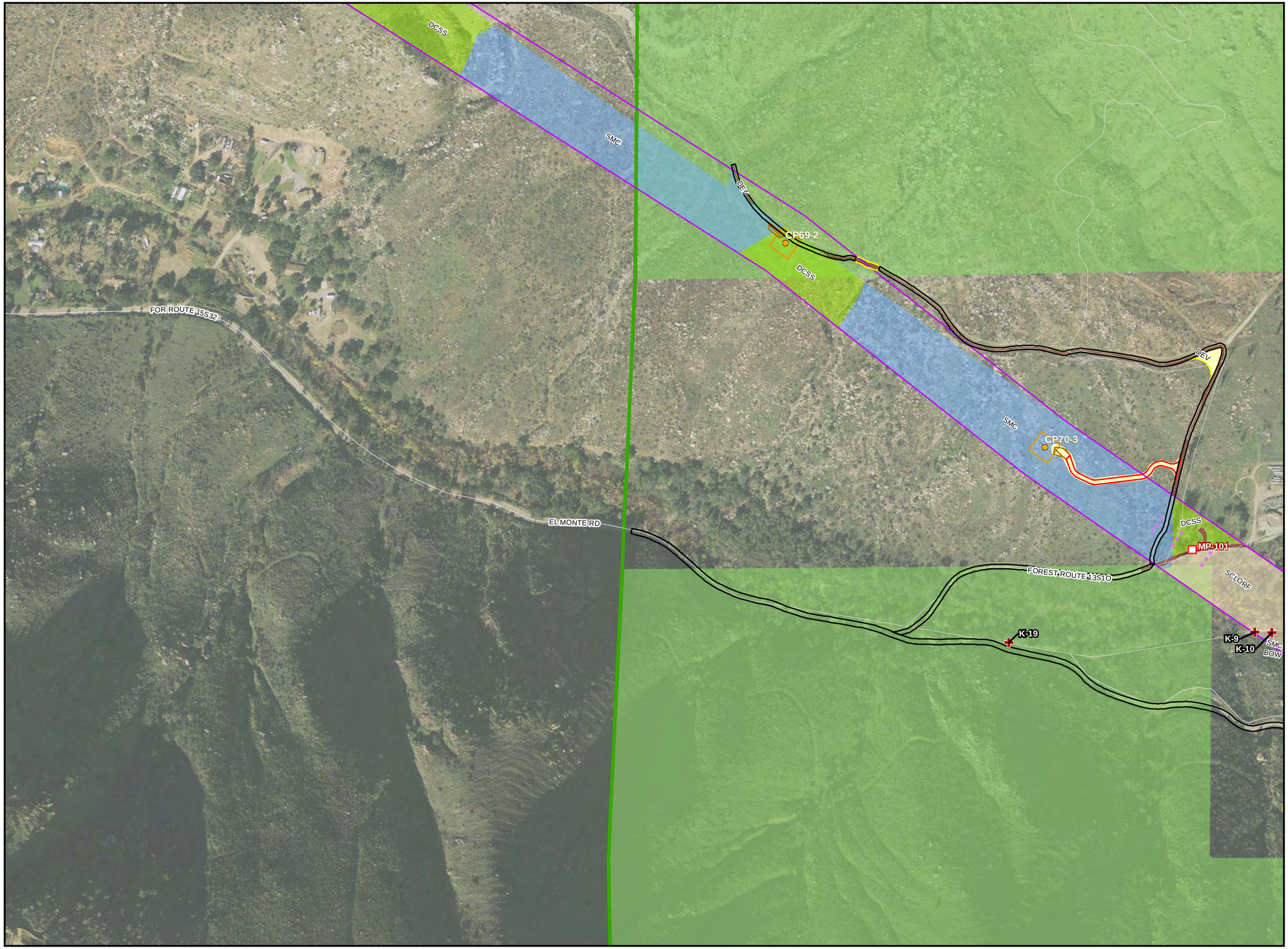
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-094 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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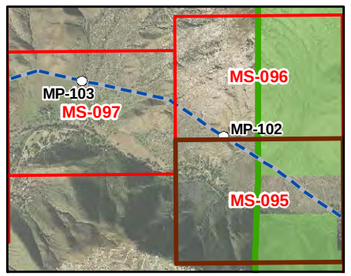
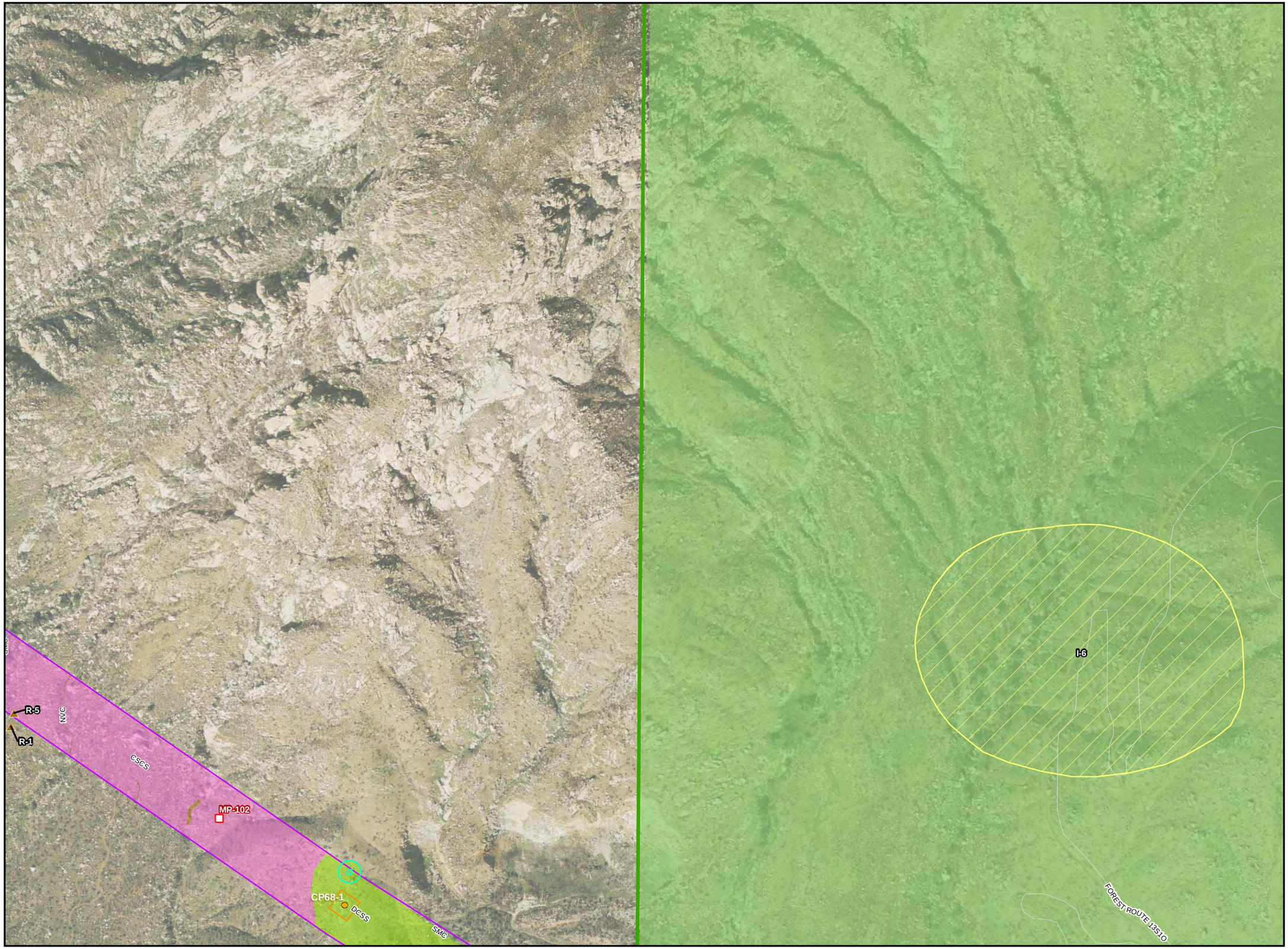
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive
Species Occurrences
MS-095 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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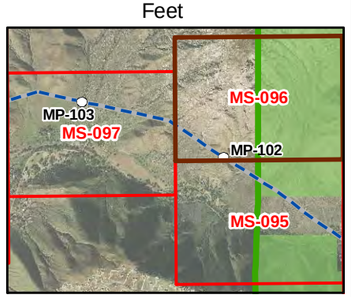
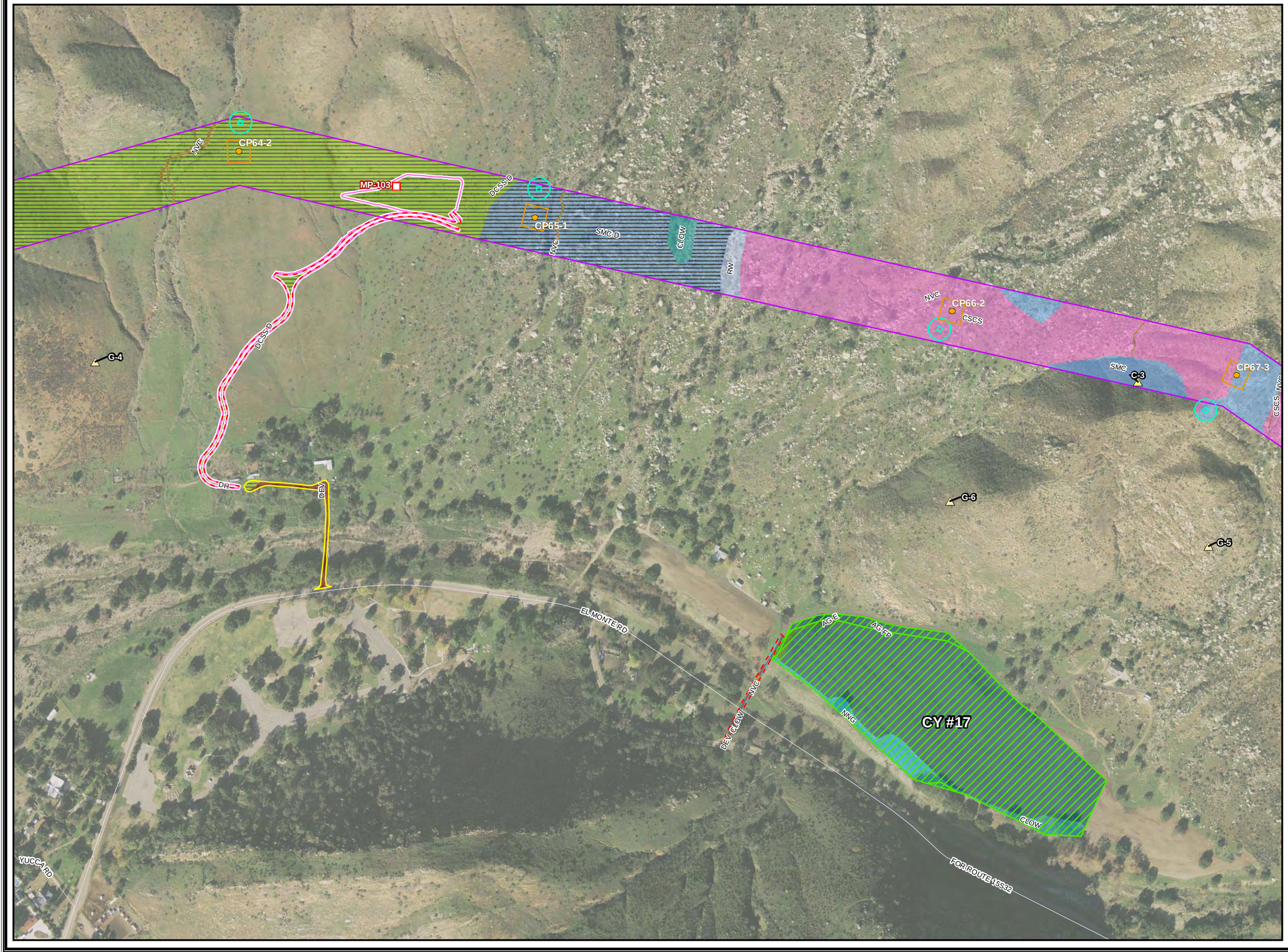
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive
Species Occurrences
MS-096 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
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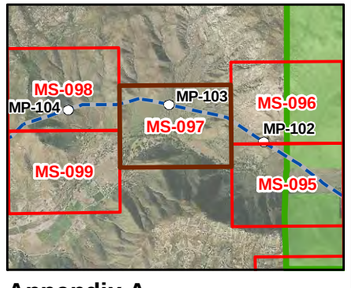
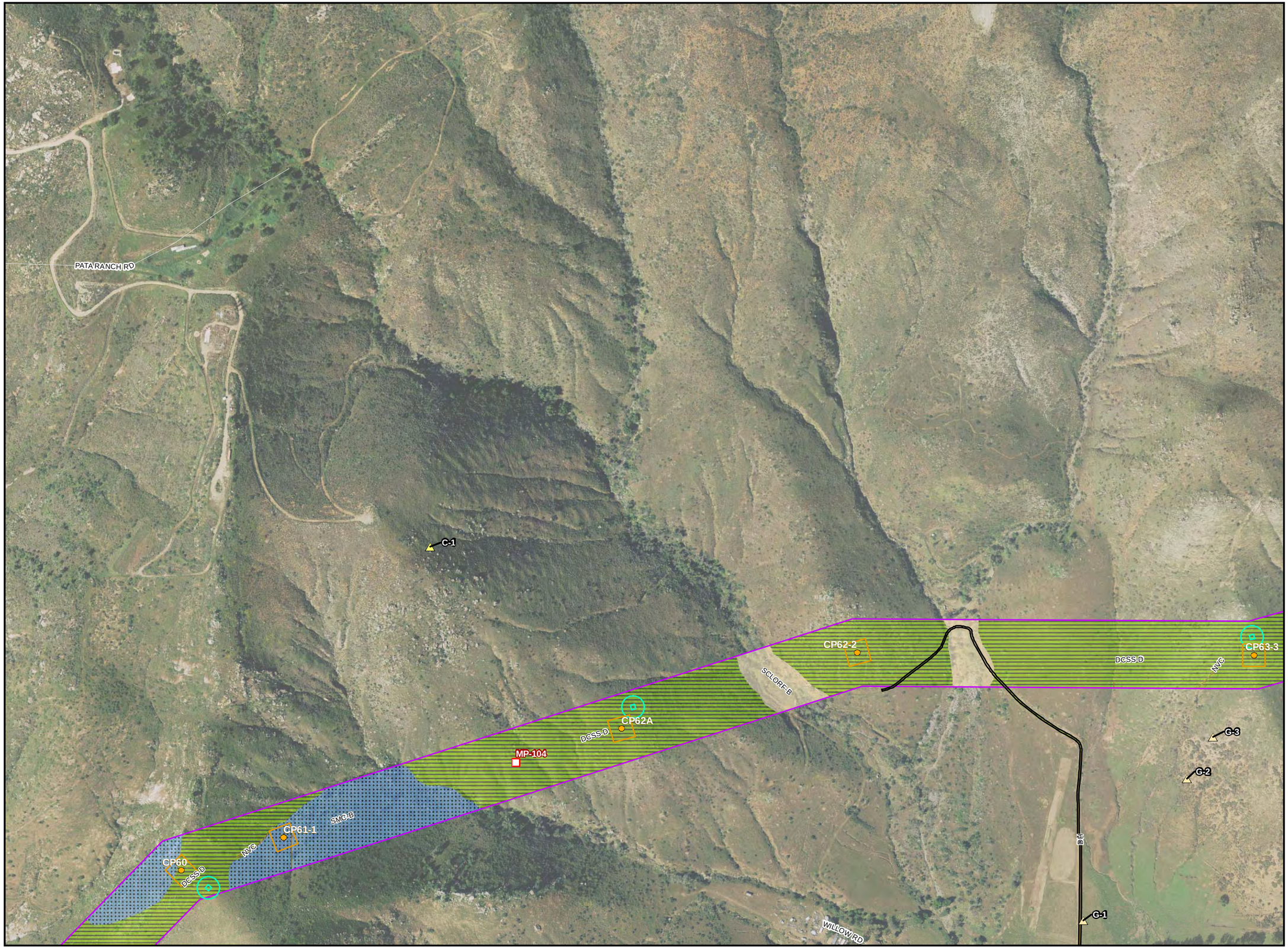
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive
Species Occurrences
MS-097 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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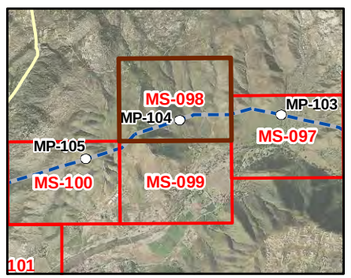
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

USFS Sensitive Species Occurrences

MS-098 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
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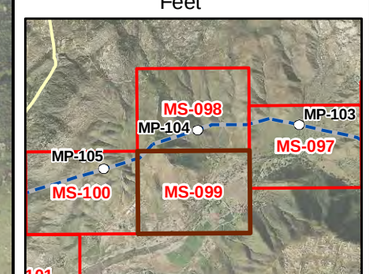
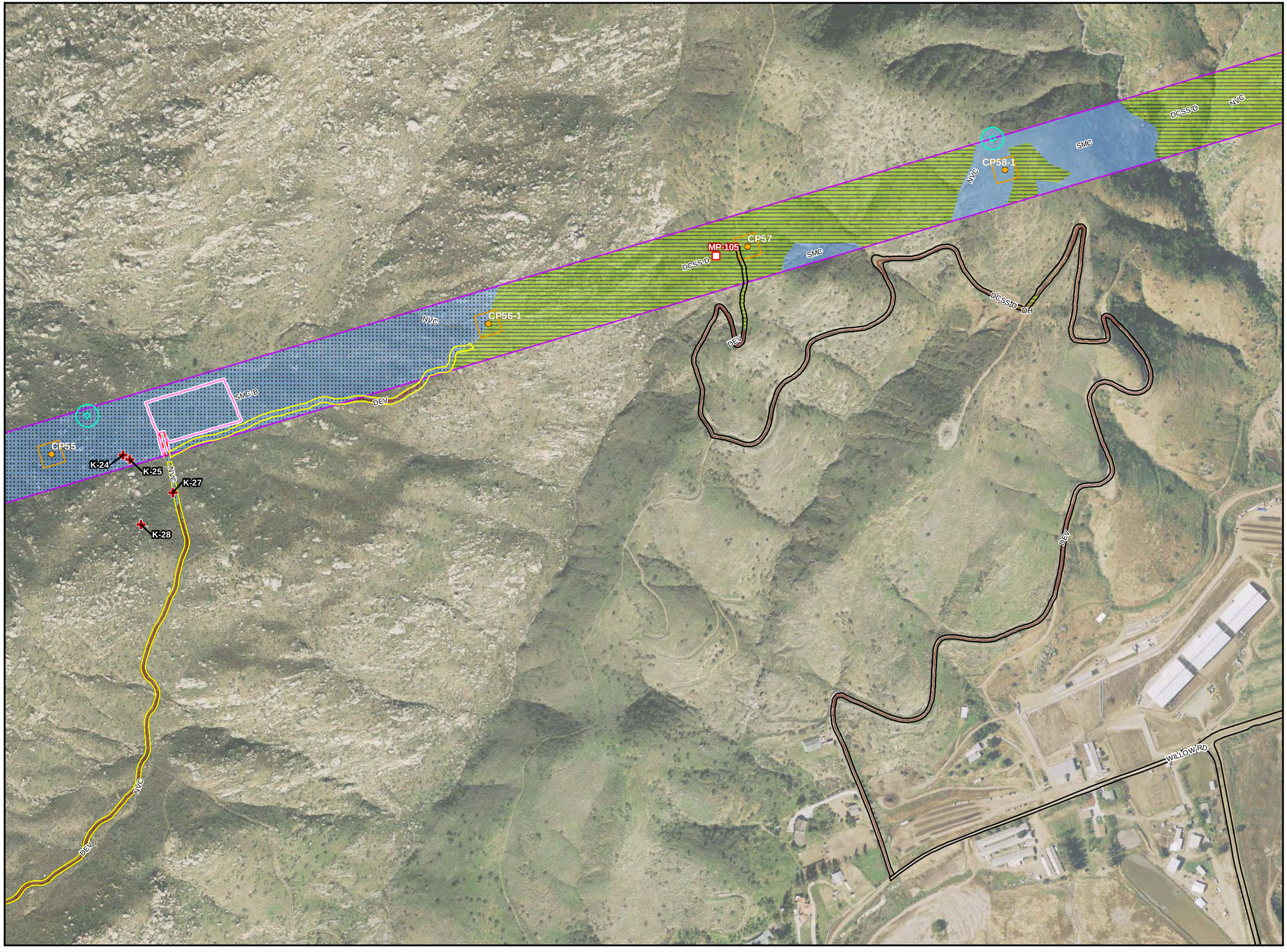
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



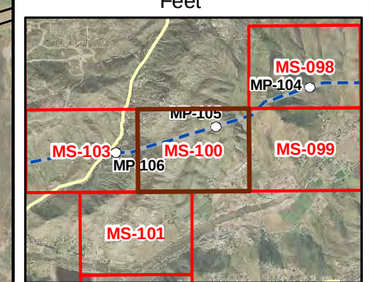
Appendix A
USFS Sensitive
Species Occurrences
MS-099 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



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Species Occurrences
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SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
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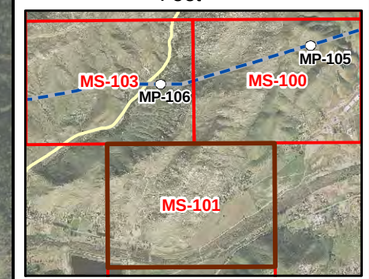
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive Species Occurrences
MS-101 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet

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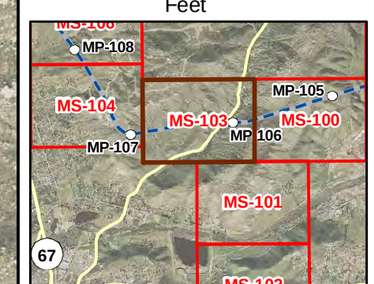
Species Occurrences
MS-102 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



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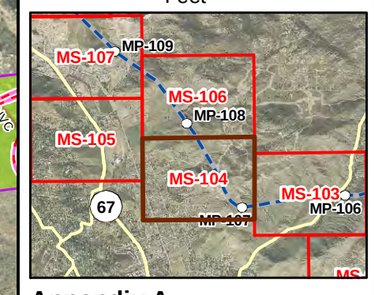
USFS Sensitive Species Occurrences

MS-103 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive
Species Occurrences
MS-104 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
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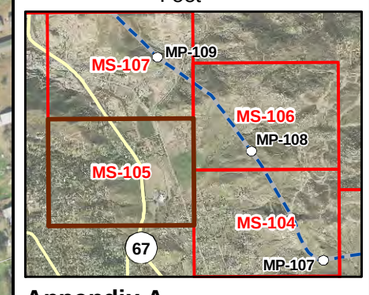
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

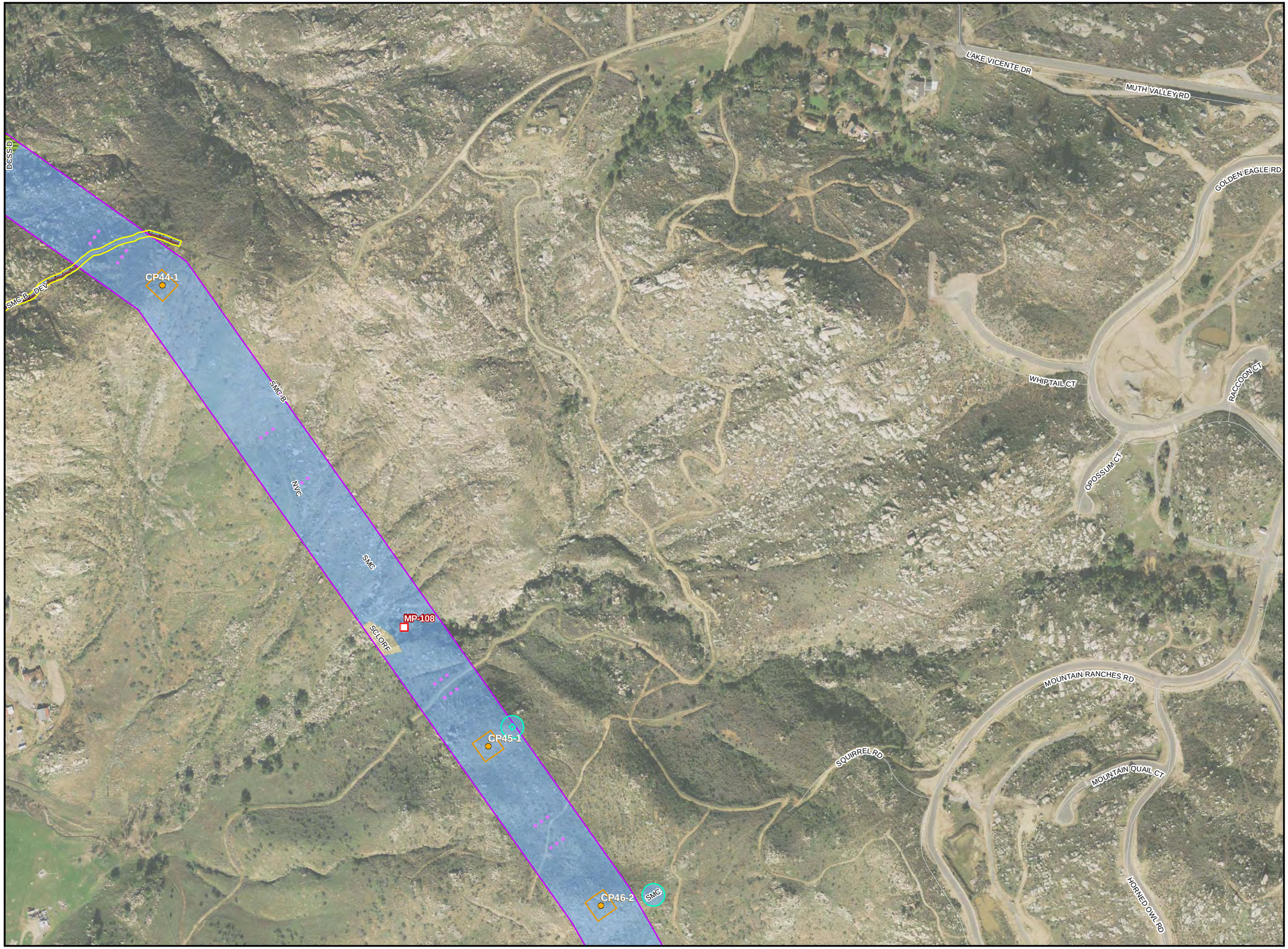
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-105 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

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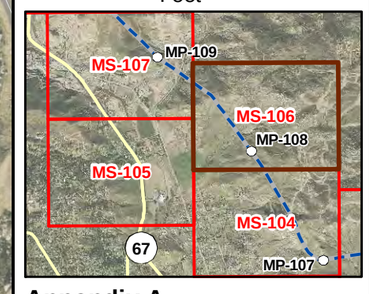

Appendix A
USFS Sensitive
Species Occurrences
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SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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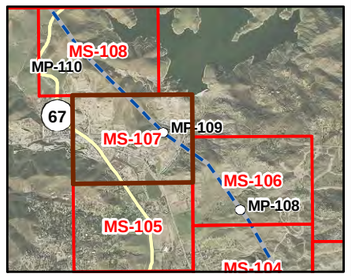
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



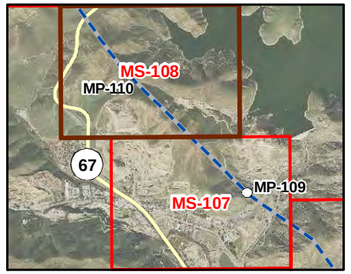
Appendix A
USFS Sensitive
Species Occurrences
MS-107 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

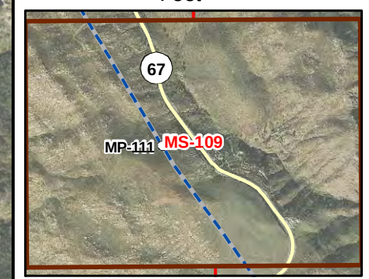
USFS Sensitive Species Occurrences

MS-108 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



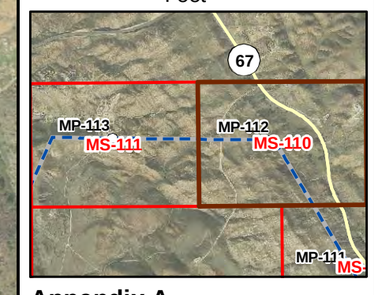
Appendix A
USFS Sensitive Species Occurrences
MS-109 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

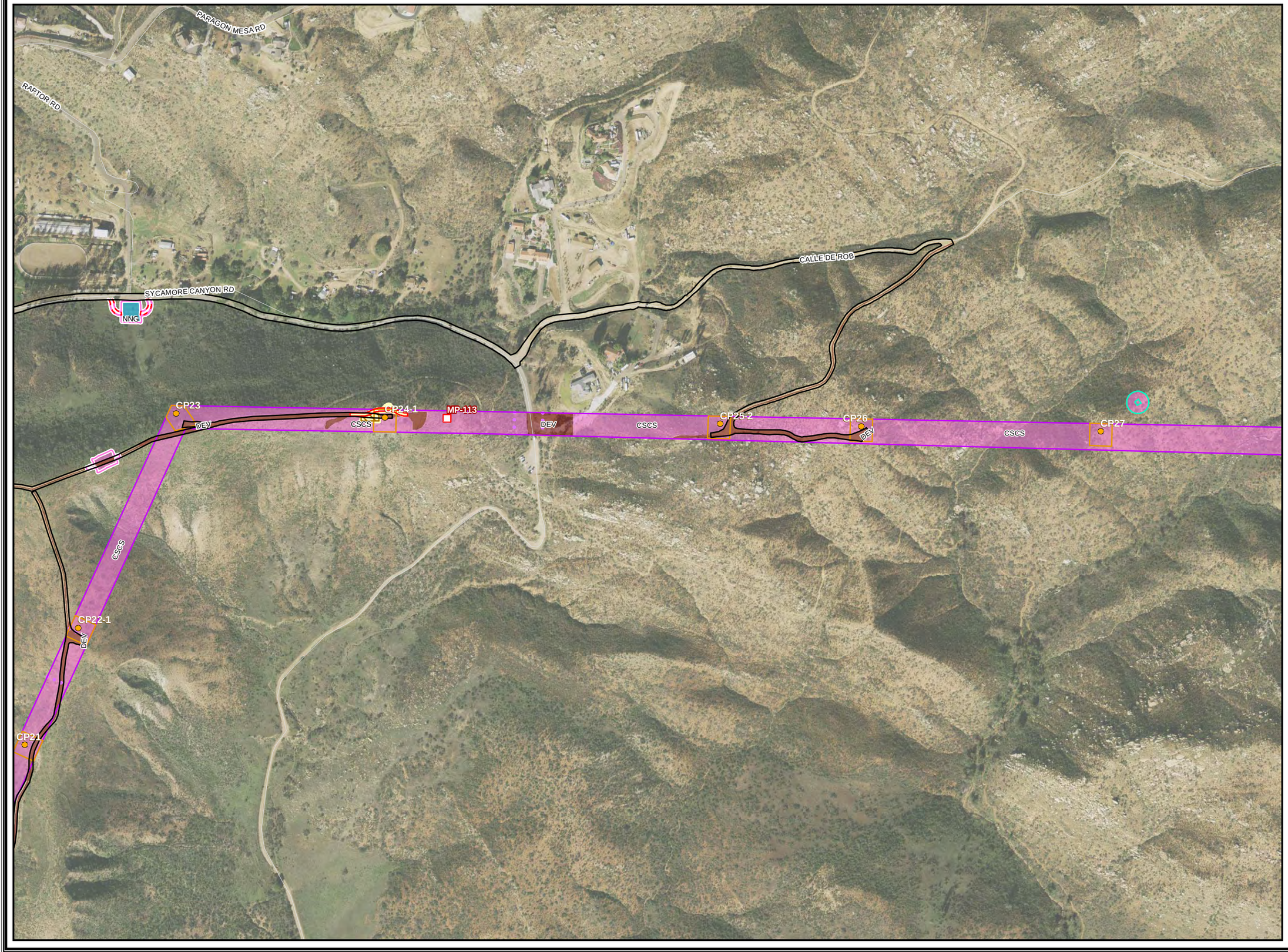
Feet



Appendix A

USFS Sensitive Species Occurrences

MS-110 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
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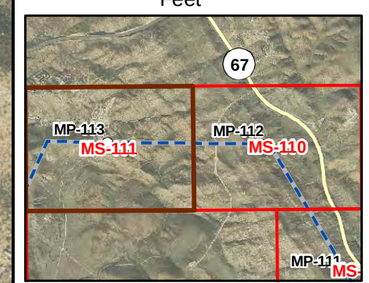
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



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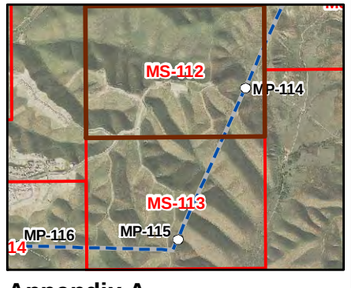
USFS Sensitive Species Occurrences

MS-111 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



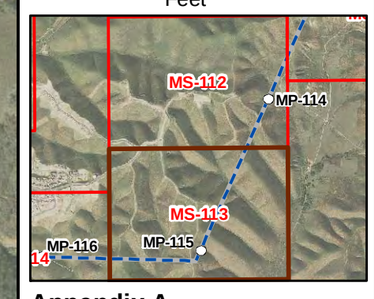
Appendix A
USFS Sensitive
Species Occurrences
MS-112 - 5/24/2010

SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



Appendix A

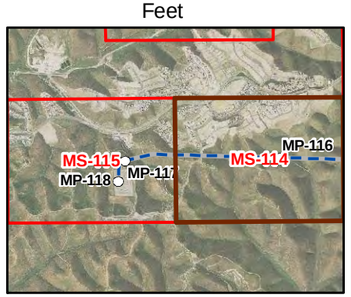
USFS Sensitive Species Occurrences

MS-113 - 5/24/2010

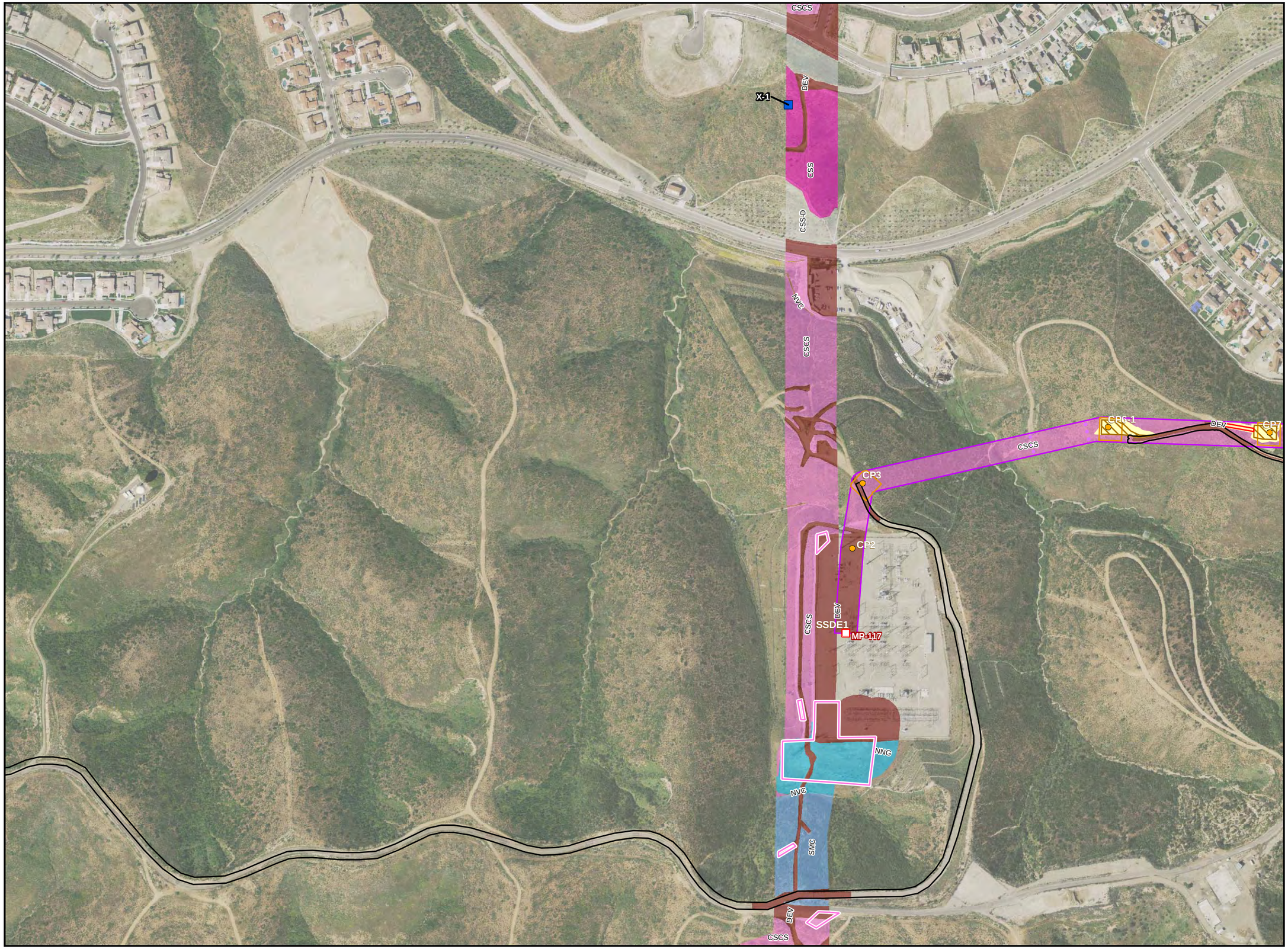
SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet



Appendix A
USFS Sensitive
Species Occurrences
MS-114 - 5/24/2010



SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
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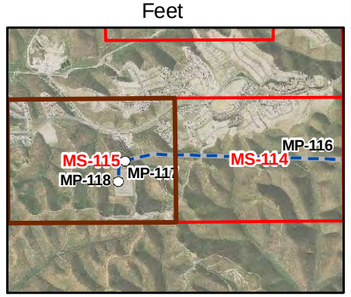
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800

Feet



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SUNRISE POWERLINK℠

- Mile Marker
- Current Sunrise Structure
- Guard Structure
- TSAP (Tower Staging Access Pad)
- Existing Road Needing Major Reconstruction
- Existing Road Needing Minor Grading
- Access Road to be Constructed
- Temporary Access Road
- Existing Road Ready to Use
- Suncrest Substation
- Substation Impact Area
- Maintenance Pad
- Structure Pad Area
- Grading Limits
- Construction Yard
- Temporary Pull Site
- Structure Work Area
- Cleveland National Forest Congressional Boundary
- USFS Owned Land

0 400 800
Feet

Appendix A
USFS Sensitive
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APPENDIX B – MITIGATION MEASURES AND APPLICANT PROPOSED MEASURES FOR BIOLOGICAL RESOURCES

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	— **B-1a: Provide restoration/compensation for impacted sensitive vegetation communities.** Surface-disturbing components of the project shall be located in previously disturbed areas or where habitat quality is poor to the extent possible, and disturbance of vegetation and soils shall be minimized. Temporary construction mats may be used to minimize vegetation and soil disturbance only where deemed appropriate by the qualified biologist (see Mitigation Measure B-1c). The construction mats shall not be left on the ground for more than three weeks. Use of construction mats shall be considered a temporary impact to vegetation and shall be mitigated in accordance with this mitigation measure. If avoidance of sensitive vegetation communities is not feasible due, for example, to physical or safety constraints, the Applicant shall restore temporarily impacted areas to pre-construction conditions following construction (or emergency repairs) and shall permanently block off all public access to them, and/or shall purchase/dedicate suitable habitat for preservation to off-set permanently impacted areas. Restoration of some vegetation communities in temporarily impacted areas may not be possible if those areas are subject to vegetation management to maintain proper clearance between transmission lines and vegetation. In those instances, the mitigation shall consist of offsite acquisition and preservation of the vegetation community instead. Any area that can be preserved as intact or restored habitat, or if it contains any species (plant or animal) that require project-related compensatory mitigation will qualify as offsite mitigation lands. Restoration involves recontouring the land, replacing the topsoil (if it was collected), planting seed and/or container stock, and maintaining (*i.e.,* weeding, replacement planting, supplemental watering, etc.) and monitoring the restored area for a period five years (or less if the restoration meets all success criteria). Restoration in ABDSP shall be maintained and monitored for a minimum of five years. The success of the restoration is usually based on how the habitat compares with similar, nearby, undisturbed habitat. Any restoration efforts would be subject to a Habitat Restoration Plan approved by the CPUC, BLM, Wildlife Agencies, State Parks (for restoration in ABDSP), and USDA Forest Service (for alternatives with restoration on National Forest lands). Mitigation ratios and mitigation acreages for construction within authorized limits are provided in Table D.2-7 for the Proposed Project (see Impacts to Vegetation Communities and Required Mitigation tables in alternatives sections for the alternatives). The mitigation ratios also apply to impacts from emergency repairs. In cases where the impacts to sensitive vegetation communities occur on lands already in use as mitigation for other projects, the mitigation ratios shall be doubled, as is standard practice in San Diego County.
	— **(B-1a)** All limits of construction shall be delineated with orange construction fencing. SDG&E shall coordinate with the authorized officer for the applicable federal, State, or local land owner/ administrator at least 60 days before construction in order to determine if gates shall be installed on access roads, especially trails that would be dually used as access roads, to prevent unauthorized vehicular access to the ROW. Gate installation shall be required at the discretion of the land management agency. On trails proposed for dual use as access roads, gates shall be wide enough to allow horses, bicycles, and pedestrians to pass through. SDG&E shall document its coordination efforts with the administering agency of the road/trail and provide this documentation to the CPUC, BLM, and all affected jurisdictions 30 days prior to construction. Signs prohibiting unauthorized use of the access roads shall be posted on the installed gates. To control unauthorized use of project access roads by off-road vehicle enthusiasts, SDG&E shall provide funding to land management entities responsible for areas set aside for habitat conservation to provide for off-road vehicle enforcement patrols. The responsible land management entities will formulate what funding is reasonable to control unauthorized use of project access roads.
	— **(B-1a)** Any impacts associated with unauthorized activity (*e.g.,* exceeding approved construction footprints) shall be mitigated at a 5:1 ratio (5.5:1 in FTHL MA). Restoration of the unauthorized impacts shall be credited at a 1:1 ratio (*i.e.,* mitigated by in-place habitat restoration); the remaining 4:1 (or 4.5:1 in FTHL MA) shall be acquired off site.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

— **(B-1a)** Areas to be restored shall include all areas temporarily impacted by construction, such as tower construction sites, laydown/staging areas, temporary access and spur roads, and existing tower locations where towers are removed. Where onsite restoration is planned, the Applicant shall identify a qualified Habitat Restoration Specialist to be approved by the CPUC, BLM, State Parks (for restoration in ABDSP), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies. The Habitat Restoration Specialist shall prepare and implement a Habitat Restoration Plan, for restoring temporarily impacted sensitive vegetation communities, to be approved by the CPUC, Wildlife Agencies, BLM, State Parks (for ABDSP restoration), and USDA Forest Service (for National Forest land restoration). The Applicant shall work with the CPUC, BLM, Wildlife Agencies, and State Parks until a plan is approved by all. This Habitat Restoration Plan must be approved in writing by the above-listed agencies prior to the initiation of any vegetation disturbing activities. Hydroseeding, drill seeding, or an otherwise proven restoration technique shall be utilized on all disturbed surfaces using a locally endemic native seed mix approved by the CPUC, Wildlife Agencies, BLM, State Parks (for ABDSP restoration), and USDA Forest Service (for National Forest land restoration).

The Habitat Restoration Plan shall incorporate Desert Bioregion Revegetation/Restoration Guidance measures for restoration of temporary impacts to desert scrub and dune habitats. These measures generally include alleviating soil compaction, returning the surface to its original contour, pitting or imprinting the surface to allow small areas where seeds and rain water can be captured, planting seedlings that have acquired the necessary root mass to survive without watering, planting seedlings in the spring with herbivory cages, broadcasting locally collected seed immediately prior to the rainy season, and covering the seeds with mulch.

The Habitat Restoration Plan shall also incorporate the measures identified in the May 25, 2006 Memorandum of Understanding among Edison Electric Institute, USDA Forest Service, BLM, USFWS, National Park Service, and the Environmental Protection Agency (Edison Electric Institute, et al., 2006) where applicable. The MOU discusses vegetation management along ROWs for electrical transmission and distribution facilities on federal lands. The major provisions of the MOU include reducing soil erosion and water quality impacts; promoting local ecotypes in revegetation projects; planting native species and protecting rare species; and reducing the introduction of non-native, invasive or noxious plant species to the ROWs. The MOU can be viewed online at http://www.eei.org/industry_issues/environment/land/vegetation_management/EEI_MOU_FINAL_5-25-06.pdf.

The following habitat restoration requirements are not included in the MOU described above. The restoration of habitat shall be maintained and monitored for five years after installation by an experienced, licensed Habitat Restoration Contractor, or until established success criteria identified in the Restoration Plan (specified percent cover of native and non-native species, species diversity, and species composition as compared with an undisturbed reference site) are met. Maintenance and monitoring for restoration in ABDSP shall be for a minimum of five years, even if established success criteria are met before the end of five years. Maintenance and monitoring shall be conducted following a prescribed schedule to assess progress and identify potential problems with the restoration. Remedial action (*e.g.,* additional planting, weeding, erosion control, use of container stock, supplemental watering, etc.) shall be taken by an experienced, licensed Habitat Restoration Contractor during the maintenance and monitoring period if necessary to ensure the success of the restoration. If the restoration fails to meet the established success criteria after the maintenance and monitoring period, maintenance and monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise approved by the CPUC, BLM, State Parks (for ABDSP restoration), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies. For areas where habitat restoration cannot meet mitigation requirements, as determined by the Habitat Restoration Specialist in coordination with CPUC, BLM, State Parks (for ABDSP restoration), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies, offsite purchase and dedication of habitat shall be provided at the mitigation ratios provided in Table D.2-7 for the Proposed Project (see Impacts to Vegetation Communities and Required Mitigation tables in alternatives sections for the alternatives) or as otherwise required by the Wildlife Agencies, ABDSP, or USDA Forest Service (supersedes the mitigation ratios in BIO-APM-1).

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

	— **(B-1a) Tree Mitigation.** Mitigation for loss of native trees or native tree trimming shall be provided by (1) acquiring and preserving habitat within which the trees occur and/or (2) restoring (*i.e.,* planting) trees on land that would not be subject to vegetation clearing (either in the Applicant's ROW and/or on land acquired and preserved). Any land to be used for this mitigation shall be approved by the CPUC, BLM, State Parks (for ABDSP restoration), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies. For habitat acquisition and preservation, the mitigation ratios shall follow those in Table D.2-7 for the Proposed Project (see Impacts to Vegetation Communities and Required Mitigation tables in alternatives sections for the alternatives). For example, removal of coast live oak trees (that occur in coast live oak woodland) shall require mitigation at a 3:1 ratio based on the permanent impact to the summed acreage of all individual coast live oak trees impacted. Therefore, if the total acreage of all individual coast live oak trees in coast live oak woodland impacted is 10 acres, then 30 acres of coast live oak woodland shall be acquired and preserved. For all trimmed native trees, the trees shall be monitored for a period of three years. If a trimmed tree declines or suffers mortality during that period, the tree shall be replaced in-kind (by species) at a 2:1 or 5:1 ratio as recommended by the CDFG (see below). If a tree does not decline or suffer mortality, no mitigation shall be required.
	— **(B-1a)** For restoration (planting trees), these guidelines, based on recommendations from the CDFG, shall be followed. Native trees that are removed shall be replaced in-kind (by species) as follows. • Trees less than five inches diameter at breast height (DBH) shall be replaced at 3:1 • Trees between five and 12 inches DBH shall be replaced at 5:1 • Trees between 12 and 36 inches shall be replaced at 10:1 • Trees greater than 36 inches shall be replaced at 20:1 • Native trees that are trimmed shall be replaced in-kind (by species) as follows. • Trees less than 12 inches DBH shall be replaced at 2:1 • Trees greater than 12 inches DBH shall be replaced at 5:1 All restoration shall be maintained and monitored for a minimum of 10 years. The restoration shall be directed according to a Habitat Restoration Plan approved by the CPUC, BLM, State Parks (for ABDSP restoration), USDA Forest Service (for National Forest land restoration), and the Wildlife Agencies.
	— **(B-1a) Mitigation Parcels/Habitat Management Plans.** All offsite mitigation parcels shall be approved by the CPUC, BLM, Wildlife Agencies, State Parks (for impacts to ABDSP), and USDA Forest Service (for alternatives with impacts to National Forest lands) and must be acquired or their acquisition must be assured before the line is energized. To demonstrate that such parcels shall be acquired, SDG&E shall submit a Habitat Acquisition Plan at least 120 days prior to any ground disturbing activities. The Plan shall be submitted to the CPUC, BLM, the Wildlife Agencies, State Parks (for impacts in ABDSP) and USDA Forest Service (for impacts on National Forest Lands) for review and approval, and shall include, but shall not be limited to: legal descriptions and maps of all parcels to be acquired; schedule that includes phasing relative to impacts; timing of conservation easement recording; initiation of habitat management activities relative to acquisition; and assurance mechanisms (*e.g.,* performance bonds to assure adequate funding) for any parcels not actually acquired prior to vegetation disturbing activities.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

	— **(B-1a)** A Habitat Management Plan shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) for all acquired offsite mitigation parcels. The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any vegetation disturbing activities. The Applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired, offsite mitigation parcels. The Habitat Management Plan shall include, but shall not be limited to: • Legal descriptions of all mitigation parcels approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) • Baseline biological data for all mitigation parcels • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to National Forest lands) to provide in-perpetuity management • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan • Designation of responsible parties and their roles (*e.g.,* provision of endowment by the Applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity) • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).
	Also, see U.S. Fish and Wildlife Conservation Measures G-CM-6, G-CM-7, G-CM-12, G-CM-14, G-CM-15, G-CM-16, G-CM-17, G-CM-21, G-CM-22, G-CM-26, G-CM-28, G-CM-29, and G-CM-34.
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	BLM and CPUC shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation. CPUC/BLM biological monitor shall confirm that proposed habitat restoration mitigation plans are implemented.
Effectiveness Criteria	Habitat restoration plans are implemented and meet success criteria. Long-term habitat management is provided for all mitigation sites.
Responsible Agency	BLM, CPUC, USFWS, CDFG, State Parks (for mitigation lands in ABDSP), and USDA Forest Service (for mitigation lands on USFS land).
Timing	Pre-, during and post construction.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

Interpretation & Approach	7/2/09: SDG&E will provide all documentation of correspondence with agencies regarding BHS mitigation as part of the Mitigation Land Plan. The CDFG Section 2081 is not required for Segment 4, Mountain Springs Grade since BHS are not covered under this take permit. Restoration, including tree mitigation, which references ABDSP is not applicable to FESSR. Application is for mitigation parcels in the ABDSP. 8/20/09: Review with Aspen, Helix, and BLM. B-1a-1: It was agreed upon that 'permanently blocking off all public access' was in reference to temporary access/spur/fly yards in order to prevent a situation where the public may access sensitive vegetation communities where prior to the project work, they had not. Vertical mulching was suggested as an acceptable method of restoring temporarily impacted areas in the desert. Vertical mulching is the practice of replanting plants (either dead or live) that are removed during construction. The replanted plants are not irrigated and those that may be alive when replanted are allowed to die. 8/20/09: B-1a-1: It was agreed that recontouring the land for the purposes of restoration need not apply to previously disturbed areas where the topography doesn't match the surrounding topography. Restored areas should blend naturally into the surrounding habitat, both in terms of vegetation and topography. 8/20/09: 'Restoration of "some" vegetation types' as stated in B-1a section 1 was included to acknowledge that in certain areas due to site-specific conditions, only some of the vegetation types will be able to be revegetated while other vegetation types may not be able to be re-vegetated and will need to be mitigated off-site. This will be addressed on a site by site basis. 8/20/09: Flagging is acceptable as a delineation method instead of orange fencing. Orange fencing can be limited to unique situations. 8/20/09: Off-site mitigation parcels need not be acquired prior to construction, however, the assurance that there are willing sellers for mitigation lands is necessary. Mitigation parcels must be secured prior to energization. 8/20/09: The purpose of baseline biological data for off-site mitigation parcels is to prove that proposed mitigation land is appropriate mitigation for impacted areas. Proposed mitigation land need not be exactly representative of areas that are impacted. (USFWS/CDFG will decide this.) 8/31/09: Permanent impact areas will be restored at the end of the construction process in accordance with the approved Storm water Pollution Prevention Plan (SWPPP) documents. 10/22/09: In summary, the EIR/EIS includes the following milestones with regard to meeting biology mitigation parcel preservation requirements: • Habitat Acquisition Plan: 120 days prior to any ground disturbing activities • Habitat Management Plan: prior to initiation of any vegetation disturbing activities • Acquisition or assurance of acquisition of parcels: prior to energizing the transmission line. Following are recommendations for how SDG&E can best proceed and meet these requirements. 1. SDG&E submitted a draft Habitat Acquisition Plan on June 24, 2009, however, this habitat acquisition plan will need to be resubmitted with the parcels proposed for mitigation more narrowly defined. The following information must be included: legal descriptions and maps, schedule that includes phasing relative to impacts, timing of conservation easement recording, initiation of habitat management activities relative to acquisition and assurance mechanisms. The Habitat Acquisition Plan should be in final or close to final form in February 2010, which is 120 days prior to the beginning of most of the construction. It is noted that SDG&E received many comments on the Habitat Acquisition Plan submitted in June 2009, and that the final Habitat Acquisition Plan may be significantly revised to adequately address those comment. 2. A final Habitat Management Plan will be required prior to the June 2010 start date for the majority of the project. It is anticipated that all the mitigation parcels identified in the Habitat Acquisition Plan (expected in February 2010) will have been agreed to and that the required elements of the HMP for all the mitigation sites can be completed prior to the start of construction in June 2010.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	— **B-1c: Conduct biological monitoring.** Monitoring shall be provided by a qualified biologist approved by the CPUC, BLM, State Parks (for monitoring in ABDSP), USDA Forest Service (for alternatives that require monitoring on National Forest lands), and the Wildlife Agencies to ensure that all impacts occur within designated limits. Monitoring entails communicating with contractors, taking daily notes, and ensuring that the requirements of the APMs and mitigation measures are being met by being present during construction activities including all initial grubbing and clearing of vegetation. Additionally, a qualified biologist employed by SDG&E shall be present during maintenance involving ROW repair requiring ground disturbance (*i.e.,* grading/repair of access road and work areas and spot repair of areas subject to flooding or scouring). Biological monitoring of these maintenance activities is to prevent impacts to vegetation communities or wildlife habitat not within the permanent project impact footprint or to record and report unauthorized impacts outside the footprint to the CPUC, BLM, State Parks (for monitoring in ABDSP), USDA Forest Service (for alternatives that require monitoring on National Forest lands), and the Wildlife Agencies to ensure the unauthorized impacts are mitigated in accordance with Mitigation Measure B-1a. The qualified biologist shall conduct monitoring for any area subject to disturbance from construction and the maintenance activities listed above (or access roads used during maintenance activities in the case of vernal pools/water-holding basins; see Mitigation Measure B1-b). The qualified biologist shall perform periodic inspections of construction once or twice per week, as defined by the Wildlife Agencies, depending on the sensitivity of the resources. The qualified biologist shall send weekly monitoring reports to the CPUC and BLM and shall record any reduction or increase in construction impacts so that mitigation requirements can be revised accordingly. The final impact/mitigation calculations shall be submitted to the CPUC, BLM, State Parks (for monitoring in ABDSP), USDA Forest Service (for alternatives that require monitoring on National Forest lands), and the Wildlife Agencies for review and approval. The qualified biologist shall send annual monitoring reports of maintenance activities to the CPUC, BLM, State Parks (for monitoring of maintenance activities in ABDSP), and USDA Forest Service (for alternatives that require monitoring of maintenance activities on National Forest lands) that describe the types of maintenance that occurred, at what locations they occurred, and whether or not there were unauthorized impacts that require mitigation. The Applicant, its contractors and subcontractors, and their respective project personnel, shall refer all environmental issues, including wildlife relocation, sick or dead wildlife, hazardous waste, or questions about environmental impacts to the qualified biologist. Experts in wildlife handling (*e.g.,* Project Wildlife) may need to be brought in by the qualified biologist for assistance with wildlife relocations.
	— **(B-1c)** The qualified biologist shall have the authority to issue stop work orders if any part of the mitigation measures or APMs are being violated. The qualified biologist shall immediately notify the CPUC, BLM, State Parks (for monitoring in ABDSP), USDA Forest Service (for alternatives that require monitoring on National Forest lands), the Wildlife Agencies, and SDG&E of any significant events, including impacts outside the construction zone or maintenance impacts outside the authorized permanent impact footprints if they are discovered during construction or monitoring of maintenance activities. Reinitiation of work following a stop work order shall only occur when the CPUC, BLM, State Parks (for impacts in ABDSP), USDA Forest Service (for alternatives with impacts on National Forest lands), and the Wildlife Agencies are satisfied that the impacts have been fully documented, that compensation for these impacts shall be made, and that any additional protection measures they deem necessary shall be undertaken.
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-1.
Location	Entire project area.
Monitoring/Reporting Action	CPUC/BLM biological monitor shall oversee monitoring and ensure compliance with APMs and mitigation measures. The biological monitor shall submit weekly monitoring reports to SDG&E during construction. The biological monitor shall submit weekly reports to the CPUC and BLM during construction and throughout the maintenance period. Reports shall include a summary of activities and tracking of the APM and mitigation measure requirements. The biological monitor shall submit a final report of impact/mitigation calculations to the CPUC, BLM, State Parks (for monitoring in ABDSP), USDA Forest Service (for alternatives that require monitoring on National Forest lands), and the Wildlife Agencies.
Effectiveness Criteria	Successful avoidance of unforeseen impacts and compliance with APMs and mitigation measures.
Responsible Agency	BLM, CPUC, USFWS, CDFG, State Parks (for ABDSP land), and USDA Forest Service (for USFS land).

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

Timing	Pre- and during construction.
Interpretation & Approach	Reference to ABDSP is not applicable to FESSR. Application is for mitigation parcels in the ABDSP.
MITIGATION MEASURE	**B-1k: Re-seed disturbed areas after a transmission line-caused fire.** Should a fire occur and be determined by the CPUC's Consumer Protection and Safety Division (CPSD) or the California Department of Forestry and Fire Protection (CAL FIRE) to be caused by the Proposed Project or a constructed alternative, the Applicant shall re-seed all natural areas — both public and private — that are burned as a result of the project-caused fire. Re-seeding shall be required for areas that have been burned due to the minimum 10-year period required for arid chaparral to establish an adequate seed bank and thereby resist vegetation type conversion. A re-seeding plan shall be developed with input from Cal Fire, the U.S. Forest Service, BLM, and CPUC, based on a native seed mix. Seeds shall be raked into the soil to avoid seed predation, and re-seeding shall be carried out once to coincide with the rainy season (October 1 through April 1) to increase the likelihood of germination success. The Applicant shall provide a written report documenting all re-seeding activities to the CPUC. The Applicant shall make a good faith effort to obtain approval to re-seed on private lands as appropriate, and documentation of this good faith effort shall be submitted to the CPUC upon request. Specific re-seeding requirements stipulated in this mitigation measure shall be subject to approval and modification by any public landowning agency.
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-18.
Location	Areas burned as a result of a project-caused fire and that have also been burned at least once in the preceding 10-year period.
Monitoring/Reporting Action	CPUC/BLM shall oversee the development of re-seeding plan and shall collect written documentation of all re-seeding activities from the Applicant.
Effectiveness Criteria	Re-seeding occurs per re-seeding plan requirements.
Responsible Agency	CPUC, BLM, and USDA Forest Service
Timing	During and post construction.
Interpretation & Approach	8/20/09 – The concern for this mitigation measure is to reduce vegetation type conversion from native to non-native. Re-seeding Plan will be developed after a fire and not before energization.
MITIGATION MEASURE	**B-1l: SDG&E shall continue to work with the USDA Forest Service to minimize impacts to the RCA between Structures 184 and 187.** SDG&E shall continue to work with the USDA Forest Service to adjust the siting of project features to minimize impacts to the RCA located between Structures 184 and 187 of the BCD South Option. SDG&E shall continue to coordinate with the USDA Forest Service until the impacts to this RCA are fully resolved to the satisfaction of the USDA Forest Service.
Location	RCA located between Structures 184 and 187 of the BCD South Option.
Monitoring/Reporting Action	Upon final approval of the USDA Forest Service, SDG&E shall send the engineering changes made to project features between Structures 184 and 187 of the BCD South Option to the CPUC and BLM prior to the start of construction.
Effectiveness Criteria	Minimization of impacts to the RCA to the satisfaction of the USDA Forest Service.
Responsible Agency	CPUC, BLM, and USDA Forest Service
Timing	Pre-construction.
Interpretation & Approach	6/13/08, Submitted to CPUC and USDA Forest Service a revision of these structures. This MM applies to revised Structure numbers P118-1 to P114.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	— **B-2a: Provide restoration/compensation for impacted jurisdictional areas.** Impacts to areas under the jurisdiction of the ACOE, Regional Water Boards, State Water Board, and CDFG shall be avoided to the extent feasible. Where avoidance of jurisdictional areas is not feasible (including for emergency repairs), the Applicant shall provide the necessary mitigation required as part of wetland permitting by creation/restoration/preservation of suitable jurisdictional or equivalent habitat along with adequate buffers to protect the function and values of jurisdictional area mitigation. The location(s) of the mitigation would be determined in consultation with the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation in ABDSP), USDA Forest Service (for alternatives with mitigation on National Forest lands), ACOE, Regional Water Boards, State Water Board, and CDFG as part of the wetland permitting process. It is anticipated that the sites would be in close proximity to the impacts or in the same watershed. A jurisdictional delineation and impact assessment shall be prepared based on the final alignment and final engineering plans when they are complete. Mitigation ratios would range from 1:1 up to 4:1 and would depend on the sensitivity of the jurisdictional habitat and on the requirements of the wetland permitting agencies. The width of wetland buffers would also depend on the sensitivity of the jurisdictional habitat and on the requirements of the wetland permitting agencies. Recommended mitigation ratios for vegetation communities that generally occur in jurisdictional areas are provided in Table D.2-7 for the Proposed Project (see Impacts to Vegetation Communities and Required Mitigation tables in alternatives sections for the alternatives). It is anticipated that at least a 1:1 ratio of the mitigation would include creation of jurisdictional habitat so there would be no net loss of jurisdictional habitat. For example, permanent impacts to emergent wetland would require a 2:1 mitigation ratio. Half (or 1:1) of the mitigation acreage would have to consist of created emergent wetland in an appropriate location to be preserved, and the other half (1:1) would require acquisition and preservation of already-existing emergent wetland (or other wetland community acceptable to the permitting agencies — ACOE, Regional Water Boards, State Water Board, and CDFG). It is also anticipated that a 1:1 ratio would be required for impacts to jurisdictional non-wetland Waters of the U.S. in the form of wetland enhancement, restoration, or creation as determined in consultation with the permitting agencies. Wetland permits shall be obtained from the ACOE, Regional Water Boards, State Water Board, and CDFG prior to initiating construction in jurisdictional areas.
	— **(B-2a)** All limits of construction shall be delineated with orange construction fencing and/or silt fencing. All stakes, flagging, or fencing shall be removed no later than 30 days after construction is complete. If silt fencing is used to delineate the limits of construction or as part of implementation of erosion control BMPs, the silt fencing may be left in place longer than 30 days if erosion control is still necessary. During and after construction, entrances to access roads shall be gated to prevent the unauthorized use of these roads by the general public. Signs prohibiting unauthorized use of the access roads shall be posted on these gates.
	— **(B-2a)** Any impacts associated with unauthorized activity (*e.g.,* exceeding approved construction footprints) shall be mitigated at a 5:1 ratio, unless otherwise directed by the ACOE, Regional Water Boards, State Water Board, and CDFG: restoration of the unauthorized impacts shall be credited at a 1:1 ratio; the remaining 4:1 (or 4.5:1 in FTHL MA) shall be acquired off site.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

	— **(B-2a)** The Applicant shall identify a qualified Habitat Restoration Specialist to be approved by the CPUC, BLM, ACOE, Regional Water Boards, State Water Board, CDFG, State Parks (for restoration in ABDSP), and USDA Forest Service (for alternatives with restoration on National Forest lands). The Habitat Restoration Specialist shall prepare and implement a Wetland Mitigation Plan to be approved in writing by the CPUC, BLM, ACOE, Regional Water Boards, State Water Board, CDFG, State Parks (for ABDSP mitigation), and USDA Forest Service (for alternatives with mitigation on National Forest lands). The Applicant shall work with the above-listed agencies until a plan is approved by all. The mitigation of habitat shall be maintained and monitored for five years after installation, or until established success criteria (specified percent cover of native and non-native species, species diversity, and species composition as compared with an undisturbed reference site) are met, to assess progress and identify potential problems with the mitigation. Maintenance and monitoring in ABDSP shall be for a minimum of five years, even if established success criteria are met before the end of five years. Remedial action (*e.g.,* additional planting, weeding, erosion control, use of container stock, supplemental watering, etc.) shall be taken during the maintenance and monitoring period if necessary to ensure the success of the mitigation. If the mitigation fails to meet the established performance criteria after the five-year maintenance and monitoring period, maintenance and monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise approved by the CPUC, BLM, ACOE, Regional Water Boards, State Water Board, CDFG, State Parks (for ABDSP restoration), and USDA Forest Service (for alternatives with restoration on National Forest lands).
	— **(B-2a)** A Habitat Management Plan shall be prepared by a biologist approved by the CPUC, BLM, ACOE, Regional Water Boards, State Water Board, CDFG, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) for all acquired offsite mitigation parcels. The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact jurisdictional areas. The Applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired, offsite mitigation parcels. The Habitat Management Plan shall include, but shall not be limited to: • Legal descriptions of all acquired or assured (as defined in Mitigation Measure B-1a) mitigation parcels approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands); • Baseline biological data for all mitigation parcels; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (*e.g.,* provision of endowment by the Applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-41.
Location	All locations with impacts to jurisdictional areas.
Monitoring/Reporting Action	BLM, CPUC, and wetland permitting agencies shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans. BLM/CPUC biological monitor to confirm that proposed habitat restoration mitigation plans are implemented.
Effectiveness Criteria	Habitat restoration plans are implemented and meet success criteria. Long-term habitat management is provided for all mitigation sites.
Responsible Agency	BLM, CPUC, USFWS, CDFG, ACOE, RWQCB, State Parks (for mitigation lands in ABDSP), and USDA Forest Service (for mitigation lands on USFS land).

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

Timing	Pre-, during and post construction.
Interpretation & Approach	8/20/09 meeting with BLM, Aspen, and Helix: Land acquisition and/or securing property rights need not occur for the Habitat Management Plan until pre-energization. SDG&E will work with the regulating agencies to identify appropriate mitigation land which will adequately compensate for the approved impacts although the mitigation lands may not be located within each affected watershed area. This approach is consistent with the Federal Register Rules and Regulations as stated in Volume 73, No. 70/Thursday, April 10, 2008/ Rules and Regulations under Mitigation Mechanisms on page 19605, "For linear projects, such as roads and utility lines, district engineers may determine that consolidated compensatory mitigation projects provide appropriate compensation for the authorized impacts, and are environmentally preferable to requiring numerous small permittee-responsible compensatory mitigation projects along the linear project corridor."

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	— **B-3a: Prepare and implement a Weed Control Plan.** The Applicant shall prepare and implement a comprehensive, adaptive Weed Control Plan for pre-construction and long-term invasive weed abatement. Where the Applicant owns the ROW property, the Weed Control Plan shall include specific weed abatement methods, practices and treatment timing developed in consultation with the San Diego County Agriculture Commissioner's Office and the California Invasive Plant Council (Cal-IPC), or the tribal government, as appropriate. On the ROW easement lands administered by public agencies (BLM, USDA Forest Service (for alternatives routes within Cleveland National Forest lands), Wildlife Agencies, and State Parks (ABDSP) the Weed Control Plan shall incorporate all appropriate and legal agency-stipulated regulations. The Weed Control Plan shall be submitted to the ROW land-holding governmental agencies for final authorization of weed control methods, practices, and timing prior to implementation of the Weed Control Plan on public lands. ROW easements located on private lands shall include adaptive provisions for the implementation of the Weed Control Plan. Prior to implementation, the Applicant shall work with the landowners to obtain authorization of the weed control treatment that is required. State Parks shall have review and approval authority over the Weed Control Plan for ROW within or adjacent to the boundaries of ABDSP. Developed land shall be excluded from weed control.
	— **(B-3a)** The Weed Control Plan shall include the following: • A pre-construction weed inventory shall be conducted by surveying the entire ROW and areas immediately adjacent to the ROW (where access and permission can be secured) as well as at all ancillary facilities associated with the project for weed populations that: (1) are considered by the San Diego County Agriculture Commissioner or State Parks (for ROW within or adjacent to ABDSP) as being a priority for control and (2) aid and promote the spread of wildfires (such as cheatgrass [Bromus tectorum], Saharan mustard [Brassica tournefortii] and medusa head [Taeniatherum caput-medusae]). These populations shall be mapped and described according to density and area covered. These plant species shall be treated (where access and permission can be secured) prior to construction or at a time when treatments would be most effective based on phenology according to control methods and practices for invasive weed populations designed in consultation with the San Diego County Agriculture Commissioner's Office and Cal-IPC, or the tribal government, as appropriate. A pre-construction weed inventory shall also be conducted by surveying areas that will be directly impacted by the project for weed populations that are rated High or Moderate for negative ecological impact in the California Invasive Plant Inventory Database (Cal-IPC, 2006) or are weed species of concern to State Parks (for ROW within or adjacent to ABDSP). These plant species shall be treated prior to construction or at a time when treatments would be most effective based on phenology according to control methods and practices for invasive weed populations designed in consultation with Cal-IPC and State Parks (for treatment in ROW within ABDSP).
	— **(B-3a)** Weed control treatments shall include all legally permitted chemical, manual and mechanical methods applied with the authorization of the San Diego County Agriculture Commissioner and the ROW easement land-holding agencies where appropriate. The application of herbicides shall be in compliance with all state and federal laws and regulations under the prescription of a Pest Control Advisor (PCA) and implemented by a Licensed Qualified Applicator. Where manual and/or mechanical methods are used, disposal of the plant debris will follow the regulations set by the San Diego County Agriculture Commissioner. The timing of the weed control treatment shall be determined for each plant species in consultation with the PCA, the San Diego County Agriculture Commissioner, State Parks (for treatment in ABDSP) and Cal-IPC, or the tribal government, as appropriate, with the goal of controlling populations before they start producing seeds.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

	— (B-3a) For the lifespan of the project (*i.e.,* as long as the project is physically present), long-term measures to control the introduction and spread of noxious weeds in the project area shall be taken as follows. • From the time construction begins until two years after construction is complete, annual surveying for new invasive weed populations and the monitoring of identified and treated populations shall be required in the survey areas described above. After this time, surveying for new invasive weed populations and monitoring of identified and treated populations shall be required at an interval of every two years. However, the treatment of weeds shall occur on a minimum annual basis, unless otherwise approved by the PCA, the San Diego County Agriculture Commissioner, State Parks (for treatment in ABDSP) and Cal-IPC. • During project construction and operation/maintenance, all seeds and straw materials shall be certified weed free, and all gravel and fill material shall be certified weed free by the San Diego County Agriculture Commissioner's Office, or the tribal government, as appropriate. • During project construction and operation/maintenance, vehicles and all equipment shall be washed (including wheels, undercarriages, and bumpers) at an offsite washing facility (*e.g.,* a car wash or truck wash) immediately before project construction begins and prior to returning to project construction should equipment be used in a different construction area. In addition, tools such as chainsaws, hand clippers, pruners, etc. shall be washed at an offsite washing facility immediately before project construction begins and prior to returning to project construction should tools be used in a different construction area. In addition, vehicles, tools, and equipment shall be washed at an offsite washing facility should these vehicles, tools, and equipment have been used in an area where invasive plants have been mapped during the pre-construction weed control inventory and as directed by the biological construction monitor, prior to entering a project area free of populations of invasive plants (as determined by the pre-construction weed control inventory). Finally, vehicles, tools, and equipment used for maintenance shall be washed at an offsite washing facility immediately before each maintenance event. All washing shall take place where rinse water is collected and disposed of in either a sanitary sewer or landfill; an effort shall be made to use wash facilities that use recycled water. A written daily log shall be kept for all vehicle/equipment/tool washing that states the date, time, location, type of equipment washed, methods used, and staff present. The log shall include the signature of a responsible staff member. Logs shall be available to the CPUC, BLM, USDA Forest Service (for alternative routes within Cleveland National Forest lands), Wildlife Agencies, State Parks (for weeds in ABDSP), tribal governments (for weeds on tribal lands), and biological monitor for inspection at any time and shall be submitted to the CPUC on a monthly basis during construction and submitted annually to the CPUC during operation/maintenance.
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-20.
Location	Entire project area.
Monitoring/Reporting Action	BLM/CPUC biological monitor to confirm preparation and implementation of a weed control plan.
Effectiveness Criteria	Weed control plan prepared and successfully implemented.
Responsible Agency	BLM, CPUC, and ROW land-holding agencies (BLM, State Parks for ABDSP, USDA Forest Services for USFS lands).
Timing	Pre-, during and post construction.
Interpretation & Approach	Reference to ABDSP is not applicable to FESSR. Application is for mitigation parcels in the ABDSP. 8/20/09: Weed Control Plans are to be developed for all areas disturbed during construction activities. Vehicle and equipment washing – The definition of 'a different construction area' for those vehicles and pieces of equipment that have been washed prior to start of project construction and have continuously worked on the project construction shall be as follows: A different construction area shall be delineated by the weed control plan/weed inventory (8/31/09) 8/31/09 - An O&M Plan for vehicle washing showing mapping for where washing will be created and will be based on the weed control plan. Wash water will be allowed to evaporate when possible, and debris will be collected for disposal to land fills. Weed control plan will include vegetation clearing equipment (*e.g.,* shovels) and buckets of water to dip the equipment in for remote areas.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	— **B-5a: Conduct rare plant surveys, and implement appropriate avoidance/minimization/ compensation strategies.** A qualified biologist shall survey for special status plants in the spring of a year with adequate rainfall prior to initiating construction activities in a given area. If a survey cannot be conducted due to inadequate rainfall, then SDG&E shall consult with the Wildlife Agencies, State Parks (for impacts in ABDSP), and the USFS (for impacts on National Forest lands) to determine if construction may begin in the absence of survey data and what mitigation would be required, or whether construction would not be allowed until such data is collected. A report of special status plants observed shall be prepared and submitted for approval by the CPUC, BLM, State Parks (for activities in ABDSP), USDA Forest Service (for alternatives with activities on National Forest lands), and the Wildlife Agencies prior to activities which may impact the plant resources.
	— **(B-5a)** All special status plant populations shall be staked or flagged by a qualified biologist approved by the CPUC, BLM, State Parks (for activities in ABDSP), USDA Forest Service (for alternatives with activities on National Forest lands), and the Wildlife Agencies. All stakes, flagging, or fencing shall be removed no later than 30 days after construction is complete.
	— **(B-5a)** Impacts to federal or State listed plant species shall first be avoided where feasible, and, where not feasible, impacts shall be compensated through salvage and relocation (salvage and relocation for plants in ABDSP shall be determined in consultation with, and approval of, State Parks) via a restoration program and/or offsite acquisition and preservation of habitat containing the plant at a 2:1 ratio. Avoidance may not be feasible due to physical or safety constraints. The CPUC, BLM, State Parks (for activities in ABDSP), USDA Forest Service (for alternatives with activities on National Forest lands), and the Wildlife Agencies shall decide whether the Applicant can restore rare plant populations or shall acquire habitat with rare plant populations off site (locations to be approved by the CPUC, BLM, State Parks [for activities in ABDSP], USDA Forest Service [for alternatives with activities on National Forest lands], and the Wildlife Agencies). A qualified biologist shall prepare a Restoration Plan that shall indicate where restoration would take place. The restoration plan shall also identify the goals of the restoration, responsible parties, methods of restoration implementation, maintenance and monitoring requirements, final success criteria, and contingency measures. The Applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service (for alternatives with restoration on National Forest lands) until a plan is approved by all. Impacts to moderately sensitive plant species (*i.e.,* BLM Sensitive, USDA Forest Service Sensitive, CNPS List 1 and 2 species) shall first be avoided where feasible, and, where not feasible, impacts shall be compensated through reseeding (with locally collected seed stock) or relocation to temporarily disturbed areas (reseeding and relocation of plants in ABDSP shall be determined in consultation with, and approval of, State Parks). Avoidance may not be feasible due to physical or safety constraints. Mitigation Measure B-1a would also provide habitat-based mitigation for these impacts.
	— **(B-5a)** Where reseeding or salvage and relocation is required, the Applicant shall identify a qualified Habitat Restoration Specialist to be approved by the CPUC, BLM, State Parks (for restoration in ABDSP), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies. The Habitat Restoration Specialist shall prepare and implement a Restoration Plan for reseeding or salvaging and relocating special status plant species to be approved by the CPUC, BLM, State Parks (for restoration in ABDSP), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies in writing prior to impacting the plant resources. The Applicant shall work with the above-listed agencies until a plan is approved by all. The reseeding or relocation of plants shall be maintained and monitored for five years after installation, or until established success criteria are met, to assess progress and identify potential problems with the mitigation. The reseeding or relocation of plants in ABDSP shall be maintained and monitored for a minimum of five years, even if established success criteria are met before the end of five years. Remedial action (*e.g.,* additional seeding, weeding, erosion control, use of container stock, supplemental watering, etc.) shall be taken during the maintenance and monitoring period if necessary to ensure the success of the restoration. If the restoration fails to meet the established performance criteria after the five-year maintenance and monitoring period, maintenance and monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise approved by the CPUC, BLM, State Parks (for restoration in ABDSP), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

	— **(B-5a)** A Habitat Management Plan for any required, offsite mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact special status plant resources. The Applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired offsite mitigation parcels. The Habitat Management Plan shall include, but shall not be limited to: • Legal descriptions of all acquired or assured (as defined in Mitigation Measure B-1a) offsite mitigation parcels approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands); • Baseline biological data for all mitigation parcels; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (*e.g.,* provision of endowment by the Applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).
	Also, see U.S. Fish and Wildlife Conservation Measures G-CM-32, G-CM-33, G-CM-35, San Diego Thornmint SS-CM-1 and SS-CM-2.
Location	Entire project area.
Monitoring/Reporting Action	BLM and CPUC shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation. BLM/CPUC biological monitor shall oversee surveys and monitoring and ensure compliance with APMs and mitigation measures, and confirm that habitat restoration plans are implemented.
Effectiveness Criteria	Successful avoidance or restoration/relocation of sensitive plants, purchase of appropriate mitigation lands, and provision of long-term habitat management for all mitigation sites.
Responsible Agency	BLM, CPUC, USFWS, CDFG, State Parks (for ABDSP), and USDA Forest Service (for USFS land).
Timing	Pre-, during and post construction.
Interpretation & Approach	Reference to ABDSP applicable only for mitigation parcels.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	**B-7a: Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (*e.g.,* reptiles and small mammals).** BIO-APM-14 shall be modified to ensure that all steep-walled trenches or excavations used during construction shall be covered at all times except when being actively utilized. If the trenches or excavations cannot be covered, exclusion fencing (*i.e.,* silt fencing) shall be installed around the trench or excavation, or it shall be covered to prevent entrapment of wildlife. Open trenches, or other excavations that could entrap wildlife shall be inspected by the qualified biologist (see Mitigation Measure B-1c) a minimum of three times per day and immediately before backfilling. Furthermore, employees and contractors shall look under vehicles and equipment for the presence of wildlife before movement. If wildlife is observed, no vehicles or equipment would be moved until the animal has left voluntarily or is removed by the qualified biologist. Should a dead or injured listed species be found in a trench or excavation or anywhere in the construction zone or along an access road, the qualified biologist shall contact the CPUC, BLM, State Parks (for activities in ABDSP), USDA Forest Service (for alternatives with activities on National Forest lands), and the Wildlife Agencies within 48 hours of the finding. The qualified biologist shall report the species found, the location of the finding, the cause of death (if known), and shall submit a photograph and any other pertinent information.
	Also, see U.S. Fish and Wildlife Conservation Measures G-CM-39 and G-CM-40.
Location	Entire project area.
Monitoring/Reporting Action	BLM/CPUC biological monitor shall ensure compliance with APMs and mitigation measures.
Effectiveness Criteria	Steep-walled trenches or excavations are covered at all times except when being actively utilized, or exclusion fencing is installed around the trench or excavation.
Responsible Agency	BLM, CPUC, USFWS, CDFG, State Parks (for ABDSP land), and USDA Forest Service (for USFS land).
Timing	During construction.
Interpretation & Approach	Reference to ABDSP applicable only for mitigation parcels. 8/20/09: B-7a supersedes APM-12 and APM-24. See Appendix 8N of the Final EIR/EIS. Implement BIO-APM 14 & BIO-APM 24 with B-7a.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	— **B-7b: Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy.** Mitigation for impacts to the FTHL shall follow all applicable measures in the Flat-Tailed Horned Lizard Rangewide Management Strategy (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). This mitigation includes, but is not limited to, locating impacts outside of MAs, delineating work limits, using existing roads, biological monitoring, and worker education.
	— **(B-7b)** According to the Flat-Tailed Horned Lizard Rangewide Management Strategy (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003), compensation for FTHL habitat impacts could involve purchase of FTHL habitat and/or monetary compensation as determined by the Flat-Tailed Horned Lizard Interagency Coordinating Committee. Impacts shall be mitigated at a 1:1 ratio for habitat outside a MA. Furthermore, mitigation inside a MA shall be at a 3.5:1 ratio for temporary impacts (2.5:1 for disturbed habitat, developed land, or agriculture) and a 5.5:1 ratio for permanent impacts (4.5:1 for disturbed habitat, developed land, or agriculture) . For the Proposed Project, the required mitigation for FTHL impacts (if offsite acquisition is the method of compensation) is 403.48 acres. On-site restoration requirements for the Project would be 232.84 acres. Any FTHL habitat acquired shall be approved by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP)
	— **(B-7b)** A Habitat Management Plan shall be prepared by a biologist approved by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP) for all acquired FTHL habitat. The Habitat Management Plan must be approved in writing by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP) prior to the initiation of any activities which may impact (directly or indirectly) the FTHL or its habitat. The Applicant shall work with the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired FTHL habitat. The Habitat Management Plan shall include, but shall not be limited to: • Legal descriptions of all acquired or assured (as defined in Mitigation Measure B-1a) FTHL habitat approved by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP); • Baseline biological data for all acquired FTHL habitat; • Designation of a land management entity approved by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (*e.g.,* provision of endowment by the Applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP).
Location	FTHL MAs and where potential FTHL habitat occurs.
Monitoring/Reporting Action	BLM and CPUC shall ensure that required purchase of mitigation land and provision of long-term management occurs. BLM/CPUC biological monitor shall ensure that applicable measures in the FTHL Rangewide Management Strategy are implemented.
Effectiveness Criteria	Direct impacts to the flat-tailed horned lizard are minimized. Compensatory mitigation for impacts to FTHL is implemented, including purchase of habitat and provision of long-term management for mitigation sites.
Responsible Agency	BLM, CPUC, and Flat-Tailed Horned Lizard Interagency Coordinating Committee.
Timing	Pre-, during and post construction.
Interpretation & Approach	8/20/09 In lieu of purchasing habitat, SDG&E will provide monetary compensation, as determined by the Flat-Tailed Horned Lizard Interagency Coordinating Committee.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	— **B-7c: Minimize impacts to Peninsular bighorn sheep and provide compensation for loss of critical habitat.** With regard to timing of activities, construction and maintenance activities (including the use of helicopters) in bighorn sheep critical habitat shall be limited to outside the lambing season and the period of greatest water need, or a minimum ceiling of 1,500 feet for helicopter flights shall be maintained. The lambing season is January 1 through June 30. The period of greatest water need is May through September. Construction and maintenance activities in PBS critical habitat may occur during the lambing season and/or period of greatest water need if prior approval is obtained from the Wildlife Agencies.
	— **(B-7c)** To help reconnect PBS subpopulations and at least partially offset impacts to the overall population of PBS caused by the project, the Applicant shall: • fund the design and construction of an overpass (for sheep) or tunnel (for vehicles) to facilitate PBS movement across a highway at a location determined by the USFWS (in coordination with State Parks and CDFG. Tunnel or overpass design must be approved by the Wildlife Agencies. • fund removal of tamarisk and fences for the life of the project, and install and maintain water sources at locations determined by the USFWS (in coordination with State Parks and CDFG) • fund a minimum 10-year-long program to monitor the effects of the project on PBS behavior, movements, and dispersal in the project corridor (ten years is needed to measure the influence of the project while factoring in rainfall cycles, vegetative productivity, and drought). This program would be implemented by the Wildlife Agencies and State Parks following construction.
	— **(B-7c)** Furthermore, the Applicant shall provide compensation for direct loss of critical habitat at a 5:1 ratio for permanent impacts and at a 3:1 ratio (including a combination of onsite restoration and offsite purchase) for temporary impacts with PBS critical habitat or other habitat acceptable to the Wildlife Agencies, BLM, and State Parks (for critical habitat in ABDSP). Impacts to PBS critical habitat must be mitigated within the same Critical Habitat Unit where the impacts occurred. For the Proposed Project, the required mitigation for PBS impacts includes offsite purchase of 525.7 acres and onsite restoration of 111.81 acres. The determination of impact acreage shall be based on the definition of critical habitat in effect as of the time of publication of the Final EIR/EIS.
	— **(B-7c)** A Habitat Management Plan shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, and State Parks for all acquired PBS habitat. The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP) prior to the initiation of any activities which may impact (directly or indirectly) PBS or its habitat. The Applicant shall work with the CPUC, BLM, Wildlife Agencies, and State Parks until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired PBS habitat. The Habitat Management Plan shall include, but shall not be limited to: • Legal descriptions of all acquired or assured (as defined in Mitigation Measure B-1a) PBS habitat approved by the CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP). • Baseline biological data for all acquired PBS habitat • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP) to provide in-perpetuity management • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan • Designation of responsible parties and their roles (*e.g.,* provision of endowment by the Applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity) • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP).
	Also, see U.S. Fish and Wildlife Conservation Measures SS-CM-22, SS-CM-23, SS-CM-24, and SS-CM-25.
Location	Where bighorn sheep or designated bighorn sheep critical habitat occur.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

Monitoring/Reporting Action	BLM/CPUC biological monitor shall ensure compliance with APMs and bighorn sheep impact minimization measures. BLM and CPUC shall ensure that funding is provided for bighorn sheep studies and crossing mitigation; and that habitat acquisition and long-term management of mitigation sites is implemented.
Effectiveness Criteria	Successful avoidance/minimization of bighorn sheep impacts, and implementation of funding for studies and a wildlife crossing, habitat acquisition and long-term management for mitigation parcels.
Responsible Agency	BLM, CPUC, USFWS, CDFG, and State Parks.
Timing	Pre-, during and post construction.
Interpretation & Approach	8/20/09 Discussion with BLM, Aspen, and Helix, helicopter work must occur at a minimum of 1500 feet or an alternative elevation as may be agreed upon with the appropriate agencies from January 1 through September 30. The wildlife agencies will provide direction on the location and type of construction that will meet the requirement to "fund the design and construction of an overpass." The 10-year-long monitoring program will start once construction has been completed. Since the issuance of the Final EIR/EIS and BO, a revised delineation of the critical habitat designation for the Bighorn Sheep was issued. The wildlife agencies will determine which delineation will be utilized for the project going forward.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	— **B-7d: 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 by a qualified biologist to determine the presence or absence of the burrowing owl in the construction zone plus 250 feet beyond. In addition, the burrowing owl shall be looked for opportunistically as part of other surveys and monitoring required during project construction. If the burrowing owl is absent, then no mitigation is required.
	— **(B-7d)** 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 (CDFG, 1995).
	— **(B-7d)** 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
	— **(B-7d)** 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 (*e.g.,* due to physical or safety constraints). Relocation of owls shall only be implemented during the non-breeding season (September 1 through January 31; CDFG, 1995). Passive relocation is defined as encouraging owls to move from occupied burrows to alternate natural or artificial burrows that are beyond 50 meters from the impact zone and that are within or contiguous to a minimum of 6.5 acres of preserved (or acquired and preserved if not already preserved) foraging habitat for each relocated owl (single owl or owl pair). Passive relocation is accomplished by first creating two artificial burrows in contiguous, preserved foraging habitat (if no natural burrows exist) for each occupied burrow that would be impacted; and second, installing one-way doors on occupied burrow entrances so owls can leave the burrow but not re-enter it. Following passive relocation, the area of impact and the preserved foraging habitat with alternate burrows are surveyed daily for one week to confirm owl use of alternate burrows before excavation of burrows in the impact zone. All passive relocation shall be conducted by a biologist approved by the CDFG. If the alternate burrows are not used by the relocated owls, then the Applicant shall work with the CDFG to provide alternate mitigation for burrowing owls. If the alternate burrows are used, no other mitigation shall be required. If it is not possible to preserve contiguous habitat on which to provide alternate burrows (*e.g.,* on private land), and occupied owl burrows would be directly impacted, then the owls shall be passively relocated without the creation of alternate burrows prior to construction (relocation should only be implemented during the non-breeding season [September 1 through January 31]). The loss of occupied owl habitat shall be mitigated by acquiring and preserving other occupied habitat elsewhere (as explained below) per the Staff Report on Burrowing Owl Mitigation (CDFG, 1995) and the Burrowing Owl Survey Protocol and Mitigation Guidelines (The Burrowing Owl Consortium, 1993), or as otherwise determined in consultation with the CDFG.
	— **(B-7d)** Impacted occupied habitat shall be mitigated by 1) acquiring and preserving occupied habitat at a rate of 1.5 times 6.5 acres (or 9.75 acres) per pair or single bird impacted, or 2) acquiring and preserving unoccupied habitat contiguous with currently occupied habitat at a rate of two times 6.5 acres (or 13 acres) per pair or single bird impacted, or 3) acquiring and preserving suitable unoccupied habitat at a rate of three times 6.5 acres (or 19.5 acres) per pair or single bird impacted. All acquired habitat shall be acceptable to the CDFG and shall be protected and managed for the burrowing owl in perpetuity.
	— **(B-7d)** The survey required within 30 days prior to the initiation of construction will determine the presence or absence of the burrowing owl in the construction zone plus 250 feet beyond and whether or not the mitigation needs to be revised.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

	— **(B-7d)** A Habitat Management Plan shall be prepared by a biologist approved by the CPUC, BLM, CDFG, and State Parks (for land in ABDSP) for all acquired burrowing owl habitat. The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP) prior to the initiation of any activities which may impact (directly or indirectly) the burrowing owl or its habitat. The Applicant shall work with the CPUC, BLM, Wildlife Agencies, and State Parks until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired burrowing owl habitat. The Habitat Management Plan shall include, but shall not be limited to: • Legal descriptions of all acquired or assured (as defined in Mitigation Measure B-1a) burrowing owl habitat approved by the CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP); • Baseline biological data for all acquired burrowing owl habitat; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (*e.g.,* provision of endowment by the Applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP).
Location	Where occupied burrowing owl habitat occurs.
Monitoring/Reporting Action	BLM/CPUC biological monitor shall oversee surveys and monitoring and ensure compliance with APMs and mitigation measures. If necessary, BLM and CPUC shall approve habitat acquisition plans, and long-term habitat management plans, and ensure their implementation.
Effectiveness Criteria	Avoidance of occupied burrows and surrounding foraging area, successful passive relocation, and/or replacement of occupied habitat that is managed in perpetuity.
Responsible Agency	BLM, CPUC, USFWS, and CDFG.
Timing	Pre-, during and post construction.
Interpretation & Approach	None required.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	— **B-7e: Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.** All grading or brushing taking place within riparian habitats of the least Bell's vireo or southwestern willow flycatcher during construction shall be conducted from September 16 (October 1 in ABDSP) through March 14, which is outside the least Bell's vireo and southwestern willow flycatcher breeding seasons.
	— **(B-7e)** When conducting all other construction activities during the breeding season of March 15 through September 15 (September 30 in ABDSP) within 500 feet (USFWS, 2007b) of habitat in which least Bell's vireos and/or southwestern willow flycatchers are known to occur or have potential to occur, a biologist permitted by the USFWS shall survey for least Bell's vireos and southwestern willow flycatchers within 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.
	— **(B-7e)** If least Bell's vireos or southwestern willow flycatchers are 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.
	— **(B-7e)** If/when an active nest is located, a 300-foot no-construction buffer zone (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. The Applicant shall contact Wildlife Agencies to determine the appropriate buffer zone. No construction shall take place within this buffer until the nest is no longer active unless there are physical or safety constraints. If construction must take place within the buffer, a qualified acoustician shall monitor noise as construction approaches the edge of the occupied vireo/flycatcher 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, State Parks (for activities in ABDSP), and USDA Forest Service (for activities on National Forest lands) to devise methods to reduce the noise and/or disturbance. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nesting birds and the activities, and working in other areas until the young have fledged. The permitted biologist shall monitor the nest daily until either activities are no longer within 300 feet of the nest, or the fledglings become independent of their nest.
	— **(B-7e)** Mitigation for the loss of least Bell's vireo- or southwestern willow flycatcher-occupied habitat (or designated critical habitat for the flycatcher) shall be implemented as follows. Permanent impacts to occupied habitat and/or designated critical habitat shall include offsite acquisition and preservation of occupied habitat or designated critical habitat at a 3:1 ratio. Temporary impacts to occupied habitat or designated critical habitat shall include 1:1 onsite restoration and 2:1 offsite acquisition and preservation of occupied habitat and/or designated critical habitat. Impacts to least Bell's vireo or southwestern willow flycatcher critical habitat must be mitigated within the same Critical Habitat Unit where the impacts occurred. If a USFWS protocol, pre-construction survey, conducted in an area where presence of the vireo or flycatcher was assumed in this analysis (see Appendix 8B) determines that the species is absent, then the mitigation shall be reduced accordingly. Any acquired habitat shall be approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

	— **(B-7e)** A Habitat Management Plan for any required, offsite mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact (directly or indirectly) the least Bell's vireo or southwestern willow flycatcher or its habitat. The Applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired vireo or flycatcher habitat. The Habitat Management Plan shall include, but shall not be limited to: • Legal descriptions of all acquired or assured (as defined in Mitigation Measure B-1a) least Bell's vireo or southwestern willow flycatcher habitat approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands); • Baseline biological data for all least Bell's vireo or southwestern willow flycatcher habitat; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (*e.g.,* provision of endowment by the Applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).
	Also, see U.S. Fish and Wildlife Conservation Measures G-CM-32, SS-CM-16, SS-CM-17, and SS-CM-18.
Location	Areas where the vireo or flycatcher occur or have potential to occur.
Monitoring/Reporting Action	BLM/CPUC biological monitor shall oversee surveys and ensure compliance with APMs and avoidance/minimization/mitigation measures. BLM and CPUC shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation.
Effectiveness Criteria	Impacts to nesting vireos and flycatchers are avoided/minimized/mitigated. Habitat restoration plans are implemented and meet success criteria, and long-term habitat management is provided for all mitigation sites.
Responsible Agency	BLM, CPUC, USFWS, and CDFG.
Timing	Pre-, during and post construction.
Interpretation & Approach	Reference to ABDSP is only applicable for mitigation parcels.
MITIGATION MEASURE	**B-7h: Implement appropriate avoidance/minimization strategies for eagle nests.** No construction or maintenance activities shall occur within 4,000 feet of an eagle nest during the eagle breeding season (December through June).
Location	Within 4,000 feet of eagle nests
Monitoring/Reporting Action	BLM/CPUC biological monitor shall ensure compliance with restrictions before and during construction. A qualified biologist shall ensure compliance during maintenance.
Effectiveness Criteria	Successful avoidance of indirect impacts to eagle nests.
Responsible Agency	BLM and CPUC.
Timing	Pre-, during and post construction.
Interpretation & Approach	None required.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	— **B-7i: Conduct Quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies.** A biologist permitted by the USFWS shall determine suitable habitat areas (*i.e.,* non-excluded areas per the 2002 USFWS protocol; USFWS, 2002b) within any designated USFWS QCB survey area (*e.g.,* Survey Area 2) that would be impacted by project construction.
	— **(B-7i)**A pre-construction, USFWS protocol presence/absence survey for the adult QCB shall be conducted within all suitable habitat for this species in the construction zone within any designated USFWS QCB survey area. The survey shall be conducted in a year where the QCB is readily observed at USFWS QCB-monitored reference sites to determine what areas are occupied by the QCB (*i.e.,* any suitable habitat within 1 km of a current QCB sighting is considered occupied) and what areas are not occupied. The USFWS permitted biologist shall record the precise locations of QCB larval host plants within the construction zone (and 10 meters beyond) using GPS technology. If the protocol pre-construction survey is conclusive for determining absence of the QCB, then areas without the butterfly would not require mitigation.
	— **(B-7i)** If the protocol pre-construction survey is not conclusive for determining QCB absence (due to limited detectability per the 2002 protocol, for example), or if a survey is not conducted, then all suitable habitat areas would be considered potentially occupied and would require mitigation as follows. If construction occurs outside the larvae and adult activity season (June 1 through October 15) and stays at least 10 meters away from all host plant locations, then no mitigation is required (USFWS, 2007d). If construction occurs between October 16 and May 31 or within 10 meters of host plant locations, or within designated critical habitat, then (1) temporary impacts to the habitat shall be mitigated through onsite restoration of temporarily disturbed areas and offsite acquisition and preservation of an equal sized area of QCB-occupied habitat (a 2:1 mitigation ratio) and (2) permanent impacts shall be mitigated through offsite acquisition and preservation of QCB-occupied habitat (or QCB-designated critical habitat for impacts to designated critical habitat) at a 2:1 ratio (*i.e.,* two acres acquired for each acre lost). Any acquired habitat shall be approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation land to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands). A USFWS permitted biologist shall be present during all construction activities in potentially occupied habitat to monitor and assist the construction crews to ensure impacts occur only as allowed. This same mitigation shall apply where the protocol pre-construction survey was conclusive for determining that the QCB is present and where construction would occur in designated critical habitat. Impacts to QCB critical habitat must be mitigated within the same Critical Habitat Unit where the impacts occurred. If host plant mapping is not possible during the pre-construction survey (*e.g.,* drought prevents plant germination), then all suitable habitat (*i.e.,* non-excluded habitat per the 2002 protocol) shall be considered occupied by the QCB and mitigated under the assumption that the QCB is present.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

	— **(B-7i)** A Habitat Management Plan for any required, offsite mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact (directly or indirectly) the QCB or its habitat. The Applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired QCB habitat. The Habitat Management Plan shall include, but shall not be limited to: • Legal descriptions of all acquired or assured (as defined in Mitigation Measure B-1a) QCB habitat approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands); • Baseline biological data for all QCB habitat; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (*e.g.,* provision of endowment by the Applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).
	Also, see U.S. Fish and Wildlife Conservation Measures G-CM-32, SS-CM-3, SS-CM-4, SS-CM-5, SS-CM-6, SS-CM-7, SS-CM-26, and SS-CM-27.
Location	Where suitable Quino checkerspot butterfly habitat occurs.
Monitoring/Reporting Action	A qualified biologist shall oversee surveys and ensure compliance with APMs and Quino checkerspot avoidance/minimization/mitigation measures. If required, BLM and CPUC shall approve habitat acquisition plans and long-term management plans.
Effectiveness Criteria	Successful avoidance of impacts to the Quino checkerspot or impacts as allowed by the USFWS, and if necessary, implementation of mitigation land acquisition.
Responsible Agency	BLM, CPUC, and USFWS.
Timing	Pre- and during construction.
Interpretation & Approach	Reference to ABDSP applicable only for mitigation parcels.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	**— B-7j: Conduct arroyo toad surveys, and implement appropriate avoidance/minimization/ compensation strategies.** 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.
	(— B-7j) The removal of toad riparian breeding habitat shall occur from October through December to minimize potential impacts to breeding adults (including potential sedimentation impacts to toad eggs) and dispersing juveniles.
	(— B-7j) Where the toad is present (or assumed to be present if no pre-construction survey is conducted), 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. The fence locations shall be identified by a USFWS permitted biologist and adjusted as necessary. Exclusion fencing shall be monitored daily by a qualified biologist (see Mitigation Measure B-1c) and maintained in its original condition by construction personnel for the entire length 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. These surveys shall be conducted during appropriate climatic conditions and during the appropriate time of day or night to maximize the likelihood of encountering arroyo toads. If conditions are not appropriate for arroyo toad movement during surveys, the biologist may attempt to elicit a response from the toads during nights (*i.e.,* at least one hour after sunset), provided that temperatures are above 50°F, by spraying the project area with water to simulate a rain event. After the three clearance surveys outlined above have been completed, daily surveys shall be conducted each morning prior to the continuation of construction or maintenance activity. Any toads found shall be relocated to appropriate similar habitat outside project impact areas.
	(— B-7j) Mitigation for the loss of arroyo toad-occupied habitat shall be implemented as follows. Permanent impacts to occupied, arroyo toad breeding habitat shall include offsite acquisition and preservation of occupied arroyo toad breeding habitat at a 3:1 ratio. Permanent impacts to occupied, upland burrowing habitat shall include offsite acquisition and preservation of occupied, upland burrowing habitat at a 2:1 ratio. Temporary impacts to occupied breeding habitat shall include 1:1 onsite restoration and 2:1 offsite acquisition and preservation of occupied breeding habitat. Temporary impacts to occupied, upland burrowing habitat shall include 1:1 onsite restoration and 1:1 offsite acquisition and preservation of occupied, upland burrowing habitat. Any acquired arroyo toad habitat shall be approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands).

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

	(— B-7j) A Habitat Management Plan for any required, offsite mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact (directly or indirectly) the arroyo toad or its habitat. The Applicant shall work with the CPUC, BLM, Wildlife Agencies, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired arroyo toad habitat. The Habitat Management Plan shall include, but shall not be limited to: • Legal descriptions of all acquired or assured (as defined in Mitigation Measure B-1a) arroyo toad habitat approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands); • Baseline biological data for all arroyo toad habitat; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (*e.g.,* provision of endowment by the Applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands).
	Also, see U.S. Fish and Wildlife Conservation Measures G-CM-32, SS-CM-8, SS-CM-9, SS-CM-10, SS-CM-11, SS-CM-12, SS-CM-13, SS-CM-14, and SS-CM-15.
Location	Areas where the arroyo toad occurs or has potential to occur.
Monitoring/Reporting Action	A qualified biologist shall oversee surveys and ensure compliance with APMs and avoidance/minimization/mitigation measures. BLM and CPUC shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation.
Effectiveness Criteria	Impacts to arroyo toads are avoided/minimized/mitigated. Habitat restoration plans are implemented and meet success criteria, and long-term habitat management is provided for all mitigation sites.
Responsible Agency	BLM, CPUC, USFWS, CDFG, State parks (for ABDSP) and USDA Forest Services (for USFS lands).
Timing	Pre-, during and post construction.
Interpretation & Approach	Reference to ABDSP applicable only for mitigation parcels.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	**— B-7I: 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 [USFWS, 2007b]) during construction shall be conducted from September 1 through February 14, which is outside the coastal California gnatcatcher breeding season.
	(— B-7I) When conducting all other construction activities during the coastal California gnatcatcher breeding season of February 15 through August 31, within habitat in which coastal California gnatcatchers are known to occur or have potential to occur, the following avoidance measures shall apply. A USFWS permitted biologist shall survey for coastal California gnatcatchers within 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 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.
	(— B-7I) 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. The Applicant shall contact Wildlife Agencies to determine the appropriate buffer zone. To the extent feasible, no construction shall take place within this buffer until the nest is no longer active. However, 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. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nesting coastal California gnatcatchers and the activities, and working in other areas until the young have fledged.
	(— B-7I) Mitigation for the loss of coastal California gnatcatcher-occupied habitat shall be implemented as follows. Permanent impacts to occupied habitat shall include offsite acquisition and preservation of occupied habitat at a 2:1 ratio. Temporary impacts to occupied habitat shall be mitigated at a 2:1 ratio and shall include 1:1 onsite restoration and 1:1 offsite acquisition and preservation of occupied habitat. Mitigation for the loss of unoccupied designated critical habitat for the gnatcatcher shall be implemented as follows. Permanent impacts to unoccupied designated critical habitat shall include offsite acquisition and preservation of designated critical habitat at a 2:1 ratio. Temporary impacts to unoccupied designated critical habitat shall include 1:1 onsite restoration. Impacts to coastal California gnatcatcher critical habitat must be mitigated within the same Critical Habitat Unit where the impacts occurred. Any acquired coastal California gnatcatcher habitat shall be approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands).

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

	(— B-7l) A Habitat Management Plan for any required, offsite mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact (directly or indirectly) the coastal California gnatcatcher or its habitat. The Applicant shall work with the CPUC, BLM, Wildlife Agencies, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired coastal California gnatcatcher. The Habitat Management Plan shall include, but shall not be limited to: • Legal descriptions of all acquired or assured (as defined in Mitigation Measure B-1a) coastal California gnatcatcher habitat approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands); • Baseline biological data for all coastal California gnatcatcher habitat; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (*e.g.,* provision of endowment by the Applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands).
	Also, see U.S. Fish and Wildlife Conservation Measures G-CM-32, SS-CM-19, SS-CM-20, and SS-CM-21.
Location	Occupied gnatcatcher habitat.
Monitoring/Reporting Action	A qualified biologist shall oversee surveys and ensure compliance with APMs and avoidance/minimization/mitigation measures. BLM and CPUC shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation.
Effectiveness Criteria	Impacts to coastal California gnatcatchers are avoided/minimized/mitigated. Habitat restoration plans are implemented and meet success criteria, and long-term habitat management is provided for all mitigation sites.
Responsible Agency	BLM, CPUC, USFWS, CDFG, State parks (for ABDSP) and USDA Forest Services (for USFS lands).
Timing	Pre-, during and post construction.
Interpretation & Approach	Reference to ABDSP applicable only for mitigation parcels.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	— **B-8a: Conduct pre-construction surveys and monitoring for breeding birds.** All vegetation clearing, except tree trimming or removal, shall take place between August 16 and January 14 (*i.e.,* outside of the general avian breeding season of January 15 through August 15). Tree removal or trimming shall take place between September 16 and December 31 (*i.e.,* outside the raptor breeding season of January 1 through September 15).
	— **(B-8a)** If project construction (not vegetation clearing or tree trimming/removal) cannot occur completely outside the general avian breeding season, then pre-construction surveys for non-listed bird species' nests shall be conducted by a qualified biologist within 100 feet of the construction zone within 10 calendar days prior to the initiation of construction that would occur between January 15 and August 15. The results of the survey shall be submitted to the Wildlife Agencies for review and approval prior to initiating any construction activities.
	— **(B-8a)** If project construction (not vegetation clearing or tree trimming/removal) 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.
	— **(B-8a)** If no active nests are observed, construction may proceed. If active nests are found, work may proceed provided that construction activity is 1) located at least 500 feet from raptor nests (USFWS, 2007b), 2) located at least 160 to 250 feet from occupied burrowing owl burrows (CDFG, 1995; see Mitigation Measure B-7d), 3) located at least 300 feet from listed bird species nests (see Mitigation Measure B-7e and B-7l), 4) located at least 100 feet from non-listed bird species nests, and 5) noise levels do not exceed 60 dB(A)hourly Leq at the edge of nesting territories (American Institute of Physics, 2005) 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. In the case of raptors (except the burrowing owl), the noise level restriction stated above does not apply (USFWS, 2007b). Otherwise, if the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the construction activities are disturbing nesting activities, the biologist shall have the authority to halt the construction and shall devise methods to reduce the noise and/or disturbance in the vicinity. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest site and the construction activities, and working in other areas until the young have fledged. If noise levels still exceed 60 dB(A) Leq hourly at the edge of nesting territories and/or a no-construction buffer cannot be maintained, construction shall be deferred in that area until the nestlings have fledged. All active nests shall be monitored on a weekly basis until the nestlings fledge. The qualified biologist shall be responsible for documenting the results of the surveys and the ongoing monitoring and for reporting these results to the CPUC, BLM, Wildlife Agencies, State Parks (for construction in ABDSP), and USDA Forest Service (for alternatives with construction on National Forest lands).
Location	Entire project area.
Monitoring/Reporting Action	BLM/CPUC biological monitor shall oversee surveys and monitoring to ensure compliance with APMs and the mitigation.
Effectiveness Criteria	Successful avoidance/minimization of impacts to nesting birds.
Responsible Agency	BLM, CPUC, and CDFG.
Timing	Pre- and during construction.
Interpretation & Approach	Reference to ABDSP is not applicable to FESSR.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	**B-9a: Survey for bat nursery colonies.** A CDFG-approved biologist shall conduct a habitat assessment for bat nursery colonies prior to any construction activity. Then, the approved biologist shall conduct a survey for bat nursery colonies or signs of such colonies prior to construction. Direct impacts to a nursery colony site shall not be allowed, and approach of, or entrance to, an active nursery colony site shall be prohibited. Before any blasting or drilling in the vicinity of a nursery colony site, the CDFG-approved biologist shall work with the construction crew to devise and implement methods to minimize potential indirect impacts to the nursery colony site from falling rock or substantial vibration (while a nursery colony is active). The methods shall include an option to halt any construction activity that would cause falling rock, substantial vibration impacts, or any other construction-related impact (including lighting used for night work) to a nursery colony as determined by the approved biologist, until the colony is inactive. Should falling rock block the entrance to a nursery colony site, the contractor shall work with the approved biologist to re-open an entrance to the site.
Location	Areas with potential to support bat nursery colonies (typically caves or rock crevices in the desert).
Monitoring/Reporting Action	BLM/CPUC biological monitor shall oversee surveys and ensure avoidance of impacts to bat nursery colonies.
Effectiveness Criteria	Successful avoidance of impacts to bat nursery colonies.
Responsible Agency	BLM, CPUC, and CDFG.
Timing	Pre- and during construction.
Interpretation & Approach	None required.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	— **B-10a: Utilize collision-reducing techniques in installation of transmission lines.** The Applicant shall install the transmission lines utilizing Avian Power Line Interaction Committee standards for collision-reducing techniques as outlined in "Mitigating Bird Collisions with Power Lines: The State of the Art in 1994" (APLIC, 1994) as follows. • Placement of towers and lines shall not be located above existing towers and lines, topographic features, or tree lines to the maximum extent practicable. Power lines should be clustered in the vertical and horizontal planes aligned with existing geographic features or tree lines, and located parallel (rather than perpendicular) to prevailing wind patterns to the maximum degree feasible. • Additionally, overhead lines that are located in highly utilized avian flight paths shall be marked utilizing fixed mount Firefly Flapper/Diverters, swan flight diverter coils, or other diversion devices, if proven more effective, as to be visible to birds and to reduce avian collision with power lines.
	— **(B-10a)** Where such markers are installed, the Applicant shall fund a study to determine the effectiveness of the markers as a collision prevention measure since there are few, if any, studies that show if such markers work, especially on transmission lines (CEC, 2007). The Applicant shall develop a draft study protocol and submit it to the Wildlife Agencies and State Parks, as well as to CPUC and BLM, for review. The Applicant shall continue to work with these agencies until approval of a final study protocol is obtained. If the study shows the markers to be ineffective, the Applicant shall coordinate with the Wildlife Agencies and State Parks (for markers in ABDSP) to develop alternate collision protection measures.
	— **(B-10a)** The Applicant shall implement an avian reporting system for documenting bird mortalities to help identify problem areas. The reporting system shall follow the format in Appendix C of "Suggested Practices for Avian Protection On Power Lines: The State of the Art in 2006" (APLIC, 2006) or a similar format. The Applicant shall submit a draft reporting protocol and reporting system to the Wildlife Agencies and State Parks, as well as to CPUC and BLM, for review and approval. The Applicant shall continue to work with these agencies until approval of a final reporting protocol and reporting system is obtained. The Applicant shall develop and implement methods to reduce mortalities in identified problem areas. The methods shall be approved by the Wildlife Agencies, State Parks (for problem areas in ABDSP), CPUC, and BLM prior to implementation. Bird mortality shall continue to be documented in the problem areas per the avian reporting system to determine the effectiveness of the mortality reduction methods and to determine if new methods need to be developed.
Location	Highly utilized avian flight paths
Monitoring/Reporting Action	BLM/CPUC biological monitor shall ensure installation of markers. BLM and CPUC shall ensure that the Applicant funds and implements a study to document bird mortalities.
Effectiveness Criteria	Markers installed, bird mortality study implemented, and corrective measures taken.
Responsible Agency	CPUC, BLM, State Parks (for ABDSP), USFWS and CDFG
Timing	During and post construction.
Interpretation & Approach	Reference to ABDSP is not applicable to FESSR.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	**B-11a: Prepare and implement a Raven Control Plan.** The Applicant shall prepare and implement a Raven Control Plan where it occurs in FTHL habitat inside and outside FTHL MAs. The raven control plan shall include the use of raven perching/nesting deterrents (such as those manufactured by Prommel Enterprises, Inc. [www.ZENAdesign.com], Mission Environmental [www.missionenviro.co.za], or Kaddas Enterprises, Inc. [www.kaddas.com] and/or shall describe the procedure for obtaining a permit from the USFWS Law Enforcement Division to legally remove ravens. The plan shall identify the purpose of conducting raven control; provide training in how to identify raven nests and how to determine whether a nest belongs to a raven or a raptor species; describe the seasonal limitations on disturbing nesting raptors; and describe procedures for documenting the activities on an annual basis. The Applicant shall obtain approval of this plan from the USFWS prior to the start of construction. The Applicant shall work with the USFWS until approval of a plan is obtained.
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-19.
Location	FTHL habitat inside and outside FTHL MAs, and where desert tortoise has potential to occur?, outside ABDSP.
Monitoring/Reporting Action	BLM/CPUC biological monitor shall verify that SDG&E submitted a raven control plan and received approval from USFWS prior to construction, and that the plan is implemented after construction.
Effectiveness Criteria	A raven control plan is submitted by SDG&E, approved by USFWS, and implemented.
Responsible Agency	BLM, CPUC, and USFWS Law Enforcement Division.
Timing	Pre- and post construction.
Interpretation & Approach	8/20/09: The Raven Control Plan does not have to be in place prior to construction for Segment 4, Mt. Springs Grade. Reference to ABDSP is not applicable to FESSR.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	— **B-12a: Conduct maintenance activities outside the general avian breeding season.** The Applicant shall educate all maintenance workers about the sensitivity of biological resources associated with the project and the necessity to avoid unauthorized impacts to them.
	— **(B-12a)**In areas not cleared of vegetation in the prior two years, all vegetation clearing, except tree trimming or removal, shall take place between September 16 and February 14 (*i.e.,* outside of the general avian breeding season of February 15 through September 15). Tree trimming or removal shall only take place between September 16 and December 31 (*i.e.,* outside the raptor breeding season of January 1 through September 15). Other maintenance activities shall occur outside the general avian breeding season where feasible. For other maintenance activities that cannot occur outside the above-listed breeding seasons, a qualified biologist shall work with a qualified acoustician to determine if a maintenance activity would meet or exceed the 60 dB(A) Leq hourly noise threshold where nesting territories of the coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and burrowing owl occur. If the noise threshold would not be met or exceeded at the edge of their nesting territories, then maintenance may proceed. If the noise threshold would be met or exceeded at the edge of their nesting territories, pre-maintenance surveys for nests of these species shall be conducted by a qualified biologist (USFWS permitted biologist for gnatcatcher, vireo, and flycatcher) within 300 feet of the maintenance area no more than seven days prior to initiation of maintenance that would occur between February 15 and August 30 for the gnatcatcher, March 15 and September 15 for the vireo, April 15 and September 15 for the flycatcher, and February 1 and August 31 for the burrowing owl. If active nests are found, work may proceed provided that methods, determined by the qualified acoustician to be effective, are implemented to reduce noise below the threshold. These methods include, but are not limited to, turning off vehicle engines and other equipment whenever possible and/or installing a protective noise barrier between a nesting territory and maintenance activities. If the qualified acoustician determines that no methods would reduce noise to below the threshold, maintenance shall be deferred until the nestlings have fledged as determined the qualified biologist. Where noise-reducing methods are employed, active nests shall be monitored by the qualified biologist on a weekly basis until maintenance is complete or until the nestlings fledge, whichever comes first. The qualified biologist shall be responsible for documenting the results of the pre-maintenance nest surveys and the nest monitoring and for reporting these results to the CPUC, BLM, Wildlife Agencies, State Parks (for maintenance in ABDSP), and USDA Forest Service (for alternatives with maintenance on National Forest lands).
	— **(B-12a) Animal Burrows/Dens.** If any animal burrows or dens are identified during the pre-maintenance surveys for active bird nests, soil in a brush-clearing area shall be sufficiently dry before brush clearing to prevent damage to burrows or dens. At any time of year where maintenance would occur in occupied SKR habitat, all equipment and vehicles shall remain on existing access roads/staging areas (*e.g.,* they shall not pull off the shoulder) to prevent the crushing of SKR burrows.
	Also, see U.S. Fish and Wildlife Conservation Measures G-CM-43, G-CM-44, G-CM-45, G-CM-46, G-CM-47, G-CM-48, G-CM-49, G-CM-50, and G-CM-51.
Location	Entire project area.
Monitoring/Reporting Action	A qualified biologist shall conduct surveys and monitoring, and ensure compliance with APMs and the mitigation.
Effectiveness Criteria	Successful avoidance/minimization of impacts to nesting birds and prevention of damage to burrows or dens.
Responsible Agency	BLM, CPUC, USFWS, CDFG, state parks (for ABDSP) and USDA Forest Service (for USFS land).
Timing	Post construction.
Interpretation & Approach	Reference to ABDSP is not applicable to FESSR. Reference to ABDSP applicable only for mitigation parcels.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

MITIGATION MEASURE	**B-12b: Conduct maintenance when arroyo toads are least active.** To avoid impacts to arroyo toads during project maintenance (specifically the use and maintenance of access roads within 2 kilometers of occupied toad habitat), use and maintenance of these access roads shall only occur between two hours after sunrise until two hours before sunset.
Location	Access roads where occupied habitat (or potential habitat where absence has not been established) occurs.
Monitoring/Reporting Action	A qualified biologist shall ensure compliance with construction time restrictions.
Effectiveness Criteria	Avoidance of impacts to arroyo toads on access roads
Responsible Agency	BLM, CPUC
Timing	Post construction.
Interpretation & Approach	None required.
MITIGATION MEASURE	**B-12c: Maintain access roads and clear vegetation in Quino checkerspot butterfly habitat.** If access roads in QCB-occupied or potentially occupied habitat (see Impact B-7J and Mitigation Measure B-7i) are maintained (*i.e.,* regraded) and vegetation around structures is cleared at least once every two years, then no additional mitigation shall be required for this ongoing maintenance. If more than two years pass without regrading or clearing, then the maintenance shall be considered a new impact to QCB habitat and shall be mitigated as prescribed in Mitigation Measure B-7i (*i.e.,* protocol pre-maintenance survey, biological monitoring, and avoidance or mitigation).
Location	Access roads in occupied or potential occupied habitat.
Monitoring/Reporting Action	A qualified biologist shall provide monitoring to ensure compliance.
Effectiveness Criteria	Avoidance or mitigation of impacts to QCB
Responsible Agency	BLM, CPUC
Timing	Post construction.
Interpretation & Approach	None required.
BIO-APM-1	SDG&E would perform any detailed on-the-ground protocol surveys with regard to specific sensitive plant or wildlife species whose habitat would be impacted by the project based on final design in accordance with federal or State regulations or statutes. SDG&E would submit results of these surveys to the USFWS and CDFG ~~and consult on reasonable and feasible mitigation measures for potential impacts, prior to any ground disturbing activities in a particular area. Mitigation would prioritize avoidance as the primary means to address impacts. If avoidance is not feasible, then relocation/restoration would be implemented. Where relocation/restoration is not feasible or deemed not to fully address impacts, then mitigation though SDG&E's NCCP mitigation creditsor if necessary compensation via another on- or offsite purchase or dedication of habitat at a ratio of 2:1 for impacts inside preserves and 1:1 for impacts outside of preserves would be identified and implemented~~. (SDG&E)
Location	Entire project area.
Timing	Pre- and during construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-2	Prior to construction, all SDG&E's contractors, subcontractors and project personnel would receive training regarding the appropriate work practices necessary to effectively implement the biological APMs and to comply with the applicable environmental laws and regulations including appropriate wildlife avoidance, and impact minimization procedures, the importance of these resources and the purpose and necessity of protecting them; and methods for protecting sensitive ecological resources. (SDG&E)
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-4.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

Location	Entire project area.
Timing	Pre-construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-3	Except when not feasible due to physical or safety constraints, all Project vehicle movement would be restricted to existing and constructed roads as a part of the project and determined and marked by SDG&E in advance for the contractor, contractor-acquired accesses, or public roads. New access road construction for the project would be allowed year-round. However, when feasible, every effort would be made to avoid constructing roads during the nesting season. When it is not feasible to keep vehicles on existing access roads or to avoid constructing new access roads during the nesting, breeding, or flight season, SDG&E would perform a site survey, or more as appropriate, in the area where the work is to occur. This survey would be performed to determine presence or absence of endangered nesting birds, or other endangered species in the work area. SDG&E would submit results of this survey to the USFWS and CDFG and consult on reasonable mitigation measures to avoid or minimize for potential impacts, prior to vehicle use off existing access roads or the construction of new access roads. However, this survey would not replace the need for SDG&E to perform detailed on-the-ground surveys otherwise required by BIO-APM-1. Parking or driving underneath oak trees is not allowed in order to protect root structures. In addition to regular watering to control fugitive dust created during clearing, grading, earth-moving, excavation, and other construction activities which could interfere with plant photosynthesis, a 15-mile-per-hour speed limit shall be observed on dirt access roads to reduce dust and allow reptiles and small mammals to disperse. (SDG&E)
	Also, see U.S. Fish and Wildlife Conservation Measures G-CM-5 and G-CM-25.
Location	Entire project area.
Timing	Pre- and during construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS. Note: (10/20/09) All Project vehicle movement will be restricted to existing roads and roads constructed as part of the project. These roads will be determined and marked by SDG&E in advance.
BIO-APM-4	The area limits of Project construction and survey activities would be predetermined based on temporary and permanent disturbance areas noted on final design engineering drawings with activity restricted to and confined within those limits. Survey personnel shall keep survey vehicles on existing roads. During Project surveying activities, brush clearing for footpaths, line-of-sight cutting, and land surveying panel point placement in sensitive habitat would require prior approval from the project biological resource monitor in conformance with the APMs. Hiking off roads or paths for survey data collection is allowed year-round as long as other APMs are met. ~~Stringing of new wire and reconductoring for the project would be allowed year round in sensitive habitats if the conductor is not allowed to drag on the ground or in brush and all vehicles used during stringing remain on Project access roads. Where stringing requires that conductor drag on the brush or ground or vehicles leave Project access roads, SDG&E would perform a site survey (or more as appropriate) to determine presence/absence of endangered nesting birds or other endangered species in the work area. SDG&E would submit results of this survey to the USFWS and CDFG and consult on reasonable and feasible mitigation measures for potential impacts prior to dragging wire on the ground or through brush or taking vehicles off Project access roads. However, this survey would not replace the need for SDG&E to perform detailed on-the-ground surveys as otherwise required by BIO-APM-1.~~ No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate limits of survey or construction activity where any sensitive biological resources or wildlife habitats are encountered in the field. (SDG&E)
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-8.
Location	Entire project area.
Timing	Pre- and during construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

BIO-APM-5	To the extent feasible, access roads would be built at right angles to the streambeds and washes; where not feasible for access roads to cross at right angles, SDG&E would limit roads constructed parallel to streambeds or washes to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." or waters of the State. Streambed crossings and roads constructed parallel to streambeds would require review and approval of necessary permits from the ACOE, CDFG, and RWQCB. Culverts would be installed where needed for right angle crossings but rock crossings would be utilized across most right angle drainage crossings. All construction and maintenance activities would be conducted in a manner that would minimize disturbance to vegetation, drainage channels and stream banks (*e.g.,* structures would not be located within a stream channel, construction activities would avoid sensitive features). ~~Prior to construction in streambeds and washes, SDG&E would perform a pre-activity survey, or more as appropriate, to determine the presence/absence of endangered riparian species. However, this survey would not replace the need for SDG&E to perform detailed on-the-ground surveys as otherwise required by the BIO-APM-1.~~ (SDG&E)
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-27.
Location	Entire project area.
Timing	During and post construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-6	In the construction, operation, and maintenance of the project, SDG&E would comply with all applicable environmental laws and regulations, including, without limitation, those regulating and protecting wildlife and its habitat. (SDG&E)
Location	Entire project area.
Timing	During and post construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-7	Littering is not allowed. Project personnel would not deposit or leave any food or waste in the project area, and no biodegradable or non-biodegradable debris would remain in the right-of-way following completion of construction. (SDG&E)
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-9.
Location	Entire project area.
Timing	Pre- and during construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-8	Prior to construction, plant population boundaries designated as sensitive ~~by USFWS or CDFG and other resources designated sensitive by SDG&E and resource agencies~~ would be clearly delineated. ~~with clearly visible flagging or fencing, which shall remain in place for the duration of construction.~~ Flagged areas would be avoided to the extent practicable during construction activities in that area. ~~Where these areas cannot be avoided, focused surveys for covered plant species shall be performed in conformance with BIO-APM-1, and the responsible resource agency(s) would be consulted for appropriate mitigation and/or revegetation measures prior to disturbance. Notification of presence of any covered plant species to be removed in the work area would occur within ten (10) working days prior to Project activity, during which time the USFWS or CDFG may remove such plant(s) or recommend measures to minimize or reduce the take. If neither USFWS nor CDFG has removed such plant(s) within ten (10) working days following written notice, SDG&E may proceed with work and cause a take of such plant(s), if minimization measures are not implemented.~~ (SDG&E)
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-33.
Location	Entire project area.
Timing	Pre- and during construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

BIO-APM-9	Brush clearing around any Project facilities (*e.g.,* structures, substations) for fire protection, visual inspection or Project surveying, in areas which have been previously cleared or maintained within a two-year or shorter period shall not require a pre-activity survey. In areas not cleared or maintained within a two-year period, brush clearing shall not be conducted during the breeding season (~~March through August~~) without a pre-activity survey for vegetation containing active nests, burrows, or dens. ~~The pre-activity survey performed by the onsite biological resource monitor would make sure that the vegetation to be cleared contains no active migratory bird nests, burrows, or active dens prior to clearing. If occupied migratory bird nests are present, fire protection or visual inspection brush clearing work would be avoided until after the nesting season, or until the nest becomes inactive. If no nests are observed, clearing may proceed. Where burrows or dens are identified in the reconnaissance-level survey, soil in the brush clearing area would be sufficiently dry before clearing activities occur to prevent mechanical damage to burrows that may be present.~~ (SDG&E)
Location	Entire project area.
Timing	Post construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-10	No wildlife, including rattlesnakes, may be harmed except to protect life and limb. Firearms shall be prohibited in all project areas except for those used by security personnel. (SDG&E)
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-36.
Location	Entire project area.
Timing	Pre-, during and post construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-11	Feeding of wildlife is not allowed. (SDG&E)
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-37.
Location	Entire project area.
Timing	Pre-, during and post construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-12	Project personnel are not allowed to bring pets to any project area in order to minimize harassment or killing of wildlife and to prevent the introduction of destructive animal diseases to native wildlife populations. (SDG&E)
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-38.
Location	Entire project area.
Timing	Pre-, during and post construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-13	Plant or wildlife species may not be collected for pets or any other reason. (SDG&E)
Location	Entire project area.
Timing	Pre-, during and post construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-14	~~All steep-walled trenches or excavations used during construction shall be inspected twice daily (early morning and evening) to protect against wildlife entrapment. If wildlife is located in the trench or excavation, the onsite biological resource monitor shall be called immediately to remove them if they cannot escape unimpeded. The onsite biological resource monitor would make required contacts with the USFWS and CDFG resource personnel and obtain verbal approval prior to removing any entrapped wildlife.~~ If the biological resource monitor is not qualified to remove the entrapped wildlife, a recognized wildlife rescue agency (such as Project Wildlife) may be employed to remove the wildlife and transport them safely to other suitable habitats. (SDG&E)
Location	Entire project area.
Timing	During and post construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS. Note (10/20/09): If wildlife becomes entrapped in a trench or excavation, the onsite biological resource monitor shall be called immediately.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

BIO-APM-15	Emergency repairs may be required during the construction and maintenance of the project to address situations (*e.g.,* downed lines, slides, slumps, major subsidence, etc.) that potentially or immediately threaten the integrity of the project facilities. During emergency repairs the APMs shall be followed to the fullest extent practicable. Once the emergency has been abated, any unavoidable environmental damage would be reported to the project biological construction monitor, who would promptly submit a written report of such impacts to the USFWS and CDFG and any other government agencies having jurisdiction over the emergency actions. If required by the government agencies, the biological construction monitor would develop a reasonable and feasible mitigation plan consistent with the APMs and any permits previously issued for the project by the governmental agencies. (SDG&E)
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-10.
Location	Entire project area.
Timing	During and post construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-16	Environmentally sensitive tree trimming locations for the project would be identified in SDG&E's existing vegetation management ~~tree trim~~ database utilized by ~~tree~~ trim contractors. ~~The biological field construction monitor shall be contacted prior to~~ Trimming ~~in environmentally sensitive areas Whenever feasible, trees in environmentally sensitive areas, such as areas of riparian or native scrub vegetation,~~ would be scheduled ~~for~~ trimming during non-sensitive (*i.e.,* outside breeding or nesting) times. ~~Where trees cannot be trimmed during non-sensitive times, SDG&E would perform a site survey, or more as appropriate, to determine presence or absence of endangered nesting bird species in riparian or native scrub vegetation. SDG&E would submit results of this survey to the USFWS and CDFG and consult on mitigation measures for potential impacts, prior to tree trimming in environmentally sensitive areas. However, this survey would not replace the need for SDG&E to perform detailed on-the-ground surveys as otherwise required by BIO-APM-1.~~ Where riparian areas with overstory vegetation are crossed, tree removal (*i.e.,* clear-cut) widths would be varied where feasible to minimize visual landscape contrast and to maintain habitat diversity at established wildlife corridor edges. Where tree removal widths cannot be varied, SDG&E would consult with the USFWS and CDFG to develop alternative tree removal options that could reasonably maintain edge diversity. (SDG&E)
Location	Entire project area.
Timing	Pre- and during construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS. Note (10/20/09): Where trees cannot be trimmed outside of the breeding or nesting seasons, a biological monitor would perform a pre-activity survey to determine the presence or absence of nesting birds.
BIO-APM-17	All new access roads or spur roads constructed as part of the project that are not required as permanent access for future Project maintenance and operation would be permanently closed. ~~Where required, roads would be permanently closed using the most effective feasible and least environmentally damaging methods appropriate to that area with the concurrence of the underlying landowner and the governmental agency having jurisdiction (*e.g.,* stockpiling and replacing topsoil or rock replacement). This would limit new or improved accessibility into the area.~~ Mowing of vegetation can be an effective method for protecting the vegetative understory while at the same time creating access to the work area. Mowing should be used when permanent access is not required since, with time, total revegetation is expected. If mowing is in response to a permanent access need, but the alternative of grading is undesirable because of downstream siltation potential, it should be recognized that periodic mowing would be necessary to maintain permanent access. The project biological construction monitor shall conduct checks on mowing procedures to ensure that mowing for temporary or permanent access roads is limited to a 14-foot-wide area on straight portions of the road and a 16- to 20-foot-wide area at turns, and that the mowing height is no less than 4 inches from finished grade. (SDG&E)
	Also, see U.S. Fish and Wildlife Conservation Measures G-CM-30 and G-CM-31.
Location	Entire project area.
Timing	During and post construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

BIO-APM-18	In areas designated as sensitive by SDG&E or the resource agencies, to the extent feasible structures and access roads would be designed to minimize impacts to sensitive features. These areas of sensitive features include but are not limited to high-value wildlife habitats, sensitive vegetation communities, and high value plant habitats, and/or to allow conductors to clearly span the features, within limits of standard structure design. If the sensitive features cannot be completely avoided, structures and access roads would be placed to minimize the disturbance to the extent feasible. When it is not feasible to avoid constructing poles or access roads in high value wildlife habitats, SDG&E would perform a site survey to determine presence or absence of endangered species in sensitive habitats. SDG&E would submit results of this survey to the USFWS and consult on mitigation measures for potential impacts, prior to constructing structures or access roads. However, this survey would not replace the need for SDG&E to perform detailed on-the-ground surveys as otherwise required by BIO-APM-1. Where it is not feasible for access roads to avoid sensitive water resource features, such as streambed crossings, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, roads constructed parallel to streambeds would be limited to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the ACOE, CDFG, and RWQCB. (SDG&E)
	Also, see U.S. Fish and Wildlife Conservation Measures G-CM-11, G-CM-27, and G-CM-42.
Location	Entire project area where sensitive features are present.
Timing	Pre- and during construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-19	Restoration and habitat enhancement and mitigation measures developed during the consultation period with the BLM under Section 7 of the Endangered Species Act (ESA) would be implemented and complied with as specified in the Biological Opinion (BO) of the USFWS. The Section 7 process would be used to obtain an incidental take authorization through a compensation-based mitigation program for permanent impacts to occupied sensitive plant and animal habitat at a ratio of 1:1 or 2:1 based on site-specific studies, as outlined in BIO-APM-1. The Section 7 process may include consideration of SDG&E's existing NCCP mitigation credits as compensation for project impacts. (SDG&E)
Location	Entire project area.
Timing	Pre- and during construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-20	In construction areas where re-contouring is not required, vegetation shall be left in place wherever possible to avoid excessive root damage and allow for re-sprouting. (SDG&E)
Location	Entire project area.
Timing	During construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-21	Structures shall be constructed to conform to "Suggested Practices for Raptor Protection on Power Lines" (Raptor Research Foundation, Inc. 1981), to minimize impacts to raptors. (SDG&E)
Location	Entire project area.
Timing	Pre- and during construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-22	~~Species identified as sensitive by the land managing agency shall be salvaged where avoidance is not feasible in accordance with State law. Generally,~~ Salvage may include removal and stockpiling for replanting. ~~on site, removal and transplanting out of surface disturbance area, removal and salvage by private individuals, and removal and salvage by commercial dealers, or any combination.~~ (SDG&E)
Location	Entire project area.
Timing	During construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

BIO-APM-23	Only the minimum amount of vegetation necessary for the construction of structures and facilities will be removed. Topsoil located in areas containing sensitive habitat shall be conserved during excavation and reused as cover on disturbed areas to facilitate re-growth of vegetation. Topsoil located in developed or disturbed areas is excluded from this APM. (SDG&E)
Location	Entire project area.
Timing	During construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-24	~~Construction holes left open overnight shall be covered.~~ Covers shall be secured in place ~~nightly prior to workers leaving the site~~ and shall be strong enough to prevent livestock or wildlife from falling through ~~and into a hole. Holes and/or trenches shall be inspected prior to filling to ensure absence of mammals and reptiles.~~ (SDG&E)
Location	Entire project area.
Timing	During construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-25	Disturbed soils shall be revegetated ~~with an appropriate seed mix that does not contain invasive non-native plant species~~. (SDG&E)
Location	Entire project area.
Timing	During construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-26	Excavations shall be sloped on one end to provide an escape route for small mammals and reptiles. (SDG&E)
Location	Entire project area.
Timing	During construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-27	1. Prior to construction, SDG&E shall remove all existing raptor nests from structures that would be affected by project construction. 2. Removal of nests shall occur outside the raptor breeding season (January to July). 3. If it is necessary to remove an existing raptor nest during the breeding season, a qualified biologist shall survey the nest prior to removal to determine if the nest is active. A nest would be considered active if it contains eggs or fledglings. If the nest does not contain eggs or nestlings and is inactive, it shall be removed promptly. If a nest is determined to be active, the nest shall not be removed and the biologist shall monitor the nest to ensure nesting activities/breeding activities are not disrupted. If the biological monitor determines that project activities are disturbing or disrupting nesting activities, the monitor shall make feasible recommendations to reduce the noise and/or disturbance in the vicinity of the nest. (SDG&E)
Location	Entire project area.
Timing	Pre- and during construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.

Table 4. Mitigation Measures and Applicant Proposed Measures – Biological Resources

BIO-APM-28	Potential roost trees that must be removed will be surveyed and identified in the field for application of the following procedures: *Before felling the tree:* 1. Trees should be removed under the warmest possible conditions. 2. Peel any sections of the exfoliating bark off the tree gently and search for any roosting bats underneath. 3. Create noise and vibrations on the tree itself. Noise and vibrations include: a. Running chain saw and making shallow cuts in the trunk (where bark has been peeled off). b. Striking the tree base with fallen limbs or tools such as hammers. *Felling the tree:* 4. Disturbance should be near-continuous for ten minutes, and then another ten minutes should pass, before the tree is felled. 5. When cutting sections of the bole, if any hollows or cavities (such as woodpecker holes) are discovered, be especially careful to check for the presence of bats in those areas. Cut slowly and carefully at all times. If possible, section bole near cavities to focus noise and vibrations, and open hollows by sectioning off a side. (SDG&E)
Location	Entire project area.
Timing	Pre- and during construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.
BIO-APM-29	Reduce construction night lighting on sensitive habitats. Exterior lighting within the project area adjacent to preserved habitat shall be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from preserved habitat to the maximum extent practicable. Vehicle traffic associated with project activities would be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species that may be moving about. (SDG&E)
	Also, see U.S. Fish and Wildlife Conservation Measure G-CM-13.
Location	Entire project area where sensitive habitats are present.
Timing	During construction.
Interpretation & Approach	For implementation, see Appendix 8N in Final EIR/EIS.

APPENDIX C – CUMULATIVE PROJECTS LIST REGARDING MIS

CHAMBERS GROUP

List of Cumulative Projects for Sunrise Powerlink Project - MIS

Project Name/ Species	Engelmann Oak	Arroyo Toad	Song Sparrow	California Spotted Owl	Mule Deer	Mountain Lion
WITHIN CNF LANDS – Within 3 miles of Project Route						
Harbison Canyon			X		X	X
Volli		X	X	X	X	X
Conejos Road Special Use Permit			X		X	X
Kemerko	X	X	X	X	X	X
Japatul Valley Road Subdivision		X	X	X	X	X
WITHIN CNF LANDS – Within 5 miles of Project Route						
Oliver		X		X	X	X
Kenyon		X		X	X	X
Top of the Pines		X		X	X	X
Pine Creek Ranch		X		X	X	X
Pine Valley Estates		X		X	X	X
Temporary Wind Measurement Testing					X	X
Old Highway 80 and Pine Creek Road Intersection Improvements				X	X	X
Reconstruct Caltrans Maintenance Building Project					X	X
Sweetwater and Viejas Creek Fuels Treatment Project				X	X	X
Japatul Watershed Improvement Project		X		X	X	X
West-Wide Energy Corridor Project		X			X	X
WITHIN CNF LANDS – Within 8 miles of Project Route						
Mt. Laguna Water Well					X	X
The Slope					X	X
Pine Valley Creek Soil Sample Collection Project					X	X
WITHIN CNF LANDS – Within 10 miles of Project Route						
Laguna and Laguna Meadow Allotments Range Analysis					X	X
Decommissioning Unauthorized Routes in the La Posta, Long Valley, and Bear Valley areas					X	X
WITHIN CNF LANDS – Over 10 miles from Project Route						
Descanso Ranger District Mine Safety Closure Project					X	X

Project Name/ Species		Engelmann Oak	Arroyo Toad	Song Sparrow	California Spotted Owl	Mule Deer	Mountain Lion
WITHIN CNF LANDS – Throughout Descanso District							
Gold-spotted Oak Borer Fungus and Stress Study				X		X	X
San Diego Gas & Electric Master Special Use Permit				X		X	X
Thing Valley Spillway Improvements				X		X	X
Outside of CNF -- Within 1 mile of CNF Lands Boundary and Project Route							
Chocolate Mountain				X		X	X
Viejas Hills Estates				X	X	X	X
Outside of CNF -- Within 2 miles of CNF Lands Boundary and Project Route							
La Posta Mountain Warfare Training Facility				X		X	X
Outside of CNF --Within 5 miles of CNF Lands Boundary and Project Route							
Golden Acorn Casino and Travel Center						X	X
Outside of CNF -- Over 10 miles from CNF Lands Boundary and Within 1 Mile of Project Route							
SDG&E East County (ECO) Substation Project						X	X
Outside of CNF -- Over 10 miles from CNF Lands Boundary and Within 5 Miles of Project Route							
Crestwood Wind Project	Crestwood Wind Project					X	X
	Tule Wind Energy Project					X	X
Rancho Encantada						X	X
Stirling Energy Systems and SDG&E Solar Power Project						X	X
Outside of CNF -- Over 10 miles from CNF Lands Boundary and Within 10 Miles of Project Route							
Dixieland Substation						X	X
ENPEX Power Plant						X	X
La Rumorosa Wind Project	La Rumorosa Wind Area					X	X
	CAISO Project #215					X	X
	CAISO Project #183					X	X
	CAISO Project #159a					X	X
	CAISO Project #32					X	X
	CAISO Project #106a					X	X
National Quarries (El Centro Resource Area)						X	X