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**SAN DIEGO GAS & ELECTRIC COMPANY  
EAST COUNTY SUBSTATION PROJECT  
REVISED HABITAT RESTORATION PLAN**

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**PREPARED  
OCTOBER 11, 2013**

PREPARED BY:



PREPARED FOR:





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## **1 – INTRODUCTION**

This Revised Habitat Restoration Plan (Plan) describes the measures that will be taken by San Diego Gas & Electric Company (SDG&E) and its contractors to ensure that temporary work areas used during construction of the East County (ECO) Substation Project (Project) are restored to near pre-construction conditions to promote long-term stabilization of the right-of-way (ROW). Revisions to the Plan were necessary as a result of Minor Project Refinements to Project components as approved by the California Public Utilities Commission (CPUC). The Project involves the construction of a new 500/230/138 kilovolt (kV) ECO Substation; rebuild of the existing Boulevard Substation in a new location; and construction of an approximately 14-mile-long 138 kV transmission line, consisting of overhead and underground segments, to connect the two substations. A Project overview map is provided in Figure 1: Project Overview Map. Habitat restoration will take place on all areas temporarily disturbed by construction activities, including temporary staging and fly yards, pull sites, and work areas. Native vegetation communities that will be temporarily impacted include mixed desert scrub, juniper woodland, chamise-red shank chaparral, shadscale scrub, riparian scrub, and big sage brush scrub. The majority of the temporary impacts will occur to mixed desert scrub, juniper woodland, and chamise-red shank chaparral. This Plan was prepared in accordance with Mitigation Measure (MM) BIO-1d of the Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) for the Project and the California Department of Fish and Game (CDFG) Streambed Alteration Agreement (#1600-2011-03280-R5).

## **2 – MITIGATION MEASURES**

MM BIO-1d of the MMCRP states “All temporary work areas not subject to long-term use or ongoing vegetation maintenance shall be revegetated with native species characteristic of the adjacent native vegetation communities in accordance with a Habitat Restoration Plan. A habitat restoration specialist will be designated and approved by the CPUC and Bureau of Land Management (BLM) and will determine the most appropriate method of restoration. Restoration techniques may include hydroseeding, hand-seeding, imprinting, and soil and plant salvage. Any salvage and relocation of species considered desert native plants shall be conducted in compliance with the California Desert Native Plant Act. The Habitat Restoration Plan shall include success criteria and monitoring specifications, and shall be approved by the permitting agencies prior to construction of the project. At the completion of project construction, all construction materials shall be completely removed from the site. All temporary construction access roads shall be permanently closed and restored. Topsoil located in areas to be restored would be conserved and stockpiled during the excavation process for use in the restoration. Wherever possible, vegetation would be left in place to avoid excessive root damage to allow for natural recruitment following construction. Temporary impacts shall be restored sufficient to compensate for the impact to the satisfaction of the CPUC or BLM (depending on the location of the impact). If restoration of temporary impact areas is not possible to the satisfaction of the CPUC or BLM, the temporary impact shall be considered a permanent impact and compensated accordingly.”

### **3 – OBJECTIVES**

The purpose of this Plan is to prescribe restoration techniques for temporary work areas and identify SDG&E's responsibilities in the restoration process. The Plan provides specific information for implementing the MM, as well as the means of monitoring the effectiveness of restoration through established success criteria. The management practices and activities in this Plan are intended to accomplish the following objectives:

- Describe restoration techniques for temporarily disturbed areas
- Establish success criteria and monitoring specifications for revegetation of temporarily disturbed areas
- Ensure that MM BIO-1d stipulated in the Project's MMCRP and other resource protection permits are implemented through a comprehensive restoration approach
- Allow the Habitat Restoration Specialist (HRS) flexibility in prescribing long-term stabilization measures based on site-specific conditions at the time of construction

### **4 – PLAN IMPLEMENTATION**

SDG&E and its contractors will take all reasonable measures to ensure that temporary work areas are restored to near pre-construction conditions. This plan has been prepared to incorporate performance-based best management practices and assigns an HRS, approved by the CPUC and BLM, to oversee the restoration effort. The HRS has the ability to modify procedures within the context of this Plan if changes provide better protection of natural resources in the Project area; are consistent with the requirements of the MMCRP; and facilitate successful restoration and long-term stabilization.

SDG&E has designated an HRS to prepare and administer this Plan and evaluate the proposed methods for restoration. The HRS has been approved by the CPUC and BLM and can be contacted at the following:

Jeffrey Coward, Certified Professional in Erosion and Sediment Control (#6625)  
Insignia Environmental  
904 Second Street  
Encinitas, CA 92024

The HRS will be on-call and available to assist SDG&E and its contractors at all times during construction. SDG&E will review and authorize any modifications to the implementation methods as long as the changes comply with this Plan and are made by the HRS.





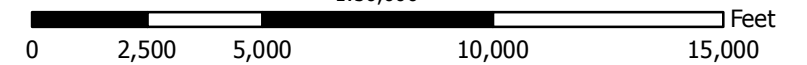
**Figure 1: Project Overview Map**

**East County Substation Project**

- ▲ Existing Boulevard Substation
- Proposed 138 kV Line Milepost
- ECO Substation
- ▭ Boulevard Substation Rebuild
- 138 kV Overhead
- - - 138 kV Underground
- Proposed SWPL Loop-In
- Existing Transmission Line
- == Interstate
- == Highway
- == Major Road
- == Railroad



1:50,000







## 4.0 PRE-CONSTRUCTION DOCUMENTATION

Any temporary work areas not subject to long-term use or ongoing vegetation management will be restored to near pre-construction conditions. Prior to ground-disturbing activities, SDG&E will compile photographic documentation of temporary work areas, and determine the acreage that will be impacted, document the vegetation communities that will be impacted, and document the presence/absence of non-native species. Topsoil depth and other pertinent information, unusual features—such as culverts, rock outcrops, rock walls, artificial fill, or compaction—will also be documented by SDG&E. In addition, SDG&E will identify reference sites that will be used during the post-construction monitoring and reporting described in Section 6 – Restoration Monitoring. The reference sites will be adjacent to the temporarily impacted areas that will be restored, contain the same general plant species and densities as the work area, and will be approximately the same size—typically 50 feet by 100 feet—as the area to be restored. The documentation prepared as defined in this section will be submitted to the CPUC, BLM, and CDFG within 30 days of completing temporary disturbance activities associated with covered activities under each Notice to Proceed.

### 4.1 CLEARING AND GRADING

Clearing and grading activities will be limited to the staked work limits, as required by MM BIO-1a of the MMCRP. Wherever possible, vegetation will be left in place to avoid excessive root damage and to allow for natural recruitment following construction. However, if vegetation poses a safety hazard, or where grading is required, the native vegetation will be removed and windrowed along the edge of the work area. Windrowed vegetation will be kept separate from trench spoil and maintained for use during cleanup activities, as described in Section 4.2.5 Mulch. However, in areas with noxious weeds, the vegetation will not be windrowed or used for cleanup activities. In these areas, the removed vegetation will be hauled off site and disposed of at an approved facility.

Where feasible, temporarily disturbed work areas will be topsoiled.<sup>1</sup> Topsoil will be stripped in areas to be restored and segregated during the grading phase and stockpiled along the edge of the work area for use during restoration. Within temporarily impacted areas, SDG&E will ensure that topsoil containing potential seed banks of sensitive plant species, as identified in Attachment A: 2013 Rare Plant Survey Species Occurrence Maps, is returned to the same general location from which the topsoil was removed. In general, the top two to four inches or the entire A horizon<sup>2</sup>—whichever is deeper—will be removed and salvaged. However, the actual depth to be salvaged will be determined by SDG&E in the field.<sup>3</sup> Topsoil will not be salvaged in areas that will be permanently impacted, such as within the substation boundaries, where fill will be imported, or where soil has been previously highly disturbed or currently infested with noxious or invasive species. However, some of the topsoil to be removed for construction of the slopes surrounding the ECO and Boulevard substations will be stockpiled, saved, and spread out across

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<sup>1</sup> Temporarily disturbed work areas include any areas that will require restoration.

<sup>2</sup> The A horizon is considered the uppermost layer of soil with physical and chemical characteristics that differ from the soil layers beneath.

<sup>3</sup> Arid soils are generally very shallow, but it can be advantageous to salvage slightly deeper than the A horizon when mechanically stripping topsoil to obtain more organic matter and seed base.

the slopes to facilitate the establishment of the substations' landscape, per the Project's Landscape/Screening plans.

## **4.2 CLEANUP**

### **4.2.0 Construction Material and Equipment**

Following the completion of grading activities, the Construction Contractor will begin removing construction debris from the work areas.<sup>4</sup> All construction materials will be removed from the site. Debris will be hauled to the staging areas and later disposed of or recycled at a licensed facility. SDG&E will verify that all construction debris is properly removed prior to final grading. Construction equipment that is not required for final cleanup and seeding will be hauled to the staging areas or demobilized from the Project. Along the underground alignments, the duct banks will be backfilled with non-expansive, engineered fill and covered with asphalt or road base, as appropriate for their location.

#### **4.2.1 Final Grade**

Once all of the construction debris has been removed, the Construction Contractor will return temporary work areas to near pre-construction contours and elevations. Topsoil that was stockpiled during grading and grubbing associated with construction will be returned to its associated restored areas. Care will be taken so that non-disturbed areas will not be impacted; however, the edges of temporary work areas will be slightly feathered to blend in with immediately adjacent areas.

#### **4.2.2 Compaction**

Soil compaction can increase surface runoff, reduce water holding capacity, and increase the potential seed loss due to wind erosion. Prior to initiating final grade, the HRS and/or SDG&E—in coordination with the Construction Contractor—will determine if soil decompaction is necessary by comparing the work area to adjacent non-disturbed areas. If decompaction is required, it will be performed with a deep-tillage instrument, the teeth of a backhoe bucket, a bulldozer ripper, or a similar mechanism prior to re-spreading the topsoil. In some cases, where compaction is only on the surface, scarifying during seedbed preparation will be sufficient.<sup>5</sup>

#### **4.2.3 Restoration of Temporary Impacts to Waters**

Temporarily impacted ephemeral and intermittent drainages will be restored after the Project has been completed, in accordance with the United States Army Corps of Engineers Nationwide Permit and Regional Water Quality Control Board Water Quality Certification. Fill will be removed from drainages, and the drainages will be returned to near pre-construction contours and elevations. No additional stabilization measures are anticipated, but erosion-control blankets may be used, if approved by the HRS and the Project's Qualified Stormwater Pollution Prevention Plan (SWPPP) Developer.

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<sup>4</sup> The initiation of cleanup activities will depend on the location and the phase of construction. It is anticipated that overhead, underground, and substation cleanup will occur at different times.

<sup>5</sup> Scarification is the process of loosening the surface layer. The process improves soil-to-seed contact and permeability, and facilitates seed cover when the soil is back-dragged after the seed is applied.

#### **4.2.4 Seedbed Preparation**

Prior to seeding and during the spreading of stockpiled topsoil, the area to be seeded will be scarified using the teeth of a backhoe bucket, harrow, disc, or other similar implementation method. The HRS or SDG&E's designated representative will inspect the seedbed prior to conducting seeding, as described in Section 4.3 Seeding.

#### **4.2.5 Mulch**

Mulch can be used to reduce soil erosion during precipitation events by intercepting the impact of raindrops. It also helps regulate soil temperatures and protect seed from wildlife and wind, and can be composed of straw, rock, or other ground covers. Of all the types of mulch available for restoration, straw is the most commonly used because it is degradable, provides organic matter, and is compatible with most vegetation types. However, straw mulch has proven to have a negligible effect on dry, sandy soils, particularly in areas with high wind. Due to the abundance of these conditions within the Project area, mulch will not be applied following seeding. The HRS may determine that hydromulch is required to provide effective soil cover. If hydromulch is used, it will be applied with an SDG&E-approved tackifier and at the manufacturer's recommended rate, which is based on slope length and steepness of the site. If hydromulch is used, it will be applied after the seed has achieved soil contact or, if approved by the HRS, mixed with the seed. If SDG&E determines that mulch is necessary to prevent water or wind erosion, the mulch will be weed-free straw, as required by the Project's Noxious Weed and Invasive Species Control Plan.

### **4.3 SEEDING**

All temporarily disturbed work areas will be restored and seeded. No soil additives or amendments will be applied to the seeded areas. If through direct observation by the HRS or the on-site biological monitor, it is determined that there is significant seed loss due to granivory, SDG&E will re-seed the area to achieve the success criteria described in Section 6 – Restoration Monitoring. Approved seed mixes, application methods, and rates are described in the following sections.

#### **4.3.0 Seed Mix**

Seed will be purchased from and blended by a qualified distributor that specializes in providing custom native seed mixes for restoration projects in California. Seed will be weed-free and consist of native species that occur within the Project area. Each bag of seed will be properly labeled with the weight, species, percentage of seed of each species, percentage of germination of each species, purity of seed, inert ingredients, and packaging date.

The Project occurs in two distinct vegetation communities and is in a transitional vegetation area; therefore, two different seed mixes will be required. One seed mix will be used for desert scrub/juniper woodland, and one seed mix will be used for chamise/redshank chaparral. Where appropriate, a third erosion control seed mix—consisting of locally occurring, fast-growing, native species—may be used to temporarily stabilize work areas prior to restoration. A list of each seed mix, application rate, and source of the seed is provided in Attachment B: Seed Mixes.

#### **4.3.1 Application Methods**

Seed will be broadcasted at the rate recommended by the distributor. Seed broadcasted directly on bare soil will be lightly raked into the soil surface by hand or with a drag chain to ensure adequate soil-to-seed contact. All seeding will occur after final grading and seedbed preparation has been completed and in accordance with the schedule described in Section 5.1 Seeding. Restored areas will not be irrigated following application.

#### **4.3.2 Seeding Rates**

Seed will be uniformly applied according to the application rates indicated in Attachment B: Seed Mixes.

#### **4.3.3 Irrigation**

No irrigation systems will be installed as part of this Plan. Irrigation may be used for landscaped areas and tree replacement at the ECO and Boulevard substation sites, as described in the Landscape Plan and Tree Replacement Plan. In areas of potential significant land scarring due to Project road construction, the restored areas may be watered, by hand or water truck, to facilitate rapid germination and growth of the seed.

## **5 – SCHEDULE**

### **5.0 RESTORATION**

Restoration efforts will be implemented once construction activities have been completed at any given area along the ROW<sup>6</sup>. In most cases, restoration will not begin until construction has been completed for the entire Project, but the Construction Contractor may elect to begin restoration in some areas if no additional work is anticipated. In any case, temporary soil stabilization will occur immediately after ground disturbance occurs in accordance with the SWPPP. Final restoration activities will be completed after energization, but may begin at some locations at any time during construction.

#### **5.1 SEEDING**

Seeding will occur in fall, winter, or early spring to maximize natural rainfall patterns that occur within the Project area. If interim seeding is deemed advantageous by the Project's Qualified SWPPP Developer and/or the Qualified SWPPP Practitioner, the seed mix will be approved by the HRS prior to use.

## **6 – RESTORATION MONITORING**

Post-construction monitoring of all restored temporary work areas will be performed by SDG&E to ensure that the restoration effort is deemed sufficient to compensate for the impacts to the satisfaction of the CPUC and BLM. The following subsections describe the monitoring methods, success criteria, and reporting for the post-construction monitoring of restored areas.

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<sup>6</sup> All temporarily impacted areas will be restored within two years of the start of construction.



## 6.0 MONITORING, SUCCESS CRITERIA, AND REMEDIAL MEASURES

After construction and initial restoration has been completed, SDG&E has designated Jeffrey Coward as the HRS to monitor the restoration effort. The HRS will also be responsible for assessing the success of control methods implemented to prevent the spread of noxious weeds and invasive plants, as described in the Project's Noxious Weed and Invasive Plant Control Plan. The restoration specialist will collect pertinent information through direct observation during annual site visits, including data on germination success, plant density, survivorship, and diversity. Specific monitoring activities will include the following:

- Documenting the percent cover of native vegetation within the disturbed areas
- Comparing restoration sites to surrounding undisturbed reference sites<sup>7</sup>
- Documenting all plant species within the restoration areas
- Conducting photographic documentation of restoration areas and surrounding undisturbed sites

Restoration and weed-control will be considered successful if the following conditions are met:

- At least 60 percent of total vegetation cover will be achieved for each plant community, relative to the adjacent reference site with similar vegetation.
- Native species present will include the dominant species found within the adjacent reference site. The HRS will take into account the level of recruitment of dominant species and likelihood of vegetative succession to the desired community.
- The percent of weed species remain at or below the populations within the adjacent reference sites.

If the success criteria for the seeded areas have not been met after three years, SDG&E will consult with the CPUC, BLM, and CDFG to develop additional restoration measures. In general, an adaptive management approach should be taken to identify additional restoration and weed-control measures. This approach will focus on gathering information during the monitoring period, and adjusting management practices and remedial measures according to assessments made while monitoring. If a site fails to meet the established success criteria, SDG&E and the HRS will modify and/or add restoration and/or weed-control measures in coordination with the CPUC, BLM, and CDFG. Examples of modified or additional restoration or weed-control measures include the following:

- re-seeding a site that experienced significant seed loss during a major rain event
- implementing a watering program during a prolonged drought
- recontouring and reapplying hydromulch to a site damaged by unauthorized off-road vehicle use
- utilizing mechanical weed abatement methods, or the selective use of herbicides

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<sup>7</sup> Prior to construction, reference sites will be identified within SDG&E's ROW and adjacent to each area to be restored that contains similar vegetation, percent native plant composition, and percent cover as the work sites, as described in Section 4.0 Pre-Construction Documentation.

If chemical or mechanical weed abatement methods are determined to be required, the application of these methods will be conducted in a manner that minimizes potential impacts to sensitive plant and wildlife species, such as the timing of implementation, application rate for chemical controls, and utilization of site-specific measures.

If within two years after the additional restoration and/or weed-control measures are implemented (total of five years) the CPUC, BLM, and CDFG<sup>8</sup> determine that the additional measures are not sufficient and restoration in certain areas is not feasible, the impacts in these areas will be considered permanent, as required by MM BIO-1e.

## 6.1 REPORTING

SDG&E will submit a Restoration Monitoring Report, which will include an assessment of the success of control methods implemented to prevent the spread of noxious weeds and invasive plants, to the CPUC, BLM, and CDFG by July of each of the five years following the completion of construction.<sup>9</sup> This report will include the following:

- Introduction
- Monitoring methods summary
- Monitoring results
- Discussion
- Conclusion and recommendations

Monitoring and reporting of restoration progress will be conducted for up to five years. If the restoration success criteria have been met before year five, monitoring and reporting will cease at that time.

## 6.2 COMPLETION OF RESTORATION PROGRAM

The restoration of the Project area will be considered complete when the monitoring period is over and final success standards are met. SDG&E will notify the CPUC, BLM, and CDFG that the success standards have been met for the Project upon submitting the annual report for the final year, and will request acceptance that the success criteria has been met and acknowledgement that MM BIO-1d has been fulfilled.

## 7 – REFERENCES

BLM. 1980. *California Desert Conservation Area Plan*. California Desert District Office, Riverside California.

BLM. 2007. *Eastern San Diego County Proposed Resource Management Plan and Final Environmental Impact Statement*. El Centro Field Office, El Centro, California.

<sup>8</sup> Monitoring of restoration of CDFG-jurisdictional drainages will be conducted for up to 10 years. If the restoration success criteria have been met before year 10, monitoring will cease at that time.

<sup>9</sup> Reporting for restoration of CDFG-jurisdictional drainages will be conducted for up to 10 years. If the restoration success criteria have been met before year 10 reporting will cease at that time.

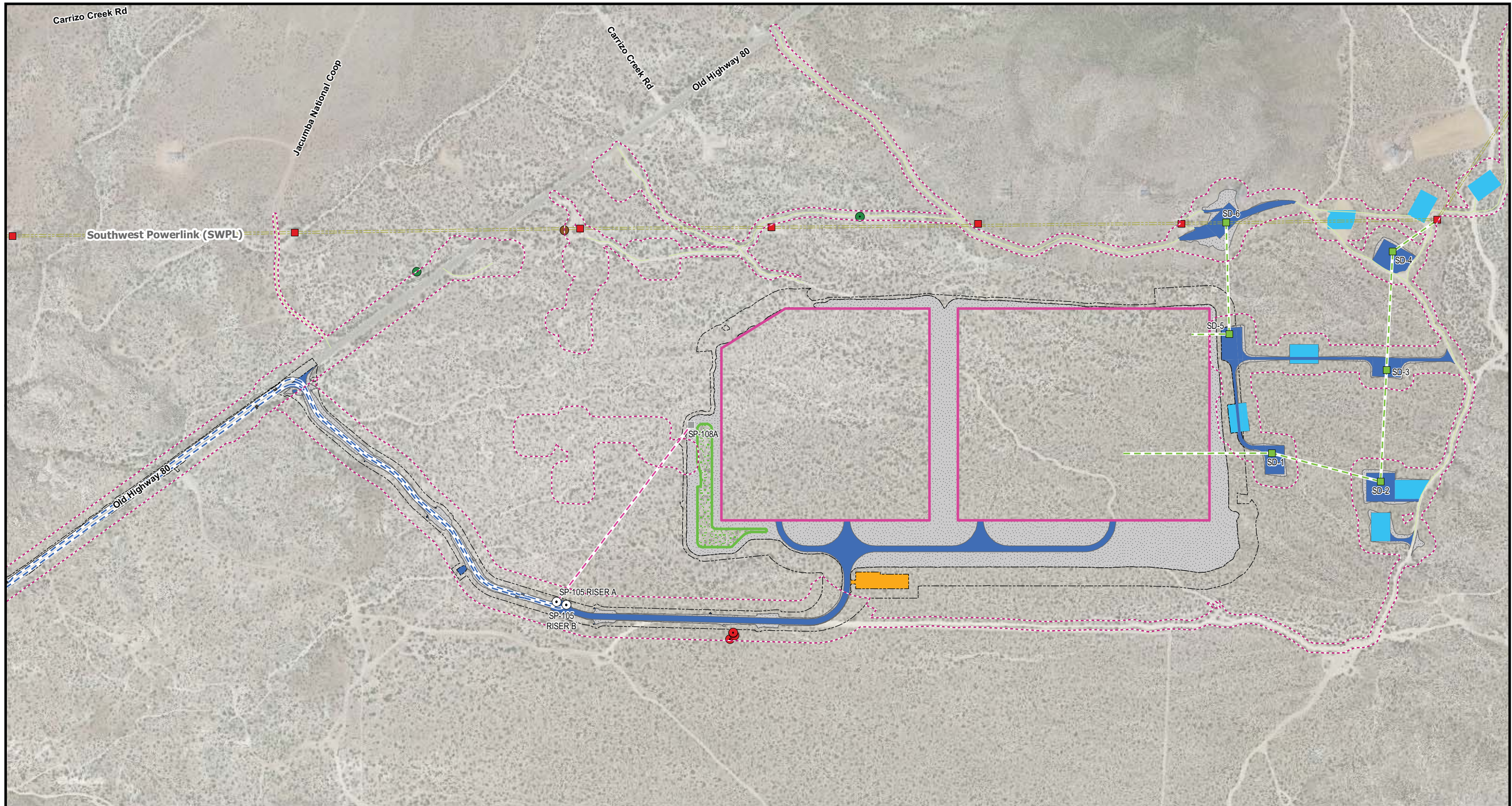
- BLM. 2002. *Northern and Eastern Mojave Desert Management Plan*. California Desert District Office, Moreno Valley, California.
- BLM. 2005. *Western Mojave Desert Management Plan*. California Desert District Office, Moreno Valley, California.
- CDFG. Agreement Regarding Proposed Stream and Lake Alteration, Notification No. 1600-2011-0328-R5, San Diego Gas & Electric Company East County Substation Project. CDFG
- ECO Substation Project. Final Environmental Impact Report/Environmental Impact Statement. 2012. Online.  
[http://www.cpuc.ca.gov/environment/info/dudek/ECOSUB/ECO\\_Final\\_EIR-EIS.htm](http://www.cpuc.ca.gov/environment/info/dudek/ECOSUB/ECO_Final_EIR-EIS.htm).  
Site visited April 19, 2012.
- SDG&E Best Management Practices Manual for Water Quality Construction. July 2011.



**ATTACHMENT A: 2013 RARE PLANT SURVEY SPECIES OCCURRENCE MAPS**







**Attachment B: 2013 Rare Plant Survey Species Occurrences Map 1 of 11**

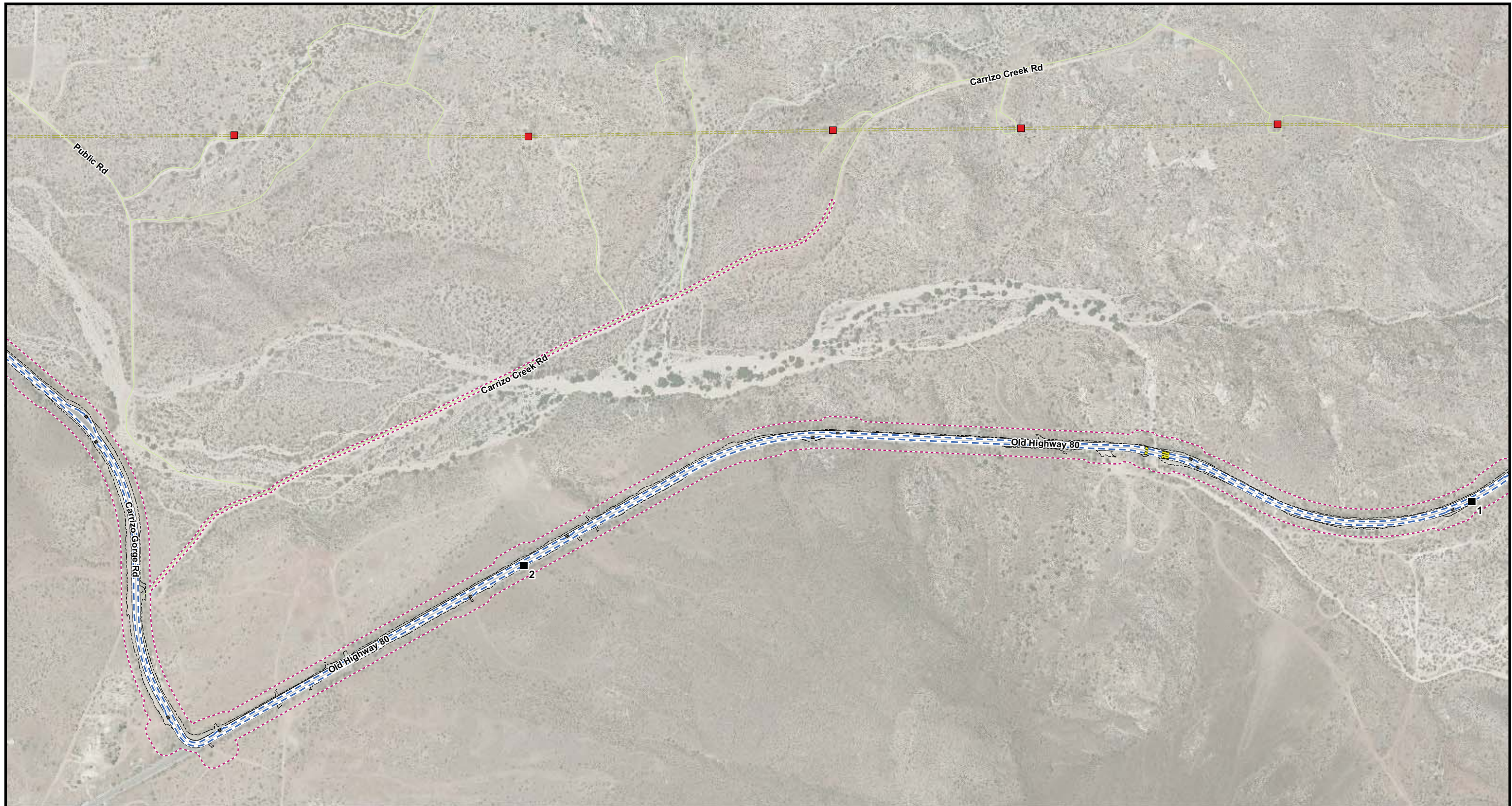
**East County Substation Project**

Survey Boundary	Points Collected	Oceanblue larkspur	Populated Areas Collected	138 kV Overhead	Access Road Modifications	Pole Work Area/Access Road	138 kV Pole	Existing Access Road
	Campo pea	Palmer's grapplinghook	Desert beauty	138 kV Underground	Boring Pit	Pull Site/Vault Pad	Riser Pole	
	Desert beauty	Purple owl's clover	Long-spined spineflower	SWPL Loop-In	Boulevard Substation	Retention Basin	Milepost	
	Jacumba monkeyflower	Sticky geraea		Existing Transmission Line	Concrete Channel/Culvert	Staging Area	SWPL Loop-In Structure	
	Jacumba milk-vetch	Tecate tarplant			ECO Substation Pad	Temporary Access Road	Existing SWPL Structure	
	Long-spined spineflower				Fly Yard	Temporary Construction Area		
					Grading	Vault		
					Guard Structure Site/Access	Water Tank		





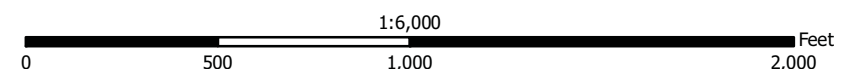




### Attachment B: 2013 Rare Plant Survey Species Occurrences Map 2 of 11

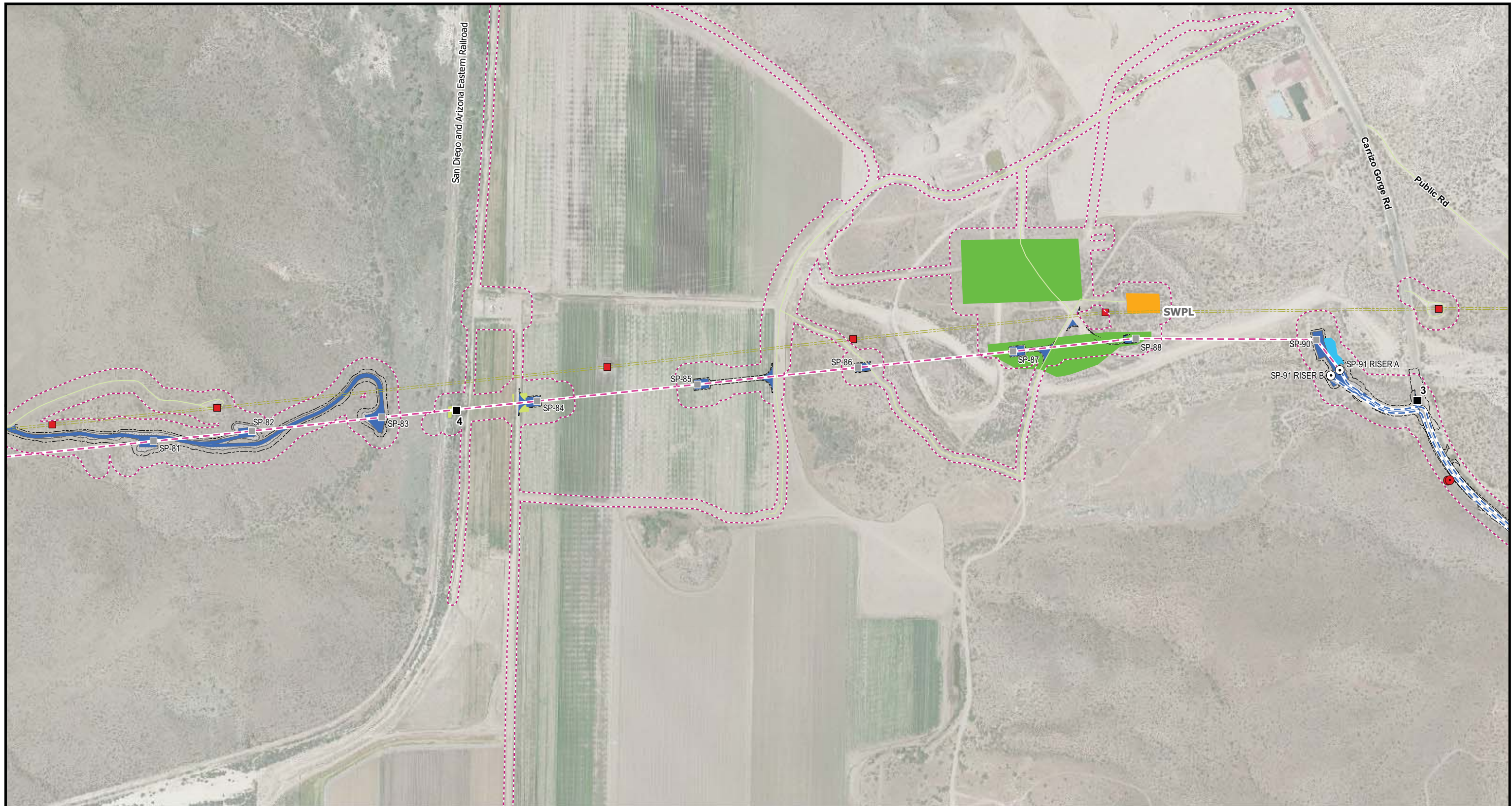
### East County Substation Project

Survey Boundary	Points Collected	Oceanblue larkspur	Populated Areas Collected	138 kV Overhead	Access Road Modifications	Pole Work Area/Access Road	138 kV Pole	Existing Access Road
Campo pea	Palmer's grapplinghook	Desert beauty	Long-spined spineflower	138 kV Underground	Boring Pit	Pull Site/Vault Pad	Riser Pole	
Jacumba monkeyflower	Purple owl's clover	Sticky geraea		SWPL Loop-In	Boulevard Substation	Retention Basin	Milepost	
Jacumba milk-vetch	Tecate tarplant			Existing Transmission Line	Concrete Channel/Culvert	Staging Area	SWPL Loop-In Structure	
Long-spined spineflower					ECO Substation Pad	Temporary Access Road	Existing SWPL Structure	
					Fly Yard	Temporary Construction Area		
					Grading	Vault		
					Guard Structure Site/Access	Water Tank		



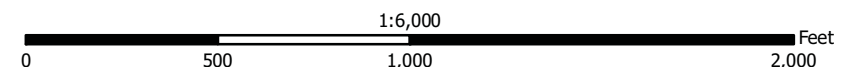
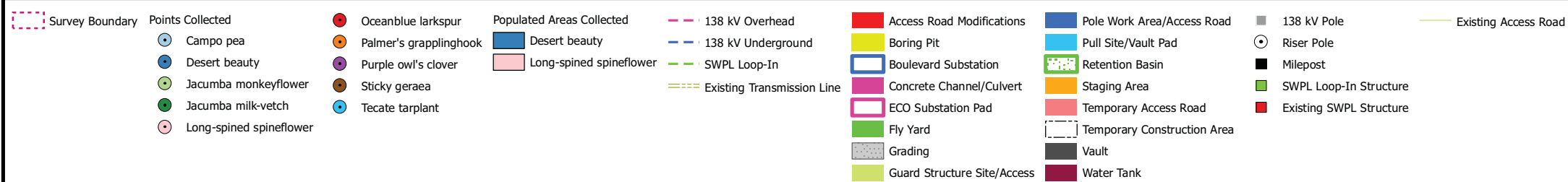






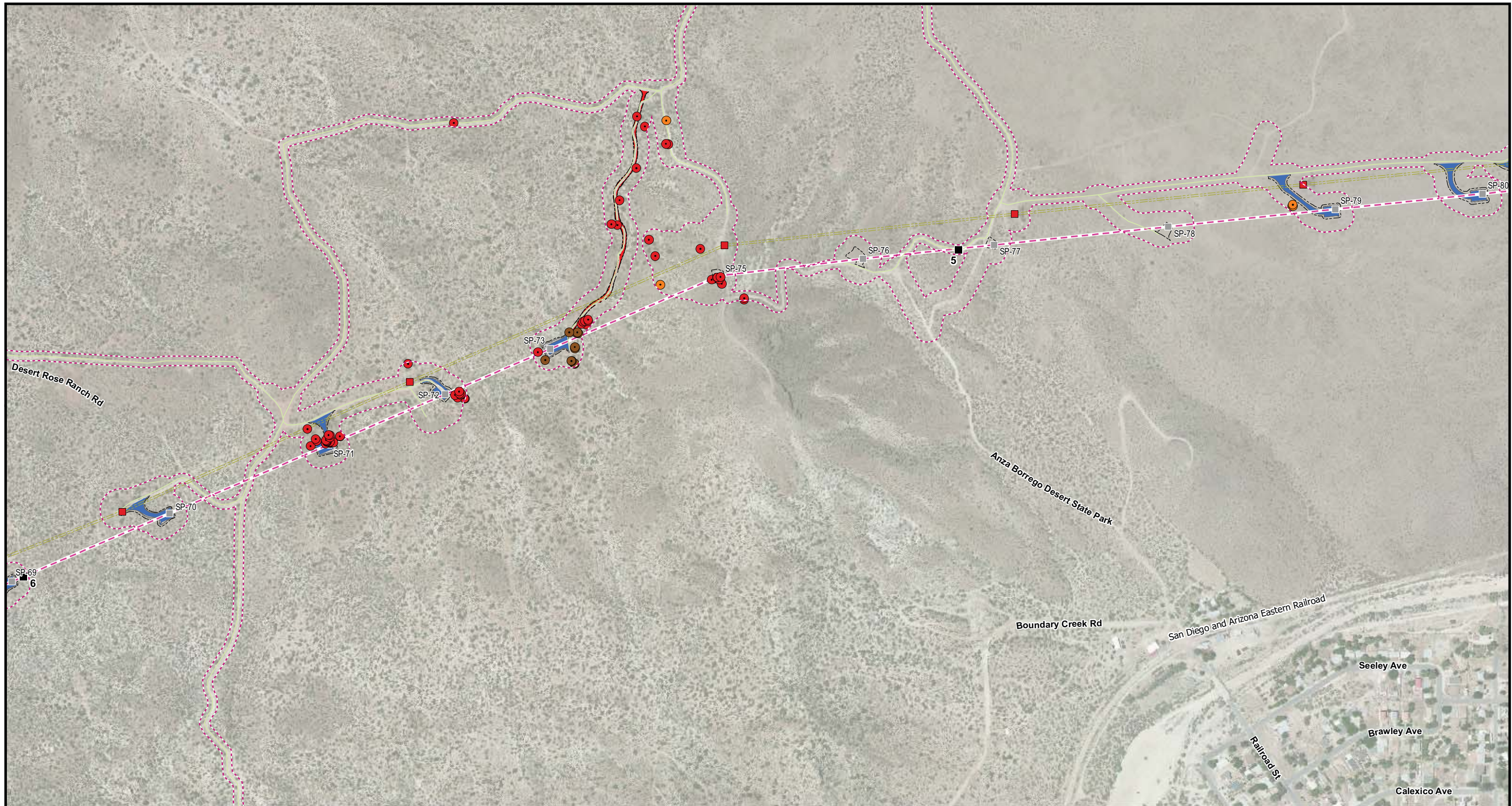
**Attachment B: 2013 Rare Plant Survey Species Occurrences Map 3 of 11**

**East County Substation Project**



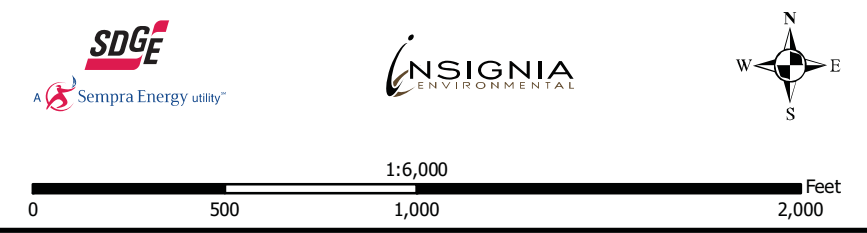
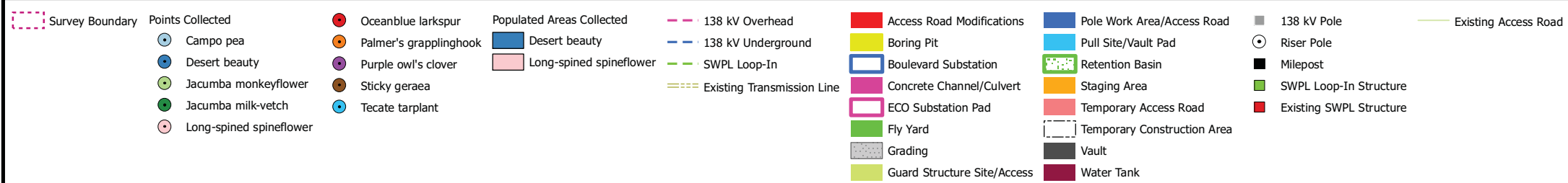






**Attachment B: 2013 Rare Plant Survey Species Occurrences Map 4 of 11**

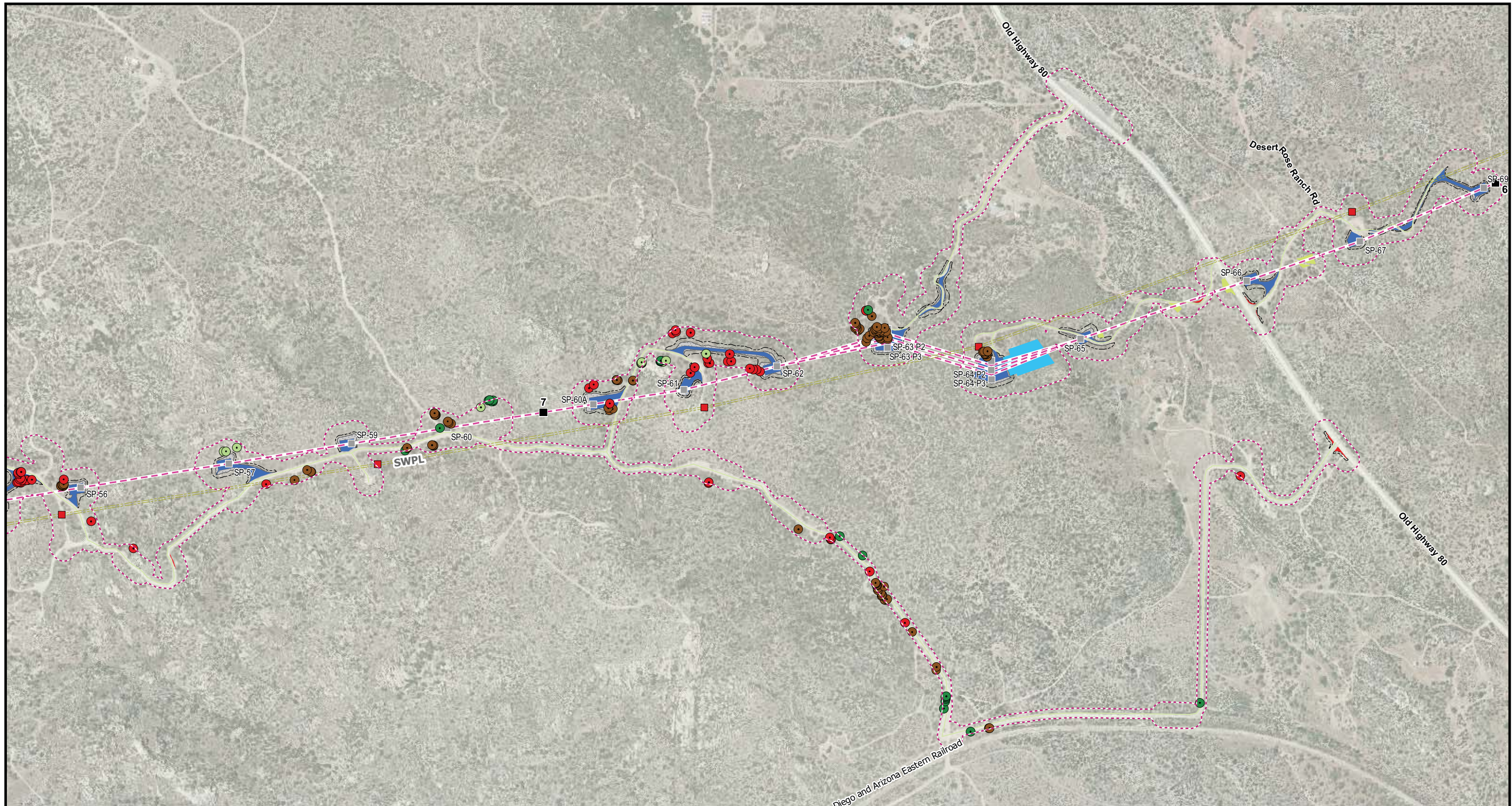
**East County Substation Project**





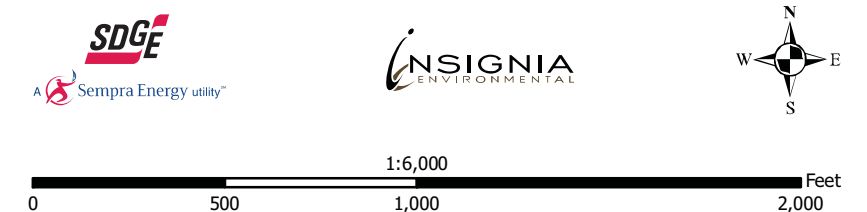
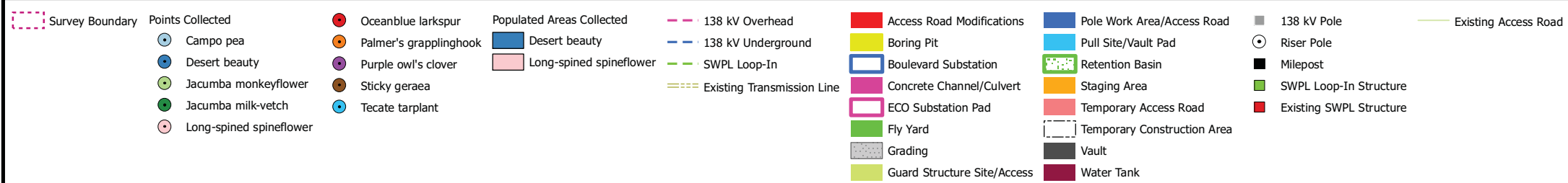






**Attachment B: 2013 Rare Plant Survey Species Occurrences Map 5 of 11**

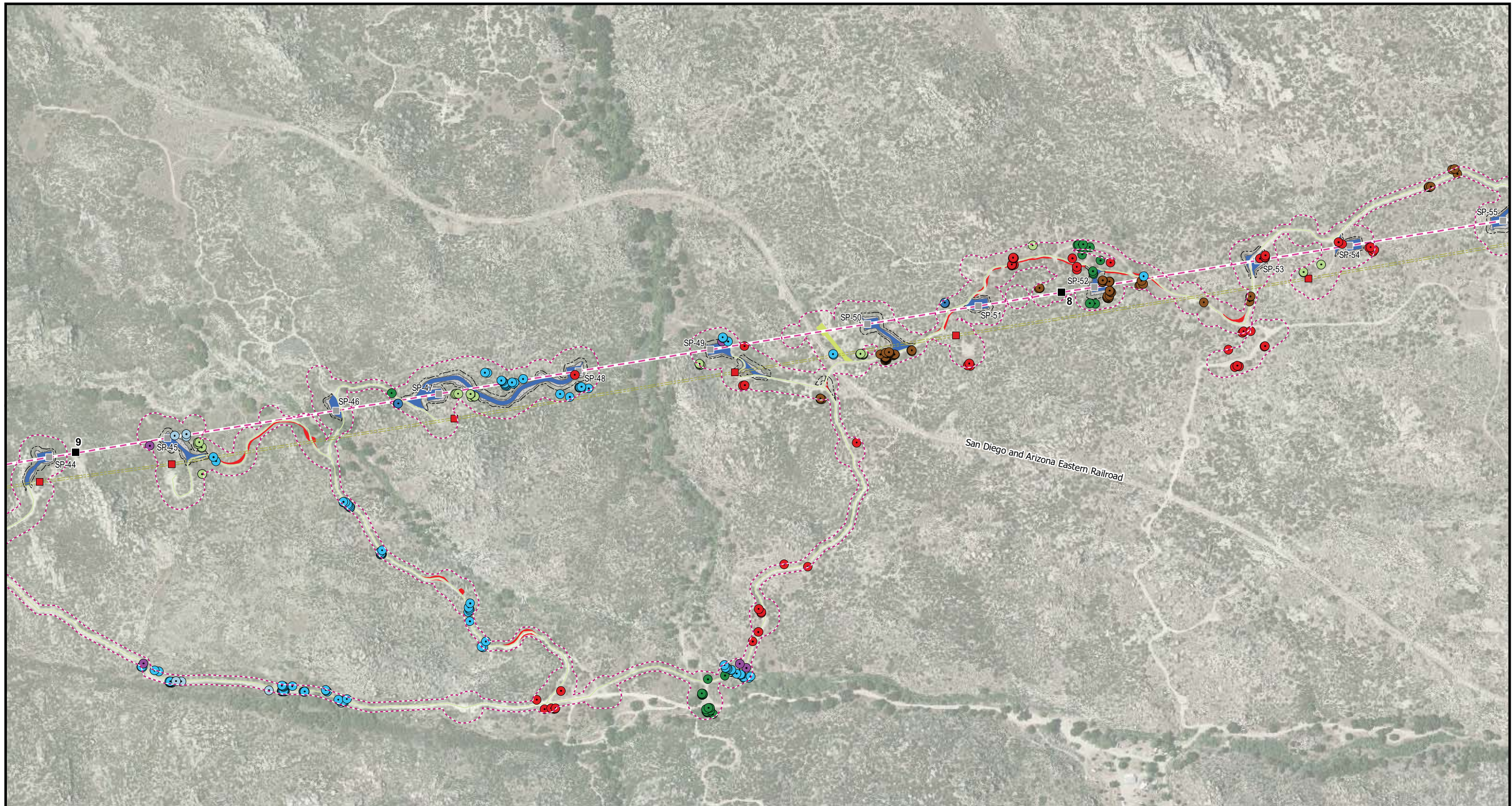
**East County Substation Project**





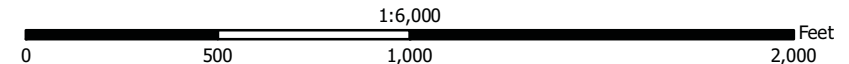
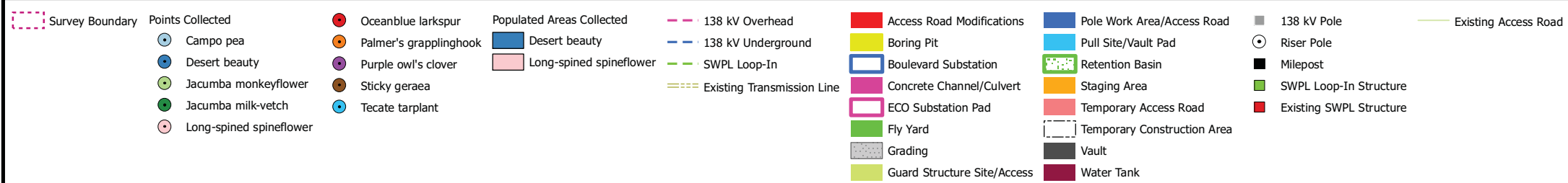






**Attachment B: 2013 Rare Plant Survey Species Occurrences Map 6 of 11**

**East County Substation Project**







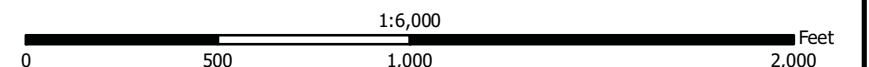




**Attachment B: 2013 Rare Plant Survey Species Occurrences Map 7 of 11**

**East County Substation Project**

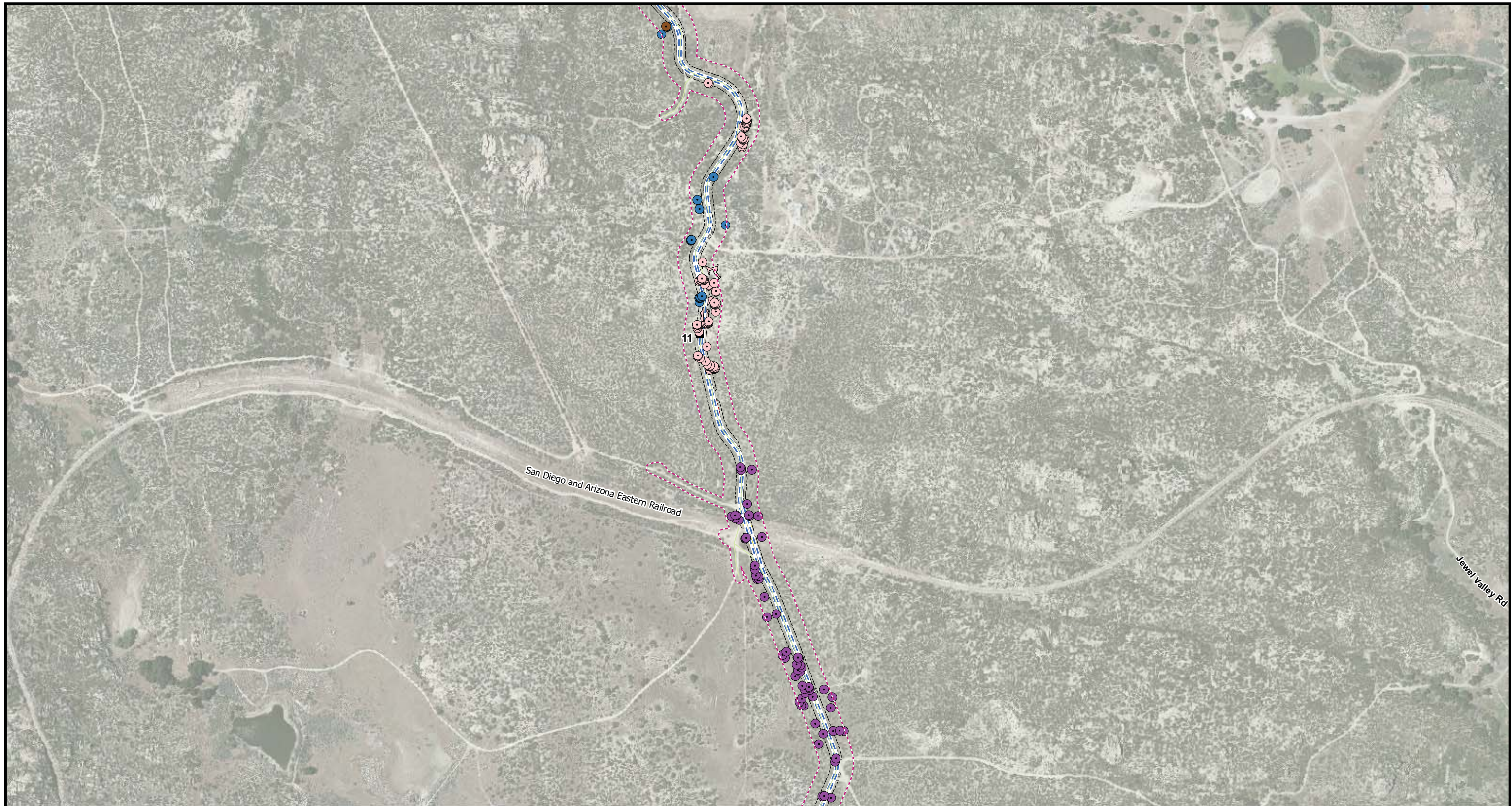
Survey Boundary	Points Collected	Oceanblue larkspur	Populated Areas Collected	138 kV Overhead	Access Road Modifications	Pole Work Area/Access Road	138 kV Pole	Existing Access Road
Campo pea	Palmer's grapplinghook	Purple owl's clover	Desert beauty	138 kV Underground	Boring Pit	Pull Site/Vault Pad	Riser Pole	
Jacumba monkeyflower	Sticky geraea	Tecate tarplant	Long-spined spineflower	SWPL Loop-In	Boulevard Substation	Retention Basin	SWPL Loop-In Structure	
Jacumba milk-vetch				Existing Transmission Line	Concrete Channel/Culvert	Staging Area	Existing SWPL Structure	
Long-spined spineflower					ECO Substation Pad	Temporary Access Road		
					Fly Yard	Temporary Construction Area		
					Grading	Vault		
					Guard Structure Site/Access	Water Tank		





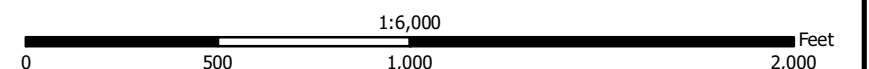
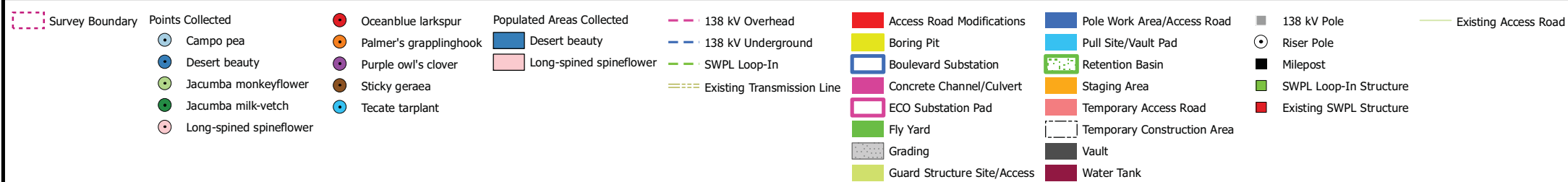






**Attachment B: 2013 Rare Plant Survey Species Occurrences Map 8 of 11**

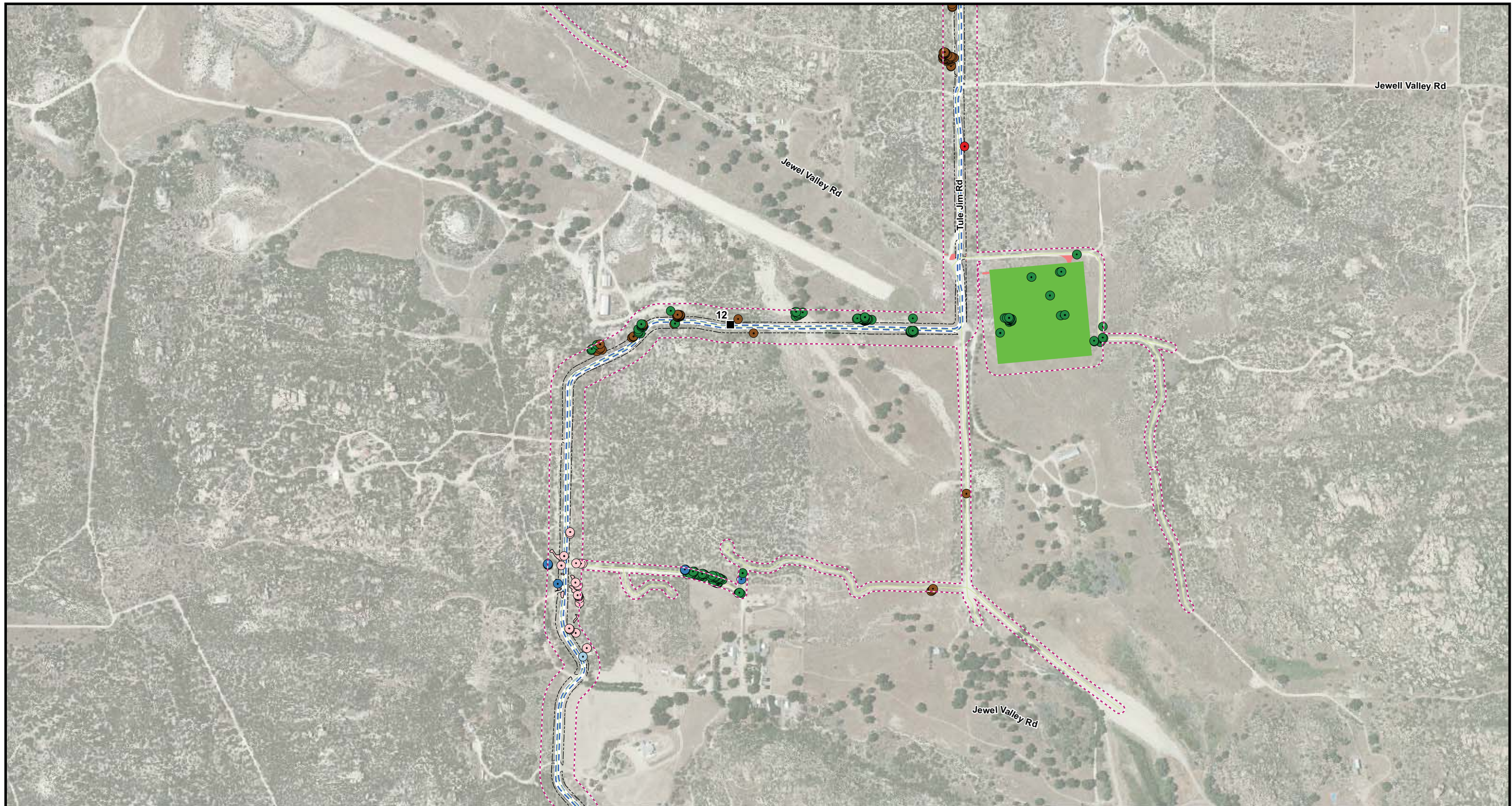
**East County Substation Project**







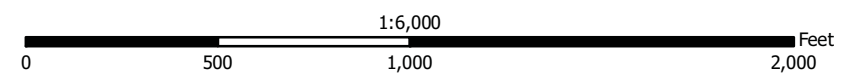




**Attachment B: 2013 Rare Plant Survey Species Occurrences Map 9 of 11**

**East County Substation Project**

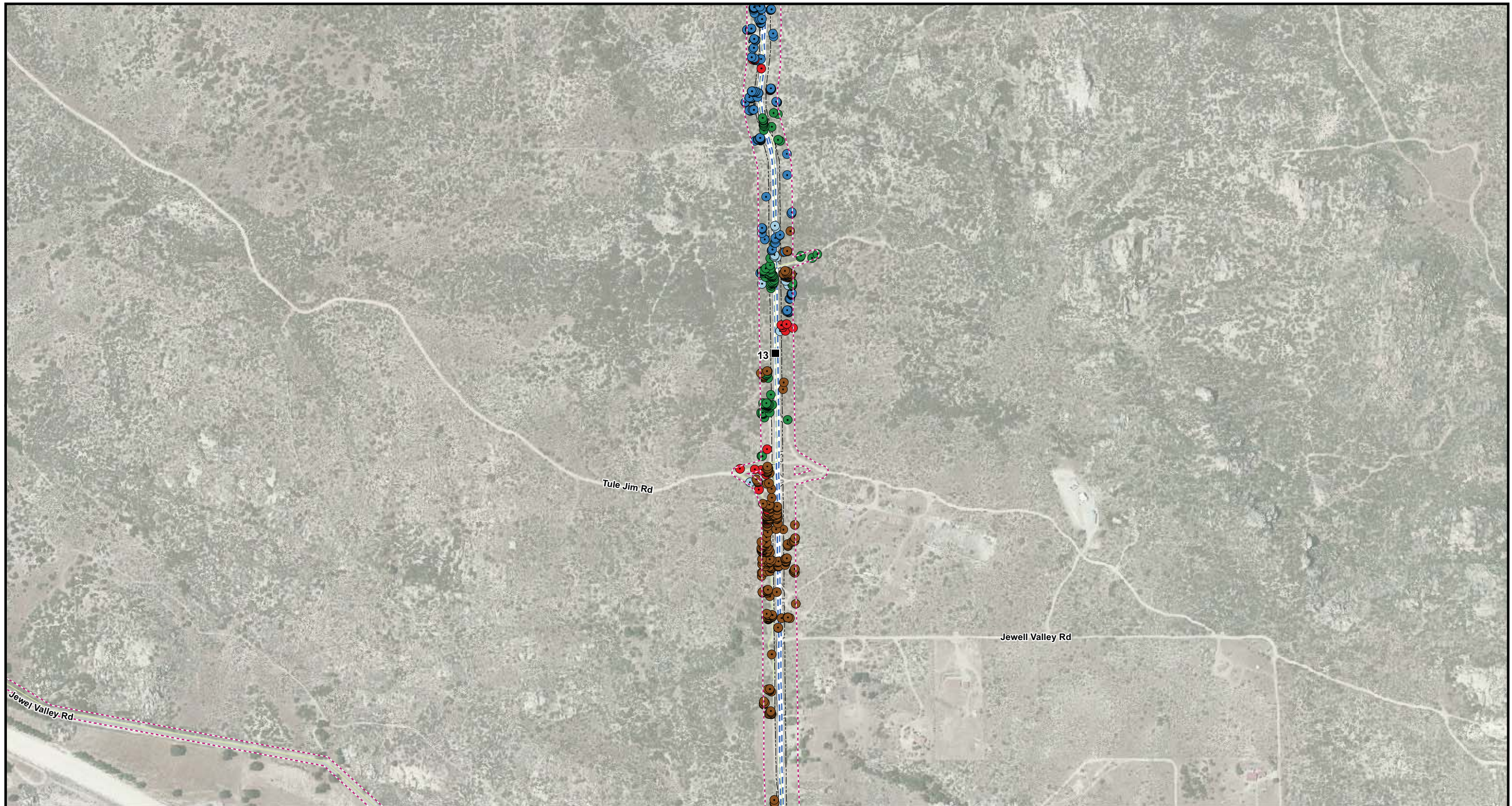
Survey Boundary	Points Collected	Oceanblue larkspur	Populated Areas Collected	138 kV Overhead	Access Road Modifications	Pole Work Area/Access Road	138 kV Pole	Existing Access Road
Campo pea	Palmer's grapplinghook	Desert beauty	Long-spined spineflower	138 kV Underground	Boring Pit	Pull Site/Vault Pad	Riser Pole	
Jacumba monkeyflower	Purple owl's clover	Long-spined spineflower		SWPL Loop-In	Boulevard Substation	Retention Basin	Milepost	
Jacumba milk-vetch	Sticky geraea			Existing Transmission Line	Concrete Channel/Culvert	Staging Area	SWPL Loop-In Structure	
Long-spined spineflower	Tecate tarplant				ECO Substation Pad	Temporary Access Road	Existing SWPL Structure	
					Fly Yard	Temporary Construction Area		
					Grading	Vault		
					Guard Structure Site/Access	Water Tank		







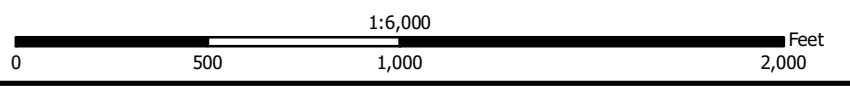




**Attachment B: 2013 Rare Plant Survey Species Occurrences Map 10 of 11**

**East County Substation Project**

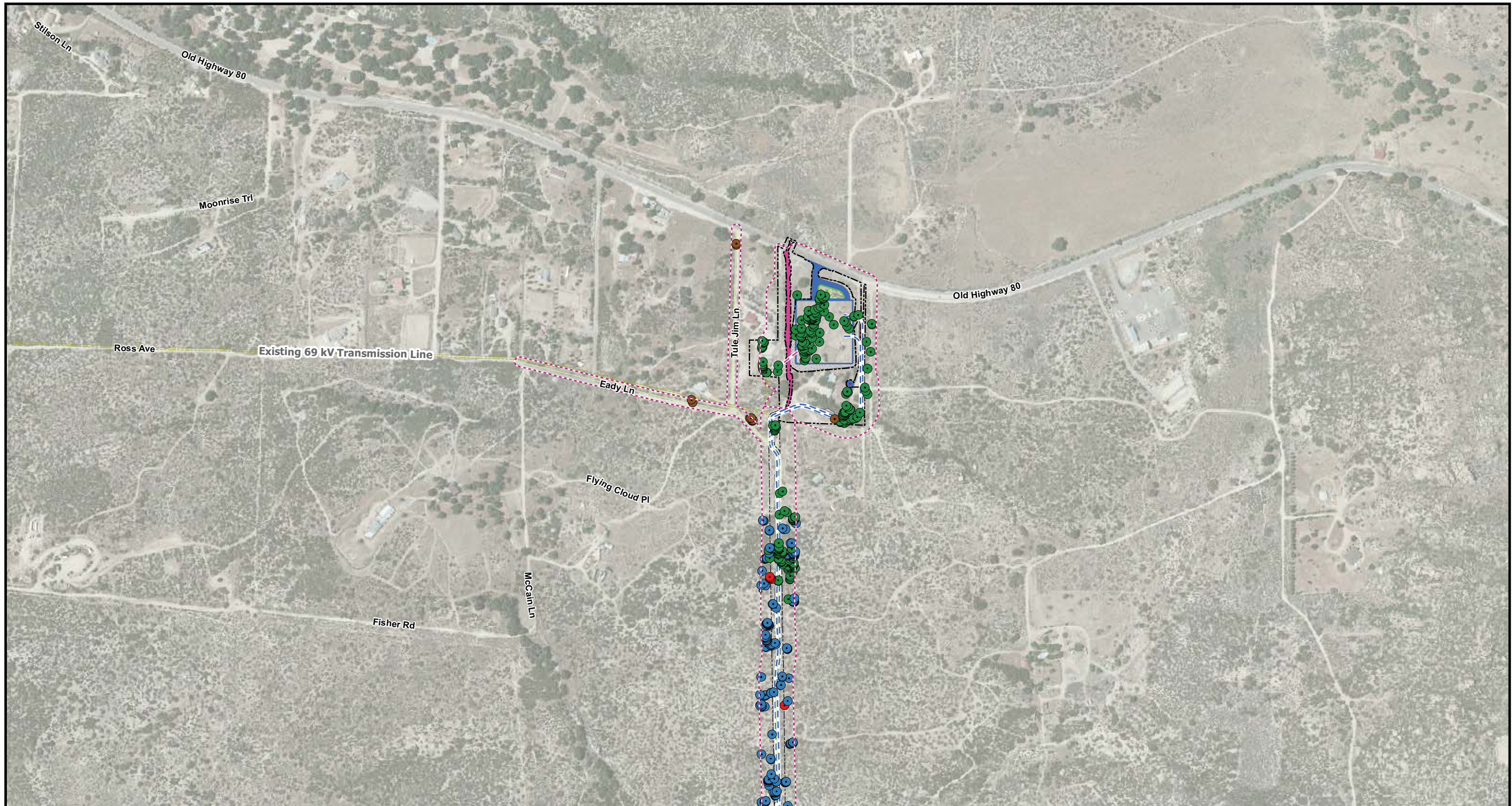
<ul style="list-style-type: none"> <li><span style="border: 1px dashed pink; display: inline-block; width: 10px; height: 10px; margin-right: 5px;"></span> Survey Boundary</li> </ul>	<p>Points Collected</p> <ul style="list-style-type: none"> <li><span style="border: 1px solid blue; border-radius: 50%; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Campo pea</li> <li><span style="border: 1px solid blue; border-radius: 50%; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Desert beauty</li> <li><span style="border: 1px solid green; border-radius: 50%; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Jacumba monkeyflower</li> <li><span style="border: 1px solid green; border-radius: 50%; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Jacumba milk-vetch</li> <li><span style="border: 1px solid red; border-radius: 50%; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Long-spined spineflower</li> </ul>	<p>Populated Areas Collected</p> <ul style="list-style-type: none"> <li><span style="border: 1px solid blue; border-radius: 50%; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Desert beauty</li> <li><span style="border: 1px solid pink; border-radius: 50%; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Long-spined spineflower</li> </ul>	<ul style="list-style-type: none"> <li><span style="border-bottom: 1px dashed pink; width: 10px; display: inline-block; margin-right: 5px;"></span> 138 kV Overhead</li> <li><span style="border-bottom: 1px dashed blue; width: 10px; display: inline-block; margin-right: 5px;"></span> 138 kV Underground</li> <li><span style="border-bottom: 1px dashed green; width: 10px; display: inline-block; margin-right: 5px;"></span> SWPL Loop-In</li> <li><span style="border-bottom: 1px dashed yellow; width: 10px; display: inline-block; margin-right: 5px;"></span> Existing Transmission Line</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: red; margin-right: 5px;"></span> Access Road Modifications</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: yellow; margin-right: 5px;"></span> Boring Pit</li> <li><span style="border: 1px solid blue; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Boulevard Substation</li> <li><span style="border: 1px solid pink; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Concrete Channel/Culvert</li> <li><span style="border: 1px solid green; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> ECO Substation Pad</li> <li><span style="border: 1px solid green; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Fly Yard</li> <li><span style="border: 1px solid gray; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Grading</li> <li><span style="border: 1px solid lightgreen; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Guard Structure Site/Access</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: blue; margin-right: 5px;"></span> Pole Work Area/Access Road</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: cyan; margin-right: 5px;"></span> Pull Site/Vault Pad</li> <li><span style="border: 1px solid green; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Retention Basin</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: orange; margin-right: 5px;"></span> Staging Area</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: pink; margin-right: 5px;"></span> Temporary Access Road</li> <li><span style="border: 1px dashed black; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Temporary Construction Area</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: gray; margin-right: 5px;"></span> Vault</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: maroon; margin-right: 5px;"></span> Water Tank</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: gray; margin-right: 5px;"></span> 138 kV Pole</li> <li><span style="border: 1px solid black; border-radius: 50%; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Riser Pole</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: black; margin-right: 5px;"></span> Milepost</li> <li><span style="border: 1px solid green; border-radius: 50%; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> SWPL Loop-In Structure</li> <li><span style="border: 1px solid red; border-radius: 50%; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Existing SWPL Structure</li> </ul>	<ul style="list-style-type: none"> <li><span style="border-bottom: 1px solid lightgreen; width: 10px; display: inline-block; margin-right: 5px;"></span> Existing Access Road</li> </ul>
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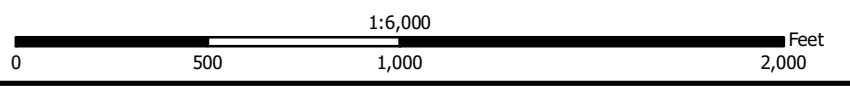




**Attachment B: 2013 Rare Plant Survey Species Occurrences Map 11 of 11**

**East County Substation Project**

<ul style="list-style-type: none"> <li><span style="border: 1px dashed pink; display: inline-block; width: 10px; height: 10px; margin-right: 5px;"></span> Survey Boundary</li> <li><span style="color: blue; font-size: 1em;">●</span> Campo pea</li> <li><span style="color: purple; font-size: 1em;">●</span> Desert beauty</li> <li><span style="color: green; font-size: 1em;">●</span> Jacumba monkeyflower</li> <li><span style="color: darkgreen; font-size: 1em;">●</span> Jacumba milk-vetch</li> <li><span style="color: red; font-size: 1em;">●</span> Long-spined spineflower</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: red; font-size: 1em;">●</span> Oceanblue larkspur</li> <li><span style="color: orange; font-size: 1em;">●</span> Palmer's grapplinghook</li> <li><span style="color: purple; font-size: 1em;">●</span> Purple owl's clover</li> <li><span style="color: brown; font-size: 1em;">●</span> Sticky geraea</li> <li><span style="color: cyan; font-size: 1em;">●</span> Tecate tarplant</li> </ul>	<ul style="list-style-type: none"> <li><span style="background-color: blue; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Populated Areas Collected</li> <li><span style="background-color: lightblue; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Desert beauty</li> <li><span style="background-color: pink; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Long-spined spineflower</li> </ul>	<ul style="list-style-type: none"> <li><span style="border-bottom: 1px dashed pink; width: 20px; display: inline-block; margin-right: 5px;"></span> 138 kV Overhead</li> <li><span style="border-bottom: 1px dashed blue; width: 20px; display: inline-block; margin-right: 5px;"></span> 138 kV Underground</li> <li><span style="border-bottom: 1px dashed green; width: 20px; display: inline-block; margin-right: 5px;"></span> SWPL Loop-In</li> <li><span style="border-bottom: 1px dashed yellow; width: 20px; display: inline-block; margin-right: 5px;"></span> Existing Transmission Line</li> </ul>	<ul style="list-style-type: none"> <li><span style="background-color: red; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Access Road Modifications</li> <li><span style="background-color: yellow; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Boring Pit</li> <li><span style="border: 1px solid blue; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Boulevard Substation</li> <li><span style="background-color: magenta; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Concrete Channel/Culvert</li> <li><span style="background-color: pink; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> ECO Substation Pad</li> <li><span style="background-color: green; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Fly Yard</li> <li><span style="background-color: gray; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Grading</li> <li><span style="background-color: lightgreen; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Guard Structure Site/Access</li> </ul>	<ul style="list-style-type: none"> <li><span style="background-color: blue; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Pole Work Area/Access Road</li> <li><span style="background-color: cyan; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Pull Site/Vault Pad</li> <li><span style="border: 1px solid green; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Retention Basin</li> <li><span style="background-color: orange; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Staging Area</li> <li><span style="background-color: red; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Temporary Access Road</li> <li><span style="border: 1px dashed black; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Temporary Construction Area</li> <li><span style="background-color: gray; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Vault</li> <li><span style="background-color: maroon; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Water Tank</li> </ul>	<ul style="list-style-type: none"> <li><span style="background-color: gray; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> 138 kV Pole</li> <li><span style="border: 1px solid black; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Riser Pole</li> <li><span style="background-color: black; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Milepost</li> <li><span style="background-color: green; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> SWPL Loop-In Structure</li> <li><span style="background-color: red; width: 10px; height: 10px; display: inline-block; margin-right: 5px;"></span> Existing SWPL Structure</li> </ul>	<ul style="list-style-type: none"> <li><span style="border-bottom: 1px solid green; width: 20px; display: inline-block; margin-right: 5px;"></span> Existing Access Road</li> </ul>
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**ATTACHMENT B: SEED MIXES**





### Chaparral Seed Mix

Species	Collection Site	Pure Live Seed per Acre (In Pounds)
<i>Adenostoma fasciculatum</i>	Project area	2.00
<i>Artemisia tridentata</i>	Project area	0.20
<i>Ceanothus greggii</i>	Project area	0.10
<i>Cercocarpus betuloides</i>	Project area	3.00
<i>Ephedra californica</i>	Project area	0.50
<i>Eriodictyon trichocalyx</i>	Project area	1.00
<i>Eriophyllum confertiflorum</i>	Baja, Mexico	1.00
<i>Eriogonum fasciculatum polifolium</i>	Project area	1.00
<i>Penstemon centranthifolia</i>	Project area	0.50
<i>Rhus ovata</i>	Aguanga, CA	2.00
<i>Salvia apiana</i>	Pending local collection	2.00
<i>Ambrosia psilostachya</i>	Pending local collection	0.50
<i>Lasthenia gracilis</i>	Pending local collection	0.50
<i>Lupinus bicolor</i>	Commercially grown	2.00
<i>Vulpia microstachys</i>	Commercially grown	6.00
<b>Total</b>		<b>22.30</b>

**Mixed Desert Scrub/Juniper Woodland Seed Mix**

<b>Species</b>	<b>Collection Site</b>	<b>Pure Live Seed per Acre (In Pounds)</b>
<i>Atriplex canescens</i>	Project area	5.00
<i>Encelia farinosa</i>	Pending local collection	2.00
<i>Ephedra californica</i>	Project area	0.50
<i>Hymenoclea salsola</i>	Indio, CA	3.00
<i>Juniperus californica</i>	Project area	5.00
<i>Larrea tridentata</i>	Project area	2.00
<i>Simmondsia chinensis</i>	Project area	1.00
<i>Vulpia microstachys</i>	Commercially grown	3.00
<i>Lasthenia gracilis</i>	Pending local collection	0.50
<i>Lupinus bicolor</i>	Commercially grown	2.00
<i>Eriophyllum confertiflorum</i>	Baja, Mexico	1.00
<i>Layia platyglossa</i>	Pending local collection	0.50
<i>Eriogonum fasciculatum polifolium</i>	Project area	4.00
<i>Phacelia distans</i>	Pending local collection	0.50
<i>Eriogonum fasciculatum foliosum</i>	Project area	0.50
<i>Adenostoma fasciculatum</i>	Project area	0.20
<i>Lotus scoparius brevialatus</i>	Project area	0.50
<b>Total</b>		<b>31.20</b>

**Erosion Control Seed Mix**

<b>Species</b>	<b>Collection Site</b>	<b>Pure Live Seed per Acre (In Pounds)</b>
<i>Melica frutescens</i>	Project area	2.00
<i>Trifolium wildenovii</i>	Project area	4.00
<i>Lupinus bicolor</i>	Commercially grown	2.00
<i>Vulpia microstachys</i>	Commercially grown	12.00
<b>Total</b>		<b>20.00</b>

