

Appendix D.3

Habitat Restoration Plan
E-Group PS Solar Project

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1 Introduction

This Habitat Restoration Plan describes the native habitat restoration that will be conducted on the E-Group PS Solar Project (project) located in the City of Twentynine Palms (City), San Bernardino County, California. Figure 1, Project Location, shows the regional location and vicinity of the project. All figures are provided in Appendix A, Figures.

The objectives of the habitat restoration program are to provide a native vegetation understory within the project site and to help reestablish native vegetation in areas with temporary drive and crush and grading impacts. The project involves grading approximately 105 acres within an overall 140-acre portion of the project site. For the balance of the project site (i.e., approximately 35 acres), E-Group PS LLC (E-Group) will utilize a drive-and-crush approach, where vegetation that is impacted during installation and construction is crushed but not scraped or permanently removed from the landscape. Ground disturbance and impacts to native vegetation will be avoided where feasible.

It is important to note that the restoration program below is not intended to provide formal habitat mitigation for any permanent impacts associated with sensitive vegetation or plant species, sensitive wildlife species, or aquatic features, which will be mitigated as required by the City, the California Department of Fish and Wildlife (CDFW) and/or the U.S. Fish & Wildlife Service (USFWS), as appropriate. Any such mitigation measures will be described within the biological resources technical report (BRTR) submitted for the project and the associated environmental impact report prepared by the City. The habitat restoration program described below is for general site landscaping to allow the impacted areas to recover, as well as provide a native vegetative cover that will reduce dust levels across the facility.

1.1 Project Description

1.1.1 Project Location

The project site is located in the City of Twentynine Palms, San Bernardino County, California. The project site includes a 184-acre solar facility site that is located on Assessor's Parcel Numbers (APNs) 0612-201-01-0000 and 0612-201-05-0000 and includes approximately 3.3-acres of off-site areas that are associated with a proposed site driveway constructed off Two Mile Road and gen-tie alignment from the proposed solar facility to the existing Southern California Edison (SCE) Carodean Substation, and 11.7 acres of road dedications for Amboy Road, Samarkand Drive, and Noels Knoll Roads. The project is bounded by undeveloped open habitat in all directions. The Project Area is bordered by vacant desert land to the north; by vacant desert land, then a dirt road (Canyon Road) to the west; by vacant desert land, then Sunrise Road (a dirt road), then several rural residential properties to the east; and by vacant desert land, then Two Mile Road (a paved road) to the south (Figure 1). The project is located in Section 23 of Township 1 North, Range 8 East on the San Bernardino Principal Meridian, U.S. Geological Survey (USGS) Twentynine Palms 7.5-minute quadrangle. The approximate center of the project corresponds to 34.160458°N and -116.115977°W. Regional access to the project site is provided via Route 62 (SR 62).

1.1.2 Project Description

E-Group proposes to entitle, construct, operate, and maintain the project, which would consist of up to 50 megawatts of photovoltaic solar generation and would connect via a generation interconnection line along Two Mile Road to the nearby SCE Carodean Substation (Figure 2, Site Plan). Construction is proposed to begin in January 2026, with the project becoming commercially operational by January 2027. The operational lifespan of the facility is estimated to be 35 years.

Pursuant to a request from the City, E-Group has agreed to dedicate 30 feet (or one-half of the required road width) to the City for future extensions of Amboy Road and Noels Knoll Road and 60 feet for the future extension of Samarkand Drive. The future road extensions are not currently proposed to be constructed, as there are other parcels in between the existing roads and the site where the roads would need to be constructed for the extensions adjacent to the site to be serviceable. The proposed roads are not required by the project and are not proposed to be utilized by the project. Nevertheless, because the requested dedications make road construction reasonably foreseeable, the potential future impacts are analyzed as part of the proposed project. However, it should be noted that mitigation for biological resource impacts within the future extensions of Samarkand Drive, Amboy Road, and Noels Knoll Road will only be implemented if and when these roads are built.

Project Site

The project consists of approximately 160,000 ground-mounted solar panels. A series of PV module arrays will be mounted on racking systems supported by a steel pile-driven foundation design. Each array will be approximately 104 feet wide and 252 feet long, consisting of 720 PV panels in each array. Each array will be spaced approximately 10 feet apart to allow access. Each mounted solar array is approximately 6 to 7 feet tall above grade depending on the slope. Minimum ground clearance will be 3 feet, with an average ground clearance throughout the site of 4.5 feet. Security will be provided by an approximately 7-foot-high fence, which will include CCTV cameras to be monitored by a local security company. The solar arrays will be generally setback a minimum of 30 feet from the security fence perimeter. Points of ingress/egress will be accessed by locked remotely controlled 40-foot-wide gates for facility services and maintenance, as required.

Off-Site Gen-Tie

The energy will ultimately be delivered to the SCE transmission network at Carodean Substation via underground gen-tie line, measuring approximately 0.5 miles long. The gen-tie line will run from the site, underground below the improved access road on the site south to Two Mile Road, then west along Two Mile Road (proposed within the northern right-of-way on the edge of the road), to the point of interconnection at Carodean Substation. As proposed, the gen-tie will generally parallel the alignment of the project driveway/access road from the onsite substation south towards Two Mile Road. Within the disturbed right-of-way of Two Mile Road, the proposed gen-tie will turn west and then parallel Two Mile Road for approximately 0.5 mile. At this point, the gen-tie will turn south to be installed beneath Two Mile Road and then continue its underground alignment for approximately 60 feet before transitioning to aboveground via a single pole to be installed just outside of the existing Carodean Substation fence line.

Off-Site Access Road

Access to the site will be provided through a private driveway from Two Mile Road. E-Group will improve the road to be elevated and reinforced with compacted gravel surface. The improved road will be approximately 26 feet in width

and 1,250 feet long. Additional compacted gravel roads for fire access will be constructed through the site, which will be approximately 20 feet in width. Where the roads must cross ephemeral streams, E-Group will install bridges to minimize and avoid any impacts on the streams. Bridges are made of prefabricated steel designed to support 20 tons of weight. The on-site bridge is 20 feet wide and 80 feet long and the off-site bridge along the access road will be 26 feet wide and 40 feet long.

Construction and Project Phasing

Construction would consist of three phases that will take approximately nine months with the project becoming commercially operational after one year. Proposed construction hours are between 9 AM and 7 PM, Monday through Friday, and Saturday between 9 AM and 5 PM. Construction traffic will be routed along Two Mile Road and will access the site via the improved access road on the south side of the property.

Phase 1: Site Preparation

The site will need to be graded to accommodate the solar facility (Figure 2). E-Group will minimize impacts to vegetation to the greatest extent feasible and will allow areas to be revegetated after grading.

E-Group has submitted a Stormwater Pollution and Prevention Plan (SWPPP) to the City for review and approval, which is designed to reduce potential impacts related to erosion and surface water quality during construction activities and throughout the life of the project, including best management practices (BMP). Please refer to the draft SWPPP for further discussion of potential project impacts and proposed BMPs.

Phase 2: Photovoltaic Panel System Installation

The second phase of construction will include installation of steel piles and the PV modules. Steel piles will be driven approximately 7 feet, 6 inches deep into the ground by an automated piling robot. After piles have been driven, the PV modules will be securely attached on the top of piles.

Phase 3: Inverters, Transformers, Substation, Collector System, Interconnection

Underground cables to connect panel strings will be installed using ordinary trenching techniques, which typically include a rubber-tired backhoe excavator or trencher. Wire depths will be in accordance with local, State, and Federal requirements, and will likely be buried within excavated trenches approximately 18 inches wide and 4 feet below grade to accommodate the conduits or direct buried cables. After excavation, cable rated for direct burial or cables installed inside a polyvinyl chloride (PVC) conduit will be installed in the trench, and the excavated soil will likely be used to fill the trench and lightly compressed.

All electrical inverters will be attached under the panels on the fixed tilt racking above ground and transformers will be placed on concrete pads formed with plywood and reinforced with structural rebar. The project substation area will be excavated for the transformer equipment. The site area for the project substation will be graded and compacted to level grade. The foundation for the project substation will be formed with a concrete pad, plywood, and reinforced with structural rebar. E-Group will install a below ground gen-tie line and fiber optic cable running from the project substation to the point of intersection at the Carodean Substation. Commissioning of equipment will include testing and calibration of equipment. The project substation equipment, inverters, collector system, and

PV array systems will be tested prior to commencement of commercial operations. Upon completion of successful testing, the equipment will be energized.

SCE has also requested certain interconnection and facility upgrades to connect the project to the Carodean Substation and associated grid. These include development of a structure near the Carodean Substation, likely at the end of the gen-tie line, for SCE's telecommunications equipment and remote terminal units, as well as a new 115kV switchrack position, relays, a remote terminal unit, and 115kV transmission tower structures within and/or adjacent to the existing Carodean Substation. E-Group is also responsible for replacing one existing 220 kV circuit breaker with a 63 kA circuit breaker at the Devers Substation, located immediately north of the City of Palm Springs.

Operations

Upon commissioning, the project will enter the operational phase. For the duration of the operational phase, the project will be operated on an unstaffed basis and monitored remotely, with on-site personnel visitations for security, maintenance, and system monitoring. There will be no full-time site personnel on-site during operation. Trips for maintenance and security will occur as needed but are anticipated to occur very infrequently. The project does not require any lighting for operations. No water is required for operations. As the project's PV arrays produce electricity passively with minimal moving parts, maintenance requirements will be limited. Any required planned maintenance will be scheduled to avoid peak load periods, and unplanned maintenance would be typically responded to as needed depending on the event. E-Group will use a self-powered, water-free cleaning robot for regular cleaning of the panels to remove dust. The only water used to clean panels would be to power-wash panels after a major weather event like a sandstorm. This water would be trucked into the site by a third party and will not impact regional water demand.

Maintenance

Project maintenance performed on the site will consist of equipment inspection and replacement. Facility maintenance will be dispatched on an as-needed basis in response to equipment malfunction or decreased facility performance. The site will also be inspected annually to ensure that the facility is operating as planned. Maintenance will occur during daylight hours, when possible. However, maintenance activities on the PV modules and DC systems will be typically performed at night.

Security

To ensure the safety of the public and the facility, the site will be fenced, and signs posted. Security measures will be installed as necessary to mitigate and/or deter unauthorized access. Access to the site will be controlled and gates installed at the entrance to the site from the private access road from Two-Mile Road.

Project Decommissioning

E-Group will decommission and remove the system and its components at the end of the life of the project and restore the site to its pre-project condition. The site could then be converted to other uses in accordance with applicable land use regulations in effect at that time. Re-power and reuse programs will be researched prior to the decision to decommission to minimize environmental impact. All decommissioning and restoration activities will adhere to the requirements of the appropriate governing authorities and will be in accordance with all applicable

Federal, State and City regulations. A collection and recycling program will be executed to dispose of the site materials.

2 Environmental Setting

The purpose of this section is to describe the general existing conditions within and adjacent to the Biological Study Area (BSA), including the project site and surrounding areas, to document the baseline conditions for this report and subsequent analysis.

2.1 Land Use

The BSA consists of open/vacant land located approximately 1.5 miles north of the Twentynine Palms Highway (SR-62). The BSA has not undergone any major land use changes since the mid-1990s. Active off-road-vehicle use by unknown third parties occurs within the ephemeral washes of the BSA.

Land uses surrounding the BSA primarily consist of vacant open space and rural residential developments. The Twentynine Palms Public Cemetery is located approximately 0.5 miles east, and the Desert Congregational Church is located approximately 0.5 miles southeast of the BSA. More dense residential housing is present in the greater surrounding area southeast of the BSA.

2.2 Climate

The BSA is located in the Morongo Basin/High Desert region in San Bernardino County. Average annual temperatures in the Twentynine Palms area range from 52 °F to 84 °F; average annual snowfall is 0.7 inches; and the average annual precipitation is 4.24 inches (WRCC 2024).

2.3 Topography

The natural topography of the BSA slopes toward the north and northeast with elevations ranging from approximately 2,350 feet above mean sea level in the southwestern portion of the BSA to approximately 2,060 feet above mean sea level in the drainage crossing the northernmost part of the BSA (Google Earth 2023). The BSA forms the southern slope of a valley, with the area to the north sloping upwards from south to north and reaching similar elevations to those found in the southern portion of the BSA. The surrounding area follows this topographical trend.

2.4 Soils

According to the U.S. Department of Agriculture's Natural Resource Conservation Service's Web Soil Survey, no existing soil data is available for the BSA (USDA 2023a). Soils observed within the BSA during field surveys conducted by Dudek were generally sandy/gravelly soils.

2.5 Watersheds and Hydrology

The BSA is within the Southern Mojave Subbasin, Hydrologic Unit Code 8 (18100100), and within Indian Cove – Rattlesnake Canyon sub-watershed Hydrologic Unit Code 12 (181001001802) of the Mesquite Lake watershed Hydrologic Unit Code 10 (1810010018) (Figure 3, Hydrologic Setting). The Southern Mojave subbasin comprises approximately 8,867 square miles and spans both San Bernardino and Riverside Counties. The primary geographic and surface hydrologic feature of the watershed is the Mojave River, which flows northeast from the San Bernardino Mountains for approximately 100 miles until it reaches its terminus at Soda Lake near the community of Baker. Some reaches of the Mojave River flow underground in the confined riverbed channel. The Mojave River is approximately 70 miles southeast of the review area. No drainages within the review area flow to the Mojave River. The Mesquite Lake watershed comprises 60 square miles (63,450.75 acres) and is partially within the City of Twentynine Palms in San Bernardino County (USGS 2023).

There are no perennial streams within the Mesquite Lake watershed, and most water features only flow ephemerally in response to storms. Runoff is primarily generated in the surrounding mountains but is quickly lost as recharge to the mountain front alluvial deposits, leading to very little surface flow leaving this area (Troxell 1954). A substantial amount of runoff that does pass the mountain front area and reaches the basins is then lost to evaporation (Kennedy/Jenks/Todd LLC 2007). The San Bernardino and Little San Bernardino Mountains represent a large surface water divide, with channels on the north and east sides of the range's tributary to the Great Basin, and channels on the south and west sides tributary to the Pacific Ocean (Troxell 1954). The BSA contains several ephemeral drainages that ultimately end in the various playa lakes, meaning that surface water is confined within the basins. In the event of an extraordinary stormflow, water may reach Dale Dry Lake, a dry playa just east of Twentynine Palms (Thompson 1929).

2.6 Vegetation Communities and Land Covers

A total of six vegetation communities and land cover types were mapped in the BSA. The spatial distribution of the vegetation communities and land covers are presented on Figure 4, Vegetation Communities and Landcover Types. The acreages of the mapped vegetation alliances/associations and other land covers in the BSA are presented in Table 1.

CDFW state rankings of 1, 2, or 3 are considered sensitive and impacts to these communities typically require mitigation. The following vegetation community within the BSA has a CDFW ranking of 3 and is therefore considered special status: desert willow – smoketree wash woodland. Vegetation communities considered sensitive biological resources by CDFW under CEQA (CDFW 2024c) are noted in Table 1 with an asterisk.

Table 1. Vegetation Communities and Land Cover Types within the BSA

Vegetation Community or Land Cover Type	Alliance	Association	Ranking ¹	Project-Level (acres)			Future Road Dedications (acres)			BSA Total
				Project Site ²	Off-Site	100-Foot Buffer	Amboy Road	Noels Knoll Road	Samarkand Drive	
Scrub										
Creosote Bush – White Bursage Scrub	<i>Larrea tridentata</i> – <i>Ambrosia dumosa</i>	<i>Larrea tridentata</i> - <i>Ambrosia dumosa</i> - <i>Krameria (erecta, grayi)</i>	G5S5	165.1	3.3	39.6	2.0	3.1	2.4	212.1
	<i>Larrea tridentata</i> – <i>Ambrosia dumosa</i>	<i>Larrea tridentata</i> - <i>Ambrosia dumosa</i> - <i>Ambrosia salsola</i>	G5S5	2.8	0	1.1	0	0	0.1	3.9
Cheesebush – Sweetbush Scrub	<i>Ambrosia salsola</i> - <i>Bebbia juncea</i>	<i>Ambrosia salsola</i> - <i>Larrea tridentata</i>	G4S4	12.2	0	2.3	0.4	0.2	<0.1	14.5
Scrub Subtotal ³				180.1	3.3	43.2	2.4	3.3	2.4	230.7
Riparian										
Desert Willow – Smoketree Wash Woodland*	<i>Chilopsis linearis</i> - <i>Psorothamnus spinosus</i>	<i>Psorothamnus spinosus</i>	G4G5 S3	4.0	0	2.2	0.3	0.4	0	6.2
Riparian Subtotal ³				4.0	0	2.2	0.3	0.4	0	6.2
Disturbed and Developed										
Disturbed Habitat	N/A	N/A	N/A	<0.1	<0.1	0.1	0	<0.1	1.8	1.9
Urban/Developed	N/A	N/A	N/A	0	<0.1	2.7	0	0	0	2.7
Disturbed and Developed Subtotal ³				<0.1	<0.1	2.7	0	<0.1	1.8	4.6

Table 1. Vegetation Communities and Land Cover Types within the BSA

Vegetation Community or Land Cover Type	Alliance	Association	Ranking ¹	Project-Level (acres)			Future Road Dedications (acres)			BSA Total
				Project Site ²	Off-Site	100-Foot Buffer	Amboy Road	Noels Knoll Road	Samarkand Drive	
Total ³				184.0	3.3	48.0	2.7	3.6	4.3	241.3

Source: CDFW 2024c.

Notes:

- ¹ The conservation status of a vegetation community is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (G = global, N = national, and S = subnational). The numbers have the following meaning (NatureServe 2024):
- 1 = critically imperiled
 - 2 = imperiled
 - 3 = vulnerable to extirpation or extinction
 - 4 = apparently secure
 - 5 = demonstrably widespread, abundant, and secure
 - N/A = not applicable
 - GNR = unranked, global rank not yet assessed
 - SNA = unranked, subnational rank not yet assessed
- ² Note this column includes the portion of the future road dedications that overlap the project site.
- ³ Totals do not sum due to overlap between the project site and the Future Road Dedication areas.
- * Community is sensitive under CEQA and listed by California Department of Fish and Wildlife as sensitive (i.e., State Rank [S] 1, 2, or 3) (CDFW 2024c).

2.6.1 Creosote Bush - White Bursage Scrub (33.140.00)

The creosote bush - white bursage scrub alliance communities include white bursage scrub (*Ambrosia dumosa*) and creosote bush (*Larrea tridentata*) as co-dominant shrubs in the canopy. Creosote bush - white bursage scrub have a two-tiered, open to intermittent canopy less than 3 meters (9.8 feet) in height with a ground layer that is absent to intermittent with seasonal annuals (CNPS 2024). Species associated with the Creosote bush - white bursage scrub alliance include branched pencil cholla (*Cylindropuntia ramosissima*), desert holly (*Atriplex hymenelytra*), *Ephedra* species, *Krameria* species, and paperbag bush (*Salazaria mexicana*).

The creosote bush - white bursage scrub alliance is ranked by the CDFW (2024d) as a G5S5 alliance. This ranking indicates that globally and within California the alliance is considered secure (CDFW 2024c; NatureServe 2024).

The associations within the creosote bush - white bursage scrub alliance mapped on-site are *Larrea tridentata* - *Ambrosia dumosa* - *Krameria* (*erecta*, *grayi*) and *Larrea tridentata* - *Ambrosia dumosa* - *Ambrosia salsola*. Neither association is ranked as sensitive by CDFW (2024d).

On site, *Larrea tridentata* - *Ambrosia dumosa* - *Ambrosia salsola* comprises a medium patch on the southwestern portion of the BSA. Associated species observed within this association in the field included cheesebush, creosote bush, bursage scrub, ephedra species, and Branched pencil cholla. *Larrea tridentata* - *Ambrosia dumosa* - *Krameria* (*erecta*, *grayi*) comprises most of the BSA and off-site improvement areas. Associated species observed within this association in the field included creosote bush, bursage scrub, and white rhatany.

2.6.2 Cheesebush – sweetbush scrub (33.200.00)

The cheesebush – sweetbush scrub alliance communities include cheesebush (*Ambrosia salsola*), sweetbush (*Bebbia juncea*), woolly brickellbush (*Brickellia incana*), and/or desert senna (*Senna armata*) as the dominant or co-dominant shrub in the canopy. Shrubs have an open to intermittent canopy less than 2 meters (6.6 feet) in height with a sparse or seasonally present ground layer (CNPS 2024). Species associated with the cheesebush – sweetbush scrub alliance include Wiggin’s cholla (*Cylindropuntia echinocarpa*), brittlebush, California buckwheat (*Eriogonum fasciculatum*), California joint fir (*Ephedra californica*), and purple sage (*Salvia dorrii*).

The cheesebush – sweetbush alliance is ranked by the CDFW (2024d) as a G4S4 alliance. This ranking indicates that the alliance is apparently secure both globally and within California (CDFW 2024c; NatureServe 2024).

The only association within the cheesebush – sweetbush scrub alliance mapped on-site is *Ambrosia salsola* - *Larrea tridentata*.

On site, cheesebush – sweetbush scrub occurs in one large and one small patch in the northeastern portion of the BSA. Another large patch transects the middle of the BSA from north to south. Associated species observed within this alliance in the field included creosote bush and cheesebush.

2.6.3 Desert-Willow – Smoketree Wash Woodland (61.555.00)

Desert-willow – smoketree wash woodland alliance communities include desert willow (*Chilopsis linearis*) and/or smoke tree as the dominant or co-dominant tree or tall shrub in the canopy. Desert-willow – smoketree wash woodland has an open to intermittent tree canopy less than 8 meters (26.2 feet) in height with an open to

intermittent shrub layer and a sparse to seasonally abundant herbaceous layer of annuals (CNPS 2024). Species associated with the desert-willow – smoketree wash woodland alliance include cheesebush (*Ambrosia Salsola*), ironwood (*Olnya tesota*), western Joshua tree, Mojave rabbitbrush (*Ericameria paniculata*), and sweetbush (*Bebbia juncea*). The only association within the desert-willow – smoketree wash woodland alliance mapped on site is *Psorothamnus spinosus*.

The desert-willow – smoketree wash woodland alliance is ranked by the CDFW (2024d) as a G4S3 alliance. This ranking indicates that the alliance is apparently secure globally but vulnerable to extirpation or extinction within California (CDFW 2024c; NatureServe 2024). Therefore, this alliance is considered a sensitive natural community by CDFW.

On site, desert-willow – smoketree wash woodland occurs in a medium linear patch that stretches diagonally along the northwestern corner of the BSA and a small patch in the northeastern portion. Associated species observed within this alliance in the field included smoketree, creosote bush, and cheesebush.

2.6.4 Disturbed Habitat

Disturbed habitat land covers refer to areas that have been physically disturbed (by previous legal human activity) and are no longer recognizable as a native or naturalized vegetation association but continues to retain a soil substrate. If vegetation is present, it is typically composed of non-native plant species such as ornamentals or ruderal exotic species that take advantage of disturbance (Oberbauer et al. 2008).

Disturbed habitat is not a listed vegetation community under the California Natural Community List (CDFW 2024c), but it has been used in this report because it best describes what was observed in the field. As such, this community is not globally, or state ranked and is not considered a sensitive natural community under CEQA.

On site, disturbed habitat comprises an east–west trending dirt road, representing an undeveloped portion of Samarkand Drive, that runs along the southern boundary of the BSA.

2.6.5 Urban and Developed

Urban or developed land covers refer to areas that have been constructed on or otherwise physically altered to the point where vegetation is no longer present. Urban or developed areas are characterized by permanent or semi-permanent structures, hardscapes, and landscaped areas that require irrigation (Oberbauer et al. 2008).

Urban or developed land is not a listed vegetation community under the California Natural Community List (CDFW 2024c), but it has been used in this report because it best describes what was observed in the field. As such, this community is not globally, or state ranked and is not considered a sensitive natural community under CEQA.

Within the BSA, the urban/developed land cover consists of Two Mile Road, an off-site paved road, and a section of the nearby Southern California Edison Carodean Substation.

2.7 Plants Observed

A total of 104 species of native or naturalized plants, 99 native (95%) and 5 non-native (5%), were recorded within the BSA. A list of observed plant species observed is provided in the BRTR, Appendix D, Plant Compendium.

2.7.1 Special-Status Plants

Special-status plants include those listed, or candidates for listing, as threatened or endangered by USFWS and CDFW, and species with a CRPR of 1 or 2. Dudek biologists performed an extensive desktop review of literature, existing documentation, and GIS data to evaluate the potential for special-status plant species to occur within the BSA. Each special-status plant species was assigned a rating of “not expected,” “low,” “moderate,” or “high” potential to occur based on relative location to known occurrences, vegetation community, soil, and elevation.

Listed species with any potential to occur and non-listed special-status species with a moderate or higher potential to occur are discussed herein. Those special-status plant species that occur in the region but are not expected or have low potential to occur in the BSA due to a lack of suitable habitat, the BSA being located outside of the species’ known geographic or elevation range, or not being observed during the focused 2024 special-status plant survey are also included in Appendix E; however, these species are not discussed further because no significant direct or indirect impacts to them are expected. In addition, there is no USFWS-designated critical habitat for listed plant species overlapping the BSA (USFWS 2023a; 2024).

Based on the results of the literature review and database searches, 21 special-status plant species were reported in the CNDDDB and CNPS databases as occurring in the nine USGS 7.5-minute quadrangles containing and surrounding the BSA. Of these, thirteen species were determined to have a moderate to high potential to occur based on suitable soils and vegetation communities present within the BSA and historical occurrences: California ayenia, alkali mariposa-lily, Rau's jaffueliobryum moss, Wright's jaffueliobryum moss, Little San Bernardino Mountains linanthus, spear-leaf matelea, Mojave menodora, appressed muhly (*Muhlenbergia appressa*), salt spring checkerbloom, jackass-clover, and western Joshua tree. Therefore, focused surveys for these species were conducted in April 2024. No special-status plant species, including the target species, were observed during the 2024 survey. These target species are discussed in further detail in Appendix E and their potential to occur has been updated based on the results of 2024 special-status plant focused surveys. There were no additional special-status plant species that were determined to have a moderate or high potential to occur within the BSA, based on the soils, vegetation communities (habitat) present, elevation range, and previous known locations based on the CNDDDB and CNPS Inventory (Appendix E).

Two CRPR 4.2 species, Utah vine milkweed (*Funastrum utahense*) and Thurber's beardtongue (*Penstemon thurberi*), and one CRPR 4.3 species, Joshua Tree poppy (*Eschscholzia androuxii*), were observed during the 2024 special-status plant focused surveys. These species were not included as a target species for the 2024 focused surveys because they are either CRPR 4.2 or CRPR 4.3 species. Species with CRPR 4 are not considered rare, but only limited in distribution or infrequent throughout a broader range in California (e.g., “Watch List” species) (CNPS 2023a).

2.7.2 California Desert Native Plant Act Species

The BSA includes 4,562 desert native plant species which were mapped during the desert native plant survey (Figure 5, California Desert Native Plant Act Survey Results). These species consisted of silver cholla (*Cylindropuntia echinocarpa*), branched pencil cholla (*Cylindropuntia ramosissima*), cottontop cactus (*Echinocactus polycephalus* var. *polycephalus*), Engelmann's hedgehog cactus (*Echinocereus engelmannii*), California barrel cactus (*Ferocactus cylindraceus*), beavertail pricklypear (*Opuntia basilaris* var. *basilaris*), honey mesquite (*Prosopis glandulosa*), Mojave yucca (*Yucca schidigera*), ocotillo (*Fouquieria splendens*), smoke tree, and catclaw acacia (*Senegalia greggii*).

2.7.3 Aquatic Resources

According to the assessment and results presented in the BRTR and Aquatic Resources Delineation Report prepared for the project, the project will be avoiding all aquatic resources on the project site. Restoration efforts described herein will therefore not be targeting those habitat types.

3 Habitat Restoration Objectives

The objectives of the habitat restoration program described below is to provide a native vegetation understory within the project site and to help reestablish the native vegetation in areas impacted during site preparation and grading. Ground disturbance and impacts to native vegetation will be avoided where feasible.

It is important to note that the restoration program below is not intended to provide formal habitat mitigation for any permanent impacts associated with sensitive vegetation or plant species, sensitive wildlife species, or aquatic features, which will be mitigated as required by the City, CDFW and/or USFWS, as appropriate. Any such mitigation measures will be described within the BRTR submitted for the project and the associated environmental impact report prepared by the City. The habitat restoration program described below is for general site landscaping to allow the impacted areas to recover, as well as provide a native vegetative cover that will reduce dust levels across the facility.

The general objectives of the restoration plan are provided below:

Objective 1: Native Vegetation Recovery– While the areas impacted during site preparation and grading will be allowed to recover naturally following the project construction and installation, this restoration program will help improve and accelerate that recovery will a native seeding program designed to target existing species currently located on the project site as well as other desert native species conducive to habitat recovery and the maintenance program that will be required.

Objective 2: Native Wildlife Habitat Rehabilitation– The re-establishment of native plant communities will benefit wildlife species, including special-status wildlife species, so that the areas that are temporarily impacted by project grading and construction can once again provide wildlife habitat value.

Objective 3: Dust Suppression – The re-establishment of native vegetation will help provide soil stabilization, as well as vegetative dust collection and accumulation, helping to reduce the dust levels within the facility as well as on lands adjacent to the facility.

4 Site Protective Measures

Prior to the initiation of the restoration program activities, fencing and signage will be installed around the perimeters of the site, which will delineate the work areas to prevent unauthorized impacts by the Restoration Contractor during the restoration process, as well as discourage unauthorized pedestrian traffic from entering the site.

Restoration work will be monitored by the Project Biologist to ensure compliance with the restoration plans. The Project Biologist will also review the signage and fencing to verify that they are in good repair and functioning as intended. The Project Biologist will make recommendations to the Restoration Contractor if repairs, additions, or other modifications need to be made.

5 Restoration Work Plan

This section describes in detail who will be responsible for each task and how the proposed restoration program will be accomplished.

5.1 Preliminary Work Schedule

An outline of the anticipated restoration tasks and an approximate schedule is provided in Table 2. The schedule is dependent upon the initiation and completion of several preparatory tasks by the project applicant and Restoration Contractor.

Table 2. Restoration Implementation Schedule¹

Task Description	Anticipated Work Period
Seed Collection	Late spring/Early summer prior to project construction
Commercial Seed Purchase	90 days prior to the completion of construction
Seed Application	60 days following completion of construction

Notes: ¹ Scheduled dates of implementation tasks are dependent upon progress of project development.

5.2 Project Implementation Personnel

5.2.1 Permittee/Project Manager

As the permittee, E-Group will be responsible for restoration installation and successful implementation of this Plan.

5.2.2 Project Biologist

E-Group will select a qualified Project Biologist who will review the environmental permits, documents, final Plan, and any restoration documents; and help to ensure that all site protections, and any other required items are adequately performed prior to restoration work implementation.

The Project Biologist will perform site monitoring during restoration implementation. The Project Biologist shall have a degree in biology, ecology, or related field and be able to demonstrate at least three successful similar restoration projects in deserts of Southern California. The Project Biologist shall possess at least 5 years of habitat restoration experience in the deserts of Southern California.

5.2.3 Restoration Contractor

E-Group will select a qualified Restoration Contractor to implement the restoration work and provide subsequent site maintenance. Restoration installation and maintenance work shall be performed by a contractor possessing a valid California landscape contractor's license (Class C-27), who has previous experience with native habitat restoration in the deserts of Southern California and who can demonstrate at least three successful similar restoration projects in the deserts of Southern California. The contractor must be able to identify California native plants and common weed species and demonstrate knowledge of habitat restoration techniques.

E-Group may choose to hire a maintenance contractor that is separate from the Restoration Contractor or relieve a contractor that fails to perform work satisfactorily.

5.2.4 Seed Supplier

While native seed from the project site will be targeted for collection prior to project construction, it is likely that this seed will need to be amended with commercially available seed sources. Should seed need to be procured, the seed supplier must be a qualified commercial native plant seed supplier, having collection sources from within 25 miles of the restoration site, and must have experience collecting seeds from native desert areas appropriate for this restoration project.

Seed collection should follow sound ecological restoration practices. 100% of seed may be taken within areas of permanent impact; however, should seed need to be collected from within adjacent open space areas, no more than 5% of the available seed space should be taken. The Project Biologist may substitute plant species should the species listed in the Plan not be available at the time of collection as appropriate.

5.3 Site Preparation

The restoration and enhancement will be implemented once the construction is complete, including any grading and drive and crush impacts. It is assumed that the disturbance associated with the drive and crush will not require additional recontouring or remedial grading, but if there are any areas that do require recontouring or remedial grading, the construction contractor will conduct this work.

5.3.1 Seed Collection

In the late spring and/or early summer prior to project construction, native seed will be collected from the project site. All native species listed in Appendix D (Plant Compendium) of the BRTR will be targeted for collection as available at the time of collection. The seed will be collected and temporarily stored at an off-site facility where it will remain until the construction is complete. Seed will not be cleaned or processed more than necessary to provide adequate conditions during the short term of storage.

Purchased native seed shall be collected and/or sourced from local sources originating within 25 miles of the restoration site, as practicable. The species proposed will be selected to provide similar species diversity and appropriate functions and services, including dust suppression, while also reducing the amount of water demand to the greatest extent feasible. The seed palette has been designed to include a mixture of native grasses, forbs, and shrubs adapted to the restoration site. Some species may not be available as seed at the time of initial project installation and may be obtained when available and installed at a later date under direction of the Project Biologist. Substitutions, other donor sites, or use of commercial material may be utilized if materials are unavailable, under direction of the Project Biologist. See Table 3 below for a list of potential species for seed purchase.

5.3.2 Irrigation

The restoration program provided in this Plan will consist of a seeding program only. No container planting or whole plant salvage will occur. As noted above, the plant palette has been selected to utilize plants that do not require irrigation or watering other than from natural sources. As a result, an irrigation program will not be required. Seed that is installed will be allowed to germinate naturally with the seasonal rainfall and will not be subject to any artificial irrigation for germination and growth. If for any reason it is determined that the plants that have germinated will be at risk without some form of irrigation, a temporary watering program may be recommended by the Project Biologist. Any such program will be temporary in nature, conducted directly from water trucks, and be remedial in timing and amounts to support the growing native plants no more than necessary to establish successfully.

6 Implementation Installation

This section describes in detail who will be responsible for each task and how the proposed restoration program will be accomplished.

6.1 Native Seed Palette

The native seed used on the restoration of the site will come from a combination of site-specific collection as well as from commercially available sources. The areas that are temporarily impacted by project construction will be targeted for the seeding program described below.

The species proposed were selected to provide as similar of vegetative diversity and structure as possible when compared to the native vegetation found in the existing vegetation communities on the project site. The intent of the seed palette is to create a diverse assemblage of native species that will provide appropriate functions and service, including dust suppression and wildlife usage of the site. As noted above, water demand has also been considered and the species listed below are not anticipated to require irrigation or any other water beyond that provided naturally through rainwater. Table 3 below lists the species that will be targeted in the onsite seed collection as well as in the commercial seed purchases. Total acreage for seeding will be confirmed upon City approval of final development plans.

Table 3. Native Desert Species Targeted for Restoration Seeding

Botanical Name	Common Name	PLS*	Pounds Per Acre
<i>Abronia villosa</i> var. <i>villosa</i>	desert sand verbena	N.A.	2.0
<i>Asclepias erosa</i>	desert milkweed	N.A.	1.0
<i>Ambrosia dumosa</i>	white bursage	N.A.	5.0
<i>Ambrosia salsola</i> var. <i>salsola</i>	burrobrush	N.A.	3.0
<i>Baileya pauciradiata</i>	laxflower	N.A.	1.0
<i>Baileya pleniradiata</i>	woolly desert marigold	N.A.	1.0
<i>Bebbia juncea</i> var. <i>aspera</i>	sweetbush	N.A.	2.0
<i>Camissoniopsis bistorta</i>	southern suncup	N.A.	1.0
<i>Caulanthus cooperi</i>	Cooper's wild cabbage	N.A.	1.0
<i>Chaenactis fremontii</i>	pincushion flower	N.A.	1.0
<i>Chorizanthe rigida</i>	rigid spineflower	N.A.	1.0
<i>Chylismia claviformis</i> ssp. <i>peirsonii</i>	Peirson's browneyes	N.A.	1.0
<i>Cryptantha barbiger</i>	bearded cryptantha	N.A.	2.0
<i>Dalea mollissima</i>	soft prairie clover	N.A.	1.0
<i>Diplacus bigelovii</i> var. <i>bigelovii</i>	Bigelow's monkeyflower	N.A.	1.0
<i>Ditaxis neomexicana</i>	New Mexico silverbush	N.A.	1.0
<i>Encelia actoni</i>	Acton's brittle brush	N.A.	2.0
<i>Encelia frutescens</i>	button brittlebush	N.A.	3.0
<i>Ephedra nevadensis</i>	Nevada joint fir	N.A.	2.0
<i>Ephedra viridis</i>	Mormon tea	N.A.	2.0
<i>Eremothera boothii</i> ssp. <i>condensata</i>	shredding suncup	N.A.	1.0
<i>Eriogonum inflatum</i>	desert trumpet	N.A.	2.0
<i>Eriogonum pusillum</i>	yellow turbans	N.A.	1.0
<i>Eschscholzia androuxii</i>	Joshua Tree poppy	N.A.	1.0
<i>Eschscholzia glyptosperma</i>	desert poppy	N.A.	2.0
<i>Euphorbia albomarginata</i>	white margin sandmat	N.A.	1.0
<i>Geraea canescens</i>	hairy desert sunflower	N.A.	2.0
<i>Hesperocallis undulata</i>	desert lily	N.A.	2.0
<i>Hilaria rigida</i>	big galleta grass	N.A.	2.0
<i>Larrea tridentata</i>	creosote bush	N.A.	5.0
<i>Layia glandulosa</i>	white daisy tidytops	N.A.	1.0
<i>Lepidium fremontii</i>	desert pepperweed	N.A.	1.0
<i>Lupinus arizonicus</i>	Arizona lupine	N.A.	2.0
<i>Malacothrix glabrata</i>	smooth desert dandelion	N.A.	1.0
<i>Mentzelia desertorum</i>	desert blazingstar	N.A.	1.0
<i>Oenothera primiveris</i>	desert evening primrose	N.A.	2.0
<i>Palafoxia arida</i> var. <i>arida</i>	desert palafox	N.A.	1.0
<i>Pectis papposa</i>	Many-bristle chinchweed	N.A.	2.0
<i>Pectocarya platycarpa</i>	broadfruit combseed	N.A.	1.0
<i>Petalonyx thurberi</i> ssp. <i>thurberi</i>	sandpaper plant	N.A.	1.0

Table 3. Native Desert Species Targeted for Restoration Seeding

Botanical Name	Common Name	PLS*	Pounds Per Acre
<i>Penstemon thurberi</i>	Thurber's beardtongue	N.A.	2.0
<i>Phacelia crenulata</i>	cleft leaf wildheliotrope	N.A.	1.0
<i>Plantago ovata</i>	desert Indianwheat	N.A.	5.0
<i>Prosopis glandulosa</i>	honey mesquite	N.A.	3.0
<i>Psoralea argemone</i>	dyebush	N.A.	3.0
<i>Salvia columbariae</i>	chia	N.A.	3.0
<i>Senegalia greggii</i>	catclaw acacia	N.A.	2.0
<i>Senna armata</i>	desert senna	N.A.	2.0
<i>Sphaeralcea ambigua</i>	apricot globemallow	N.A.	3.0
<i>Tiquilia plicata</i>	fanleaf crinklemat	N.A.	1.0
<i>Yucca schidigera</i>	Mojave yucca	N.A.	3.0
Total Pounds per Acre			35-40**

Note:

- * To be determined at the time of commercial seed purchase. Will not be determined for any seed collected on site prior to construction.
- ** Total pounds per acre will depend on the species available from seed collection and commercial sources and will target approximately 35-40 pounds per acre when the final seed mix is determined.

6.2 Native Seed Application

Once construction is complete, the seed that has been collected from the site, along with the seed that is purchased from native seed vendor, will be installed in the areas impacted by project construction and installation. If a weed control pass is required, seed will not be installed until 2 weeks after weed control efforts.

With respect to seed purchased from commercial sources, all seeds will be clearly labeled showing type of seed, test date, the name of the supplier, and percentages of the following: pure seed, crop seed, inert matter, weed seed, noxious weeds, and total germination content. All material will be delivered to the restoration site in original, unopened containers bearing the manufacturer's guaranteed analysis. All seed mixes will be stored in a dark, cool place and not be allowed to become damp. All labels for each seed delivered to the restoration site will be inspected and approved by the Project Biologist prior to mixing and application. Any seed that doesn't pass inspection will be returned to the seed provider.

Seed application shall consist of hand broadcast and raking into the soil by hand. Hydroseeding will not be conducted. If some species are not available at the time of seeding, they may be acquired when available and hand broadcast at a later date.

Installation between the months of October and November is ideal for allowing establishment during the cooler and wetter time of the year; however, seed installation timing may be modified as directed by the Project Biologist to avoid loss in storm flow events, or to take advantage of predicted rain events.

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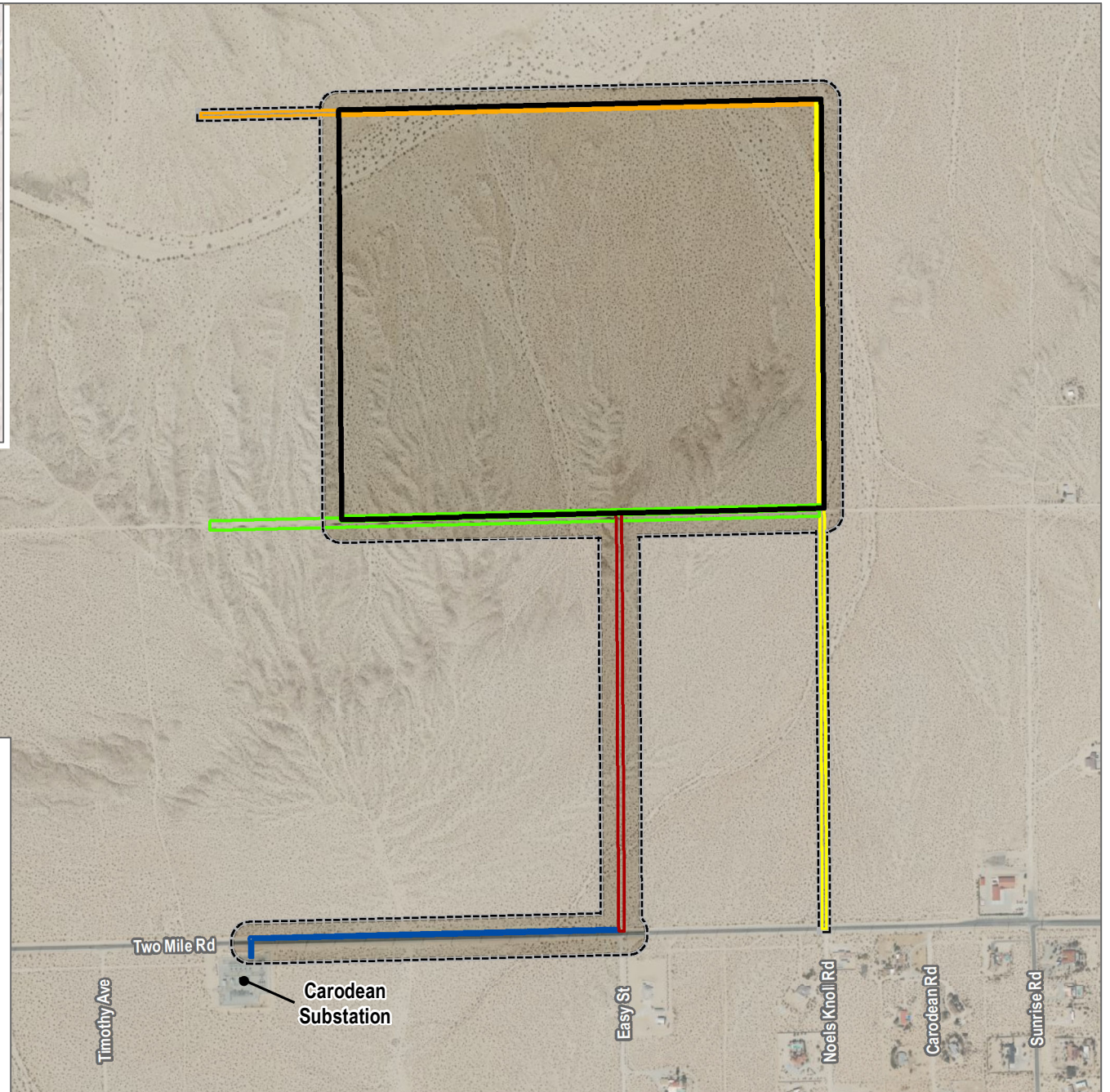
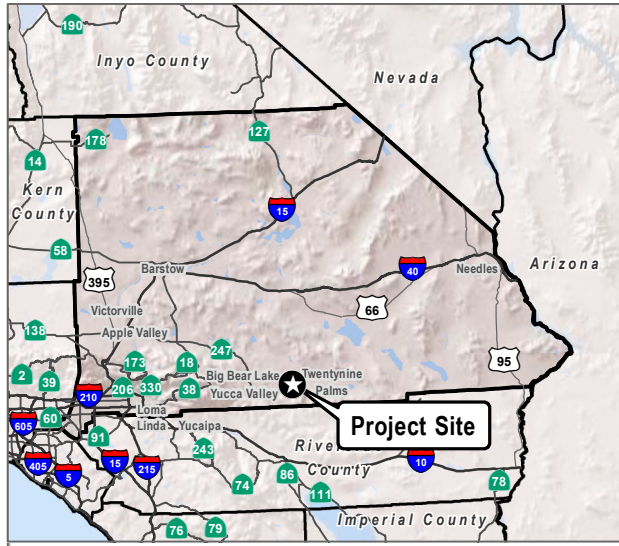
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Appendix A: Figures



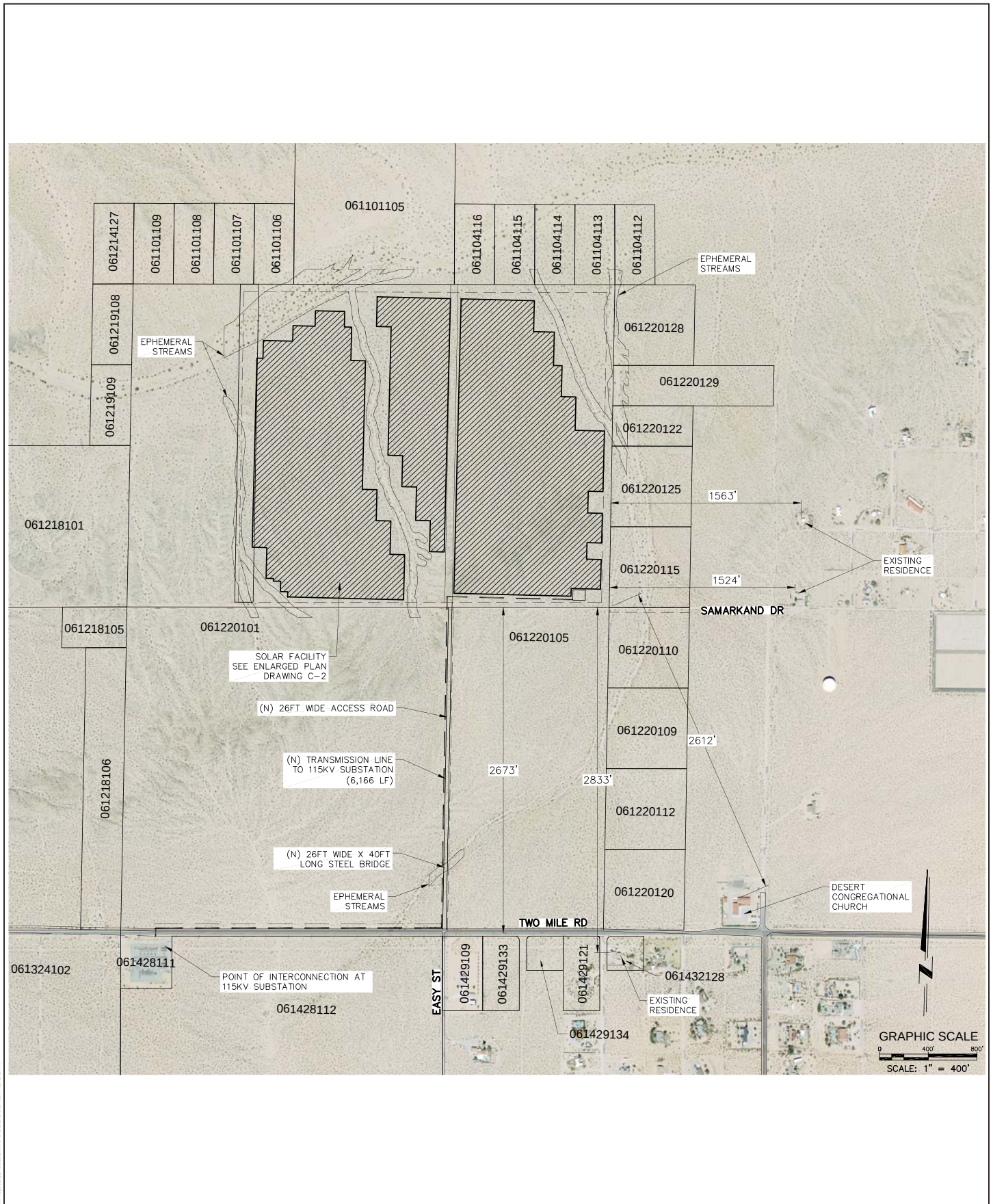
- Biological Study Area (BSA)
- Project Boundary
- Dedication for Amboy Road within Project Boundary
- Dedication for Noels Knoll Road within Project Boundary
- Dedication for Samarkand Drive within Project Boundary
- Off-Site**
- Gen-Tie/Road Alignment
- Gen-Tie Alignment
- Dedication for Amboy Road
- Dedication for Noels Knoll Road
- Dedication for Samarkand Drive

SOURCE: NEXT Engineering Group, 2024; County of San Bernardino; Open Street Map; Bing Maps

FIGURE 1

Project Location

E-Group PS Solar Project

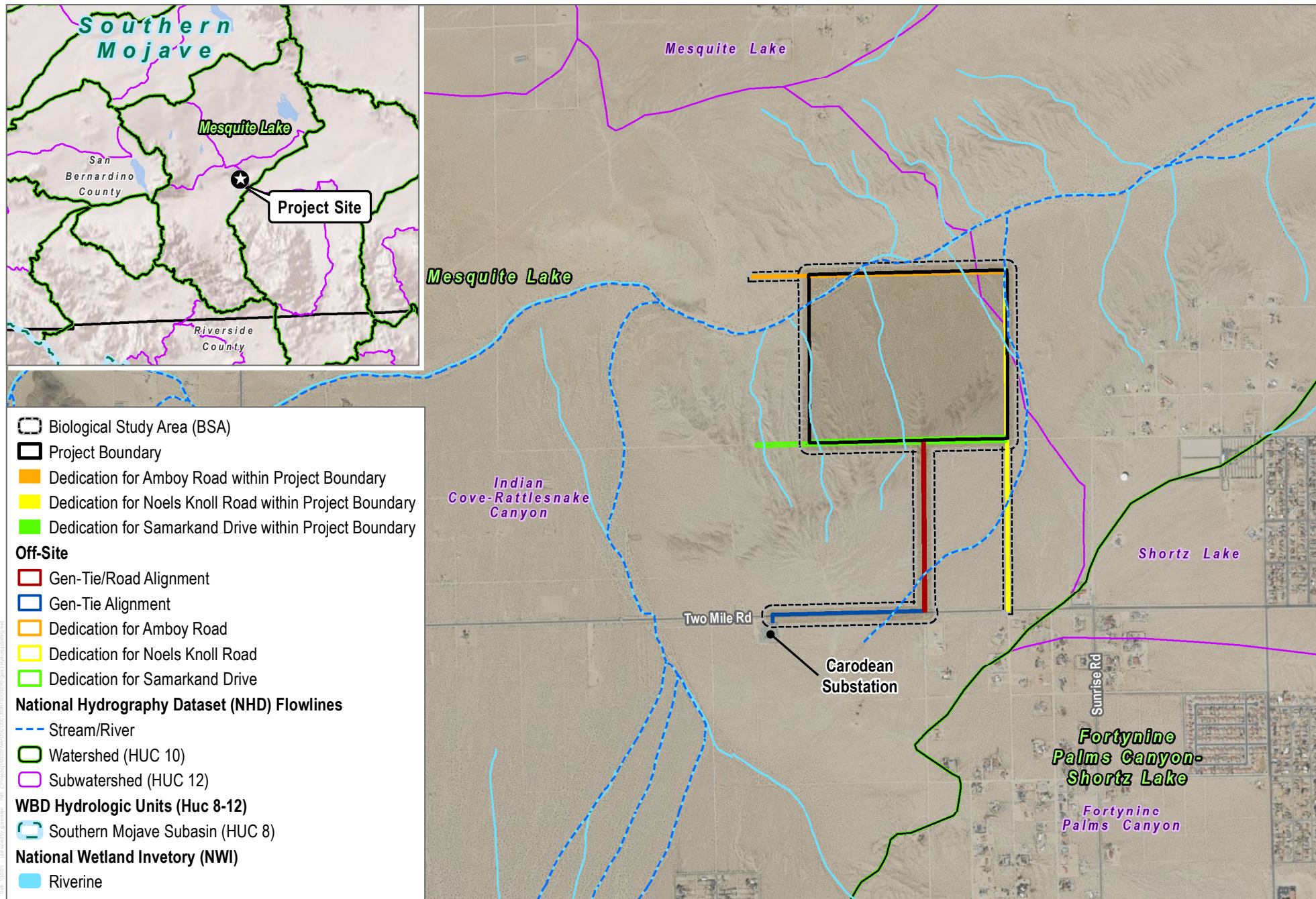


SOURCE: E-Group PS LLC, 2024

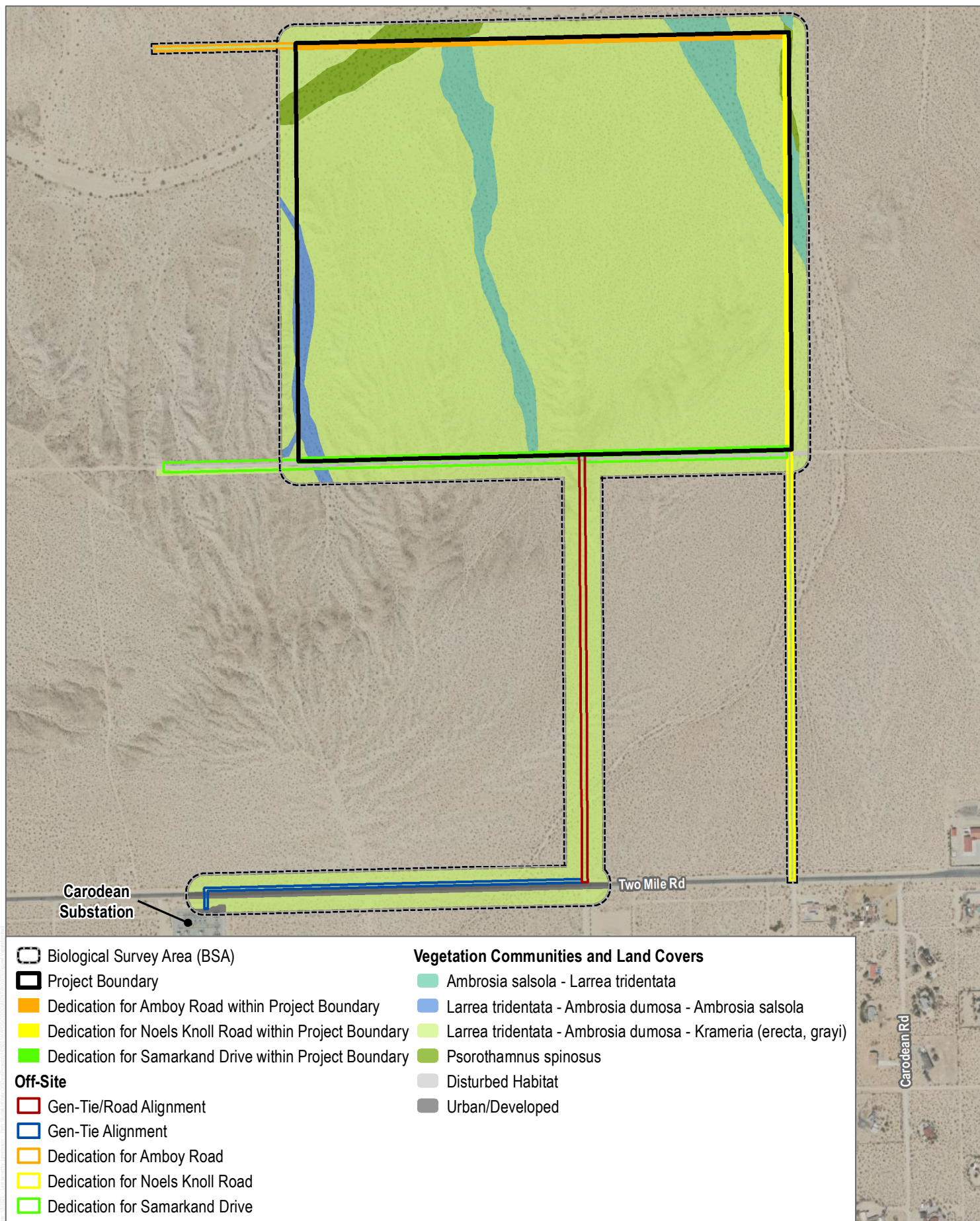
FIGURE 2

Site Plan

E-Group PS Solar Project



SOURCE: USFWS NWI; USGS NHD; County of San Bernardino; Open Street Map; Bing Maps



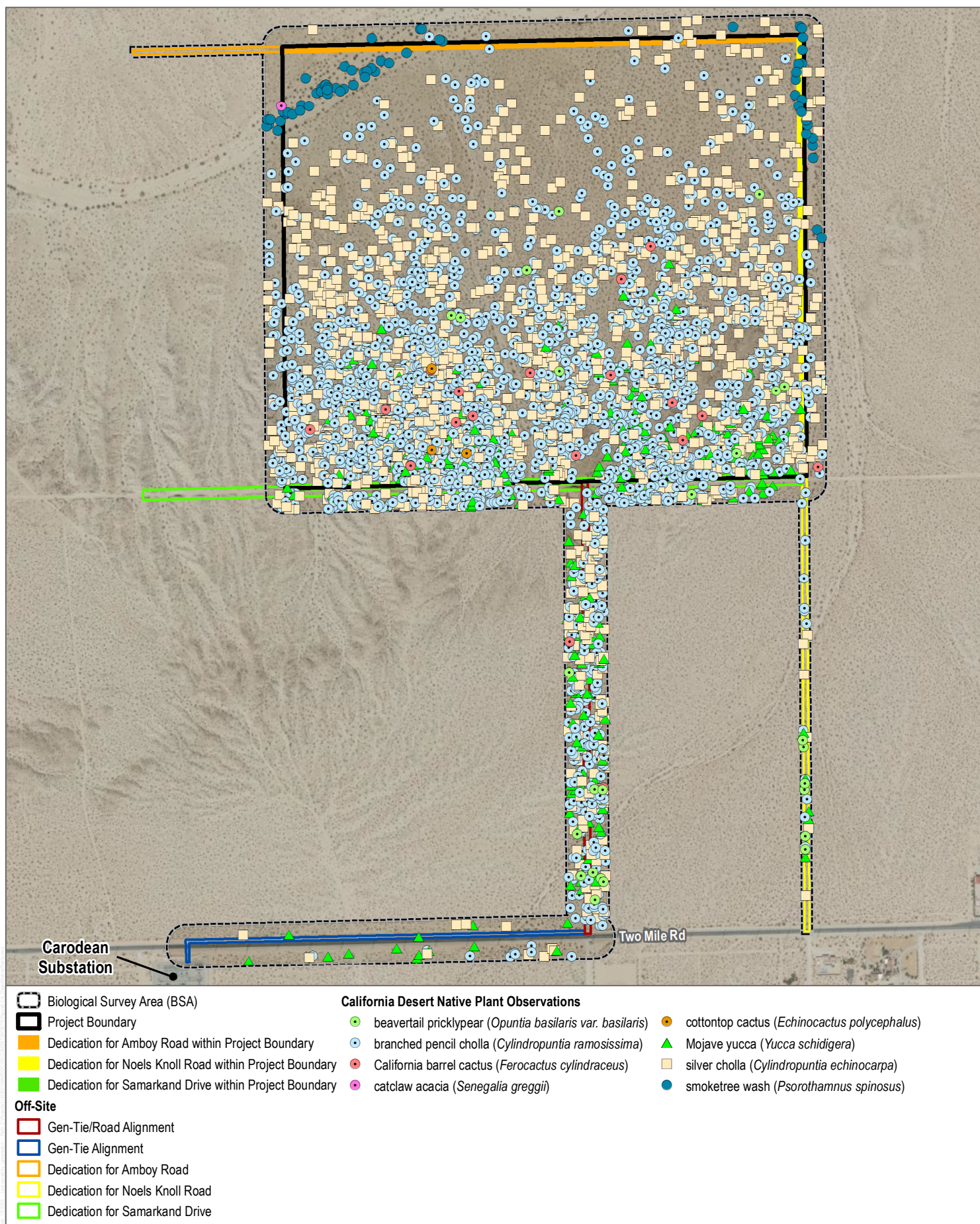
SOURCE: County of San Bernardino; Bing Maps

DUDEK



0 500 1,000 Feet

FIGURE 4
Vegetation Communities and Land Covers
E-Group PS Solar Project



SOURCE: County of San Bernardino; Bing Maps