February 3, 2010

California Energy Commission
Docket No. 09-AFC-8
1516 9th St.
Sacramento, CA 95814

Genesis Solar Energy Project - Docket Number 09-AFC-8

Docket Clerk:

Included with this letter is one hard copy and one electronic copy of the ***Draft Revegetation Plan for the Genesis Solar Energy Project.***

Sincerely,

Tricia Bernhardt
Project Manager/Tetra Tech EC

cc: Mike Monasmith /CEC Project Manager

DRAFT REVEGETATION PLAN

for the

Genesis Solar Energy Project

Riverside County, CA

Docket No. 09-AFC-8

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1.0 BACKGROUND

1.1 Project Description

Genesis Solar, LLC, (Genesis Solar) proposes to develop the 250 MW Genesis Solar Energy Project (Project), approximately 25 miles west of Blythe, Riverside County, California (Figure 1). Details of the Project can be found in the Application for Certification (Genesis Solar 2009). In summary, the Project Area (i.e. footprint) includes:

- A 1,800-acre, Plant Site that includes two independent solar electric generating facilities, each of which would have a nominal net electrical output of 125 megawatts (MW) and include a solar array, power block and power generating equipment, support facilities and evaporation ponds.
- Re-routed drainage channels for capturing surface flow upslope of the site and re-routing it to original outflow areas below the site
- Linear facilities, which include an access road from Interstate 10 (I-10), a transmission line, and natural gas pipeline, all sited in a single, approximately 6.5-mile long corridor.

The Project is sited on undeveloped lands managed by the Bureau of Land Management (BLM). There are few anthropogenic disturbances although past sheep grazing has been reported and a portion of Ford Dry Lake was formerly open to the public for off-highway vehicle. Access to the Project Area is poor, and limited to a four-wheel-drive road on the western end of the Plant Site.

1.2 Project Area Habitats

The Project Area is relatively flat and generally slopes from north to south with elevations of approximately 370 to 400 feet above mean sea level. The area is characterized by sheet flow hydrology, with shallow channels (runnels), typically approximately one yard or less wide and one-to-few inches deep, forming a network of ephemeral drainages across the Project that rarely flow and often fail to provide through-flow to larger drainages. Occasional, well-defined washes are present along the southern portion of the surveyed linear facility route north of I-10. There are no springs, seeps, wetlands, streams, or impoundments within the Project Area or vicinity. General vegetation and habitat types for the Project vicinity are illustrated in Figure 2. Subsets of two broad vegetation communities are found on the Project Area: Sonoran Creosote Bush Scrub and Stabilized and Partially Stabilized Sand Dunes (after Holland 1986). The characteristics that refine each community at the Project Area are described below.

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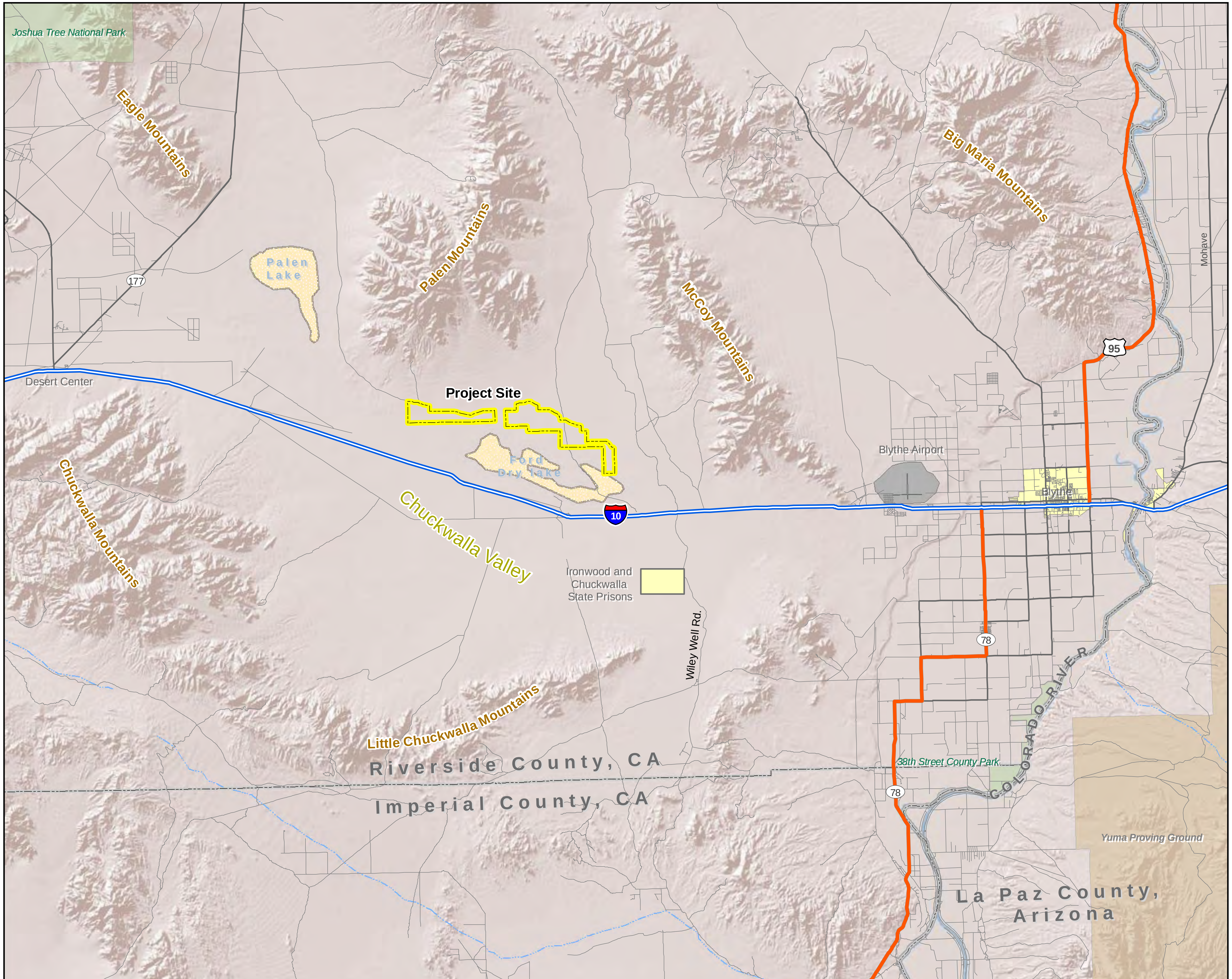
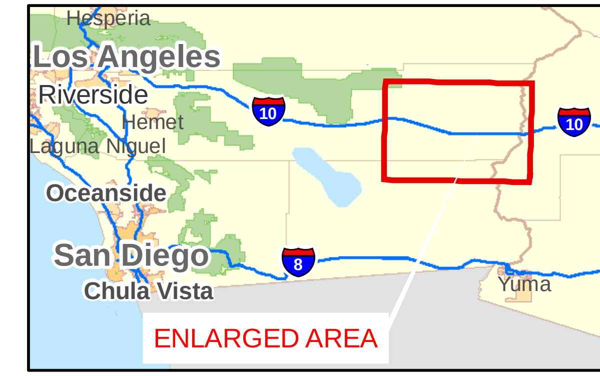


GENESIS SOLAR, LLC

GENESIS SOLAR ENERGY PROJECT RIVERSIDE COUNTY, CALIFORNIA



Legend

- Project Site
- Interstate
- Highway
- Major Road
- Local Road
- Airport Area
- County Boundary
- State Boundary
- Lake/River
- Lake Intermittent
- Parks (Regional)
- Military Installation
- Urban Areas

N

0 2.5 5 7.5 10
Miles

Notes:
(a) UTM Zone 11, NAD 1983 Projection.
(b) Source data: ESRI, BLM

FIGURE 1
REGIONAL LOCATION MAP

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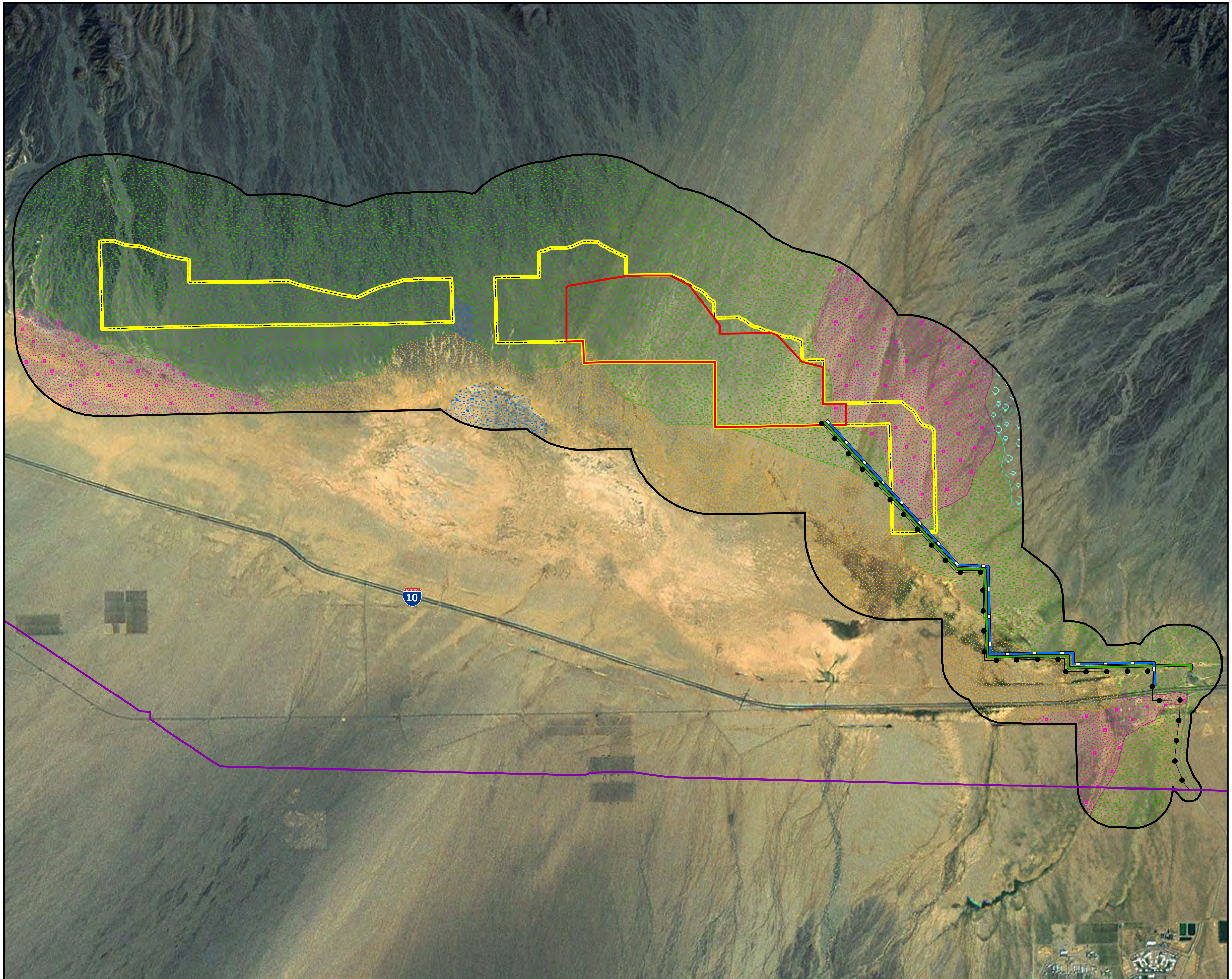
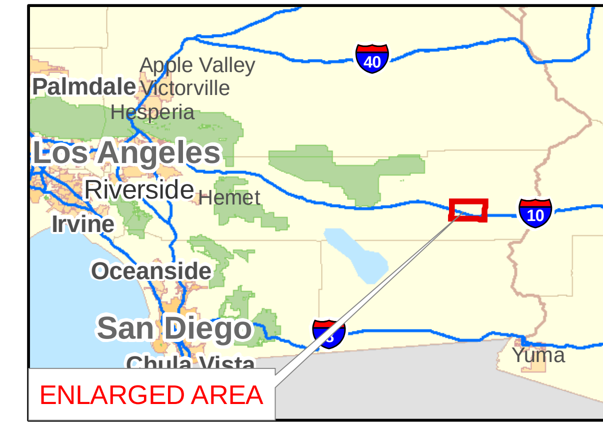


GENESIS SOLAR, LLC

GENESIS SOLAR ENERGY PROJECT
RIVERSIDE COUNTY,
CALIFORNIA



Legend

- Chenopod Scrub
- Sonoran Creosote Bush Scrub
- Dry Desert Wash Woodland
- Playa and Sand Drifts over Playa
- Stabilized and Partly-Stabilized Sand Dune
- Plant Site
- Requested Project ROW
- Extent of Surveyed Area
- Blythe Energy Project Transmission Line

Project Linear Facilities

- Proposed Transmission Interconnect (7.5 Miles)
- Proposed Gas Line (5.9 Miles)
- Proposed Access Road (6.1 Miles)

N

0 0.5 1 1.5 2
Miles

Notes:
(a) UTM Zone 11, NAD 1983 Projection.
(b) Source data: ESRI, USDA, TTEC, Alice Karl & Assoc.

FIGURE 3
NATURAL COMMUNITY TYPES

TETRA TECH EC, INC

The Sonoran Creosote Bush Scrub community on the Project Area is dominated by two species: creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). Shrub cover is relatively low, approximately 10 to 15 percent, and varies in response to hydrology and slope. Small drainages are more densely populated by creosote bush, white bursage, brittlebush (*Encelia farinosa*), cheesebush (*Ambrosia salsola*), and white rhatany (*Krameria grayi*) than immediately adjacent areas. Big galleta grass (*Pleuraphis* [=*Hilaria*] *rigida*) is also patchily common in these drainages. Ironwood (*Olneya tesota*) and palo verde (*Cercidium floridum*) are scattered in the occasional well-defined washes and west of the Plant Site in areas of heavy sheet flow. Common under story species include plantain (*Plantago ovata*), pebble pincushion flower (*Chaenactis carphoclinia*), forget-me-not (*Cryptantha spp.*), desert sunflower (*Geraea canescens*), peppergrass (*Lepidium lasiocarpum*), and stiff-haired lotus (*Lotus strigosus*). Soils are generally soft sandy-loams and loamy-sands, with scattered to 90 percent cover of fine gravel. Broad patches of well-developed, large-gravel desert pavement characterize the area west of the Plant Site and are scattered (and less well-developed) throughout the central portion of the Plant Site.

A heterogeneous mixture of Stabilized and Partially Stabilized Sand Dunes overlaps a portion of the Plant Site and the linear facilities' route. There are also sandy areas present south of I-10 that overlap the surveyed linear route. These areas contain low dune formations of fine sand that contain widely spaced perennial shrubs. Dominant shrubs include creosote bush, white bursage, and galleta grass. Shrub cover is 2 to 5 percent, decreasing closer to the Ford Dry Lake playa. Several sand-associated and other annuals are also abundant (*e.g.*, sand verbena [*Abronia villosa*], birdcage primrose [*Oenothera deltoides*], desert marigold [*Baileya pauciradiata*], and narrow-leaved forget-me-not [*Cryptantha angustifolia*]). Although there are no coarse particles in the substrate of the dunes, the areas between the dunes that contain more shrubs may be partially stabilized by a light gravel layer.

Where Ford Dry Lake nears the junction of the southeastern portion of the Plant Site and the linear facility routes (north of I-10), soils are much finer than elsewhere in the Project Area. In this transition zone between the playa and Stabilized and Partially Stabilized Sand Dunes, sand is patchily and shallowly deposited over the surface and there are many small sinks.

Four invasive weeds occur on the Project Area but only three are widespread: Saharan mustard (*Brassica tournefortii*), Russian thistle (*Salsola tragus*), and Mediterranean grass (*Schismus* sp.) (A single tamarisk [*Tamarix ramosissima*] was observed.). Saharan mustard is widespread throughout the Project Area in Sonoran Creosote Bush Scrub and Stabilized and Partially Stabilized Sand Dunes. There are patches of higher concentrations occurring within runnels and along the linear facility routes. Russian thistle is common within the Stabilized and Partially Stabilized Sand Dunes. Mediterranean grass (*Schismus* spp.) was observed distributed throughout the Project Area.

2.0 PURPOSE OF THE REVEGETATION PLAN

The Plant Site and re-routed channels will remain unvegetated following construction. However, several areas will be temporarily disturbed during construction of the linear facilities, but will not be needed for Project operations. These areas include: the natural gas pipeline; laydown and assembly areas; areas associated with transmission poles that will not be required for future maintenance (e.g., conductor pulling areas, areas outside pad boundaries); and access road shoulders. The construction period is projected to take two to three years to complete. The purpose of this Revegetation Plan (Plan) is to provide direction for the restoration of these temporarily disturbed areas following construction.

3.0 REVEGETATION PLAN

This Plan is a dynamic program, the details of which will continue to be augmented based on new information and reviews of the extensive database on revegetation techniques. However, the principles and general methods that will be implemented are summarized here, with sufficient detail to identify to the reader that the Plan will accomplish the stated objectives.

3.1 Objectives

The major objective of the Plan is to restore approximately 59.8 acres of temporarily disturbed areas to a condition that will substantially improve the ability of those areas to achieve an ultimate community that is physically and functionally similar to the original, pre-construction condition.

Deserts have thin, upper soil horizons, low soil fertility, and low and unpredictable rainfall. Where soils, vegetation, soil organisms, microsymbionts, larger invertebrates and vertebrates, and macro- and micro-hydrology are completely removed during construction, restoration can take several to many decades to passively (i.e., naturally) restore. Even an active restoration program cannot restore destroyed habitats to pre-disturbance conditions in a short time. The processes involved in succession from early to late-successional desert habitats are complex and lengthy. Exotic weeds often exacerbate restoration programs because they invade newly disturbed sites and initially outcompete native plants for resources, delaying re-growth of native species. However, a thoughtful, active program of initial restoration activities can optimize a site's conditions, thereby "setting the stage" for full and rapid recovery.

Specifically, the Project revegetation program will:

- Result in a perennial plant community that includes well-established, colonizing species and some later successional species that occur locally in native habitats
- Restore the original hydrology
- Restore some of the community functioning for both vertebrates and invertebrates

3.2 Methods

All methods described below will be implemented under the supervision of a Project biologist familiar with desert restoration techniques and local botany and biology. The biologist will work closely with the Project Environmental Compliance Manager and construction foreman to ensure that these techniques are successfully implemented and also to develop refinements to optimize the restoration program.

3.2.1 Construction Phase

Documenting the Existing Conditions

Project Area habitats, plant species composition, soil types, topography, and drainages were documented in 2009 Project surveys (TetraTech and Karl 2009, TetraTech 2010). Following staking of proposed roads, pipeline, tower pads, access roads, and other Project areas to be temporarily disturbed, the drainages, topography, substrate, soil texture, and plant communities will be mapped using one meter accuracy along these areas. Plant density and cover, by species, will be measured to determine the target species composition and density.

Initial Site Grubbing and Topsoil Salvage

Several processes will occur during initial site grubbing and surface grading that will facilitate restoration after construction: (1) gravel and cobble salvage; (2) topsoil salvage; and (3) root crown preservation.

Where coarse particles (e.g., gravels and cobbles) occur in the substrate along the linear facilities, they will be scraped and stored in piles to be replaced on these same areas later as mulch. In locations where gravels are too small or sparse to be collected separately from the topsoil (see below), they will be collected during topsoil salvage. Gravel stockpiles will be stored on the Project Area.

Topsoil salvage is invaluable for facilitating successful site revegetation. Most seeds, nutrients, organic matter, and soil crust microbes are in the top two to four inches of the soil (Leck et al. 1989, Bainbridge 2007). Following grubbing, the top four inches of soil will be scraped from the surface and stored. Plant material may be included in the topsoil in order to incorporate organic matter and carbon to help maintain soil organisms and microbial and fungal functioning during stockpile storage. Topsoil will be stockpiled in shallow (<4 ft tall), uncompacted piles at the edges of the staging and construction areas.

Unless necessary for construction, root crowns and roots of all species will be left in the ground (1) to continue nurturing important soil fauna, fungi, and functioning and (2) because many species will crown-sprout following disturbance. Both features would provide a substantial boost to site restoration.

Plant Salvage

During construction, cacti will be salvaged for revegetating purposes and vertical mulching (see below). The cacti species at the Project, which include silver cholla (*Cylindropuntia echinocarpa*), buckhorn cholla (*C. acanthocarpa*), and pencil cholla (*C. ramosissima*), are excellent candidates for revegetation as survival is high (Abella and Newton 2009), cacti root readily, and they are easily stored. Cacti also are considered important species according to the California Desert Native Plants Act (California Food and Agricultural Code Section 80001 *et seq*). Tree seedlings will be salvaged where possible and practical, although long tap roots of even very small plants may preclude their effective salvage. Individuals of other species generally will not be salvaged because of the difficulties associated with salvaging deep-rooted species and the options of other, more effective methods to restore those species to the disturbed areas.

All plants will be stored in designated locations on the Project Area. Cacti will be stored in dense clusters, roots down to avoid sunburn, for one to two months to dry the roots and minimize fungal growth. Following this, they will be stored upright in shallow (1-3 inches) trenches with soil pushed over the roots. These techniques will promote survival and growth of these plants during the storage period, prior to re-planting in areas to be revegetated.

Seed Salvage and Seedling Establishment

During the pre-construction and early construction period, seed may be collected from Project Area plants and grown by a nursery contractor familiar with outplantings of native plants. Species to be planted are described in Section 3.3.2 *Planting Methods* and Table 1, below. Plants will then be available for outplanting during the revegetating phase. Alternatively, seedlings may be purchased from a qualified nursery without specific seed collection from the Project Area.

Vertical Mulch Salvage

Vertical mulching is the placement of dead brush, bunch grasses, and various woody materials onto the ground surface and upright, into the soil. It can facilitate revegetation and site functioning by: (1) capturing and stabilizing windblown soil and seed; (2) providing shade, cover and increased moisture for seedlings and seed germination; (3) providing hospitable perching and burrowing sites for animals and insects, and (4) discouraging recreational use (Bainbridge 1996 and 2007, Egan 2000).

During grubbing, shrubs and other plant material that is not used for alternate purposes will be removed and stockpiled on the Project Area.

3.2.2 Restoration Phase

Post-construction Surface Preparation

Site preparation in general and soil development in particular, prior to planting, can optimize the site conditions for establishment of the native plant community and minimization of erosional effects (i.e., sediment loss and water runoff). Natural, overall drainage and specific drainage for arboreal washes will be restored to the original condition by re-contouring temporarily disturbed areas.

Soils will have become compacted in some construction areas. On the access road shoulder, compaction will be necessary to support the road and to promote water flow off the road. In other areas where compaction is not the desired outcome, heavily compacted soils will be ripped to below the compacted layer. Following ripping, or in less compacted areas, disking followed by harrowing will produce a non-compacted surface. Alternatively, in the less compacted areas and along the road shoulders, the surface will be imprinted to produce a roughened surface that will catch both seeds and water and increase infiltration (Dixon 1995). Other small catchments, swales and islands will be constructed in addition to imprinted pits, in order to provide micro-topographical relief and water and seed catchments. Several studies have demonstrated that germination and growth of seeded species show higher germination and survival success in imprinted surfaces and catchments (Bainbridge 2000, Edwards et al. no date). Structures that caught and accumulated soil and seeds, and secondarily water, were keys for germination and growth at two sites in the Mojave and Colorado Deserts (Karl, pers. obs.).

Salvaged topsoils that were removed and stockpiled will be returned to the site after recontouring and spread atop and partially mixed with the ripped and harrowed soils.

Planting Methods

Species to be planted largely will comprise colonizers and plants that increase soil nutrients and functioning (Table 1). These species also have high success rates in revegetation efforts. All are present in the Project Area.

Table 1. List of Species That Will Be Used for Revegetation

Species		Description
Ambrosia dumosa	White bursage	Shrub, colonizer, AM[1] builder
Ambrosia salsola	Cheesebush	Shrub, colonizer, AM builder
Atriplex polycarpa	Allscale	Shrub, colonizer, AM builder
Psorothamnus emoryi	Emory dalea	Shrub, dune specialist, legume[2]
Larrea tridentata	Creosote bush	Shrub, late successional, AM builder
Pleuraphis rigida	Big galleta grass	Bunch grass, sand and drainage associate
Sphaeralcea angustifolia	Fendler globemallow	Herbaceous perennial, swale-associate
Olneya tesota	Ironwood	Tree, AM builder, legume
Cercidium floridum	Blue palo verde	Tree, legume
Baileya pleniradiata	Desert marigold	Annual
Abronia villosa	Sand verbena	Annual, sand associate
Oenothera deltoids	Dune primrose	Annual, sand associate

1. Arbuscular myccorhizal fungi
2. Legumes are typically easy to germinate and increase soil fertility via nitrogen-fixing bacteria.

Seeds

Based on reports of seed quantities required for desert revegetation that vary from 9 lb "pure live seed" (PLS; Munda and Pater 2002) to 33 lb PLS (Anderson and Hall 1998), seed will be applied at the rate of 20 lb per acre. Percent of seed in the mixture, by species, will be weighted toward colonizers, but vary by location, with sand associates only applied in sandy sites, and drainage associates only applied in drainages. All seed will require collection or purchase from the Colorado Desert within a reasonable distance of the site to ensure consistency with Project Area genetics and adaptations. Seeds will be certified for of purity and viability.

Seeds will be applied the first year of revegetation, following site surface preparation. Application will be by broadcast, in late autumn prior to rain. This timing will minimize loss of seed to granivory and wind erosion, while maximizing germination potential. However, precipitation is unpredictable and lack of rain can preclude successful germination. To encourage germination by providing moisture and increasing the soil-seed contact, water will be sprayed from a water truck traveling along existing roads, to wet the soil to a depth of one inch. This overhead watering will occur every two to three weeks during the fall, and monthly during winter, through March, unless it rains. No supplemental irrigation will be provided subsequent to the following March.

Only annual species will be broadcast-seeded within 10 ft of the access road. This will minimize the attraction of animals to the road edge, which could result in road kills. While no effort will be made to grow shrubs in this roadside strip, crown-sprouted perennials will be permitted to grow.

Seedlings

During the first year of revegetation, cacti salvaged from the site will be planted throughout the revegetation area. No other outplantings will be planted until Year 3, following the results of monitoring for the seeding and crown-sprouting effort. If the Project biologist in charge of restoration believes that the results at the end of Year 2 suggest that the Success Standards (see Section 3.3.3) are not likely to be met, then seedlings will be planted in Year 3.

Following site preparation and prior to seeding, cacti and outplantings will be transplanted and vertical mulch (see *Erosion Control and Vertical Mulch*, below) placed. Approximately 60% of the plantings will be grouped in “resource islands” (Bainbridge 2007) that mimic large shrub mounds in undisturbed habitat. Such mounds accumulate soils, seeds, and organic matter and provide hospitable microsites for colonization by a vertebrates, invertebrates, and microorganisms.

Seedlings will be planted into holes that have been machine-augered or dug to a diameter half again that of the diameter of the seedling container, and to a depth that will allow for at least six inches of backfill of native soil into the hole before the plant is introduced. Holes will be filled with water and allowed to drain at least once, just prior to planting. The seedlings will be placed into the hole, and the hole backfilled by hand. A final soaking and gentle tamping will ensure good root-soil contact.

Plantings of both cacti and seedlings will occur at two to three times the density of cacti and shrubs in the undisturbed habitat (see *Documenting the Existing Conditions*, above), to accommodate attrition. Planting will occur during any month, except summer, for outplantings and any month for cacti.

Non-cactus outplantings will be irrigated every two weeks during the first month following planting and during summer. Monthly irrigation will occur in other months. This schedule will occur for the first two years. Cacti will be irrigated once during the first month following planting and monthly during summer months, then every one to two months for the first year. For both outplantings and cactus transplants, adequate precipitation will replace manual irrigation. Irrigation will be by water truck, by hand, or other delivery methods, depending on the location of the outplantings. Techniques such as perforated sewer pipe under groups of plants (Edwards and Bainbridge, no date), deep pipes to the root zone (Bainbridge et al, no date), and catchments that provide passive irrigation (Edwards et al., no date), also may be used for individual plants and resource islands to enhance irrigation and rainfall.

Associated Techniques for Plantings

A number of factors can benefit or negatively influence the success of the revegetation effort. Those considered for the Genesis Project are discussed below.

Mycorrhizae

Arbuscular mycorrhizal (AM) fungi are naturally occurring microsymbionts that have been observed to improve water and nutrient uptake (Bainbridge 2007), and increase biomass and survival of seeded species during revegetation (Carrillo-Garcia et al 1999). AM fungi may still be present in the topsoil by the time it is spread back on the revegetation sites. However, stockpiling generally results in reduced microbial activity and AM propagules. Stockpile storage conditions that enhance some microbial soil activity can reduce AM propagules (Bainbridge 2007). Recognizing the value of AM for restoring soil functioning and increasing revegetation success, AM fungi may be applied to select plantings at the Project to enhance revegetation. The method will be to use small shovelfuls of soil from under living plants in undisturbed locations in the Project Area, in order to provide the native suite of functioning AM. Colonizing species (see Table 1) and mature ironwood (*Olneya tesota*) will be targeted in particular, as they have been shown to host high concentrations of AM-fungal hyphae (Carrillo-Garcia et al 1999). AM fungi are available commercially, but those commercial products may not be appropriate for specific restoration sites because they may be either limited to one-few AM species (undisturbed soils generally host many species of AM fungi) or have the wrong suite of species for a site (McRae et al 2000, Chaudhary and Griswold 2001).

Fertilization

Desert plants have evolved low nutrient requirements. Pulses of fertilizer, especially with soluble nitrogen, have the potential to increase plant growth beyond the ability of residual, post-fertilizer nutrients and water to support the plants, increase plant palatability and herbivory (Bainbridge 2007) and enhance exotic weed populations (Claussen and Marler 1998, Brooks and Esque 1999, Claussen 2007). Because of these potential difficulties, as well as mixed revegetation success associated with fertilizers (Abella and Newton 2009), no fertilizers will be applied.

Herbivore Protection

Black-tailed hares (*Lepus californicus*) especially, but also Antelope ground squirrels (*Ammospermophilus leucurus*) and other rodents, will eat seedlings, especially in drought years. Each outplanting will be provided with a temporary herbivore-protector. Examples are Tubex or Treessentials, opaque plastic tubes that will provide herbivore protection as well as protection from wind desiccation and sand.

Weed Control

Exotic weeds are more aggressive than native plants, germinating and growing when conditions are sub-optimal for natives, and outcompeting natives for water and nutrient resources in many situations. In disturbed conditions and swales or washes, they are particularly aggressive. The Genesis Weed Management and Control Plan (TetraTech 2010b) will provide weed management for restored areas, including during construction activities prior to restoration.

Erosion Control and Vertical Mulch

Where necessary and practical, mulches will be applied in order to (1) minimize seed loss from wind erosion, (2) accumulate soil and seeds, (3) provide hospitable microsites for seedling establishment and animal use, and (4) discourage traffic. Whereas mulches can provide excellent weed control, water retention and nutrients for planted areas, they are difficult to implement in the desert and materials are limited. Two types of mulches are currently being considered for the Project Area: gravel mulch and vertical mulch. Gravel mulches will include gravel from the Project Area that was initially salvaged and stored. As needed, it will be spread on areas that originally had coarse particles on the surface, at a surface cover percentage similar to but no greater than the original conditions. Vertical mulches will include stockpiled shrubs, cacti, and bunch grasses, as well as the tops of bunch grasses with seeds that are growing in the surrounding area. These will be "planted" singly and in groups, the number and location of which will be determined based on the desired functions at various locations along the restored area. Vertical mulch placed at the base of outplantings will also provide some soil shade to ameliorate soil temperatures and buffer against soil moisture loss.

Signs

To discourage travel into revegetated areas by Project personnel, visitors, and off-highway-vehicle recreationists, signs will be placed at appropriate locations and at sufficient intervals. Signs will request avoidance and provide information on the revegetation program.

3.3 Monitoring and Assessment of Success

3.3.1 Perennial Plant Community

Because this Plan's realistic goals are to restore disturbed areas to functioning, established, early successional communities that will facilitate continued succession, the species composition will not be the same as the adjacent, undisturbed communities. Also, percent cover and volume in the restored areas will be lower than the surrounding, undisturbed communities because the plants are mature in the latter. So, species composition, percent cover and volume are not very meaningful values to compare to the undisturbed habitats. They can; however, be compared over time *within* the restored area. The survival and growth of seeded, planted, and crown-sprouted species used in the revegetation program are also measurable variables that would provide quantitative indicators of the program's objectives. While monitoring will include primarily quantitative approaches, qualitative assessments will assist in evaluating program success.

Plant transects will be sited using a stratified-random technique, with one transect randomly sited in each mile along the linear route. There will be no fewer than two replicates per habitat type. Each transect will be 100 m long by one meter wide. To measure percent cover, a standard line intercept method will be used, in which the intersection of all shrub foliage with the measuring tape is recorded, by species. The height and maximum and minimum widths of each intersecting plant will be measured to document robustness (height and volume). In the 100, one by one meter quadrats along the tape, density will be measured by species. Survival will be recorded for each individual in the 100 by one meter wide belt, and each individual's location in or away from a resource island (see ***Seedlings***, above) will be recorded.

Transects identical to those for the revegetated areas will be completed in the adjacent undisturbed habitat in Years 5 and 10 (in addition to the baseline, pre-construction year). Drought or periods of high rainfall are likely to be reflected in the native community, which would be useful in explaining unexpected high or low success rates.

Monitoring of the restored perennial plant community will occur in Years 2, 3, 4, 5 and 10 following the initial revegetation activities. Intensive early monitoring should reveal any changes that are necessary in the monitoring program. Should site conditions dictate some changes (e.g., transect length or specific techniques for measuring the variables), those will be presented to the California Energy Commission (CEC) for their approval.

3.3.2 Habitat Functioning

Vertebrates are important elements of habitats. They use vegetation and soil for foraging, nesting, and burrowing and also add to its structure by dispersing seeds and contributing to soil fertility, structure, and functioning. Ants, termites, and other soil invertebrates are important for seed germination, seed dispersal, soil fertility and water movement in the soil, and can be indicators of ecosystem health (Bainbridge 2007). We will measure the following variables along the same transects as those for exotic weed documentation (see Tetra Tech 2010b) in order to monitor use of the restored area by locally present taxa:

- Birds – Species composition and richness; nests
- Reptiles – Species composition and richness
- Mammals – Number of rodent holes
- Ants – Number of colonies

Monitoring of habitat functioning will occur in Years 2, 3, 4, 5 and 10 following the initial revegetation activities. Intensive early monitoring should reveal any changes that are necessary in the monitoring program. Should site conditions dictate some changes (e.g., transect length or specific techniques for measuring the variables), those will be presented to the California Energy Commission (CEC) for their approval.

3.3.3 Success Standards

At 10 years, the following success thresholds are targeted:

1. Survivorship of salvaged and transplanted cacti is 30 percent
2. Plant species composition includes 40 percent of the species seeded or planted.
3. There is evidence of occupation of the restored area by all taxa measured

During earlier monitoring years, stepwise success will also be documented. Percent cover, density, species richness and evenness, and robustness will be assessed for the life of the monitoring program.

3.4 Reporting

Long-term monitoring reports are required for evaluating monitoring results to determine if success standards are being met, and if not, what control measures should be implemented and why. Annual reports on monitoring results and recommendations will be submitted to the CEC in each year that monitoring occurs. A comprehensive report will be prepared after the 10-year survey to report and discuss the revegetation program. Successes as well as underperformance will be evaluated in light of techniques and recommendations.

3.5 Adaptive Management

Monitoring results will be used to determine if the revegetation program is achieving success. It is likely to take at least three years for major flaws in the program to be revealed. Should the results show that changes need to be made to the Plan to increase success toward achieving the Plan goals, a scientifically based, adaptive management approach will be implemented.

3.6 Decommissioning Phase

During the Project decommissioning phase, the Plant Site and re-routed drainage structures will be removed and the site restored to pre-Project conditions (Worley Parsons 2010). The Project's life is 30 years. Because future conditions cannot be fully predicted and methods for restoration will certainly change, a detailed restoration plan that includes revegetation is premature. However, the Project decommissioning plan will address revegetation of the decommissioned site in general terms sufficient to provide assurance that the site will be fully restored.

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APPLICATION FOR CERTIFICATION FOR THE
GENESIS SOLAR ENERGY PROJECT

Docket No. 09-AFC-8

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(Revised 1/26/10)

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DECLARATION OF SERVICE

I, Tricia Bernhardt, declare that on February 3, 2010, I served and filed ***the Draft Revegetation Plan for the Genesis Solar Energy Project*** dated February 3, 2010. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [http://ww.energy.ca.gov/sitingcases/genesis_solar].

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

FOR SERVICE TO ALL OTHER PARTIES:

__x___ sent electronically to all email addresses on the Proof of Service list;

__x___ by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses NOT marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

__x___ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (*preferred method*);

OR

______ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
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I declare under penalty of perjury that the foregoing is true and correct.

Original Signed By:

Tricia Bernhardt