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FIGURES

Figure 4.14-1 Soil Types
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4.14 AGRICULTURE AND SOILS

Baseline agricultural and soil conditions are presented here for the Quail Brush Generation Project and within the surrounding area. Direct, indirect and cumulative Impacts on these resources that could result from site development are discussed.

4.14.1 Affected Environment

The proposed Project will consist of the power plant and related facilities including SDG&E utility switchyard, 230kV gen tie, and 8-inch natural gas pipeline lateral. The Project is located south of the Sycamore Landfill in the eastern part of the City of San Diego (Figure 2.1-1). The proposed plant will be located on a parcel approximately 21.6 acres in area located on the east side of Sycamore Landfill Road. The site parcel is largely undisturbed land consisting of two low-lying northeast-southwest oriented ephemeral drainage areas and adjacent ridgelines. Topography in the drainage areas ranges in elevation from 390 feet to 500 feet AMSL. Adjacent ridge top elevations range up to 580 feet AMSL. The power plant is proposed to be located within the northerly drainage area. The access road is proposed to enter from Sycamore Landfill Road along the southerly drainage area and traverse over the ridge to the power plant. The proposed gen tie will extend north from the power plant to the south end of the landfill, then proceed west across Little Sycamore Canyon to the ridgeline along the west side of the canyon to the proposed utility switchyard (Figure 2.1-1). The proposed gas pipeline lateral will extend south from the power plant adjacent to Sycamore Landfill Road. Laydown areas for construction will be located southwest of the Sycamore Landfill in a previously cleared area associated with landfill operations (Figure 2.1-1). A relatively small area on the plant site parcel west of the proposed plant building will be used as a truck parking and equipment unloading area (Figure 2.2-1). The proposed SDG&E utility switchyard (approximately 2.5 acres) will be located west of the Sycamore Landfill (Figure 2.1-1).

The proposed plant site is currently unoccupied and vacant. Once constructed, the power plant and access road would permanently occupy approximately 11 acres within the site parcel and linear facilities and the switchyard would occupy approximately 7 acres. The total permanent Project footprint would be approximately 18 acres. Surrounding features include the Sycamore Landfill, located approximately 0.5 miles north of the Project plant site, the San Diego River, located approximately 0.5 miles to the south of the plant site, and State Highway 52, located southwest of the plant site. With the exception of the landfill and the landfill access road, parcels around the Project and within Little Sycamore Canyon are undeveloped.

Soils types for the plant site are depicted on Figure 4.14-1. A Custom Soil Resource Report for the Project generated from the NRCS Web Soil Survey (U.S. Department of Agriculture [USDA] 2011), is included as Appendix J. Also included as a part of Appendix J is a Custom Soil Resource Report for a portion of the Project so that physical soil properties and descriptions for the soil types in the gen tie, utility switchyard and gas pipeline lateral could be captured.

4.14.1.1 Agricultural Resources

As described above, the majority of the Project will be on undisturbed land. The California Department of Conservation, Division of Land Resource Protection compiles Important Farmland maps combining current land use information with USDA NRCS soil surveys. Soil units qualifying for Prime Farmland and Farmland of Statewide Importance are determined by the NRCS. Figure 4.14-2 shows the NRCS mapped land designation within 1 mile of the

Project. The Project, including all four major components, is located within land designated as "Grazing Land" (Figure 4.14-2). The Project does not have any impacts on Important Farmland, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The nearest Farmlands of Local Importance are located south and east of the Project, south of SR 52, outside the range of potential Project impacts.

4.14.1.2 Soil Resources

Based on the soil survey map (Figure 4.14.1), soils within the Project include Diablo Clay (DaE), Diablo-Olivenhain complex (DoE), Redding Cobbly Loam (RfF), and Stony Land (SvE). Vegetation within these soil types includes coastal sage scrub, mixed chaparral, and native and non-native grasses. The approximate extent of soil type by project component is provided in Table 4.14-1. Soils are further described below and a summary of soil properties is presented in Table 4.14-2.

Table 4.14-1 Approximate Extent of Soil Type by Project Component

Map ID	Soil Name	Project Site Extent (%)	Project Switchyard (%)	Project Gas Line Extent (%)	Project Gen-Tie Extent (%)
DaE	Diablo Clay	22	0	30	0
DoE	Diablo-Olivenhain Complex	0	0	10	0
RfF	Redding Cobbly Loam	78	100	60	97
SvE	Stony Land	0	0	0	3

Diablo Clay, 15 to 30 Percent Slopes (DaE)

Diablo Clay soils consist of dark-gray deep clays that are generally well-drained. These clays and silty clay loams are formed in material weathered from calcareous sandstone and shales. Some of the characteristics of these soils are listed below:

- Soils are well drained
- Typical profile includes:
  - 0 to 15 inches: Clay
  - 15 to 32 inches: Clay, silty clay loam
  - 32 to 36 inches: Weathered bedrock
- The capacity of the most limiting layer to transmit water is moderately low to moderately high
- Shrink swell potential is high

Diablo-Olivenhain Complex, 9 to 30 Percent Slopes (DoE)

Diablo-Olivenhain Complex soil series consists of 50 percent Diablo clay and 45 percent Olivenhain cobbly loam. Diablo clay soils are described above. The Olivenhain soils are formed in old gravelly and cobbly alluvium and hill slopes. Some of the characteristics of these soils are listed below:

- Soils are well drained
- Typical profile includes:
  - 0 to 10 inches: Cobbly loam
  - 10 to 42 inches: Very cobbly clay, very cobbly clay loam
  - 42 to 60 inches: Cobbly loam, cobbly clay loam
- The capacity of the most limiting layer to transmit water is very low to moderately low
- Shrink swell potential is low to moderate

Redding Cobbly Loam, 15 to 50 Percent Slopes (RfF)

The Redding series consists of moderately deep to duripan, moderately well-drained soils formed in gravelly alluvium derived from mixed sources. Some of the characteristics of these soils are listed below:

- Well drained
- Typical profile includes:
  - 0 to 10 inches: Cobbly loam
  - 10 to 20 inches: Cobbly clay loam, cobbly clay
  - 20 to 30 inches: Indurated
- The capacity of the most limiting layer to transmit water is very low to moderately low
- Shrink swell potential is low (0 to 10 inches) to high (10 to 20 inches)

Stony Land (SvE)

The Stony Land soil series consists of stones, boulders, cobblestones, and some finer material. These occur at the base of cliffs or below steep rocky slopes. The parent material is mixed colluvium. As shown on Table 4.14-1, these soils make up a relatively small percentage of the total area occupied by the proposed Project gen tie line (about 3 percent or so). Soil characteristics are summarized below:

- Drainage: Not applicable
- Typical profile includes:
  - 0 to 60 inches: Unweathered bedrock
- The capacity of the most limiting layer to transmit water: NA
- Shrink swell potential: NA

Table 4.14-2 Summary of Soil Properties in the Project Area

Map ID	Soil Name	Slope (%)	Depth (inches)	USDA Texture	Erosion Factor K_2	Wind Erodibility Group	Capacity of the most limiting layer to transmit water	Drainage	Land Capability Class
DaE	Diablo Clay	15-30	0-15	Clay	0.17	7	Moderately low to moderately high	Well drained	4e
			15-32	Clay, silty clay loam	0.32				
			32-36	Weathered Bedrock	NA				
DoE	Diablo-Olivenhain Complex	9-30	0-10	Cobbly loam	0.20	6	Very low to moderately low	Well drained	4e
			10-42	Very cobbly clay, very cobbly clay loam	0.10				
			42-60	Cobbly loam, cobbly clay loam	0.20				
RfF	Redding Cobbly Loam	15-50	0-10	Cobbly loam	0.20	6	Very low to moderately low	Well drained	7e
			10-20	Cobbly clay loam, cobbly clay	0.20				
			20-30	Weathered bedrock	NA				
SvE	Stony Land	NA	0-60	Unweathered bedrock	NA	8	NA	NA	8

Fill Disposal or Contaminated Soils

A Phase I Environmental Site Assessment has been conducted for the Project. The proposed locations of the Project components are within the limits of a former mortar and artillery range that used ordnance and explosives (OE). Therefore, possible presence of OE including unexploded ordnance (UXO) within the Project facilities area is considered to be a potential environmental concern to the Project. It is not known at this time if contaminated soils may be present as a result of OE and UXO. Prior to development of the Project, a property-specific survey for OE and UXO would be conducted. Any OE or UXO found, or any associated contaminated soils, would be disposed of in accordance with applicable regulations. Section 4.11 Waste management provides information on disposal of hazardous soils. The Phase I ESA is presented in Appendix G.

4.14.2 Environmental Consequences

Possible environmental impacts associated with the construction and operations of the Project are discussed in the following sections. Significance criteria were developed based on CEQA Guidelines and evaluated using professional judgment. Impacts would be considered significant if any of the following occurred:

- Loss of Prime Farmlands, Farmlands of Statewide Importance, or Unique Farmland
- Substantial increase in wind or water-induced soil erosion due to project construction or operation
- Substantial increase in sedimentation adjacent to construction areas

- Disturbance of areas with high erosion susceptibility by construction, and leaving the disturbed areas exposed or improperly stabilized
- Location of project facilities on expansive soil, as defined in Section 1808.6 of the California Building Code 2010, thus creating substantial risk to life or property
- Adverse effect on soil vegetation systems in the project area caused by construction activities

4.14.2.1 Agriculture Resources

The proposed Project is located within land designated as “Grazing Land” (Figure 4.14-2). The Project does not include or impact Important Farmland, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The nearest Farmland of Local Importance is found south and east of the Project and south of SR 52, outside of the range of potential Project impacts.. The productivity of the soil for grazing purposes will be lost; however, the proposed Project is not currently used for grazing. Therefore, no impacts are expected to agricultural resources from Project operations.

4.14.2.2 Construction

Construction can affect soil resources through increased soil erosion and soil compaction. Erosion can result in the loss of topsoil and an increase in offsite sedimentation downstream of the construction site. The magnitude, extent, and duration of this construction-related impact depends on several factors, including the proximity of the construction to surface water conveyances (both natural and artificial), the type of soils affected, and the method, duration, and time of year of construction.

Construction activities will include excavation, grading, equipment laydown, plant construction, and installation of the gen tie, utility switchyard, gas pipeline lateral, and other necessary supporting activities. Laydown areas for construction will be located within the landfill operations area . A relatively small area on the plant parcel west of the proposed plant building will be used as a truck equipment unloading area (Figure 2.2-1). The proposed SDG&E switchyard (approximately 2.5 acres) will be located west of the Sycamore Landfill. Plant buildings and generating facilities will require a fairly level site pad. Grading for development will modify the existing contours using cut and fill techniques to provide a level surface. The preliminary grading is designed to ensure that run-off from the developed site flows into the appropriate stormwater drainage system, and that the Project facilities are protected in the 100-year storm event for the offsite surface drainage system and in the 50-year storm event for the onsite stormwater drainage system.

The grading plan (Appendix B8) includes the finished grade elevations and preliminary contour lines across the entire plant site. The earthwork quantities for the plant site will result in approximately 125,000 to 150,000 cubic yards of total cut and fill and is expected to be a balanced earthwork operation. There will be no fill disposal or fill procurement sites associated with the proposed Project. More exact earthwork quantities will be calculated following the preparation of the Final Geotechnical Report. Final site design and layout will take into account additional environmental, land use, and engineering constraints. The final grading design will attempt to maintain balanced earthwork cut and fill quantities.

The potential for soil erosion will be minimized through implementation of BMPs in accordance with a site-specific SWPPP that is required under the Clean Water Act for all construction projects over 1 acre in size. The BMPs will also be in accordance with the City of San Diego Storm Water Standards Manual (City of San Diego 2011). Monitoring will involve inspections to verify that the BMPs described in the SWPPP are properly implemented and effective. Therefore, impacts from soil erosion via water are expected to be less than significant.

During construction, the ROW along the gen tie route and the utility switchyard site will be disturbed. Disturbance in these areas will occur primarily in the Redding Cobbly Loam soils. Construction associated with the gas pipeline lateral will occur primarily within the Diablo Olivenhain Complex on a slope of not more than 10 percent. During construction, the surface of the disturbed areas will be devoid of vegetation and there will be the highest potential for erosion as well as associated effects, including soil loss and increased sediment yields downstream from disturbed areas. With the implementation of BMPs such as installing straw bales, silt fences, and limiting exposed areas, the impacts of soil erosion during construction will be less than significant.

Soil compaction is a result of vehicle traffic along access roads. Compaction can damage soil structure and reduce pore space, which impedes the movement of air and water. The degree of compaction depends on the moisture content and texture of the soil. The plant site will be mostly covered or paved after construction, with minor landscaped areas. Compaction impacts are not expected to be significant as they will occur mostly in proposed development areas where soil compaction is required or in areas that are currently in use and will not be modified significantly as a result of construction operations.

Water Erosion

The plant site is located in the center of an existing drainage area where water volumes and flow velocities can be intense during storm events. During a storm event, the ephemeral streams will transport sediment downstream until the sediment drops out of the system due to gravity, flow velocity reduction, or other impediments. The SWPPP will describe BMPs to include temporary erosion control measures such as installing crushed rock, silt fences, and fiber rolls.

A preliminary estimate of soil loss by water erosion during construction was evaluated using the Revised Universal Soil Loss Equation (RUSLE2) software (NRCS 2002). Soil loss was calculated as tons/acre/year by the program and then multiplied by the site feature acreage and assumed construction period to get total soil loss in tons for the Project duration. This information is summarized in Table 4.14-3 and includes assumptions for the RUSLE2 software.

Table 4.14-3 Estimate of Soil Loss by Water Erosion Using Revised Universal Soil Loss Equation (RUSLE2)[a]

Feature (acreage)[b]	Activity	Duration[c] (months)	Estimates Using RUSLE2[a]		
			Soil Loss (tons) without BMPs	Soil Loss (tons) with BMPs	Soil Loss (tons) No Project
Project Site – 21.6 acres	Grading	2	128.3	1.1	0.4
	Construction	14 (estimated grading and utility installation period)	225.5	6.3	2.8
Project Soil Loss Estimates	Activities listed above		353.8	7.4	3.2

Notes:

a Soil losses (tons/acre/year) are estimated using RUSLE2 software (NCRS 2002).
The soil characteristics were estimated using RUSLE2 soil profiles corresponding to the mapped soil unit. Estimates of soil losses were calculated by multiplying the RUSLE2 predicted soil loss with the duration and affected area.

b Project acreages based on the assumption that the proposed grading surfaces area and a 20 percent overage will be graded and that 50 percent of the Project site will be exposed during construction. Other construction areas such as access roads, transmission lines, and the switchyard were not included into this preliminary soil loss estimates.

c Duration of activities based upon proposed construction schedule.

References:

San Diego County Hydrology Manual, San Diego County, June 2003.
Climate Data downloaded from NOAA at www.nws.noaa.gov/ohd/hdsc/noaaatlas14.htm
NOAA Atlas 14, National Oceanic and Atmospheric Administration, **http://hdsc.nws.noaa.gov/hdsc/pfds/**.
RUSLE2 Assumptions:
890-ft slope length, 16% slope
Grading soil losses assume the following inputs: Management – Bare ground/rough surface; Contouring – None, rows up and down hill; Diversion/terracing – None; Strips and Barriers - None
Construction and Grading soil losses assume the following inputs: Management – Bare ground; Contouring – None, rows up and down hill; Diversion/terracing – None; Strips and Barriers – None
Construction and Grading with BMP soil losses assume the following inputs: Management – Silt fence; Contouring – Perfect, no row grade; Diversion/terracing – None; Strips and Barriers- 2 fences, 1 at end of slope
No Project soil losses assume the following inputs: Management – Warm season grass, not harvested; Contouring – None, rows up and down hill; Diversion/terracing – None; Strips and Barriers – None

The following BMPs will be included in the SWPPP, in order to limit the potential for soil loss from water erosion during construction:

- Local soil berms and designed drainage features will direct stormwater around the development and into proposed storm channels that will drain into the existing culverts located along Landfill Access Road.
- During site grading, clearing and grubbing will be confined only to those areas needed for Project construction (plant site, linear facilities, and the utility switchyard).
- Temporary erosion controls, including installing crushed rock, silt fences, and fiber rolls, will be used as needed to minimize erosion in active grading areas. Soil stockpiles will be covered prior to forecasted storm events and during windy conditions. Fiber rolls or gravel bags will be placed around the perimeter of the stockpiles to further minimize the potential for runoff.

BMPs will be applied according to the schedule provided in the SWPPP and repaired as soon as possible after erosion is evident. Temporary erosion control measures will be implemented as needed to control erosion. Temporary sediment control materials will be maintained onsite throughout the life of the Project as needed to respond to unforeseen rainfall/runoff events or other emergencies.

Wind Erosion

The classification of Wind Erodibility Group for the soils in the proposed Project ranges from 6 to 8, which indicates a relatively low susceptibility to wind erosion (Table 4.14-2 and Appendix J). BMPs to be specified in the SWPPP are expected to minimize any soil loss due to wind erosion during construction operations. In addition, systematic watering of active grading areas during construction at least twice daily is expected to significantly reduce wind-borne dust. Water applied to control dust will be supplied through temporary water tanks or pipelines that are replenished by a fire hydrant supplied by the local municipal water company.

Expansive Soils

The Diablo clay located within the lower slopes of the plant site, which makes up approximately 22 percent of the Project Facilities area, is characterized by high shrink-swell potential (Table 4.14-2 and Appendix J). The Redding Cobbly Loam soils, occupying approximately 78 percent of the plant site as well as a major portion of the gen tie and the utility switchyard, have a low shrink-swell potential in the upper 10 inches and a relatively high shrink-swell potential from 10 to 20 inches below ground surface (Table 4.14-2 and Appendix J). Therefore, if not addressed in design specifications, soils within the Project site are rated as having a high shrink-swell potential and thus could cause foundation stability issues for the Project. Site-specific geotechnical testing confirmed the relatively high shrink-swell potential for the Diablo Clay but indicated a relatively low shrink-swell for the Redding Cobbly Loam soils. Proper fill selection, moisture control, and compaction during grading activities will help to mitigate the effects of expansive soils. Recommendations to address the expansive soils will be included in the Final Geotechnical Report for the Project and are further discussed in Section 4.16.1.5.. In addition, foundation design will also comply with the City of San Diego Building Code, which takes into account the potential effects of expansive soils.

4.14.2.3 Operations

Through the implementation of BMPs specified in the SWPPP and associated monitoring activities during the operations phase, soil erosion is expected to be insignificant during Project operations.

Post-construction actions will include pavement (i.e., soil cover), containment of runoff from the facilities in the operations area, and placement of berms and detention structures to control sediment loss as well as to manage stormwater runoff. Diversion ditches and storm drains will be designed to accommodate flows and runoff volumes from a 100-year storm event. Roads and paved areas will be kept free of dust, dirt, and visible soil materials. Sufficient materials will be kept onsite to implement temporary control measures during the operational life of the plant. In addition, operational controls designed for dust suppression will also help reduce the overall soil erosion in the area.

Effects of Emissions on Soil-Vegetative Systems

Federal and state ambient air quality standards have been established to protect not only human health, but to prevent damage to plants and wildlife in both natural and agricultural ecosystems. The two project-related criteria pollutants with the greatest potential for effects on ecosystems are O_3 and NO_2. Only NO_2 will be emitted directly, generated by the combustion of fuels. Ozone is generated over many hours and miles by a complex series of chemical reactions

between NO_x and reactive organic compounds (ROC). Additional detail is provided in Section 4.7, Air Quality.

For both O_3 and NO_2, national secondary ambient air quality standards, specifically designated to protect against effects other than to human health, were set equal to primary ambient air quality standards. Studies have shown that concentrations of these pollutants in excess of ambient air quality standards are needed to produce significant impacts on sensitive plants (Heck and Brandt 1977). For example, the lowest 4-hour average NO_2 concentration needed to affect sensitive plants is 3,760 µg/m^3. The California and federal 1-hour NO_2 ambient air quality standard is 339 µg/m^3 and 188 µg/m^3, respectively (California Air Resource Board 2010). Based on results of the air quality analysis, maximum ground-level ambient concentrations of NO_2 due to project operations will be lower than this most stringent ambient air quality standard. Therefore, no significant impacts to agricultural or natural plant species are expected to occur from Project emissions

4.14.2.4 Cumulative Analysis

The proposed Project and the immediate surrounding lands are designated as “Grazing Land” and do not meet the qualifications for Farmland of Local Importance, Important Farmland, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, the Project will not conflict with agricultural activities in the area and will not convert important agricultural land. Additionally the Project is not currently utilized for grazing and we are not aware of any local shortage of grazing lands. Therefore, there will be no cumulative impacts with respect to loss of productivity of the soil for agricultural/grazing purposes. No newly proposed upstream projects within the local watershed are planned at this time which would potentially contribute to an increase in the cumulative effect of soil erosion. The Project will implement BMPs to control erosion and minimize loss of topsoil in areas outside of the proposed development. The Project will comply with the City of San Diego stormwater control requirements implemented through the City of San Diego Storm Water Standards Manual (City of San Diego 2011) and other LORS. BMPs will be required to control erosion to the maximum extent practical, which will limit cumulative impacts to a level that is less than significant.

4.14.3 Mitigation Measures

Implementation of the mitigation measures presented below will minimize soil loss and protect water quality from Project construction and operations phase activities.

SOIL-1: Develop and implement erosion control measures to minimize soil loss and maintain water quality. Both temporary and long-term controls will be constructed and maintained as necessary during and following construction until long-term stabilization has been established for the life of the Project.

Such erosion and sedimentation control measures may include, but are not limited to: (a) minimizing disturbance; (b) wetting the roads in active construction areas and laydown areas as needed; (c) controlling speed on unpaved surfaces; (d) placing gravel in entrance ways; and (e) use of straw bales, silt fences, and earthen berms to control runoff.

SOIL-2: Conduct Project construction grading in compliance with good industry practice and City of San Diego grading permit requirements.

SOIL-3: Conduct Project construction activities and operations in accordance with the appropriate SWPPP for each phase and the associated monitoring program. SWPPPs will be required for both construction and operations phases, and these documents will include BMPs (e.g., use of runoff control measures such as hay bales and silt fences; regular inspections of drainage control structures) to reduce erosion and sedimentation. Finally, all project activities will comply with City of San Diego storm water control requirements as specified in the City of San Diego Storm Water Standards Manual (City of San Diego 2011).

SOIL-4: Perform a preliminary geotechnical investigation (already completed) to evaluate the engineering characteristics of project site soils. Evaluate which remedial measures will be needed to address potential impacts expected due to the identified soil properties. Recommendations provided in the geotechnical report will be followed to mitigate potential impacts related to soil texture and expansiveness. The preliminary geotechnical report is provided as an attachment to Appendix J. A final geotechnical investigation will be conducted to support final design.

SOIL-5: A Project site survey for OE and UXO would be conducted. If OE or UXO are found, associated contaminated soils, if any, would be disposed of in accordance with applicable regulations (Section 4.11 Waste Management).

4.14.4 Laws, Ordinances, Regulations, and Standards

This section addresses the LORS applicable to soils that are relevant to the Project. Table 4.14-4 and the following text summarize the LORS that are expected to apply to the Project.

Table 4.14-4 Applicable LORS for Soils

LORS	Applicability	Where Discussed in AFC
Federal:		
Farmland Protection Policy Act - Subtitle I of Title XV, Section 1539-1549	The Farmland Protection Policy Act requires the assessment of the Project impacts on farmlands.	Section 4.14.4.1
Federal Water Pollution Control Act of 1972: Clean Water Act of 1977	Regulates stormwater discharge from construction and industrial activities.	Section 4.14.4.1
Natural Resources Conservation Service (1983); National Engineering Handbook Sections 2 and 3	Standards for soil conservation.	Section 4.14.4.1
State:		
California Porter Cologne Water Quality Control Act	A NPDES California General Activities Construction Permit is necessary if an area greater than 1 acre will be disturbed. Industrial facilities (including power plants) with potential to affect stormwater discharges are required to obtain an NPDES permit during operation (Industrial Storm Water General Permit).	Section 4.14.4.2

LORS	Applicability	Where Discussed in AFC
California Air Resources Board/California Environmental Protection Agency	Regulates fugitive dust emissions.	Section 4.14.4.2
Local:		
City of San Diego Municipal Code	Permit requirements for construction activities conducted within the City's jurisdiction including grading, stormwater, and other construction related permit requirements.	Section 4.14.4.3
City of San Diego Mission Trails Design District	The intent of these regulations is to ensure that development along the edges of the MTRP enhances the park's natural qualities and promotes the aesthetic and functional quality of park/urbanization relationships, while recognizing the right to reasonable development within the Design District.	Section 4.14.4.3
City of San Diego Steep Hillside Guidelines	The Project will be required to comply with the City's Steep Hillside Guidelines.	Section 4.14.4.3
City of Santee	The natural gas lateral tap will require a permit from the City of Santee.	Section 4.14.4.3

4.14.4.1 Federal Authorities and Administering Agencies

The Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) of 1981 was enacted to identify and protect the nation's farmlands. The purpose of the Act is to preserve agricultural and open space lands by discouraging premature and unnecessary conversion to urban uses. The Act creates an arrangement whereby private landowners contract with counties and cities to voluntarily restrict land to agricultural and open-space uses.

Federal Water Pollution Control Act of 1972

The Federal Water Pollution Control Act of 1972, commonly referred to as the Clean Water Act following amendment in 1977, establishes requirements for discharges of stormwater or wastewater from any point source that would affect the beneficial uses of waters of the United States. The State Water Resources Control Board (SWRCB) adopted statewide NPDES general permits that apply to stormwater discharges associated with construction, industrial, and municipal activities. The Regional Water Quality Control Board (Water Board) is the administering agency for the NPDES permit program. The Project would comply with the Clean Water Act through the preparation and implementation of a Construction and Industrial SWPPP (refer to Section 4.13, Water Resources).

Natural Resources Conservation Service

The USDA NRCS, *National Engineering Handbook*, 1983, Sections 2 and 3 provide standards for soil conservation during planning, design, and construction activities. The Project would need to conform to these standards during grading and construction to limit soil erosion.

4.14.4.2 State Authorities and Administering Agencies

The Williamson Act

The Williamson Act was passed by the California Legislature in 1965 to preserve agricultural and open space lands by discouraging premature and unnecessary conversion to urban uses. The Act creates an arrangement whereby private land owners contract with counties and cities to voluntarily restrict land to agricultural and open-space uses. The Project site is not covered by this Act.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1967, Water Code Section 13000 et seq., requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect State waters. Those criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The Project site lies within the jurisdiction of the San Diego Water Board, which would ensure that the Project complies with the General Construction Permit requirements.

The California Water Code requires protection of water quality by appropriate design, sizing, and construction of erosion and sediment controls. The discharge of soil into surface waters resulting from land disturbance may require filing a report of waste discharge (see Water Code Section 13260a). No discharges of soil into surface waters are anticipated, and thus, no waste discharge permit is anticipated.

Air Quality Management District Fugitive Dust Mitigation Standard

The Air Quality Management District (AQMD) regulates particulate material (fugitive dust emissions) resulting from development in San Diego County. AQMD adopts mitigation measures from the AQMD Handbook. A site-specific fugitive dust emission control plan will be required prior to construction as outlined in Section 4.7, Air Quality.

4.14.4.3 Local Authorities and Administering Agencies

Ordinances for land grading, stormwater pollution control, and other construction requirements have been established by City of San Diego municipal code. These ordinances establish permitting requirements and exemptions for grading land and activities that can cause the discharge of pollutants into stormwater systems or watercourses.

The purpose of the Mission Trails Design District is to provide supplemental development regulations for property surrounding MTRP. The intent of these regulations is to ensure that development along the edges of the MTRP enhances the park's natural qualities and promotes the aesthetic and functional quality of park/urbanization relationships, while recognizing the right to reasonable development within the Design District. Additional details are included in Section 4.2.1.1.

The Steep Hillside Regulations of the Environmentally Sensitive Lands Regulations are applicable when development is proposed on a site containing portions with a natural gradient of at least 25 percent and a vertical elevation of at least 50 feet. The Steep Hillside Regulations are also applicable if a portion of the site contains a natural gradient of at least 200 percent (200 feet of vertical distance for every 100 feet of horizontal distance) and a vertical elevation of at least 10 feet. Portions of the Project will be developed on land with a vertical elevation of more

than 50 feet. Thus, the Steep Hillside Regulations apply to the proposed Project. Project engineering design and construction will comply with applicable Steep Hillside Regulation Guidelines.

The natural gas lateral tap will require a permit from the City of Santee. The Project proponent will apply for the permit with the City of Santee for compliance with the municipal code.

4.14.5 Agencies, Agency Contacts, and Permits

The agency contacts are identified in Table 4.14-5.

Table 4.14-5 Agencies, Agency Contacts, and Permits

Agency	Name	Title	Phone	Email	Mailing Address	Permit
City of San Diego Development Services Department	Kelly Brought on	Development Services Director	(619) 321-3233	Kbroughton @sandiego.gov	1222 First Avenue, MS 301 San Diego, CA 92101-4154	Responsible for land use plans and permits (includes grading permits, encroachment permits, and other applicable permits)
City of San Diego Development Services Department	Afsaneh Ahmadi	Chief Building Official	(619) 446-5406	Aahmadi @sandiego.gov	1222 First Avenue, MS 301 San Diego, CA 92101-4154	Responsible for building permits
City of San Diego Storm Water Division	n/a	n/a	(619) 235-1000	Swppp @sandiego.gov	9370 Chesapeake Drive, Ste. 100, M.S. 1900 San Diego, CA 92123	Responsible for stormwater management
San Diego Regional Water Quality Control Board	Christina Arias	Water Resource Control Engineer	(858) 627-3931	CArias @waterboards.ca. gov	9174 Sky Park Court, Suite 100 San Diego, CA 92123-4340	Responsible for stormwater discharge related issues and permits
City of Santee Development Services Department, Engineering and Traffic Services Division	n/a	n/a	(619) 258-4100, ext. 165	n/a	10601 Magnolia Ave. Santee, CA 92071	Responsible for land development engineering review, encroachment permit, and stormwater management related issues and permits

4.14.6 Required Permits and Permitting Schedule

To comply with the National Pollutant Discharge Elimination System General Permit, a Notice of Intent must be filed with the State Water Resources Control Board at least 30 days prior to the need for the permit.

A grading permit is required by the City of San Diego Development Services Department of Building. This permit would be required but for the CEC jurisdiction over the Project.

4.14.7 References

California Air Resources Board (CARB). 2010. Ambient Air Quality Standards (http://www.arb.ca.gov/research/aaqs/aaqs2.pdf), Accessed 07/29/2011.

City of San Diego, 2011. Storm Water Standards Manual (http://www.sandiego.gov/development-services/news/pdf/stormwatermanual.pdf).

Heck, W.W. and C.S. Brandt, 1977. "Effects on Vegetation: Native, Crops, Forests," Chapter 4 in Part B - Effects on Biological Systems, Volume II - The Effects of Air Pollution, Air Pollution (Third Edition), edited by A.C. Stern. Academic Press, New York. 1977.

NRCS. 2002. Revised Universal Soil Loss Equation, Version 2 (RUSLE2), Official NRCS RUSLE2 Program. Available online at http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm. Accessed 6/30/11.

USDA-NRCS, Web Soil Survey. 2011. Available online at http://websoilsurvey.nrcs.usda.gov/Official Soil Series Descriptions Available online at: http://soils.usda.gov/technical/ classification/osd/index.html. Accessed 26 June 2011.

FIGURES

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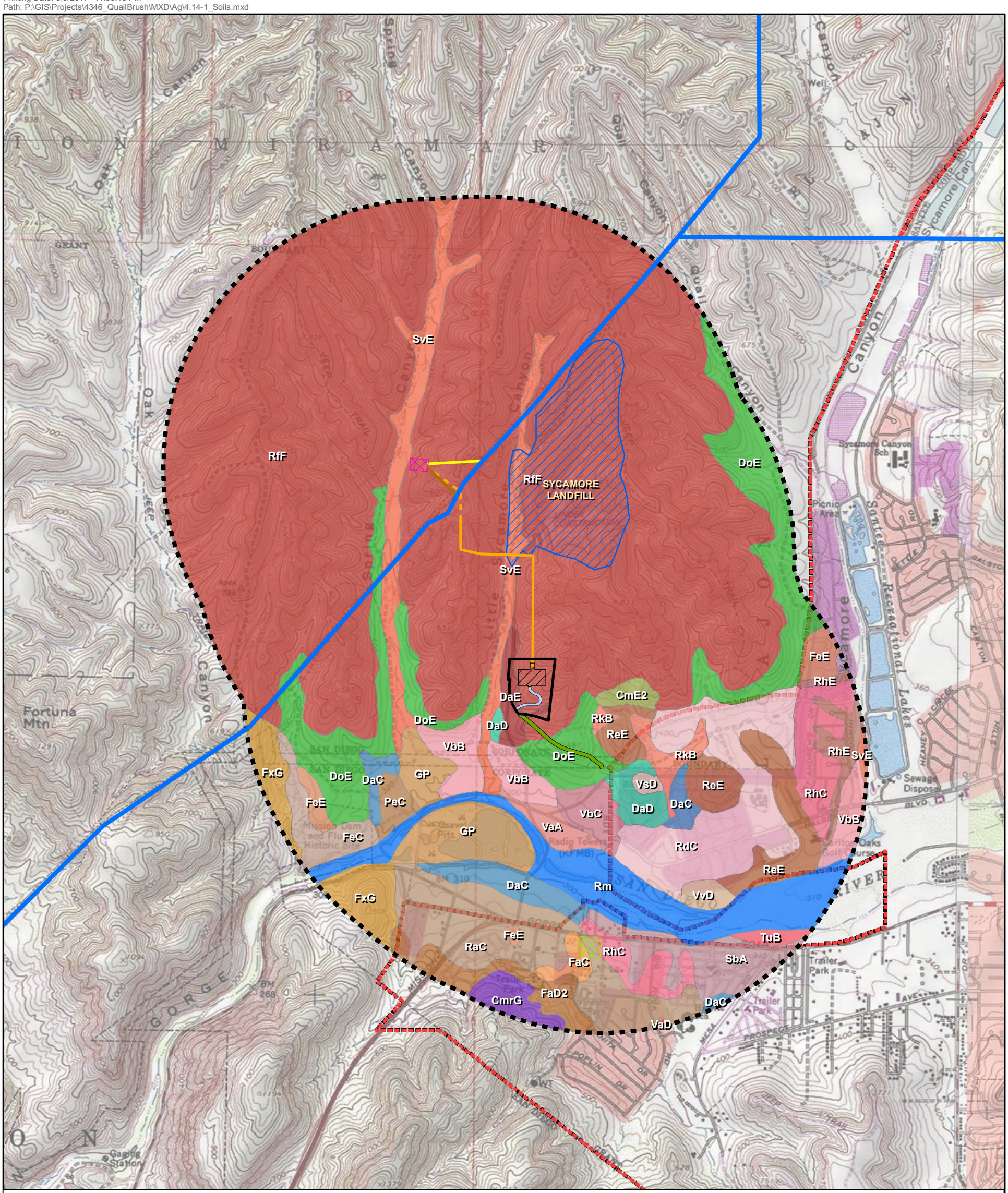
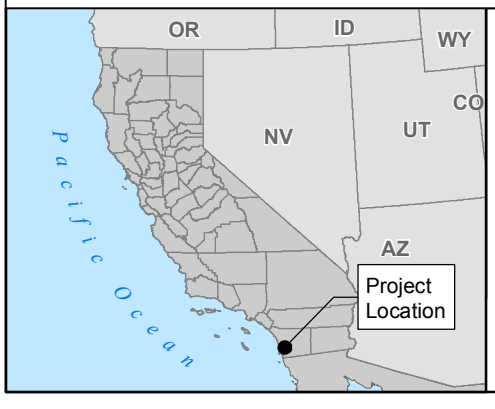


USDA Soils (NRCS) Series

- Cieneba rocky coarse sandy loam, 9 to 30 percent slopes , eroded - CmE2
- Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes - CmrG
- Diablo clay, 15 to 30 percent slopes - DaE
- Diablo clay, 2 to 9 percent slopes - DaC
- Diablo clay, 9 to 15 percent slopes - DaD
- Diablo-Olivenhain complex, 9 to 30 percent slopes - DoE
- Fallbrook rocky sandy loam, 5 to 9 percent slopes - FeC
- Fallbrook rocky sandy loam, 9 to 30 percent slopes - FeE
- Fallbrook sandy loam, 5 to 9 percent slopes - FaC
- Fallbrook sandy loam, 9 to 15 percent slopes, eroded - FaD2
- Friant rocky fine sandy loam, 30 to 70 percent slopes - FxG
- Gravel pits - GP
- Placentia sandy loam, 2 to 9 percent slopes - PeC
- Ramona sandy loam, 5 to 9 percent slopes - RaC
- Redding cobbly loam, 9 to 30 percent slopes - ReE
- Redding cobbly loam, dissected, 15 to 50 percent slopes - RfF
- Redding gravelly loam, 2 to 9 percent slopes - RdC
- Redding-Urban land complex, 2 to 9 percent slopes - RhC
- Redding-Urban land complex, 9 to 30 percent slopes - RhE
- Reiff fine sandy loam, 2 to 5 percent slopes - RkB
- Riverwash - Rm
- Salinas clay loam, 0 to 2 percent slopes - SbA
- Stony land - SvE
- Tujunga sand, 0 to 5 percent slopes - TuB
- Visalia gravelly sandy loam, 2 to 5 percent slopes - VbB
- Visalia gravelly sandy loam, 5 to 9 percent slopes - VbC
- Visalia sandy loam, 0 to 2 percent slopes - VaA
- Visalia sandy loam, 9 to 15 percent slopes - VaD
- Vista coarse sandy loam, 9 to 15 percent slopes - VsD
- Vista rocky coarse sandy loam, 5 to 15 percent slopes - VvD

Note:
Basemap - USGS Poway, La Mesa, and El Cajon 7.5 minute Quadrangle Map Series.



Legend

- 1-Mile Buffer
- Project Boundary
- Plant Site
- Offsite Parking
- AccessRoad
- Overhead Gen Tie
- Underground Gen Tie
- North Loop Overhead Line
- South Loop Overhead Line
- Proposed Gas Lateral
- Existing SDG&E 230 kV T-Lines (2)
- Preliminary SDG&E Switchyard

Cogentrix

QUAIL BRUSH GENERATION PROJECT

FIGURE 4.14-1
SOIL TYPES

0 1,000 2,000 4,000
Feet
1:24,000

TETRA TECH EC, INC.

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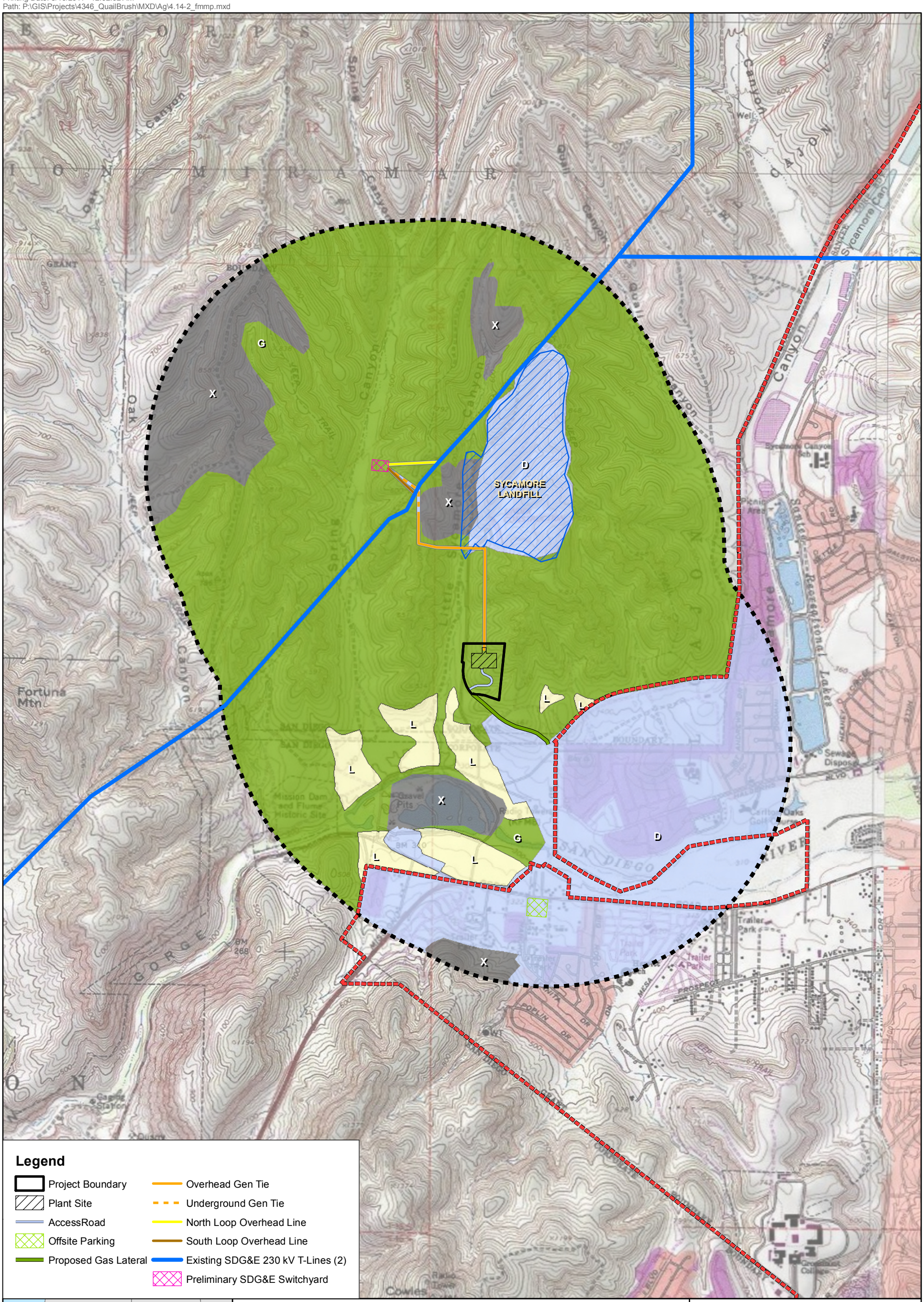

Legend

- 1-Mile Buffer
- Sycamore Landfill
- City Boundary

FMMP

- Farmland of Local Importance - L
- Grazing Land - G
- Urban Built Up Land - D
- Other Land - X

Cogentrix

QUAIL BRUSH GENERATION PROJECT

FIGURE 4.14-2
FARMLAND MAP

0 1,000 2,000 4,000
Feet

TETRA TECH EC, INC.

DATA ADEQUACY WORKSHEETS

Adequacy Issue: Adequate ____ Inadequate ____

DATA ADEQUACY WORKSHEET

Revision No. 0 Date ____

Technical Area: **Soils** Project: ____ Technical Staff: ____

Project Manager: Eric Solorio Docket: ____ Technical Senior: ____

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	4.14.1, 4.14.2, 4.14.3		
Appendix B (g) (15) (A)	A map at a scale of 1:24,000 and written description of soil types and all agricultural land uses that will be affected by the proposed project. The description shall include:	4.14.1.2, 4.14.1.1		
Appendix B (g) (15) (A) (i)	The depth, texture, permeability, drainage, erosion hazard rating, and land capability class of the soil;	4.14.1.2		
Appendix B (g) (15) (A) (ii)	An identification of other physical and chemical characteristics of the soil necessary to allow an evaluation of soil erodibility, permeability, re-vegetation potential, and cycling of pollutants in the soil-vegetation system;	4.14.1.2		
Appendix B (g) (15) (A) (iii)	The location of any proposed fill disposal or fill procurement (borrow) sites; and	4.14.2.2		
Appendix B (g) (15) (A) (iv)	The location of any contaminated soils that could be disturbed by project construction.	4.14.1.2		
Appendix B (g) (15) (B)	An assessment of the effects of the proposed project on soil resources and agricultural land uses. This discussion shall include:	4.14.2		
Appendix B (g) (15) (B) (i)	The quantification of accelerated soil loss due to wind and water erosion; and	4.14.2.2		

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (15) (B) (ii)	The effect of power plant emissions on surrounding soil-vegetation systems.	4.14.2.3		
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed; and	4.14.4		
Appendix B (i) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.	4.14.5		
Appendix B (i) (2)	The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.	4.14.5		
Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.	4.14.6		