

VISUAL RESOURCES

Testimony of David Flores

SUMMARY OF CONCLUSIONS

Staff has analyzed visual resource related information pertaining to the proposed Orange Grove Project, and found that the project, with staff-recommended conditions of certification, would not introduce an adverse “Aesthetic” impact under the California Environmental Quality Act and Guidelines, and would comply with applicable laws, ordinances, regulations, and standards pertaining to aesthetics or preservation and protection of sensitive visual resources.

INTRODUCTION

Visual resources are the visible natural and man-made features of the environment. In this section, staff evaluates the proposed project’s construction and operation using the “Aesthetic” criteria of the California Environmental Quality Act (CEQA) Guidelines to determine if the project would introduce a significant impact under CEQA, and if the project would comply with applicable laws, ordinances, regulations, and standards (LORS) pertaining to aesthetics or preservation and protection of sensitive visual resources.

In order to provide a consistent framework for the analysis, a standard visual assessment methodology developed by Energy Commission staff and applied to numerous siting cases in the past was employed in this study. A description of this methodology is provided in **APPENDIX VR-1**.

LAWS, ORDINANCES, REGULATION, AND STANDARDS

Visual Resources Table 1 provides a general description of identified adopted federal, state, and local LORS pertaining to aesthetics or preservation and protection of sensitive visual resources relevant to the proposed project.

**Visual Resources Table 1
Laws, Ordinances, Regulations, and Standards**

Applicable LORS	Description
Federal	
Transportation Equity Act for the 21 st Century of 1998, and Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2005.	The project site does not involve federal managed lands, nor a recognized National Scenic Byway or All-American Road within its vicinity.
State	
California Streets and Highways Code, Sections 260 through 263 – Scenic Highways	Ensures the protection of highway corridors that reflect the State's natural scenic beauty.
Local	
<p>San Diego County General Plan, adopted 12/3/79</p> <p><u>Circulation/Scenic Highways Element</u></p>	<p>Encourages visual integration of projects of differing types or densities through the use of building setbacks, landscaped buffers, or other design features. Ensures that design reflects concerns about the preservation of viewsheds.</p> <p>Provides the San Diego Scenic Corridor Guidelines, designated corridors and streets. The project site is located along SR 76, and this stretch is not listed as a scenic route.</p>
<p>County of San Diego Zoning Ordinance (Ordinance 5281), adopted 12/19/78 Section 4000 and Zone A –Light Pollution Code</p> <p>-</p> <p>Part 6-General Regulations “GI” General Agricultural Zone, including sign requirements.</p>	<p>Provides site review requirements, and establishes performance standards for development projects including architectural design, landscaping, exterior lighting and outdoor storage. Requires that architectural design of structures and their materials and colors are visually harmonious with surrounding development and natural land forms.</p> <p>Includes requirements for placement of buildings and building heights.</p> <p>Regulates the design, character, location, number, type, quality of materials, size, illumination and maintenance of signs.</p>

SETTING

The proposed Orange Grove Project (OGP) would be built within the unincorporated county of San Diego, California, approximately four miles east of Interstate 15 and two miles west of the community of Pala. The site is also situated five miles west of the Cleveland National Forest, north of State Route (SR-76) and the San Luis River, east of Monserate Mountain.

The regional landscape setting is primarily rural, including agriculture, large plot residential, small communities, open space, and large-scale commercial-industrial facilities. North of the project site, the ground slopes uphill to a ridgeline that surrounds the site to the northeast, north and west, at elevations of up to 1,700 feet. Three existing homes located on the ridgeline would have a view of the project site.

South of the site, on the opposite side of SR-76, is a former aggregate mine within the San Rey River bed. The former mining pits are filled with water with natural grasses surrounding the ponds. The former mine property has recently been acquired by the Pala Indians, and the Tribe currently has no plans for developing the site.

In general, scenic quality of the project viewshed is comparatively high, distinguished by views of the various hills and mountains in the background.

PROJECT SITE

Visual Resources Figure 1 - view of the Project Site, depicts views from within the proposed Orange Grove Project site (all figures referred to in the text may be found at the end of this section). As discussed in the Application of Certification (AFC), the most visually dominant of the proposed project facilities are the two, 80-foot high stacks. The stacks would be painted a color similar to the dominant color of the hillsides surrounding the site. **Visual Resources Table 2** depicts architectural elevations of the proposed power plant.

The proposed OGP site is located in rural north San Diego County about five miles northeast of the city of Fallbrook and approximately two miles west of the community of Pala. The project site is at an elevation of approximately 360 to 440 feet above mean sea level on a gently sloping (approximately 10%) old alluvial fan surface. The project site does not have any undisturbed natural habitat. The majority of the site has been used for agriculture, and is occupied by a former citrus grove. A fenced San Diego Gas and Electric Company (SDG&E) storage area is located just south of the project site on an adjacent parcel, and is an area that will be used for the construction laydown.

**Visual Resources Table 2
Summary of Major Publicly Visible Structures**

Proposed New Project Component	Number of Units	Length and Width (approximately)	Height (approximately)
HRSGs	2	12.5 feet	80 feet
Raw Water Tank	1	50 feet	40 feet
Chiller System	1	89 – 32 feet	30 feet
Turbine Enclosures	2	57 – 37 feet	43 feet
Emission Control System	2	89 – 32 feet	33 feet
Demineralized Water Storage	1	31 feet	22 feet

The OGP linear facilities include an electric transmission interconnection (underground), electric transmission upgrades and installation of a underground gas pipeline. The following is a brief description of each off-site installation:

Transmission Lines – The transmission line interconnection would be buried underground within Pala Del Norte Road from the project site to the existing Pala substation. The transmission line would be buried in a common trench with the natural gas pipeline (OGP 2008a pg.6.13-3).

Reclaim Water – The reclaimed water pickup station would be located at an existing Fallbrook Public Utility District waste water treatment plant. As discussed in the AFC, the water would be transported by delivery trucks to the project site. See the **TRAFFIC AND TRANSPORTATION** section of this analysis for additional discussion of transportation issues. (OGP 2008a, pg. 1-4).

Natural Gas Pipeline – The natural gas pipeline would be buried underground within Pala Del Norte Road from the project site to the existing Pala substation. From the southwest corner of the substation, the gas pipeline would be constructed south for approximately 0.4-mile over mountainous terrain, primarily following existing paved roads to an existing regional gas transmission line. (OGP 2008a, pg. 6.13-3).

Construction Staging Area – Both construction laydown and worker parking will be provided at the project site. (OGP 2008a, pg. 6.11-18).

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

To determine whether there is a potentially significant visual resources impact generated by a project, Energy Commission staff reviews the project using the 2008 CEQA Guidelines Appendix G Environmental Checklist pertaining to “Aesthetics.” The checklist questions include the following:

A. Would the project have a substantial adverse effect on a scenic vista?

- B. Would the project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?
- C. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?
- D. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Staff evaluates both the existing visible physical environmental setting, and the anticipated visual change introduced by the proposed project to the view, from representative, fixed vantage points (called “Key Observation Points” [KOPs]). KOPs are selected to be representative of the most characteristic and most critical viewing groups and locations from which the project would be seen. The likelihood of a visual impact exceeding Criterion C of the CEQA Guidelines, above, is determined in this study by two fundamental factors: the susceptibility of the setting to impact as a result of its existing characteristics (reflected in its current level of visual quality, the potential visibility of the project, and the sensitivity to scenic values of its viewers); and the degree of visual change anticipated as a result of the project. These two factors are summarized respectively as *visual sensitivity* (of the setting), and *visual change* (due to the project) in the discussions below. Briefly, KOPs with high sensitivity (due to outstanding scenic quality, high levels of viewer concern, etc.), that experience high levels of visual change from a project, are more likely to experience adverse impacts. KOPs with low sensitivity or low levels of visual change are not.

Staff also reviews federal, state, and local LORS and their policies or guidelines for aesthetics or preservation and protection of sensitive visual resources that may be applicable to the project site and surrounding area. These LORS include local government land use planning documents (e.g., General Plan, zoning ordinance).

Visual Resources Figure 2 shows the locations of the three KOPs used in this analysis:

- KOP 1 – view from motorist traveling east on SR 76:
- KOP 2 – view from motorist traveling west on SR 76; and
- KOP 3 – represents views from slopes to the northeast of the project site where three homes are located.

The three KOPs are depicted in the context of the overall project viewshed or area of potential visual effect (the area within which the project could potentially be seen). See **APPENDIX VR-1** for information about the process used to evaluate each KOP.

Staff’s analysis of the project’s effect on each KOP is presented under Operation Impacts.

DIRECT/INDIRECT IMPACTS AND MITIGATION

The impact discussion is presented under the following four criteria from CEQA Guidelines Appendix G: scenic vistas, scenic resources, visual character or quality, and light or glare.

A. Scenic Vistas

“Would the project have a substantial adverse effect on a scenic vista?”

A scenic vista for the purpose of this analysis is defined as a distant view through and along a corridor or opening that exhibits a high degree of pictorial quality. There are no scenic vistas in the KOP 1, KOP 2 and KOP 3 viewsheds, based on staff’s field reconnaissance, review of topographical maps, and review of the County of San Diego’s General Plan documents. The proposed project would not cause a significant visual impact to a scenic vista.

B. Scenic Resources

“Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway corridor?”

A scenic resource for the purpose of this analysis includes a unique water feature (waterfall, transitional water, part of a stream or river, estuary); a unique physical geological terrain feature (rock masses, outcroppings, layers or spires); a tree having a unique visual/historical importance to a community (a tree linked to a famous event or person, an ancient old growth tree); historic building; or other scenically important physical features, particularly if located within a designated federal scenic byway or state scenic highway corridor.

San Antonio de Pala is located along Pala Mission Road (just north of SR 76) in Pala, approximately 1.5 miles east of the project site. This historical site was a sub-mission of Mission San Luis Rey de Francia. It was established in 1816 and is the only surviving mission still ministering to an Indian population. Because of its distance from the project site and intervening buildings, landforms, and vegetation, the OGP would not be visible from the mission.

No other notable scenic resources were identified within the project viewshed.

State Route 76 runs along the southern boundary of the project site. This portion of State Route 76 is not designed a State Scenic Highway; nor is it listed as eligible by the California Department of Transportation (CalTrans 2008). Consequently, no eligible or designated state scenic highways are located within the area of the proposed project.

C. Visual Character or Quality

“Would the project substantially degrade the existing visual character or quality of the site and its surroundings?” The project aspects evaluated under this criterion are broken down into two categories: Construction Impacts and Operation Impacts.

Construction Impacts and Mitigation

The AFC indicates that the project staging and worker parking area would be located on the project site nearest to SR-76. The equipment and material storage would be prominent and the effect would potentially not be beneficial, but adverse, for the duration of project construction. In the worst case, prominent and unsightly construction

staging at this location could result in adverse impacts to viewers on SR 76. To address this potential impact, staff recommends Condition of Certification **VIS-2**, which provides for screening during construction. With this condition, and considering the temporary nature of construction, impacts at the project site would be less than significant.

Trenching for cut-and-cover construction of a proposed natural gas pipeline and underground transmission line on Pala del Norte Road and SR-76 would create a temporary visual disturbance. These disturbances would be phased, and would last for a period of three weeks (OGP 2008a). Given the temporary short-term effect, the visual impact would be less than significant.

Other major project construction activities would be largely screened from off-site viewpoints by the surrounding hills on three sides of the OGP site. An exception to this would be along the SR-76, where equipment and material access, and construction of tall spoil berms would create prominent visual disruptions for the period of construction, as seen primarily by the traveling public. However, considering the moderate existing visual quality of this segment of SR-76, the fleeting nature of views within it, the relatively limited number of affected viewers, and the temporary nature of impacts, these effects are considered to be less than significant.

Anticipated impacts from construction lighting are discussed under Light and Glare.

Staff-Recommended Mitigation: To address the potential adverse impacts of construction and construction staging at the project site, staff recommends Condition of Certification **VIS-2** which would include the following:

- planting of additional landscape screening, including tree and shrub plantings, on the southern boundary of the project site at the earliest feasible time, during early stages of project construction; and,
- temporary, dark-colored opaque fencing surrounding the staging areas to provide screening in the short term, as landscape screening matures.

Operation Impacts and Mitigation

As described above, operation impacts are discussed by representative key observation points (KOPs). As also described previously, potential impacts are identified by two fundamental factors for each KOP: *visual sensitivity* (the susceptibility of the setting to impact as a result of its existing characteristics, including current level of visual quality, potential visibility of the project, and sensitivity to scenic values of viewers); and the degree of *visual change* anticipated as a result of the project.

KOP 1 – View from State Route 76 Looking South towards the Project Site

Visual Resources Figures 3A through 3D depict the view taken at the intersection of SR 76 and Pala del Norte Road approximately 700 feet from the site boundary. This view is representative of the public traveling east on SR 76. ***In addition, Figures 3C and 3D provide a landscape simulation of native plants and trees, and their effectiveness for screening of the project at ten years and twenty years after construction.***

Visual Sensitivity

Eastbound motorists on SR-76 at this location have views of the rural countryside and hills. Viewer exposure to the project site, which occupies the visual foreground of the roadway to the east, is moderate. The viewers along SR-76 are generally local residents and motorists traveling to and from the two Indian casinos in the area. The intervening terrain and vegetation along SR-76 near the project site and the low shrub and existing storage facility screening on the eastern portion of the OGP site minimally filter views of the site. In this area of SR-76, motorists' attention tends to be drawn to the roadway due to the various curves along this stretch of highway rather than eastward toward the project site, but the prominent and striking upper portions of the power plant structures and noise walls would draw viewers' attention toward the site momentarily. Existing visual quality in the vicinity, characterized by views of the hillsides and ridgelines, is moderate. Viewer concern is also considered moderate due to the scenic quality of this portion of this state route. This roadway is not designated as a scenic highway in the San Diego County General Plan Circulation Element.

Approximately 9439 vehicles per day use SR-76. About half of these vehicles would be eastbound; therefore the number of viewers will be moderately low. Their duration of view will be moderately low, from 10 to 20 seconds, because the motorist will be focused on maneuvering the various curves in the highway.

The overall visual sensitivity for motorists is considered moderately low from KOP 1. This assessment is the result of the moderately low visual quality, moderate viewer concern, and moderate overall viewer concern.

Visual Change

As depicted in **Visual Resources Figure 3B**, the project would be clearly seen from this segment of the viewshed for eastbound motorist. From some viewpoints, such as this one, the project would be seen with minimal filtering by existing landscaping; from other segments of SR-76, the project would be partially screened by tree canopy, with the upper portions of the exhaust stacks, heat recovery steam generators (HRSGs) and intake structures visible above the canopy. In either case, the project would introduce contrasting elements of vertical and rectilinear form and line, light and contrastive coloring in relation to the visual foreground of natural grasses, resulting in a moderate level of contrast.

The applicant shows in their photo simulations and architectural rendering that the exteriors of major project structures would be treated with an earth tone finish intended to optimize its visual integration with the hillsides in the background. (**Visual Resources Figure 3B**).

Staff has proposed Condition of Certification **VIS-1** which requires that all project features be colored to blend in with the existing landscape to the greatest extent feasible in accordance with a Surface Treatment Plan that would be approved by the Compliance Project Manager (CPM).

The photo simulation of the project structures shows the proportionate size relationship to other manmade and natural elements. The project would occupy a small portion of

the total field-of-view of KOP 1. However, the structures would visually appear dominant when compared to other elements (storage building structures) in the KOP view. The overall visual scale of the structures as simulated in the KOP 1 viewshed is considered to be moderate.

Overall visual dominance of the project would remain visually subordinate to the hillsides in the background. The vertical form and line of stacks and HRSGs would silhouette against the hillside to a degree, increasing dominance and attracting attention to a moderate degree.

The project would not block high quality or scenic views from key viewpoints in this general area. Vertical features would not intrude into the sky, but remain visually subordinate.

Due to the moderate level of contrast, subordinate visual dominance, and low view blockage, overall visual change due to structures would be low to moderate.

Impact Significance – In the context of the setting's moderate visual sensitivity, and the moderate level of project visual change, the project's visual impact at KOP 1 would be adverse, but less-than-significant.

Staff-Recommended Mitigation- Reduction of the structure's color contrast would be an important factor in reducing overall project contrast and dominance from this and other KOPs. Staff recommends adoption of Condition of Certification **VIS-1**, painting of all project structures to ensure the lowest feasible color contrast. In this instance, a darker color more closely matching the color value of the surrounding hills would reduce color and overall contrast.

Additional screening of the facility with in-fill perimeter landscape plantings would further reduce project line and form contrast. Staff recommends Condition of Certification **VIS-2**, Perimeter Landscape Screening and Replacement Planting.

Residual Impact Significance After Mitigation with Staff-Recommended Measures- With staff recommended measures, the adverse visual impact generated by the proposed project can be minimized for the life of the project.

KOP 2– View taken from SR-76, approximately 500 feet east of the Project Site

Visual Resources Figures 4A through 4D represents the view from SR-76, approximately 500 feet east of the project site. This view, looks west across SR-76 from a private driveway. The citrus orchard where the site is located can be seen across the roadway, along with the steep hillsides west of the site are vegetated with sage scrub and chaparral habitat. ***In addition, Figures 4C and 4D provide a landscape simulation of native plants and trees, and their effectiveness for screening of the project at ten years and twenty years after construction.***

Visual Sensitivity

As similar to KOP 1, motorists on SR-76 have the same views of the rural countryside. Viewer exposure to the project site, which occupies the visual foreground of the roadway to the west, is moderate. The viewers along SR-76 are generally local residents and motorists traveling west to Interstate 15.

Because of the particular angle of this view, the project appears well-screened by the existing tall oak tree canopy and scattered trees and shrubs currently on the project site. This existing oak tree screening and scattered trees nearly equals the height of the proposed OGP structures and effectively screens the greater part of the project. As the viewer moves closer to the site, the effectiveness of the foreground screening increases and the plant moves out of the 45 degree cone of vision.

Form, line, and overall contrast of the protruding stacks in this view are low. However, from views from the SR-76 farther to the west, the structures would not be screened by the tall canopy, and overall form, line and color contrast could be moderate.

From KOP 2, visual dominance of the OGP structures would be subordinate to the hillsides and generally weak. As motorists continue west along SR-76 the power plant moves out of the 45 degree cone of vision, and would no longer be visible to the viewer, therefore dominance of the power plant structures would be negligible.

The intervening terrain and vegetation along SR-76 near the project site and the low shrub and existing storage facility screening on the eastern portion of the OGP site minimally filter views of the site. In this area, motorists' attention tends to be drawn to the roadway due to the various curves along this stretch of highway rather than eastward toward the project site, but the prominent and striking upper portions of the power plant structures and noise walls would draw viewers' attention toward the site momentarily. Existing visual quality in the vicinity, characterized by views of the hillsides and ridgelines, is moderate. Viewer concern is also considered moderate due to the scenic quality of this portion of this state route.

Approximately 9,439 vehicles per day use SR-76. About half of these vehicles would be westbound; therefore the number of viewers will be moderate. However their duration of view will be moderately low from 10 to 20 seconds, because the motorist will be focused on maneuvering the various curves in the highway.

The overall visual sensitivity for motorist is considered low to moderate from KOP 2. This assessment is the result of the moderately low visual quality, moderate viewer concern, and moderate overall viewer concern.

Visual Change

As depicted in **Visual Resources Figure 4B**, the project would introduce elements of vertical and rectilinear form and line contrast, silhouetted against the backdrop of the surrounding hills. It would also present light, contrastive coloring in relation to the dark visual foreground of natural vegetation of low profile native shrubs on the hillsides, resulting in a moderately low level of contrast.

The project would attract viewers' attention due to its contrastive, vertical form and industrial character. It would remain visually subordinate to the hillsides within the same view, but would also compound the industrial character of this view. Overall dominance would be moderate (co-dominant).

The project would not block scenic views from vantage points in this general area. Vertical features would not intrude into the sky and would not alter the existing tree canopy.

Overall visual change would thus be moderate.

Impact Significance – In the context of the setting's moderate visual sensitivity, and the moderate level of project visual change, the project's visual impact at KOP3 would be adverse, but less-than-significant.

Staff-Recommended Mitigation- Staff recommends Condition of Certification **VIS-1**, painting of all project structures to ensure feasible color contrast with the surrounding landscape. In this instance, an earth tone color more closely matching the color value of the surrounding foreground hillsides would reduce color and overall contrast against the hillsides. Staff also recommends Condition of Certification **VIS-2**, which provides additional perimeter landscape screening, and replacement planting to enhance screening of tall project features in the long term. In this case, additional tree screening extending farther south on the eastern berm along SR-76 would be important in achieving long-term screening from views in this portion of the SR-76.

Residual Impact Significance After Mitigation with Staff-Recommended Measures - With staff-recommended conditions, overall contrast would be reduced to a low level, a less than significant impact, in the long term due to maturation of recommended in-fill landscaping.

KOP 3 – View from hillside overlooking Project Site

Visual Resources Figures 5A through 5D depict the views of the project site from the slopes to the northeast. This view is typical of elevated views from the relatively limited number of residences (3) on the northeast side of the hillside with unobstructed views of the project site. These viewers represent the only residents with substantial views of the project. ***In addition, Figures 5C and 5D provide a landscape simulation of native plants and trees, and their effectiveness for screening of the project at ten years and twenty years after construction.***

Visual Sensitivity

Residents in general are considered to have potentially high levels of viewer concern due to the long periods of viewing time, typically high levels of concern for their place of residence, and concern with potential effects on property values. Those residents most likely to experience visual impact would be a limited number of viewers whose views of the site are not obstructed by other homes, terrain, or trees. These views are from predominantly elevated positions on the hillsides facing the site, within a mid-ground (1/2-mile) of the project site. Visual exposure to the project site is considered moderate, mediated by limited viewer numbers, distance from the project site, and screening at the site. Existing visual quality for potentially affected residential viewers depends on

location and the presence of scenic views, but is predominantly moderately high, since those with views of the site are also those with elevated views of former aggregate pits and the surrounding hills and valley in the distance.

Overall visual sensitivity of this viewer group is thus moderate to high.

Visual Change

As depicted in **Visual Resources Figure 5B**, the vertical and rectilinear form and line of the power plant would contrast with the irregular silhouette of the foreground hills, as would the marked color contrast of the project as shown. Overall, visual contrast at these distances would be moderate.

Visual dominance would be low to moderate. Although dominance is amplified by the various hills and sky lining, the residential viewers' attention to the project would be visually subordinate to the much larger and more prominent hills foreground and background that is shown within the view. The new OGP features, however, would increase the portion of the view with industrial character. Overall, visual change would be moderate.

Impact Significance – In the context of moderate overall viewer sensitivity, project impacts could potentially be significant from the KOP 3 viewpoint.

Staff-Recommended Mitigation- Staff recommends Condition of Certification **VIS-1**, painting of all project features colored to blend in with the existing landscape to the greatest extent feasible in accordance with a Surface Treatment Plan that would be approved by the CPM.

Also, staff recommends Condition of Certification **VIS-2**, which requires additional perimeter landscape screening, and replacement planting to enhance screening of tall project features in the long term. In this case, in-fill planting of trees, and additional tree and shrubs screening around the perimeter of the project site would be important in achieving long term screening from views in this portion of the lagoon.

Residual Impact Significance After Mitigation with Staff-Recommended Measures- With staff recommended measures; the adverse visual impact generated by the proposed project can be minimized for the life of the project.

Overall Project Operation Impacts on Existing Visual Character or Quality

Project operation impacts from all identified KOPs on the existing visual character and quality of the setting would be less than significant with project owner - and staff-recommended color mitigation and conditions of certification (Condition of Certification **VIS-1**), staff-and project owner -recommended perimeter landscape screening (Condition of Certification **VIS-2**), and project owner -and staff-recommended lighting mitigation (Condition of Certification **VIS-3**). With these measures, the impacts from project at operation would not substantially degrade the existing visual character or quality of the site and its surroundings, as perceived by sensitive receptors in the project viewshed.

LINEARS

Transmission Line–Gas Pipeline – As discussed earlier in this analysis, both the transmission line and natural gas pipeline would be constructed underground in a common trench. The construction activities would create a temporary visual disturbance along Pala del Norte Road and SR-76. No long-term impacts would occur as a result of the pipeline and transmission line and temporary impacts from construction activities are discussed above, under Construction Impacts. No visual impacts would be anticipated.

LIGHT OR GLARE

“Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?”

The proposed project during operation has the potential to introduce light offsite to surrounding properties, and up-lighting to the nighttime sky. If bright exterior lights were not hooded, and lights not directed onsite they could introduce significant light or glare to the vicinity.

Project construction lighting would occur between 7:00 PM and 7:00 AM for up to six months. Some construction activities may take place 24 hours a day, 7 days a week.

According to the AFC Project Description, night lighting would be directed downward and would be down-shielded or capped to reduce glare and light trespass. Where lighting is not required for normal operation, safety or security, switches or photocells would be provided to allow these areas to remain dark except as needed (OGP 2008a, pg. 6.13-A-12). To the extent possible, night construction lighting would be pointed toward the center of the site.

With the effective implementation of the applicant’s proposed light trespass mitigation measures as described in the AFC, the project’s construction and operation-related lighting impacts in the context of the existing lighting are anticipated meet the County night light ordinance requirements for “Zone A” areas. With adequate screening and shielding, proposed new lighting would remain subordinate to the surrounding area. Staff recommends Condition of Certification **VIS-4** to ensure full compliance and verification of night lighting measures.

Impact of Cooling Tower and Combustion Exhaust Stack Plumes

The proposed OGP would use four simple-cycle LM 6000 turbines that would produce exhaust gas with exit temperatures ranging from 710F to 859F. Given these high exhaust temperatures, visible plumes would only occur at low ambient temperatures or high relative humidity. Since the OGP is a peaker facility it would normally operate during the warmer (six) months of the year. Therefore, visible plumes would not occur during normal plant operation.

Under certain weather conditions, visible water vapor plumes would emanate from the four-cell cooling tower associated with the power plant’s inlet air chiller. Because water vapor plumes are generally associated with heavy industrial land uses, they tend to be

regarded negatively by sensitive observers and as such could have an adverse effect on visual resources in the vicinity of the project.

The severity of the impacts created by the project's visible plumes depends on several factors, including the frequency, duration, and physical size of the plumes, the sensitivity of the viewers who will see the plumes, the distance between the plumes and the viewers, the visual quality of the existing viewshed, and whether any scenic landscape features would be blocked by the plumes.

Modeling Analysis

A visible water vapor plume frequency of 20% of seasonal (November through April), daylight, no rain/fog, high visual contrast (i.e. "clear") hours is used to determine potential plume impact significance. If it is determined that the seasonal, daylight, clear hour plume frequency is greater than 20%, plume dimensions are calculated, and a significance analysis of the plumes is included as part of the Visual Resources impact analysis.

There is the potential for visible water vapor plumes to be produced from the project's chiller cooling tower exhaust. However, due to: 1) the plant capacity operating limitations proposed by the applicant; and 2) more importantly the limited operation of the chiller, which will not operate during low temperatures when plumes are most likely to be formed, the potential for visual plumes for the proposed OGP's cooling tower will be very limited and will not occur greater than staff's initial screening significance criteria of 20% of seasonal daylight clear hours. Staff used the CSVP model to assess the cooling tower's plume potential and has determined that any plumes that occur would be very small. Small and infrequent water vapor plumes would not significantly impact the visual resources of the project area.

There is no potential for visible water vapor plumes to be produced from the simple-cycle gas turbine exhausts. The combination of the very high exhaust temperature and relatively low exhaust water content make visible plume formation impossible under the range of ambient conditions normally experienced in area of Pala (Aspen 2008).

CUMULATIVE IMPACTS AND MITIGATION

As defined in Section 15355 of the CEQA Guidelines (California Code of Regulations, Title 14), a cumulative impact is created as a result of the combination of the project under consideration together with other existing or reasonably foreseeable projects causing related impacts. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. In other words, while any one project may not create a significant impact to visual resources, the combination of the new project with all existing or planned projects in an area may create significant impacts. A significant cumulative impact would depend on the degree to which (1) the viewshed is altered; (2) view of a scenic resource is impaired; or (3) visual quality is diminished.

The proposed OGP would be built within the unincorporated community of Pala in San Diego County, within an expanse of open space with scattered residences. There is no

identified scenic resource or vista in the KOP 1, KOP 2 and KOP 3 viewsheds that would be disrupted if the project were constructed.

While project-related nighttime light and daytime glare impacts of the OGP would be mitigated to a level that would be less than significant, existing light and glare levels in the vicinity of the project would increase cumulatively as a result of the project and, existing and planned land uses. Light and glare impacts generated by these projects are not anticipated to be cumulatively considerable if the project's impacts are mitigated according to the conditions of certification.

The OGP site would introduce to the KOP 1, KOP 2, and KOP 3 viewshed publicly visible structures that are industrial in nature to an area that is currently undeveloped with no plans for large-scale projects anticipated in the immediate future. San Diego County has slated this area for future growth in the county's general plan. There are ongoing discussions on housing projects planned along SR-76 near the project site, under preliminary review by the county staff at this time. Please see the **LAND USE** section for future growth discussion. The view of the visible power plant structures would be visually noticeable but would not be so great as to constitute a substantial degradation of the existing visual setting. The OGP proposal in combination with existing and planned projects (expansion of the Pala and Pauma Casinos) would generate a less than significant cumulative visual effect to the KOP 1, KOP 2, and KOP 3 viewsheds.

The OGP is coordinating its efforts with the surrounding owners to ensure that the interests and needs of the development plans and projects in and around the surrounding area are met. The proposed expansion of the Pala Casino Expansion and the proposed Prominence at Pala project represents substantial changes to the undeveloped land in the area. However, because they represent the implementation of planned uses, these changes are not considered significant adverse visual impacts and the project's cumulative visual impacts are considered less than significant.

With staff-recommended Condition of Certification **VIS-2** and project owner-proposed landscape plantings on the south- and west-facing berms, overall impacts of the project to the traveling public would be less than significant, declining over time with landscape maturity.

COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

Visual Resources Table 3 provides an analysis of the applicable LORS pertaining to aesthetics or preservation and protection of sensitive visual resources relevant to the proposed project. Conditions of certification are proposed to make the project conform to a LORS where appropriate.

**Visual Resources Table 2
Proposed Project's Consistency with
Local LORS Applicable to Visual Resources**

LORS		Consistency Determination	Basis for Consistency
Source	Policy and Strategy Descriptions		
Federal			
National Route Preservation Bill			
Transportation Equity Act for the 21 st Century of 1998, and Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2005.	Involves federal managed lands, and recognized National Scenic Byway or All-American Road within its vicinity.	YES	The project site does not involve federal managed lands, nor a recognized National Scenic Byway or All-American Road within its vicinity.
State			
California Streets and Highways Code, Sections 260 through 263 – Scenic Highways	Ensures the protection of highway corridors that reflect the State's natural scenic beauty.	YES	Not applicable: SR-76 has not been designated as an official State scenic highway.
Local			
San Diego County			
General Plan-Land Use Element	Encourages visual integration of projects of differing types or densities through the use of building setbacks, landscaped buffers, or other design features. Ensures that design reflects concerns about the preservation of viewsheds.	YES	The Orange Grove project is consistent with the City's zoning and land use policies (see LAND USE section) and the project is consistent with the City's Land Use Map.
Circulation/Scenic Highways Element	Provides the San Diego Scenic Corridor Guidelines, designated corridors and streets.	YES	The project site is located along SR 76, and this stretch is not listed as a scenic route.
County of San Diego Zoning Ordinance Part 4 and 6, Sec. 4000	Provides site review requirements, and establishes performance standards for development projects including architectural design, landscaping, and outdoor storage. Requires that architectural design of structures and their materials and colors are visually harmonious with surrounding development and natural land forms.	YES AS CONDITIONED	The project will be constructed to meet these standards and requirements. The detailed plans will be reviewed by the Chief Building Official and will be directed towards assuring that the design meets the county requirements.
Section 4000 and Zone A Light Pollution Code		YES AS CONDITIONED	Project lighting will be designed to comply with the Light Pollution Code for Zone A.

RESPONSE TO AGENCY AND PUBLIC COMMENTS

None received at this time.

CONCLUSIONS

The visual analysis focused on two main issues: (1) would construction and operation of the project cause an aesthetic impact under CEQA; and (2) would the project comply with applicable local LORS pertaining to aesthetics or preservation and protection of sensitive visual resources.

The construction and operation of the Orange Grove Project as proposed, with the effective implementation of the applicant's proposed design measures and staff's recommended conditions of certification (below) would ensure that visual impacts generated by the project are less than significant, and ensure that the project complies with all applicable LORS regarding visual resources.

The project, with all proposed Conditions of Certification would not have a substantial adverse effect on an identified scenic vista; on a scenic resource; would not substantially degrade the existing visual character or quality of the site and its surroundings; and would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. The project with recommended mitigation would thus not cause a significant aesthetic impact under CEQA. Staff concludes that the OGP would conform with applicable aesthetics-related LORS.

PROPOSED CONDITIONS OF CERTIFICATION

SURFACE TREATMENT OF PROJECT STRUCTURES AND BUILDINGS

VIS-1 The project owner shall treat the surfaces of all project structures and buildings visible to the public such that a) their colors minimize visual intrusion and contrast by blending with the landscape; b) their colors and finishes do not create excessive glare; and c) their colors and finishes are consistent with local policies and ordinances. Surface color treatment shall include painting of HRSGs, turbine inlet filters, and other features in an earth tone color and value to match the surrounding hillsides.

The project owner shall submit for CPM review and approval, a specific surface treatment plan that will satisfy these requirements. The treatment plan shall include:

1. A description of the overall rationale for the proposed surface treatment, including the selection of the proposed color(s) and finishes;
2. A list of each major project structure, building, tank, pipe, and wall; and fencing, specifying the color(s) and finish proposed for each. Colors must be identified by vendor, name, and number; or according to a universal designation system;

3. One set of 11" x 17" color photo simulations at life size scale, of the treatment proposed for use on project structures, including structures treated during manufacture, from a representative point of view (Key Observation Point 1-location shown on Visual Resources Figure 1 of the Staff Assessment);
4. A specific schedule for completion of the treatment; and
5. A procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated in the field, until the project owner receives notification of approval of the treatment plan by the CPM. Subsequent modifications to the treatment plan are prohibited without CPM approval.

Verification: At least 90 days prior to specifying to the vendor the colors and finishes of the first structures or buildings that are surface treated during manufacture, the project owner shall submit the proposed treatment plan to the CPM for review and approval and simultaneously to the County of San Diego or responsible jurisdiction for review and comment.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revision(s) for review and approval by the CPM before any treatment is applied. Any modifications to the treatment plan must be submitted to the CPM for review and approval.

Prior to the start of commercial operation, the project owner shall notify the CPM that surface treatment of all listed structures and buildings has been completed and are ready for inspection and shall submit one set of electronic color photographs from the same key observation points identified in (d) above.

The project owner shall provide a status report regarding surface treatment maintenance in the Annual Compliance Report. The report shall specify a) the condition of the surfaces of all structures and buildings at the end of the reporting year; b) maintenance activities that occurred during the reporting year; and c) the schedule of maintenance activities for the next year.

ADDITIONAL PERIMETER LANDSCAPE SCREENING

VIS-2 The project owner shall provide landscaping that reduces the visibility of the power plant structures in accordance with local policies. Englemann oaks and other vegetation consisting of informal groupings of native shrubs shall be strategically placed around the facility boundaries. The objective shall be to create landscape screening of sufficient density and height to screen the power plant structures to the greatest feasible extent within the shortest feasible time; and to provide timely replacement for aging or diseased tree specimens on site in order to avoid future loss of existing visual screening.

The project owner shall submit to the CPM for review and approval and simultaneously to the County of San Diego for review and comment a landscaping plan whose proper implementation will satisfy these requirements. The plan shall include:

1. A detailed landscape, grading, and irrigation plan, at a reasonable scale. The plan shall demonstrate how the requirements stated above shall be met. The plan shall provide a detailed installation schedule demonstrating installation of as much of the landscaping as early in the construction process as is feasible in coordination with project construction.
2. A list (prepared by a qualified professional arborist familiar with local growing conditions) of proposed species, specifying installation sizes, growth rates, expected time to maturity, expected size at five years and at maturity, spacing, number, availability, and a discussion of the suitability of the plants for the site conditions and mitigation objectives, with the objective of providing the widest possible range of species from which to choose;
3. Maintenance procedures, including any needed irrigation and a plan for routine annual or semi-annual debris removal for the life of the project; and
4. A procedure for monitoring for and replacement of unsuccessful plantings for the life of the project.

The plan shall not be implemented until the project owner receives final approval from the CPM.

Verification: The landscaping plan shall be submitted to the CPM for review and approval and simultaneously to the County of San Diego for review and comment at least 90 days prior to installation.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM and simultaneously to the County of San Diego a revised plan for review and approval by the CPM.

The planting must occur during the first optimal planting season following site mobilization. The project owner shall simultaneously notify the CPM and the County of San Diego within seven days after completing installation of the landscaping, that the landscaping is ready for inspection.

The project owner shall report landscape maintenance activities, including replacement of dead or dying vegetation, for the previous year of operation in each Annual Compliance Report.

TEMPORARY AND PERMANENT EXTERIOR LIGHTING

VIS-3 To the extent feasible, consistent with safety and security considerations, the project owner shall design and install all permanent exterior lighting such that a) lamps and reflectors are not visible from beyond the project site, including any off-site security buffer areas; b) lighting does not cause excessive

reflected glare; c) direct lighting does not illuminate the nighttime sky; d) illumination of the project and its immediate vicinity is minimized, and e) the plan complies with local policies and ordinances.

The project owner shall submit to the CPM for review and approval and simultaneously to the County of San Diego for review and comment a lighting mitigation plan that includes the following:

1. Location and direction of light fixtures shall take the lighting mitigation requirements into account;
2. Lighting design shall consider setbacks of project features from the site boundary to aid in satisfying the lighting mitigation requirements;
3. Lighting shall incorporate fixture hoods/shielding, with light directed downward or toward the area to be illuminated;
4. Light fixtures that are visible from beyond the project boundary shall have cutoff angles that are sufficient to prevent lamps and reflectors from being visible beyond the project boundary, except where necessary for security;
5. All lighting shall be of minimum necessary brightness consistent with operational safety and security; and
6. Lights in high illumination areas not occupied on a continuous basis (such as maintenance platforms) shall have (in addition to hoods) switches, timer switches, or motion detectors so that the lights operate only when the area is occupied.

Verification: At least 90 days prior to ordering any permanent exterior lighting, the project owner shall contact the CPM to discuss the documentation required in the lighting mitigation plan.

At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and approval and simultaneously to the County of San Diego for review and comment a lighting mitigation plan.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM.

The project owner shall not order any exterior lighting until receiving CPM approval of the lighting mitigation plan.

Prior to commercial operation, the project owner shall notify the CPM that the lighting has been completed and is ready for inspection. If after inspection the CPM notifies the project owner that modifications to the lighting are needed, within 30 days of receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed and are ready for inspection.

Within 48 hours of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the Compliance General

Conditions including a proposal to resolve the complaint, and a schedule for implementation. The project owner shall notify the CPM within 48 hours after completing implementation of the proposal. A copy of the complaint resolution form report shall be submitted to the CPM within 30 days.

REFERENCES

Caltrans (California Department of Transportation), 2006. Scenic Highway Master Plan.

Federal Highway Administration (FHWA), 1988. Visual Impact Assessment for Highway Projects.

Orange Grove Energy 2008a -Application for Certification Orange Grove Energy dated 6/19/08. Submitted 6/19/08.

Smardon, R. and J. Palmer, J. Felleman, 1986. Foundations of Visual Project Analysis.

APPENDIX VR-1

ENERGY COMMISSION VISUAL RESOURCE ANALYSIS EVALUATION CRITERIA

Energy Commission staff conducts a visual resource analysis according to Appendix G, “Environmental Checklist Form—Aesthetics,” California Environmental Quality Act (CEQA). The CEQA analysis requires that commission staff make a determination of impact ranging from “Adverse and Significant” to “Not Significant.”

Staff’s analysis is based on Key Observation Points or KOPs. KOPs are photographs of locations within the project area that are highly visible to the public — for example, travel routes; recreational and residential areas; and bodies of water as well as other scenic and historic resources.

Those photographs are taken to indicate existing conditions without the project and then modified to include a simulation of the project. Consequently, staff has a visual representation of the viewshed before and after a project is introduced and makes its analysis accordingly. Information about that analytical process follows.

Visual Resource Analysis Without Project

When analyzing KOPs of existing conditions without the project, staff considers the following conditions: visual quality, viewer concern, visibility, number of viewers, and duration of view. Those conditions are then factored into an overall rating of viewer exposure and viewer sensitivity. Information about each condition and rating follows.

Visual Quality

An expression of the visual impression or appeal of a given landscape and the associated public value attributed to the resource. Visual quality is rated from *high* to *low*. A high rating is generally reserved for landscapes viewers might describe as picture-perfect.

Landscapes rated high generally are memorable because of the way the components combine in a visual pattern. In addition, those landscapes are free from encroaching elements, thus retaining their visual integrity. Finally, landscapes with high visual quality are visually coherent and harmonious when each element is considered as part of the whole. On the contrary, landscapes rated *low* are often dominated by visually discordant human alterations.

Viewer Concern

Viewer concern represents the reaction of a viewer to visible changes in the viewshed — an area of land visible from a fixed vantage point. For example, viewers have a high expectation for views formally designated as a scenic area or travel corridor as well as for recreational and residential areas. Viewers generally expect that those views will be preserved. Travelers on highways and roads, including those in agricultural areas, are generally considered to have moderate viewer concerns and expectations.

However, viewers tend to have low-to-moderate viewer concern when viewing commercial buildings. And industrial uses typically have the lowest viewer concern. Regardless, the level of concern could be lower if the existing landscape contains discordant elements. In addition, some areas of lower visual quality and degraded visual character may contain particular views of substantially higher visual quality or interest to the public.

Visibility

Visibility is a measure of how well an object can be seen. Visibility depends on the angle or direction of views; extent of visual screening; and topographical relationships between the object and existing homes, streets, or parks. In that sense, visibility is determined by considering any and all obstructions that may be in the sightline—trees and other vegetation; buildings; transmission poles or towers; general air quality conditions such as haze; and general weather conditions such as fog.

Number of Viewers

Number of viewers is a measure of the number of viewers per day who would have a view of the proposed project. *Number of viewers* is organized into the following categories: residential according to the number of residences; motorist according to the number of vehicles; and recreationists.

Duration of View

Duration of view is the amount of time to view the site. For example, a high or extended view of a project site is one reached across a distance in two minutes or longer. In contrast, a low or brief duration of view is reached in a short amount of time—generally less than ten seconds.

Viewer Exposure

Viewer exposure is a function of three elements previously listed, *visibility*, *number of viewers*, and *duration of view*. Viewer exposure can range from a *low* to *high*. A partially obscured and brief background view for a few motorists represents a low value; and unobstructed foreground view from a large number of residences represents a high value.

Visual Sensitivity

Visual sensitivity is comprised of three elements previous listed, *visual quality*, *viewer concern*, and *viewer exposure*. Viewer sensitivity tends to be higher for homeowners or people driving for pleasure or engaged in recreational activities and lower for people driving to and from work or as part of their work.

Visual Resource Analysis with Project

Visual resource analyses with photographic simulations of the project involve the elements of contrast, dominance, view blockage, and visual change. Information about each element follows.

Contrast

Contrast concerns the degree to which a project's visual characteristics or elements — form, line, color, and texture — differ from the same visual elements in the existing landscape. The degree of contrast can range from *low* to *high*. A landscape with forms, lines, colors, and textures similar to those of a proposed energy facility is more visually absorbent; that is, more capable of accepting those characteristics than a landscape in which those elements are absent.¹ Generally, visual absorption is inversely proportional to visual contrast.

Dominance

Dominance is a measure of (a) the proportion of the total field of view occupied by the field; (b) a feature's apparent size relative to other visible landscape features; and (c) the conspicuousness of the feature due to its location in the view.

A feature's level of dominance is lower in a panoramic setting than in an enclosed setting with a focus on the feature itself. A feature's level of dominance is higher if it is (1) near the center of the view; (2) elevated relative to the viewer; or (3) has the sky as a backdrop. As the distance between a viewer and a feature increases, its apparent size decreases; and consequently, its dominance decreases. The level of dominance ranges from *low* to *high*.

View Blockage

The extent to which any previously visible landscape features are blocked from view constitutes view disruption. The view is also disrupted when the continuity of the view is interrupted. When considering a project's features, higher quality landscape features can be disrupted by lower quality project features, thus resulting in adverse visual impacts. The degree of view disruption can range from *none* to *high*.

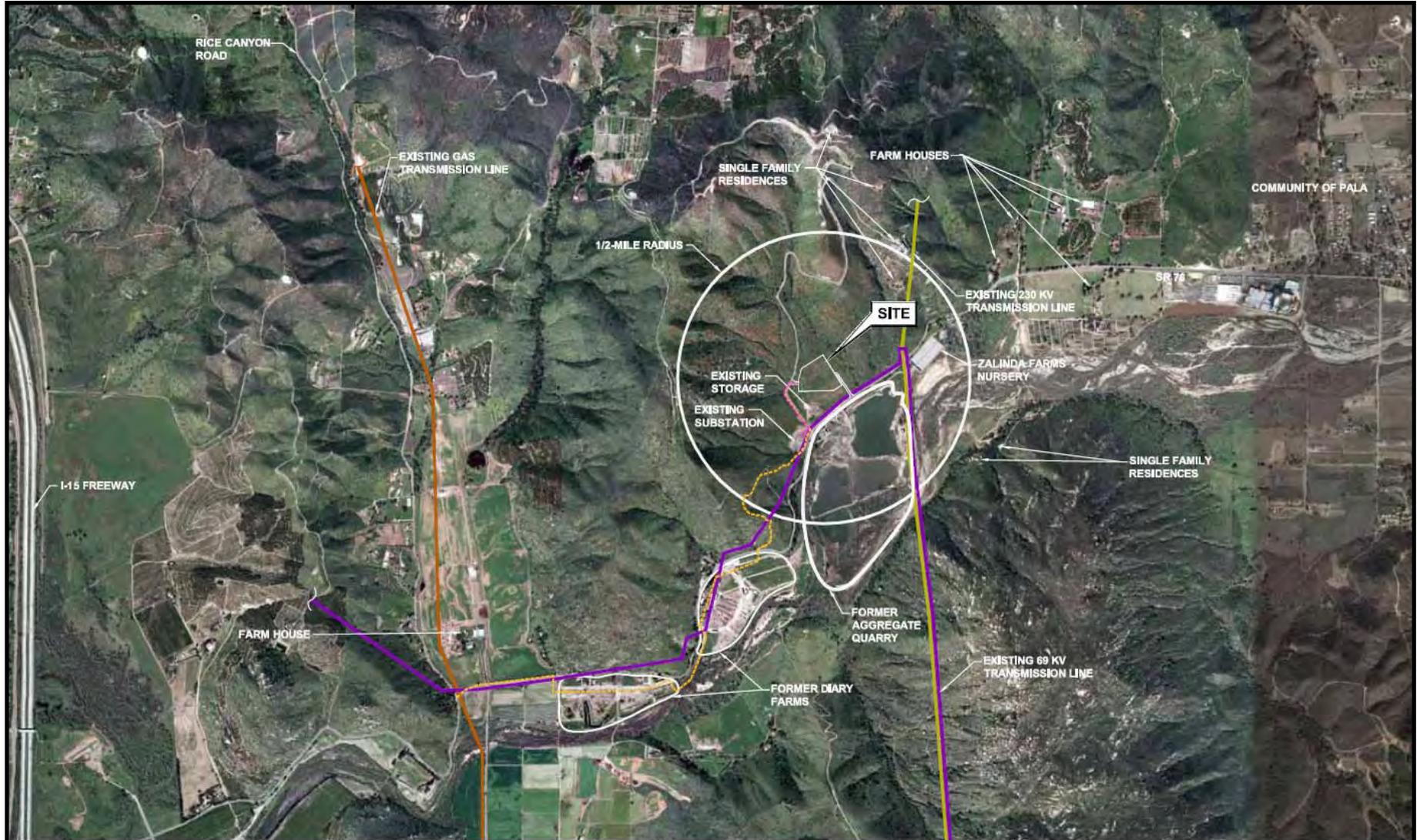
Visual Change

Visual change is a function of *contrast*, *dominance*, and *view disruption*. Generally, *contrast* and *dominance* contribute more to the degree of visual change than does *view disruption*.

¹ Typically, the Energy Commission does not consider texture in its visual analyses.

VISUAL RESOURCES - FIGURE 1
Orange Grove Project - Project Area Map

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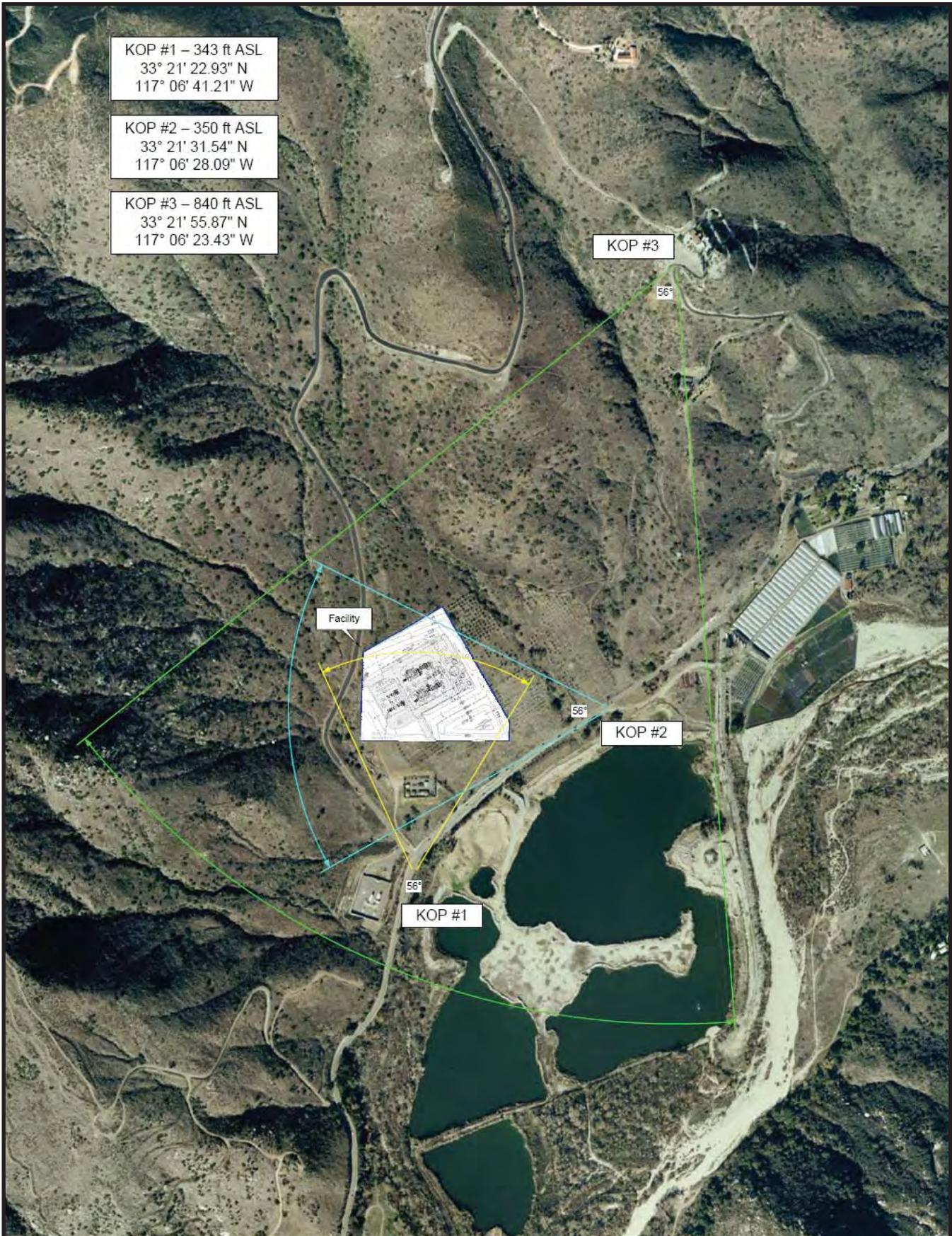


VISUAL RESOURCES

LEGEND

- Transmission Line Interconnection
- Proposed Gas Pipeline Lateral
- Existing Gas Transmission Pipeline

VISUAL RESOURCES - FIGURE 2
Orange Grove Project - KOP Location Map



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SOURCE: AFC Figure 6.13-A.3

VISUAL RESOURCES - FIGURE 3A
Orange Grove Project - KOP 1 Existing Condition

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VISUAL RESOURCES

VISUAL RESOURCES - FIGURE 3B
Orange Grove Project - KOP 1 Immediately After Construction

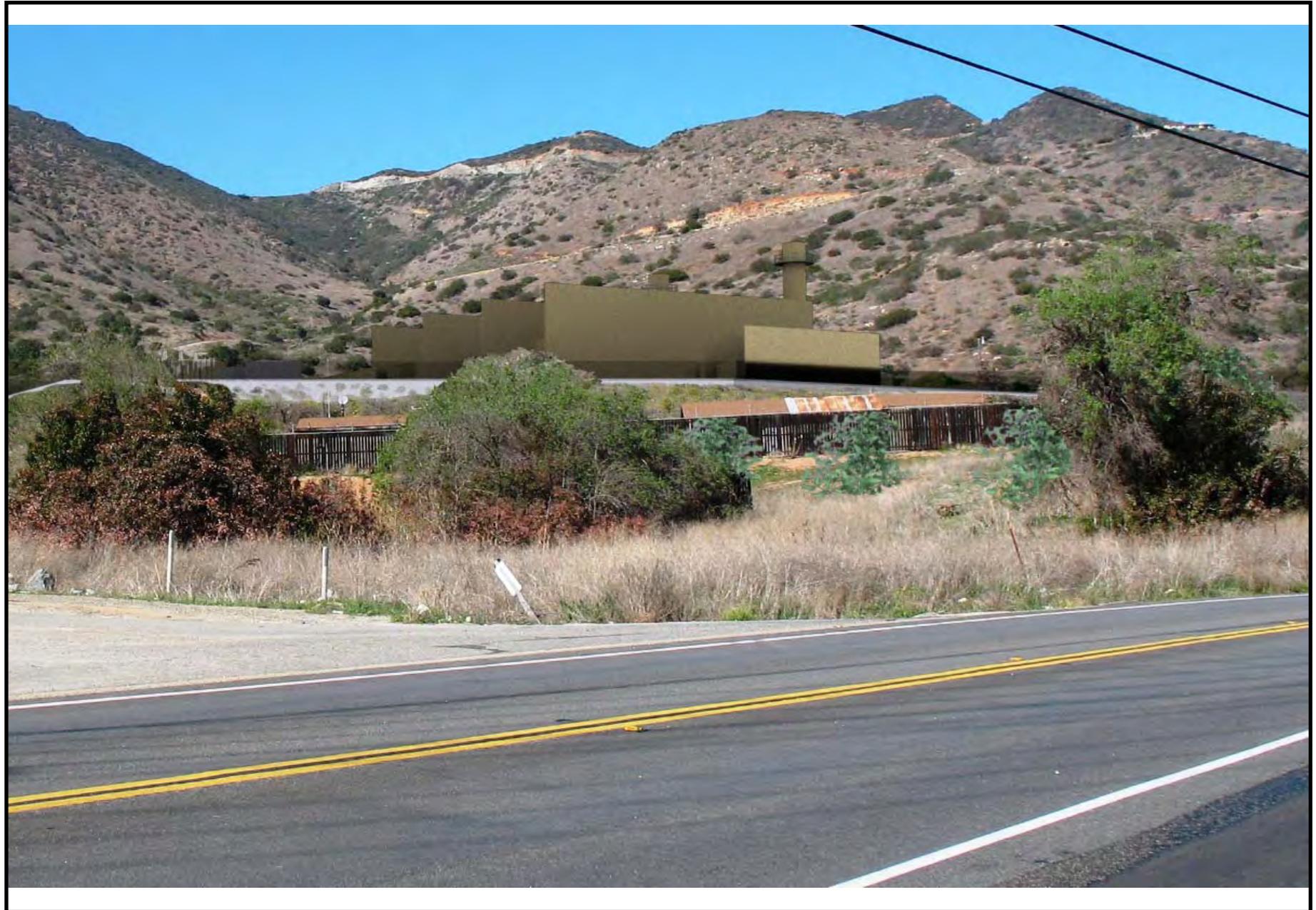
NOVEMBER 2008



VISUAL RESOURCES

VISUAL RESOURCES - FIGURE 3C
Orange Grove Project - KOP 1 Ten (10) Years After Construction

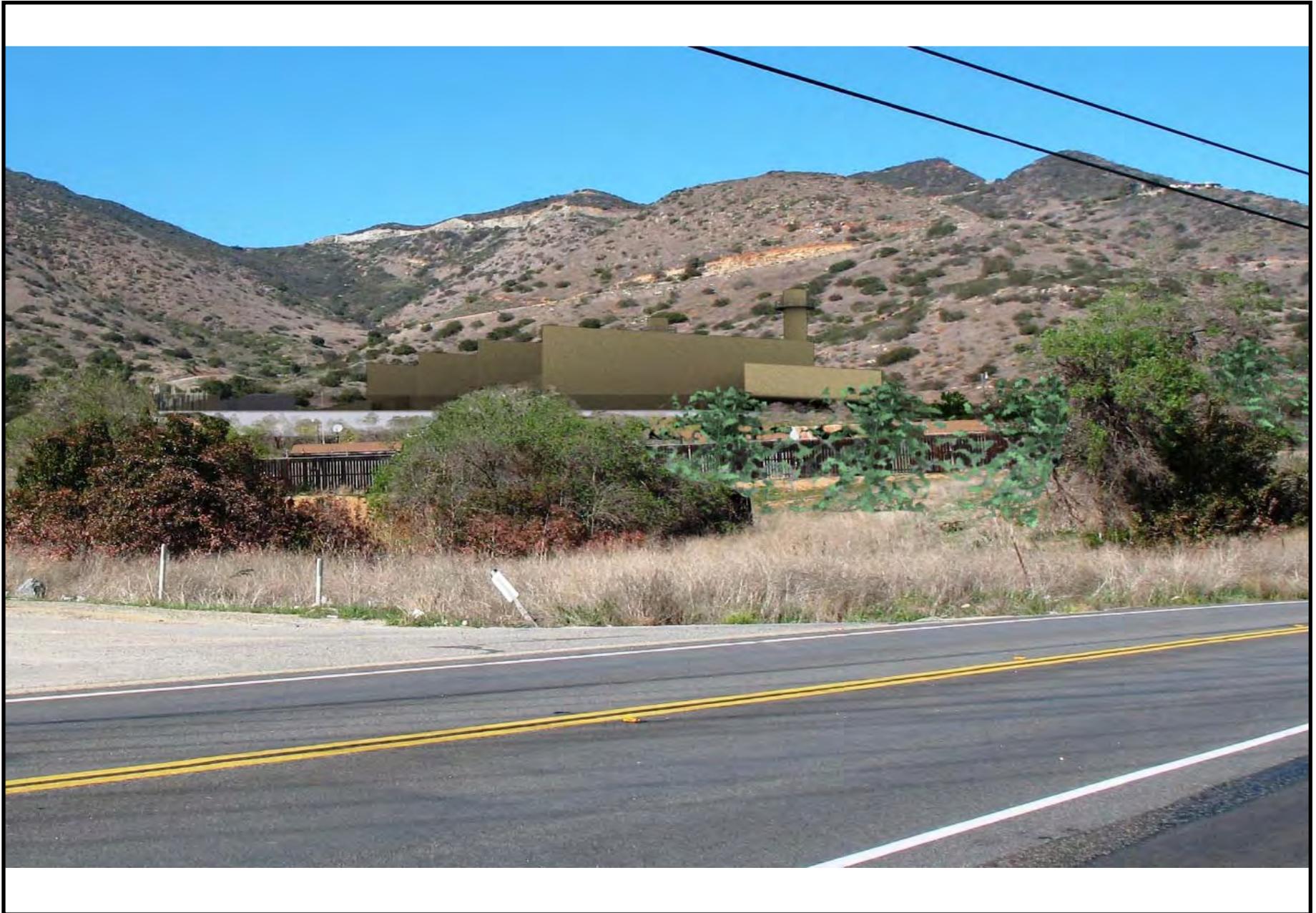
NOVEMBER 2008



VISUAL RESOURCES

VISUAL RESOURCES - FIGURE 3D
Orange Grove Project - KOP 1 Twenty (20) Years After Construction

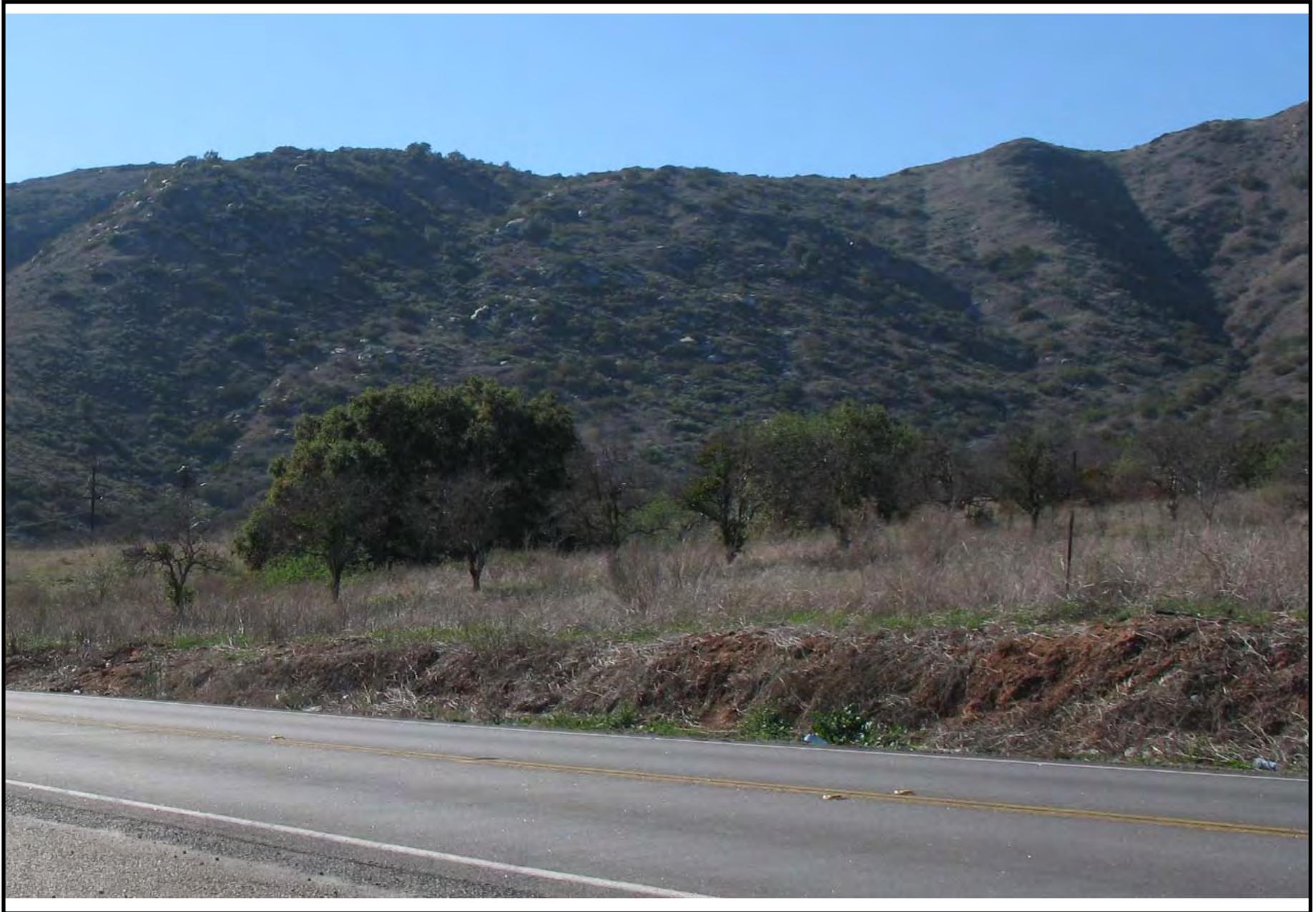
NOVEMBER 2008



VISUAL RESOURCES

VISUAL RESOURCES - FIGURE 4A
Orange Grove Project - KOP 2 Existing Condition

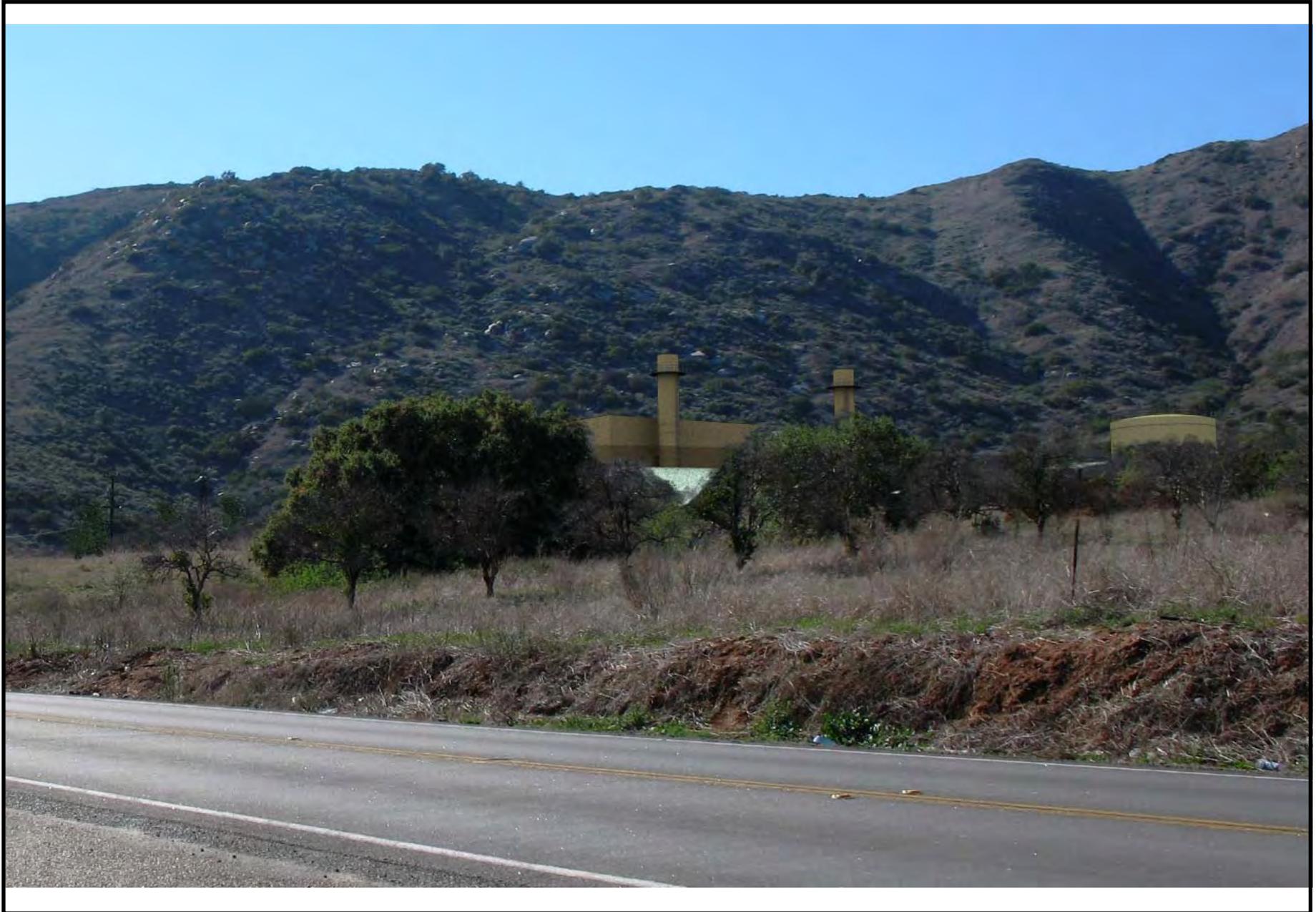
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VISUAL RESOURCES

VISUAL RESOURCES - FIGURE 4B
Orange Grove Project - KOP 2 Immediately After Construction

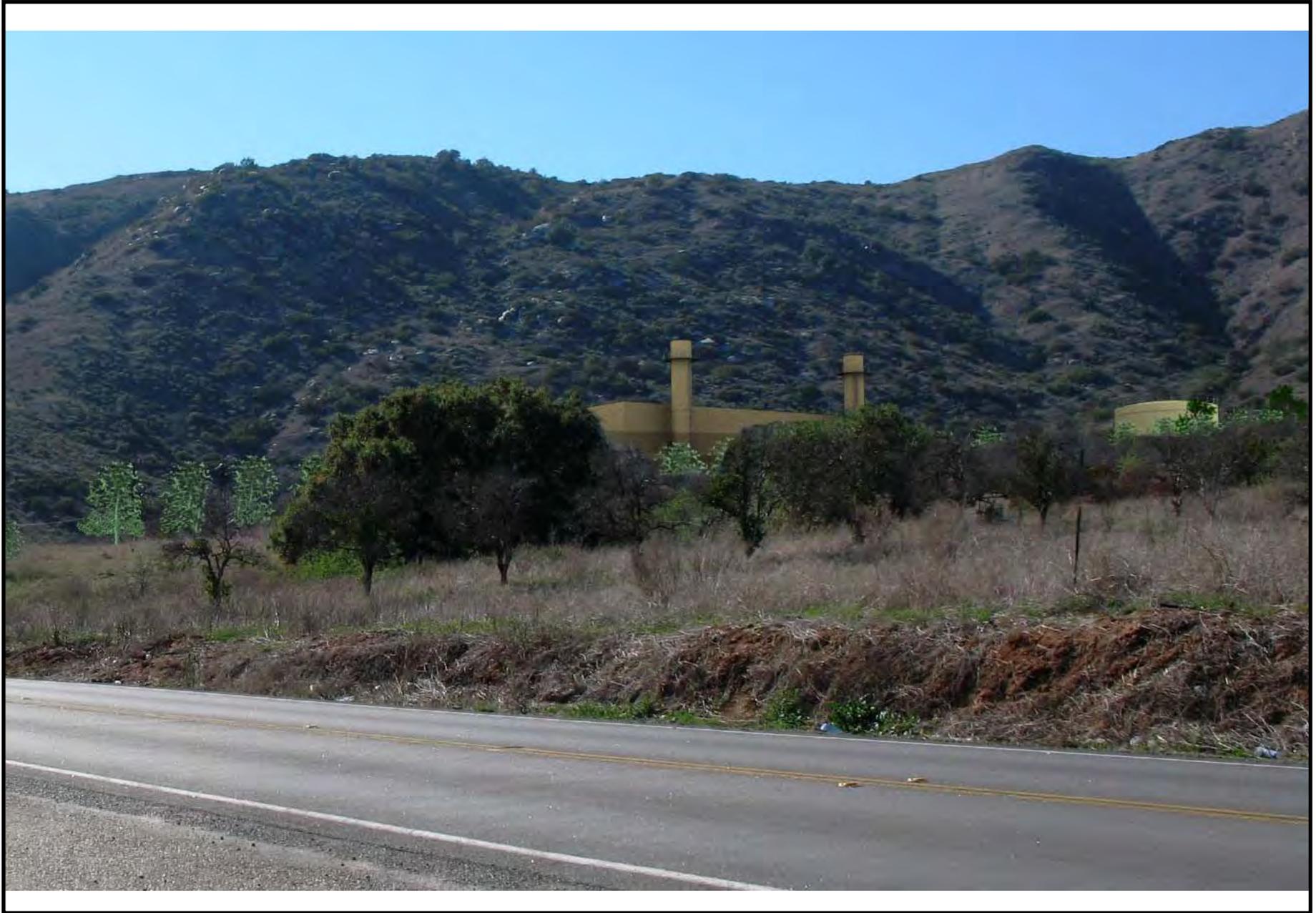
NOVEMBER 2008



VISUAL RESOURCES

VISUAL RESOURCES - FIGURE 4C
Orange Grove Project - KOP 2 Ten (10) Years After Construction

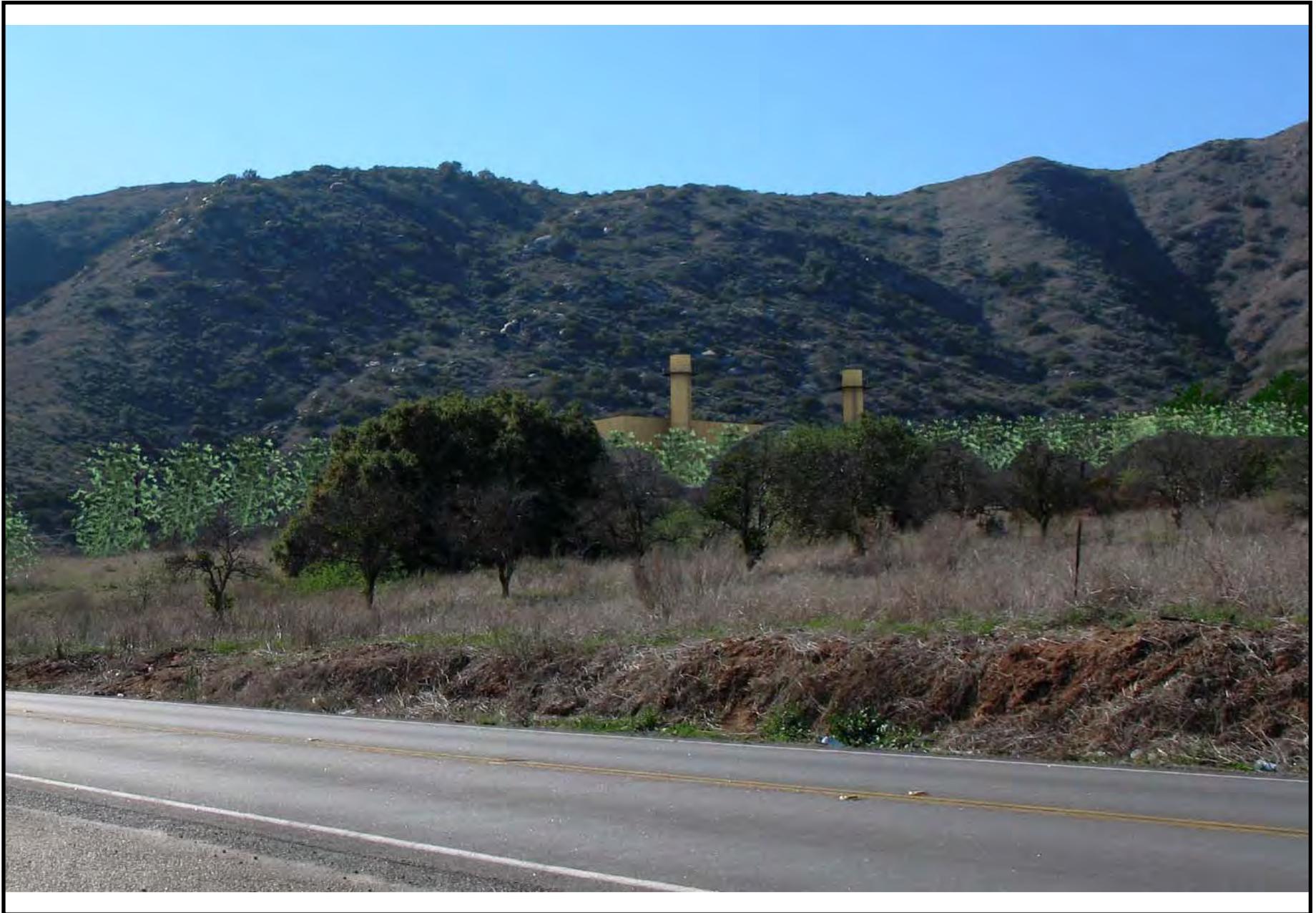
NOVEMBER 2008



VISUAL RESOURCES

VISUAL RESOURCES - FIGURE 4D
Orange Grove Project - KOP 2 Twenty (20) Years After Construction

NOVEMBER 2008



VISUAL RESOURCES

VISUAL RESOURCES - FIGURE 5A
Orange Grove Project - KOP 3 Existing Condition

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VISUAL RESOURCES

VISUAL RESOURCES - FIGURE 5B
Orange Grove Project - KOP 3 Immediately After Construction

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VISUAL RESOURCES

VISUAL RESOURCES - FIGURE 5C
Orange Grove Project - KOP 3 Ten (10) Years After Construction

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VISUAL RESOURCES

VISUAL RESOURCES - FIGURE 5D
Orange Grove Project - KOP 3 Twenty (20) Years After Construction

NOVEMBER 2008



VISUAL RESOURCES

WASTE MANAGEMENT

Testimony of Ellie Townsend-Hough

SUMMARY OF CONCLUSIONS

Management of the waste generated during construction and operation of the Orange Grove Project (OGP) would not result in any significant adverse impacts, and would comply with applicable waste management laws, ordinances, regulations, and standards, if the measures proposed in the Application for Certification (AFC) and staff's proposed conditions of certification are implemented.

INTRODUCTION

This Final Staff Assessment (FSA) presents an analysis of issues associated with wastes generated from the proposed construction and operation of the OGP. The technical scope of this analysis encompasses solid wastes existing onsite and those to be generated during facility construction and operation. Management and discharge of wastewater is addressed in the **SOIL AND WATER RESOURCES** section of this document. Additional information related to waste management may also be covered in the **WORKER SAFETY** and **HAZARDOUS MATERIALS MANAGEMENT** sections of this document.

The Energy Commission staff's objectives in conducting this waste management analysis are to ensure that:

- The management of project wastes would be in compliance with all applicable laws, ordinances, regulations, and standards (LORS). Compliance with LORS ensures that wastes generated during the construction and operation of the proposed project would be managed in an environmentally safe manner.
- The disposal of project wastes would not result in significant adverse impacts to existing waste disposal facilities.
- Upon project completion, the site is managed in such a way that project wastes and waste constituents would not pose a significant risk to humans or the environment.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

The following federal, state, and local environmental laws, ordinances, regulations and standards (LORS) have been established to ensure the safe and proper management of both solid and hazardous wastes in order to protect human health and the environment. Project compliance with the various LORS is a major component of staff's determination regarding the significance and acceptability of the OGP with respect to management of waste.

Waste Management Table 1
Laws, Ordinances, Regulations, and Standards (LORS)

Applicable Law	Description
Federal	
<p>Title 42, United States Code (U.S.C.), §§6901, et seq.</p> <p>Solid Waste Disposal Act of 1965 (as amended and revised by the Resource Conservation and Recovery Act of 1976, et al).</p>	<p>The Solid Waste Disposal Act, as amended and revised by the Resource Conservation and Recovery Act (RCRA) et al, establishes requirements for the management of solid wastes (including hazardous wastes), landfills, underground storage tanks, and certain medical wastes. The statute also addresses program administration, implementation and delegation to states, enforcement provisions and responsibilities, as well as research, training, and grant funding provisions.</p> <p>RCRA Subtitle C establishes provisions for the generation, storage, treatment, and disposal of hazardous waste, including requirements addressing:</p> <ul style="list-style-type: none"> • Generator record keeping practices that identify quantities of hazardous wastes generated and their disposition; • Waste labeling practices and use of appropriate containers; • Use of a manifest when transporting wastes; • Submission of periodic reports to the United States Environmental Protection Agency (USEPA) or other authorized agency; and • Corrective action to remediate releases of hazardous waste and contamination associated with RCRA-regulated facilities. <p>RCRA Subtitle D establishes provisions for the design and operation of solid waste landfills.</p> <p>RCRA is administered at the federal level by USEPA and its ten regional offices. The Pacific Southwest regional office (Region 9) implements USEPA programs in California, Nevada, Arizona, and Hawaii.</p>
<p>Title 42, U.S.C., §§ 9601, et seq.</p> <p>Comprehensive Environmental Response, Compensation and Liability Act</p>	<p>The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as Superfund, establishes authority and funding mechanisms for cleanup of uncontrolled or abandoned hazardous waste sites, as well as cleanup of accidents, spills, or emergency releases of pollutants and contaminants into the environment. Among other things, the statute addresses:</p> <ul style="list-style-type: none"> • Reporting requirements for releases of hazardous substances; • Requirements for remedial action at closed or abandoned hazardous waste sites, and brownfields; • Liability of persons responsible for releases of hazardous substances or waste; and • Requirements for property owners/potential buyers to conduct “all appropriate inquiries” into previous ownership and uses of the property to 1) determine if hazardous substances have been or may have been released at the site, and 2) establish that the owner/buyer did not cause or contribute to the release. A Phase I Environmental Site Assessment is commonly used to satisfy CERCLA “all appropriate inquiries” requirements.

Applicable Law	Description
<p>Title 40, Code of Federal Regulations (CFR), Subchapter I – Solid Wastes.</p>	<p>These regulations were established by USEPA to implement the provisions of the Solid Waste Disposal Act and RCRA (described above). Among other things, the regulations establish the criteria for classification of solid waste disposal facilities (landfills), hazardous waste characteristic criteria and regulatory thresholds, hazardous waste generator requirements, and requirements for management of used oil and universal wastes.</p> <ul style="list-style-type: none"> • Part 246 addresses source separation for materials recovery guidelines. • Part 257 addresses the criteria for classification of solid waste disposal facilities and practices. • Part 258 addresses the criteria for municipal solid waste landfills. • Parts 260 through 279 address management of hazardous wastes, used oil, and universal wastes (i.e., batteries, mercury-containing equipment, and lamps). <p>USEPA implements the regulations at the federal level. However, California is an authorized state so the regulations are implemented by state agencies and authorized local agencies in lieu of USEPA.</p>
<p>Title 49, CFR, Parts 172 and 173.</p> <p>Hazardous Materials Regulations</p>	<p>U.S. Department of Transportation established standards for transport of hazardous materials and hazardous wastes. The standards include requirements for labeling, packaging, and shipping of hazardous materials and hazardous wastes, as well as training requirements for personnel completing shipping papers and manifests. Section 172.205 specifically addresses use and preparation of hazardous waste manifests in accordance with Title 40, CFR, section 262.20.</p>
<p>State</p>	
<p>California Health and Safety Code (HSC), Chapter 6.5, §25100, et seq.</p> <p>Hazardous Waste Control Act of 1972, as amended.</p>	<p>This California law creates the framework under which hazardous wastes must be managed in California. The law provides for the development of a state hazardous waste program that administers and implements the provisions of the federal RCRA program. It also provides for the designation of California-only hazardous wastes and development of standards (regulations) that are equal to or, in some cases, more stringent than federal requirements.</p> <p>The California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC) administers and implements the provisions of the law at the state level. Certified Unified Program Agencies (CUPAs) implement some elements of the law at the local level.</p>

Applicable Law	Description
<p>Title 22, California Code of Regulations (CCR), Division 4.5.</p> <p>Environmental Health Standards for the Management of Hazardous Waste</p>	<p>These regulations establish requirements for the management and disposal of hazardous waste in accordance with the provisions of the California Hazardous Waste Control Act and federal RCRA. As with the federal requirements, waste generators must determine if their wastes are hazardous according to specified characteristics or lists of wastes. Hazardous waste generators must obtain identification numbers, prepare manifests before transporting the waste off-site, and use only permitted treatment, storage, and disposal facilities. Generator standards also include requirements for record keeping, reporting, packaging, and labeling. Additionally, while not a federal requirement, California requires that hazardous waste be transported by registered hazardous waste transporters.</p> <p>The standards addressed by Title 22, CFR include:</p> <ul style="list-style-type: none"> • Identification and Listing of Hazardous Waste (Chapter 11, §§66261.1, et seq.) • Standards Applicable to Generators of Hazardous Waste (Chapter 12, §§66262.10, et seq.) • Standards Applicable to Transporters of Hazardous Waste (Chapter 13, §§66263.10, et seq.) • Standards for Universal Waste Management (Chapter 23, §§66273.1, et seq.) • Standards for the Management of Used Oil (Chapter 29, §§66279.1, et seq.) • Requirements for Units and Facilities Deemed to Have a Permit by Rule (Chapter 45, §§67450.1, et seq.) <p>The Title 22 regulations are established and enforced at the state level by DTSC. Some generator standards are also enforced at the local level by CUPAs.</p>
<p>HSC, Chapter 6.11 §§25404 – 25404.9</p> <p>Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program)</p>	<p>The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the six environmental and emergency response programs listed below.</p> <ul style="list-style-type: none"> • Aboveground Storage Tank Program • Business Plan Program • California Accidental Release Prevention (CalARP) Program • Hazardous Material Management Plan / Hazardous Material Inventory Statement Program • Hazardous Waste Generator / Tiered Permitting Program • Underground Storage Tank Program <p>The state agencies responsible for these programs set the standards for their programs while local governments implement the standards. The local agencies implementing the Unified Program are known as Certified Unified Program Agencies (CUPAs). San Diego County Department of Environmental Health is the area CUPA.</p> <p>Note: The Waste Management analysis only considers application of the Hazardous Waste Generator/Tiered Permitting element of the Unified Program. Other elements of the Unified Program may be addressed in the Hazardous Materials and/or Worker Health and Safety analysis sections.</p>

Applicable Law	Description
<p>Title 27, CCR, Division 1, Subdivision 4, Chapter 1, §15100, et seq.</p> <p>Unified Hazardous Waste and Hazardous Materials Management Regulatory Program</p>	<p>While these regulations primarily address certification and implementation of the program by the local CUPAs, the regulations do contain specific reporting requirements for businesses.</p> <ul style="list-style-type: none"> • Article 9 – Unified Program Standardized Forms and Formats (§§ 15400-15410). • Article 10 – Business Reporting to CUPAs (§§15600 – 15620).
<p>Public Resources Code, Division 30, §40000, et seq.</p> <p>California Integrated Waste Management Act of 1989.</p>	<p>The California Integrated Waste Management Act of 1989 (as amended) establishes mandates and standards for management of solid waste. Among other things, the law includes provisions addressing solid waste source reduction and recycling, standards for design and construction of municipal landfills, and programs for county waste management plans and local implementation of solid waste requirements.</p>
<p>Title 14, CCR, Division 7, §17200, et seq.</p> <p>California Integrated Waste Management Board</p>	<p>These regulations further implement the provisions of the California Integrated Waste Management Act and set forth minimum standards for solid waste handling and disposal. The regulations include standards for solid waste management, as well as enforcement and program administration provisions.</p> <ul style="list-style-type: none"> • Chapter 3 -- Minimum Standards for Solid Waste Handling and Disposal. • Chapter 3.5 – Standards for Handling and Disposal of Asbestos Containing Waste. • Chapter 7 – Special Waste Standards. • Chapter 8 – Used Oil Recycling Program. • Chapter 8.2 – Electronic Waste Recovery and Recycling
<p>HSC, Division 20, Chapter 6.5, Article 11.9, §25244.12, et seq.</p> <p>Hazardous Waste Source Reduction and Management Review Act of 1989 (also known as SB 14).</p>	<p>This law was enacted to expand the State's hazardous waste source reduction activities. Among other things, it establishes hazardous waste source reduction review, planning, and reporting requirements for businesses that routinely generate more than 12,000 kilograms (~ 26,400 pounds) of hazardous waste in a designated reporting year. The review and planning elements are required to be done on a 4 year cycle, with a summary progress report due to DTSC every 4th year.</p>
<p>Title 22, CCR, §67100.1 et seq.</p> <p>Hazardous Waste Source Reduction and Management Review.</p>	<p>These regulations further clarify and implement the provisions of the Hazardous Waste Source Reduction and Management Review Act of 1989 (noted above). The regulations establish the specific review elements and reporting requirements to be completed by generators subject to the Act.</p>

Applicable Law	Description
Local	
San Diego County Code of Regulatory Ordinances 9840 Sections 68.508 through 68.518	The County Code of Regulatory Ordinances relating to diversion of construction and demolition materials from landfill disposal.
San Diego County Integrated Waste Management Plan	Provides guidance for local management of solid waste and household hazardous waste (incorporates the County's Source Reduction and Recycling Elements, which detail means of reducing commercial and industrial sources of solid waste).
San Diego County Department of Environmental Health, Hazardous Material Division (HMD) various programs	HMD is the Certified Unified Program Agency (CUPA) for San Diego County that regulates and conducts inspections of businesses that handle hazardous materials, hazardous wastes, and/or have underground storage tanks. HMS programs include assistance with oversight on property re-development (i.e., brownfields); and voluntary or private oversight cleanup assistance.

SETTING

The proposed OGP is a 96 Megawatt (MW) natural gas-fired, simple cycle generating facility (OGE2008a, page 1-1). The simple cycle equipment will consist of two General Electric LM6000 combustion turbine generators, and associated support equipment. The facility will be located on an 8.5-acre parcel in an unincorporated area of rural north San Diego County, California. The proposed project site is on portions of the southwest ¼ of the southeast ¼ of Section 29 and the northwest ¼ of the northeast ¼ of Section 32, in Township 9 South, Range 2 West, San Bernardino Baseline and Meridian. The site is 5.0 miles east of the City of Fallbrook and approximately 2.0 miles west of the community of Pala (OGE2008a, page 1-3) the region is primarily rural, including agriculture, large plot residential, small communities, open space and large-scale commercial/industrial such as hotel/casino and mining operations. (OGE2008a, page 6.9-1).

The project is located within a 54-acre property owned by San Diego Gas & Electric (SDG&E). The project site is located on disturbed lands previously used as a citrus grove/orchard; The SDG&E Pala substation and a fenced SDG&E storage area are located on the parcel immediately south of the proposed site. (OGE2008a, page 2.1).

A 2.4-mile underground gas pipeline will be constructed to convey natural gas to OGP from an existing SDG&E gas transmission line. Also, a 0.3-mile underground electric transmission line interconnection will be constructed between the Site and the Pala substation. The utility lines parallel Pala Road (also known as State Route 76) in unincorporated San Diego County California. The pipeline route consists of 2.4 miles of roadway and undeveloped land, and less than an acre of storage yard which is part of a larger 54-acre parcel owned by SDG&E (TRC2008e Phase I ESA).

The construction and demolition associated with OGP will produce a variety of mixed nonhazardous wastes, such as orchard wood, scrap wood, metal, plastics, etc. Waste

will be recycled where practical and nonrecyclable waste will be deposited in a Class III landfill. The hazardous waste generated during this phase of the project will consist of electrical equipment, used oils, universal wastes, solvents, and empty hazardous waste materials. (OGE2008a, Section 6.14). Universal wastes are hazardous wastes that contain mercury, lead, cadmium, copper and other substances hazardous to human and environmental health. Examples of universal wastes are batteries, fluorescent tubes, and some electronic devices.

The proposed OGP would be a peaking power plant and would operate during times of very high electrical load or when baseload plants are not operating, or during emergency conditions. Operation and maintenance of the plant and associated facilities will generate a variety of wastes, including hazardous wastes. To control air emissions, the project's turbine units would use selective catalytic reduction and oxidation catalyst equipment and chemicals, which generate recyclable hazardous waste.

ASSESSMENT OF IMPACTS AND DISCUSSION OF MITIGATION

METHOD AND THRESHOLD FOR DETERMINING SIGNIFICANCE

This Waste Management analysis addresses: a) existing project site conditions and the potential for contamination associated with prior activities on or near the project site, and b) the impacts from the generation and management of wastes during project construction and operation.

- A. For any site in California proposed for the construction of a power plant, the applicant must provide documentation about the nature of any potential or existing releases of hazardous substances or contamination at the site. If potential or existing releases or contamination at the site are identified, the significance of the release or contamination would be determined by site-specific factors, including, but not limited to: the amount and concentration of contaminants or contamination; the proposed use of the area where the contaminants/contamination is found; and any potential pathways for workers, the public, or sensitive species or environmental areas to be exposed to the contaminants. Any unmitigated contamination or releases of hazardous substances that pose a risk to human health or environmental receptors would be considered significant by Energy Commission staff.

As a first step in documenting existing site conditions, the Energy Commission's power plant site certification regulations require that a Phase I Environmental Site Assessment (ESA) be prepared¹ and submitted as part of an application for certification. The Phase I ESA is conducted to identify any conditions indicative of releases and threatened releases of hazardous substances at the site and to identify any areas known to be contaminated on (or a source of contamination) or near the site.

In general, the Phase I ESA uses a qualified Environmental Professional (EP) to conduct inquiries into past uses and ownership of the property, research hazardous

¹ Title 20, California Code of Regulations, Section 1704(c) and Appendix B, section (g) (12) (A). Note that the Phase I ESA must be prepared according to American Society for Testing and Materials protocol or an equivalent method agreed upon by the applicant and the Energy Commission staff.

substance releases and hazardous waste disposal at the site and within a certain distance of the site, and visually inspect the property, making observations about the potential for contamination and possible areas of concern. After conducting all necessary file reviews, interviews, and site observations, the EP then provides findings about the environmental conditions at the site. In addition, since the Phase I ESA does not include sampling or testing, the EP may also give an opinion about the potential need for any additional investigation. Additional investigation may be needed, for example, if there were significant gaps in the information available about the site, an ongoing release is suspected, or to confirm an existing environmental condition.

If additional investigation is needed to identify the extent of possible contamination, a Phase II ESA may be required. The Phase II ESA usually includes sampling and testing of potentially contaminated media to verify the level of contamination and the potential for remediation at the site.

In conducting its assessment of a proposed project, Energy Commission staff will review the project's Phase I ESA and work with the appropriate oversight agencies as necessary to determine if additional site characterization work is needed and if any mitigation is necessary at the site to ensure protection of human health and the environment from any hazardous substance releases or contamination identified.

- B. Regarding the management of project-related wastes generated during construction and operation of the proposed project, staff reviews the applicant's proposed solid and hazardous waste management methods and determines if the methods proposed are consistent with the LORS identified for waste disposal and recycling. The federal, state, and local LORS represent a comprehensive regulatory system designed to protect human health and the environment from impacts associated with management of both non-hazardous and hazardous wastes. Absent any unusual circumstances, staff considers project compliance with LORS to be sufficient to ensure that no significant impacts would occur as a result of project waste management.

Staff then reviews the capacity available at off-site treatment and disposal sites and determines whether or not the proposed power plant's waste would have a significant impact on the volume of waste a facility is permitted to accept. Staff uses a waste volume threshold equal to 1 percent of a disposal facility's remaining permitted capacity to determine if the impact from disposal of project wastes at a particular facility would be significant.

DIRECT/INDIRECT IMPACTS AND MITIGATION

Existing Site Conditions

A Phase I ESA of the proposed project site, dated June 6, 2008, was prepared by TRC in accordance with the American Society for Testing and Materials Standard Practice E 1527-00 for ESAs. The Phase I ESA is included as Appendix 6.14A in Volume III of the project AFC (OGE2008a, Appendix 6.14A).

The Phase I ESA conducted for the proposed OGP site did not identify any recognized environmental conditions (REC) associated with the proposed project site and linear facility corridors. A REC is the presence or likely presence of any hazardous substances or petroleum products on a property under the conditions that indicated an existing release, past release, or a material threat of a release of any hazardous substance or petroleum products into structures on the property or in the ground, groundwater, or surface water of the property.

The proposed project is located on an 8.5 acre parcel out of a 54-acre parcel owned by SDG&E. SDG&E has owned the property since 1970. The project site consists primarily of a former orchard and dirt roads to access the orchard. Plastic irrigation pipes are running through the orchard, as well as water/hose connections (TRC2008b Section 2.3). Although the site has been used as an orchard since 1946 the orchard has not been maintained or irrigated for at least the last five years (OGE2008a Section 6.14.1). Concentrations of Total Petroleum Hydrocarbons (TPH), Volatile organic compounds (VOC's), herbicides, and pesticides were not detected in soil samples analyzed at the site (OGE2008a Section 6.14A Appendix E). Two pole mounted transformers are also located on site. Soil sampling directly below the transformer and in another area on the project did not identify detectable Polychlorinated Biphenyls (PCBs) in the soil (TR2008e Phase I).

Other onsite uses of the 54-acre SDG&E property include the Pala electrical substation and a material storage area as well as an onsite caretaker residence. Neither the substation nor the storage area are included as part of the project site. The storage area will be used as a construction laydown area.

Staff has proposed Conditions of Certification **WASTE-1** and **WASTE-2** to mitigate potential impacts. These proposed conditions of certification require that a Registered Professional Geologist or Engineer with experience in remedial investigation and feasibility studies be available for consultation during soil excavation and grading activities. This would be adequate to address identification and investigation of any soil or groundwater contamination that may be encountered.

Construction Impacts and Mitigation

Site preparation, demolition, and construction of the proposed power plant and associated facilities would generate both nonhazardous and hazardous wastes in solid and liquid forms (OGE2008a, section 6.14.1.2.1). There will be minimum demolition because of the current uses of the site. The applicant will remove 600 dead orchard trees and portions of two former dairy farms' roads that are located along the pipeline route (OGE2008a Figure 6.6-4 b and 6.6-4 C). Therefore, construction and operation are merged together into construction impacts. Six hundred and fifty cubic yards of demolition waste will be recycled or landfilled (OGE2008e Table 6.14-3). Before construction can begin, the project owner would be required to develop and implement a Construction Waste Management Plan, per proposed Condition of Certification **WASTE-3**.

Non-hazardous Wastes

Staff estimates the non-hazardous solid wastes generated during construction would include approximately 1,100 tons of scrap wood, concrete, steel/metal, paper, glass, and plastic waste. Staff estimated the tonnage using estimates in OGE2008a, Section Table 6.14-3 and the California Integrated Waste Management Board Construction/Demolition and Inert Debris Tools <http://www.ciwmb.ca.gov/leatraining/Resources/CDI/tools?Calculations.htm>.

All non-hazardous wastes would be recycled to the extent possible and non-recyclable wastes would be collected by a licensed hauler and disposed in a solid waste disposal facility, in accordance with Title 14, California Code of Regulations, §17200 et seq.

Non-hazardous liquid wastes would also be generated during construction, including sanitary wastes, dust suppression drainage, and equipment wash water. Sanitary wastes would be collected in portable, self-contained toilets and pumped periodically for disposal at an appropriate facility. Potentially contaminated equipment wash water will be contained at designated wash areas and transported to a sanitary wastewater treatment facility. Please see the **SOIL AND WATER RESOURCES** section of this document for more information on the management of project wastewater.

Hazardous Wastes

Hazardous wastes anticipated to be generated during construction include empty hazardous material containers, solvents, waste paint, oil absorbents, used oil, oily rags, batteries, and cleaning wastes. The amount of waste generated would be minor if handled in the manner identified in the AFC (OGE2008a, section 614.2.1.2).

The project owner would be required to obtain a unique hazardous waste generator identification number for the site prior to starting construction pursuant to proposed Condition of Certification **WASTE-4**. Although the hazardous waste generator number is determined based on site location, both the construction contractor and the project owner/operator could be considered the generator of hazardous wastes at the site. Wastes would be accumulated onsite for less than 90 days and then properly manifested, transported and disposed at a permitted hazardous waste management facility by licensed hazardous waste collection and disposal companies. The applicant provided staff with a list of six recycling facilities that may be used to manage project recycle materials and wastes (TRC2008E Data Response 71). Staff reviewed the disposal methods described in AFC Table 6.14-3 and in the responses to data requests, and concluded that all wastes would be disposed in accordance with all applicable LORS. Should any construction waste management-related enforcement action be taken or initiated by a regulatory agency, the project owner would be required by proposed Condition of Certification **WASTE-5** to notify the Energy Commission's Compliance Project Manager (CPM) whenever the owner becomes aware of any such action.

In the event that construction excavation, grading or trenching activities for the proposed project encounter potentially contaminated soils, specific handling, disposal, and other precautions may be necessary pursuant to hazardous waste management LORS, staff finds that proposed Conditions of Certification **WASTE-1** and **WASTE-2**